SUPPORTING DOCUMENTATION

- **May 17, 2018 letter from EPA R2 to NMFS**
- **June 19, 2018 letter from NMFS to EPA R2**
- **Documents Referenced - June 19, 2018 Letter from NMFS to EPA R2**
- **Coastal Zone Management Act - Emails exchanges between NJDEP and BOEM, and August 10, 2011 letter from NJDEP to BOEM**

May 17, 2018 letter from EPA R2 to NMFS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

MAY 17 2018

Ms. Julie Crocker
National Marine Fisheries Service
Greater Atlantic Regional Fisheries Office
55 Great Republic Drive
Gloucester, MA 01930-2276

RE: Endangered Species Act Compliance for meteorological buoys associated with Ocean Wind LLC

Dear Ms. Crocker:

This letter is a follow-up to the April 11, 2018 call during which our agencies discussed compliance with Section 7 of the Endangered Species Act (ESA), and the Marine Mammal Protection Act of 1972 (MMPA) for the Outer Continental Shelf (OCS) Source air permit that the U.S. Environmental Protection Agency (EPA) will issue to Ocean Wind LLC for two meteorological (met) buoys off the coast of New Jersey.

The proposed project includes the (1) installation; (2) operation and maintenance; and (3) decommissioning of two identical meteorological buoys (WindSentinel™ FLiDAR), which would be located on the OCS offshore New Jersey. One of the met buoys will be located approximately 12 nautical miles southeast of Strathmere, at the following coordinates: 39.070791°N, 74.44385°W. The other met buoy will be located approximately 18 nautical miles south of Atlantic City, at the following coordinates: 39.134194°N, 74.167778°W. The two met buoys will be located within a Lease Area issued to Ocean Wind, LLC by the Bureau of Ocean Energy Management (BOEM) under Lease No. OCS-A 0498, at OCS Blocks 7081 and 6986.

Each of the two met buoys will be equipped with a 3.5 kW diesel-fueled engine to provide backup power for the met buoys' instrumentation. The OCS air application indicates that the engine exhaust of each "Yanmar" engine will be routed just below the water surface (i.e., the exhaust from the exhaust pipes will be blown into the water and not released into the atmosphere).

During the April 11 call, you relayed that the consultation completed by BOEM, and the correlating Biological Opinion issued by NMFS on September 7, 2017, covered potential impacts to any threatened or endangered species from the OCS meteorological buoys, and therefore, EPA does not need to take any further action in order to comply with Section 7 of the ESA or the MMPA. EPA is requesting written confirmation that no further action is required by EPA to comply with the ESA and MMPA for the issuance of this air permit.

Although, Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSFCA) was not discussed in the context of the Ocean Wind met buoys project, EPA is required to address MSFCA in our air permitting action. Thus, EPA is requesting written confirmation that we can rely on the consultation completed by BOEM and the correlating Biological Opinion issued by NMFS on April 10, 2013, and that no further action is required by EPA to comply with the MSFCA for the issuance of this permit.

If you have any questions, please contact Stephanie Lamster, Endangered Species Coordinator, at (212) 637-3465.

Sincerely yours,

Grace Musumeci, Chief
Environmental Review Section

June 19, 2018 letter from NMFS to EPA R2

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

JUN 19 2018

Grace Musumeci, Chief
Environmental Review Section
U.S. Environmental Protection Agency
Region 2
290 Broadway
New York, New York 10007-1866

Re: Ocean Wind's Site Assessment Plan

Dear Ms. Musumeci,

In your May 17, 2018, letter you explained that you are proposing to issue an air permit to Ocean Wind, LLC for two meteorological buoys off the coast of New Jersey. These buoys are being deployed as part of Ocean Wind's Site Assessment Plan (SAP) for the lease (OCS-A 0498) issued by the Bureau of Ocean Energy Management (BOEM) at OCS Blocks 7081 and 6986. You have requested clarification as to whether any consultation is required under Section 7 of the Endangered Species Act (ESA) of 1973, as amended, regarding EPA's issuance of the air permit.

As noted in your letter, we issued a Biological Opinion to BOEM on April 10, 2013 which considered site assessment activities in the MA, MA/RI, RI, NY and NJ wind energy areas. In a June 12, 2017 letter, enclosed here, we confirmed that the activities Ocean Wind planned to take under their SAP, inclusive of the deployment and operation of the two meteorological buoys were consistent with the activities considered in the 2013 Opinion. Because ESA consultation has been completed for the Ocean Wind SAP, no further consultation is required. Additionally, on June 8, 2017, NMFS has issued an Incidental Harassment Authorization under the Marine Mammal Protection Act (MMPA) to Ocean Wind, LLC, for authorization to take marine mammals incidental to geophysical and geotechnical activities associated with marine site characterization surveys off the coast of New Jersey. No take of marine mammals is anticipated to result from the deployment or operation of the meteorological buoys. Please contact Julie Crocker of my staff at (978)282-8480 or by e-mail (Julie.Crocker@noaa.gov) if you have any questions regarding ESA consultations.

You have also requested confirmation that no further action is needed by EPA with respect to compliance with the Magnuson Stevens Fishery Conservation and Management Act (MSFMCA) for the issuance of this permit. Consultation under the MSFMCA for the installation of scientific measuring devices including buoys such as these was completed on a programmatic level with US Army Corps of Engineers as part of the reissuance and renewal of the their Nationwide Permit Program. Further action by the EPA is not needed. If you have any questions regarding

MSFMCA consultation, please contact Karen Greene in our Habitat Conservation Division at (732)872-3023 or by e-mail (Karen.Greene@noaa.gov).

Sincerely,

Christopher Boelke
Acting Assistant Regional Administrator
for Protected Resources

CC: Lamster, EPA
Crocker, GAR PRD

File Code: Sec 7 BOEM OCS WEA Programmatic (Ocean Wind OCS-A 0498)
PCTS: NER-2013-10537

Documents Referenced

June 19, 2018 Letter from NMFS to EPA R2

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

JUN 12 2017

Jim Bennett
Chief, Environment Branch for Renewable Energy
U.S. Department of the Interior
Bureau of Ocean Energy Management
Washington, D.C. 20240-0001

Re: Formal Endangered Species Act (ESA) section 7 consultation for the RI, MA, NY and NJ Wind Energy Areas

Dear Mr. Bennett,

Enclosed is an amended incidental take statement (ITS) for our biological opinion issued to the Bureau of Ocean Energy Management (BOEM) on April 10, 2013. The programmatic opinion analyzed the effects of site assessment activities to be carried out in the Massachusetts, Rhode Island, New Jersey and New York wind energy areas (WEA). This Opinion considered the effects to listed species associated with reasonably foreseeable site characterization scenarios associated with leasing (including geophysical, geotechnical, archeological and biological surveys), and for the RI/MA and MA WEAs site assessment activities (including the installation, operation and decommissioning of meteorological towers and buoys). The amended ITS addresses incidental take of right, humpback and fin whales reasonably certain to occur as a result of geophysical surveys being proposed by DONG Energy/Bay State Wind in the MA WEA. We previously amended the Opinion to add the National Marine Fisheries Service, Office of Protected Resources, as an action agency.

The programmatic consultation established a procedure for reviewing future actions to determine if they were consistent with the scope of the 2013 Opinion. Ocean Wind will carry out marine site characterization surveys in the approximately 160,480-acre (649.4 square km) Lease Area located approximately 9 nautical miles (nm) southeast of Atlantic City, New Jersey. Marine site characterization surveys will consist of both HRG and geotechnical survey activities. The purpose of the marine site characterization surveys is to: support the siting, design, and deployment of up to two meteorological data collection buoys referred to as floating light and detection ranging buoys (FLIDARs) and up to two metocean and current buoys; and obtain a baseline assessment of seabed/sub-surface soil conditions in the Lease Area. The surveys will take place over a 42-day period scheduled to begin in June 2017.

In 2016, we divided the globally listed endangered humpback whale species into 14 distinct population segments (DPS), removed the current species-level listing, and in its place listed four DPSs as endangered and one DPS as threatened. Based on their current statuses, we determined the remaining nine DPSs do not warrant listing. The humpback whales that occur in the action area belong to the West Indies DPS which was determined not to warrant listing. This final rule

was effective on October 11, 2016 (81 FR 62260, September 8, 2016). As such, the ESA section 9 prohibitions on take no longer apply to humpback whales in the action area.

As noted in an April 25, 2017, email from Desray Reeb of your staff, you have determined that: (a) Ocean Wind's Site Assessment Plan (SAP) is consistent with the activities considered in the Opinion; (b) the measures proposed by Ocean Wind are consistent with the project design criteria identified in the Opinion and, (c) the effects of the activities to be carried out by OceanState Wind in accordance with their SAP are within the scope of effects considered in the Opinion. We have reviewed the SAP, the IHA and the lease issued by BOEM and concur with your determination that the site assessment activities and effects are within the scope of the activities, conditions, and effects outlined in our 2013 Opinion. However, the boomer being used by OceanWind is less powerful than the "worst-case scenario" analyzed in the programmatic Opinion; thus, the distances to the isopleths of concern and, therefore, the anticipated effects are smaller than those considered in the programmatic Opinion.

We note that the applicant has agreed to comply with all relevant Project Design Criteria and all relevant Reasonable and Prudent Measures and Terms and Conditions outlined in the programmatic Opinion; these commitments are reflected in the requirements of the lease issued by BOEM. Because the proposed activity and its effects fall within the scope of activities and their effects analyzed in the April 10, 2013 Programmatic Opinion, this letter and the 2013 Opinion and ITS, as amended, completes consultation on BOEM's authorization of the activities to be carried out by Ocean Wind under the SAP.

Our 2013 Opinion included an Incidental Take Statement (ITS) exempting the take of sea turtles and Atlantic sturgeon. In the ITS we noted that if in the future, authorization was obtained through the permitting mechanisms of the Marine Mammal Protection Act (MMPA), the ITS could be amended to exempt the take of ESA listed whales.

The ESA and regulations at 50 CFR § 402.14(i) state that an ITS for listed marine mammals will be provided if the taking is authorized pursuant to MMPA section 101(a)(5). Ocean Wind has applied for an Incidental Harassment Authorization (IHA) under the MMPA which will be issued by our Office of Protected Resources. We consider the issuance of this IHA to be an interdependent action. That is, the issuance of the IHA has no independent utility apart from the action considered in the 2013 Opinion. The effects of issuance of the IHA are the effects of the activities to be carried out by Ocean Wind. As explained above, the effects of those activities on listed species including fin whales, were considered in our 2013 Opinion. By this letter, we amend the 2013 Opinion to include our Office of Protected Resources as an action agency.

In the 2013 Opinion, we concluded that the activities considered in the Opinion (inclusive of geophysical surveys in the MA WEA) are likely to result in take of North Atlantic right, humpback, fin, sei and sperm whales in the form of harassment, where habitat conditions (i.e., sound levels above the 160 dB threshold for pulsed noise used to determine harassment under the MMPA) will temporarily impair normal behavior patterns. This harassment will occur in the form of avoidance or displacement from preferred habitat and behavioral and/or metabolic compensations to deal with short-term masking or stress. While whales may experience temporary impairment of behavior patterns, no significant impairment resulting in injury (i.e.,

"harm") is likely due to: measures to ensure that no whales are exposed to sound levels that could result in injury, the ability of whales to easily move to areas beyond the impact zone that also provide suitable prey, and the limited exposure time to disturbing levels of sound. Given the location and time of year of the activities proposed by Ocean Wind, only take of fin whales is anticipated.

NMFS' OPR has determined the proposed high resolution geophysical survey, to be carried out over an approximately 42-day period beginning in June 2017, is likely to result in the harassment, due to exposure to underwater noise, of five fin whales. The IHA permits this harassment. As noted above, this type of take was anticipated in the 2013 Opinion and analyzed in the Opinion. The amended ITS exempts the incidental take reasonably certain to occur as a result of Ocean Wind's geophysical surveys; that is, the harassment of five fin whales. No take of right, sei, and sperm whales is authorized because no take of these species is anticipated. No take of any ESA-listed species is anticipated to result from the geotechnical surveys or the installation of the buoys. The geophysical surveys will be carried out beginning in June 2017; because they are one-time surveys we do not anticipate the IHA will be renewed. Therefore, for this project, the incidental take exemption for fin whales applies for the duration of the IHA (June 9, 2017 – June 8, 2018) only.

The amended ITS exempts the take (harassment) of five fin whales, and adds a new Reasonable and Prudent Measure (RPM) and three implementing Terms and Conditions (T&Cs) to monitor incidental take for purposes of the ESA. The RPM requires BOEM and Ocean Wind complete an annual monitoring and reporting program to confirm that they are complying with the minimization measures included in the proposed action and reporting all project-related observations of listed species as well as the extent of project-related sound levels to us. The amended ITS also identifies the extent of exempted take for sea turtles and Atlantic sturgeon and identifies when we will consider the ITS to have been exceeded.

As stated in the April 10, 2013 opinion, and as provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of taking specified in the incidental take statement is exceeded; (2) new information reveals effects of the action that may not have been previously considered; (3) the identified action is subsequently modified in a manner that causes an effect to listed species that was not considered; or (4) a new species is listed or critical habitat designated that may be affected by the identified action.

If you have any questions regarding this ITS, please contact Julie Crocker at (978)282-8480 or Julie.Crocker@Noaa.gov.

Sincerely,

for Kimberly B. Damon-Randall
Assistant Regional Administrator
for Protected Resources

Attachment

Cc: Laura McCue, F/PR

File Code: Sec 7 BOEM (Ocean Wind ITS Amendment, Lease OCS A-0498)
PCTS: NER-2013-10537

11.0 INCIDENTAL TAKE STATEMENT

Section 9 of the ESA prohibits the take of endangered species of fish and wildlife. "Fish and wildlife" is defined in the ESA "as any member of the animal kingdom, including without limitation any mammal, fish, bird (including any migratory, non-migratory, or endangered bird for which protection is also afforded by treaty or other international agreement), amphibian, reptile, mollusk, crustacean, arthropod or other invertebrate, and includes any part, product, egg, or offspring thereof, or the dead body or parts thereof." 16 U.S.C. 1532(8). "Take" is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct (16 U.S.C. 1532(19)). Harm is further defined by us to include any act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation that actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns including breeding, spawning, rearing, migrating, feeding, or sheltering (50 CFR 222.102). Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity (50 CFR 402.02). "Otherwise lawful activities" are those actions that meet all State and Federal legal requirements except for the prohibition against taking in ESA Section 9 (51 FR 19936, June 3, 1986), which would include any state endangered species laws or regulations. Section 9(g) makes it unlawful for any person "to attempt to commit, solicit another to commit, or cause to be committed, any offense defined [in the ESA.]" 16 U.S.C. 1538(g). A "person" is defined in part as any entity subject to the jurisdiction of the United States, including an individual, corporation, officer, employee, department or instrument of the Federal government (see 16 U.S.C. 1532(13)). Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited under the ESA provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by BOEM and any lessees/applicants, for the exemption in section 7(o)(2) to apply. BOEM has a continuing duty to regulate the activity covered by this Incidental Take Statement. If BOEM (1) fails to assume and implement the terms and conditions consistent with its authority or (2) fails to require any lessee/applicant, to adhere to the terms and conditions of the Incidental Take Statement through enforceable terms that are added any leases or approvals consistent with its authority, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, BOEM must report the progress of the actions and their impact on the species to us as specified in the Incidental Take Statement [50 CFR §402.14(i)(3)] (See U.S. Fish and Wildlife Service and National Marine Fisheries Service's Joint Endangered Species Act Section 7 Consultation Handbook (1998) at 4-49).

In the Opinion, we concluded that the programmatic action is likely to result in take of North Atlantic right, humpback, fin, sei and sperm whales in the form of harassment, where habitat conditions (i.e., sound levels above the 160 dB threshold for pulsed noise used to determine harassment under the MMPA) will temporarily impair normal behavior patterns. This harassment will occur in the form of avoidance or displacement from preferred habitat and behavioral and/or metabolic compensations to deal with short-term masking or stress. While whales may experience temporary impairment of behavior patterns, no significant impairment resulting in injury (i.e., "harm") is likely due to: measures to ensure that no whales are exposed to sound

levels that could result in injury, the ability of whales to easily move to areas beyond the impact zone that also provide suitable prey, and the limited exposure time to disturbing levels of sound.

In 2016, we divided the globally listed endangered humpback whale species into 14 distinct population segments (DPS), removed the current species-level listing, and in its place listed four DPSs as endangered and one DPS as threatened. Based on their current statuses, we determined the remaining nine DPSs do not warrant listing. The humpback whales that occur in the action area belong to the West Indies DPS which was determined not to warrant listing. This final rule was effective on October 11, 2016 (81 FR 62260, September 8, 2016). As such, the ESA section 9 prohibitions on take no longer apply to humpback whales in the action area.

The Opinion includes an estimate of the number of whales that are likely to experience harassment due to the programmatic action. However, no instances of harassment of listed whales are exempt from the ESA's prohibition against take unless this incidental take statement is amended to include a project-specific estimate of incidental take of whales and that level of take has also been authorized by NMFS Office of Protected Resources through issuance of an Incidental Harassment Authorization (IHA) under the Marine Mammal Protection Act (MMPA). As indicated below in Section 11.2, this Incidental Take Statement was amended to exempt the take of right, humpback and fin whales exposed to noise generated by Bay State Wind's high resolution geophysical survey scheduled to occur between August 13, 2016 to August 12, 2017. This take was authorized by NMFS Office of Protected Resources through the issuance of an IHA under the MMPA (81 FR 56589, August 22, 2016).

As indicated below in Section 11.3, this Incidental Take Statement has been amended to exempt the take of fin whales exposed to noise generated by Ocean Wind's high resolution geophysical survey in 2017. This take is also being authorized by NMFS Office of Protected Resources through the June 9, 2017, issuance of an Incidental Harassment Authorization (IHA) under the Marine Mammal Protection Act.

If future takes of right, fin, sperm or sei whales are authorized under section 101(a)(5) of the MMPA, this Opinion may be further amended to include an incidental take exemption for these species, as appropriate.

11.1 Anticipated Amount or Extent of Incidental Take Considered in the Biological Opinion

In Sections 11.1.1 and 11.1.2, we first identify the amount of take exempted for sea turtles and Atlantic sturgeon, respectively, considering all of the activities considered in this Opinion on a programmatic basis.

11.1.1 Sea Turtles

As established in the Biological Opinion, loggerhead, Kemp's ridley, green and leatherback sea turtles and Atlantic sturgeon from all five DPSs are likely to be exposed to increased underwater noise that will cause behavioral disruption. We have determined that the programmatic action is likely to result in take of these species, in the form of harassment, where habitat conditions (i.e., increased underwater noise) will temporarily impair normal behavior patterns. This harassment

will occur in the form of avoidance or displacement from ensonified areas and the temporary disruption of normal foraging, resting and migratory behaviors. Affected individuals will expend additional energy to swim away from ensonified areas. No mortality, injury or harm is anticipated. This is due to the level of noise that individuals will be exposed to as well as the temporary nature of this exposure and the extent of available habitat in the action area where noise levels will not be elevated, in addition to the ability of individuals to avoid noisy areas and move to areas without disturbing levels of underwater noise. Exposure of sea turtles to sound levels greater than 166 dB re 1uPa RMS will be considered harassment because that level of noise will disturb sea turtles and their normal behaviors (i.e., resting, foraging or migrating through the area) will be interrupted. Given the large size of the area where noise of this level will be experienced (approximately 162 square km during pile driving and 14 square km when the boomer is operated) there will be behavioral and/or metabolic (e.g., temporary increase in energy expenditure) costs associated with avoidance or displacement from the affected habitat.

For sea turtles, we are able to use published density estimates to estimate the number of sea turtles that may be exposed to increased underwater noise that would cause harassment during geophysical surveys where a sub-bottom profiler (e.g., boomer) is used and during pile driving. For loggerheads, the density estimates indicate that up to 7 loggerheads and 1 leatherback sea turtle are likely to be exposed to potentially disturbing levels of noise each time the boomer is operated. If we assume that the entirety of the NY, NJ, RI/MA and MA WEA are surveyed, an area that totals approximately 5,439 square kilometers, we would expect that a total of up to 201 leatherbacks and up to 2,774 loggerheads may be exposed to potentially disturbing levels of noise associated with the sub-bottom profiler surveys over a five-year period. No density estimates are available for Kemp's ridley or green sea turtles; however, we expect fewer sea turtles of these species than leatherbacks in the action area. Therefore, each time the boomer is operated, no more than 1 Kemp's ridley and 1 green sea turtles are likely to experience potentially disturbing levels of noise. In total, we expect up to 201 Kemp's ridley and 201 green sea turtles to be exposed to potentially disturbing levels of noise from the sub-bottom profilers.

Our calculations based on reported density estimates indicate that up to 83 loggerheads and up to 6 leatherback sea turtles are likely to be exposed to potentially disturbing levels of noise for each pile that is installed. Depending on the type of met tower installed (monopole or tripod) and the total number of met towers installed, there could be a total of 9-27 piles installed over the entirety of the RI/MA and MA WEAs. In total, we would expect that no more than 2,774 loggerheads and no more than 162 leatherback sea turtles may be exposed to potentially disturbing levels of noise. No density estimates are available for Kemp's ridley or green sea turtles; however, we expect fewer sea turtles of these species than leatherbacks in the action area. Therefore, for each pile that is installed, we expect no more than 6 Kemp's ridley and 6 green sea turtles are likely to experience potentially disturbing levels of noise. In total, we expect no more than 162 Kemp's ridleys and 162 green sea turtles to be exposed to potentially disturbing levels of noise from pile driving.

As explained in the Opinion, these calculations are likely to result in overestimates of the number of individuals exposed. For the geophysical surveys, we consider this a worst case estimate because: (1) it assumes that sea turtle density will be at the maximum reported level throughout the action area, which is unlikely to occur; (2) it uses the maximum distances modeled by BOEM

for noise attenuation; and, (3) it assumes that all surveys will occur at a time of year when sea turtles are present (June – November) and that sea turtles will be present at every location that the boomer is operated. For pile driving, we consider this a worst case estimate because: (1) it assumes that sea turtle density will be at the maximum reported level throughout the action area, which is unlikely to occur; (2) it uses the maximum distances modeled by BOEM for noise attenuation; and, (3) it assumes that sea turtles will be present at every location that a pile is installed.

Despite these assumptions, this is the best available estimate of the number of sea turtles that may be exposed to disturbing levels of noise from the sub-bottom profiler. Because both the distribution and numbers of sea turtles in the action area during a geophysical survey or pile driving is likely to be highly variable and a function of the time of year, the behavior of individual turtles, the distribution of prey and other environmental variables, and because incidental take is indirect and likely to occur from effects to habitat, the amount of take resulting from harassment is difficult, if not impossible, to estimate. In addition, because of the large size of ensonified area, we do not expect that BOEM or the lessees will be able to monitor the behavior of all sea turtles in the action area in a manner which would detect responses to geophysical surveys or pile driving; therefore, the likelihood of discovering take attributable to exposure to increased underwater noise is very limited. In such circumstances, NMFS uses a surrogate to estimate the extent of take. The surrogate must be rationally connected to the taking and provide a threshold of exempted take which, if exceeded, provides a basis for reinitiating consultation. For this proposed action, the spatial and temporal extent of the area where underwater noise is elevated above 166 dB re 1uPa RMS will serve as a surrogate for estimating the amount of incidental take from harassment as it allows NMFS to determine the area and time when loggerhead, leatherback, Kemp's ridley and green sea turtles will be exposed to noise would result in behaviors consistent with the definition of harassment. Based on the known distribution of sea turtles in the action area, we only anticipate harassment during pile driving and geophysical surveys that occur from May – November. In the accompanying biological opinion, we determined that this level of anticipated take is not likely to result in jeopardy to any of the affected species.

11.1.2 Atlantic sturgeon

As established in the Biological Opinion, Atlantic sturgeon from all five DPSs are likely to be exposed to increased underwater noise that will cause behavioral disruption. We have determined that the programmatic action is likely to result in take of these species, in the form of harassment, where habitat conditions (i.e., increased underwater noise) will temporarily impair normal behavior patterns. This harassment will occur in the form of avoidance or displacement from ensonified areas and the temporary disruption of normal foraging, resting and migratory behaviors. Affected individuals will expend additional energy to swim away from ensonified areas. No mortality, injury or harm is anticipated. This is due to the level of noise that individuals will be exposed to as well as the temporary nature of this exposure and the extent of available habitat in the action area where noise levels will not be elevated and the ability of individuals to avoid noisy areas and move to areas without disturbing levels of underwater noise. Exposure of Atlantic sturgeon to sound levels greater than 150 dB re 1uPa RMS will be considered harassment because that level of noise will disturb Atlantic sturgeon and their normal behaviors (i.e., resting, foraging or migrating through the area) will be interrupted. Given the

large size of the area where noise of this level will be experienced (approximately 4,979 square km during pile driving and 22.9 square km when the boomer is operated) there will be behavioral and/or metabolic (e.g., temporary increase in energy expenditure) costs associated with avoidance or displacement from the affected habitat.

Because there are no available estimates of Atlantic sturgeon density in the programmatic action area, we are not able to estimate the number of Atlantic sturgeon of any DPS that may be taken by harassment due to the overall program. Because both the distribution and numbers of Atlantic sturgeon in the action area during a geophysical survey or pile driving is likely to be highly variable and a function of the time of year, the behavior of individual fish, the distribution of prey and other environmental variables, and because incidental take is indirect and likely to occur from effects to habitat, the amount of take resulting from harassment is difficult, if not impossible, to estimate. In addition, because there are no known means to detect the presence of Atlantic sturgeon during geophysical surveys or pile driving activities, it would be extremely difficult, if not impossible, to monitor the behavior of all Atlantic sturgeon in the action area in a manner which would detect responses to geophysical surveys or pile driving, the likelihood of discovering take attributable to exposure to increased underwater noise is very limited. In such circumstances, NMFS uses a surrogate to estimate and monitor the extent of take. The surrogate must be rationally connected to the taking and provide a threshold of exempted take which, if exceeded, provides a basis for reinitiating consultation. For the programmatic action, the spatial and temporal extent of the area where underwater noise is elevated above 150 dB re 1uPa RMS (a distance of 2.7km from the source when the boomer is used and a distance of 39.8 km during pile driving) will serve as a surrogate for estimating and monitoring the amount of incidental take from harassment as it allows NMFS to determine the area and time when sturgeon will be exposed to noise would result in behaviors consistent with the definition of harassment and when the anticipated level of incidental take has been exceeded.

11.2 Amount or Extent of Take Anticipated during Activities Proposed by Bay State Wind (OCS A-0501) – AMENDED AUGUST 12, 2016

Bay State Wind will carry out a high resolution geophysical (HRG) survey over a thirty-day period scheduled from mid-August to mid-September 2016. They will also carry out a geotechnical investigation and install two meteorological buoys.

11.2.1 Sea turtles and Sturgeon- Bay State Wind

As explained in the Opinion, sea turtles and Atlantic sturgeon can only perceive noise at frequencies less than 1,000 Hz (1 kHz). The only equipment being used by Bay State Wind that operates below 1000 Hz is the sparker (200-800 Hz), which is a type of boomer. The effects of using boomers for HRG surveys are considered in the Opinion. However, the boomer being used by Bay State Wind is less powerful than the "worst-case scenario" analyzed in the programmatic Opinion; thus, the distances to the isopleths of concern are smaller than those considered in the programmatic Opinion.

The table below contains the distances to the 180 and 160 dB re 1uPa RMS isopleth from each of the equipment types being used in the HRG surveys as reported in the SAP and the IHA application.

HRG Equipment	Distance from source to 180 dB_{RMS} re 1 µPa (m)*	Distance from source to 160 dB_{RMS} re 1 µPa (m)
ixBlue GAPS (pinger)	< 10	25
Sonardyne Scout USBL (pinger)	0	25
GeoPulse Sub-bottom Profiler (chirper)	30	75
Geo-Source 800 (sparker)	80	250
Geo-Source 200 (sparker)	90	380

As required by the lease, a 200-meter exclusion zone will be maintained by Bay State Wind. This ensures that, as explained in the Opinion, no sea turtles will be exposed to underwater noise that could result in injury. Because we do not expect any sea turtles to be exposed to noise greater than 180 dB re 1uPa RMS, no injury is anticipated or exempted.

In the Opinion, we calculated the amount of sea turtles to be taken by harassment by applying the density estimates to the total area that would experience disturbing levels of noise. For the Bay State Wind HRG survey, the boomer that will be used will pulse for less than one second. One pulse will occur approximately every 12 meters as the survey vessel moves along the survey track lines. During each pulse, an area extending 240 m from the source will have noise levels exceeding 166 dB re 1uPa RMS. Assuming that the survey track lines will extend to the border of the lease area and given that the track lines will cover the entirety of the lease area, the total area that will experience disturbing levels of noise over the 30-day survey period includes the 759 km^2 lease area and extends 240m in every direction from the edge of the lease area. Applying the density estimates used in the Opinion (0.51 loggerheads/km^2 and 0.037 leatherbacks/km^2) and considering that we expect fewer green and Kemp's ridley sea turtles in the action area than leatherbacks, we calculate that no more than 387 loggerheads, 28 leatherbacks, 28 green and 28 Kemp's ridley sea turtles will be harassed during the 30-day Bay State Wind HRG survey. Given the large area to be affected by disturbing levels of sound we do not expect that all of these sea turtles will be observed. Even though we have identified numbers of sea turtles likely to be adversely affected, in situations in which monitoring numbers of individuals is difficult or impossible, a surrogate measure of incidental take that can be monitored provides an alternative means of determining when anticipated incidental take levels have been exceeded. Given the large area to be affected, the fact that sea turtles would swim underwater when disturbed, and the resulting difficulty in monitoring sea turtle impacts, the spatial and temporal extent of the area where underwater noise is elevated above 166 dB re 1uPa RMS, which is anticipated to be 0.18 km^2 during each pulse of the boomer, and a total area that includes the 759 km^2 lease area and extends 240m in every direction from the lease area, will serve as a surrogate for estimating the amount of incidental take from harassment. Monitoring the spatial and temporal extent of this area will allow NMFS to determine the area and time when loggerhead, leatherback, Kemp's ridley and green sea turtles will be exposed to noise that would result in behaviors consistent with the definition of harassment and when the anticipated level of incidental take has been exceeded.

As explained in the Opinion, injury to sturgeon is expected if exposed to pulsed noise louder than 212 dB re 1uPa peak. Peak noise greater than 212 dB re 1uPa is only experienced within 1 m of the sparker. As explained in the Opinion we do not expect any sturgeon to be exposed to

noise greater than 212 dB re 1uPa peak because we do not expect any to occur within 1 m of the source. Therefore, no injury is anticipated or exempted.

In the Opinion, we explained that without density estimates, we could not calculate the total number of Atlantic sturgeon, or of any DPS, to be taken by harassment. We explain that the area with noise above 150 dB re 1uPa RMS will serve as a surrogate for estimating the amount of incidental take from harassment as it allows NMFS to determine the area and time when Atlantic sturgeon will be exposed to noise would result in behaviors consistent with the definition of harassment. For this action, the spatial and temporal extent of the area where underwater noise is elevated above 150dB re 1uPa RMS is anticipated to be 4.08 km^2 during each pulse of the boomer, and a total area that includes the 759 km^2 lease area and extends 1.14km in every direction from the 759 km^2 lease area.).

11.2.2 Whales -- Bay State Wind

BOEM has approved a Site Assessment Plan (SAP) for Bay State Wind's lease area off the coast of Massachusetts. NMFS' OPR has determined the proposed high resolution geophysical survey, to be carried out over an approximately 7-day period in August 2016, is likely to result in the harassment, due to exposure to underwater noise between 160 and 179 dB re 1uPa RMS, of one right whale, one humpback whale and seven fin whales. The IHA will be effective for one year and no renewals are anticipated as the surveys are anticipated to occur only once. While the effective period of the IHA is August 15, 2016 through August 14, 2017, survey work, and associated take, is only expected to occur over a one-week period in August 2016. No take of any whale species is anticipated as a result of the proposed geotechnical survey or the installation of the meteorological buoys.

The amount of exempted take will be exceeded if the number of right, humpback, or fin whales taken by acoustic harassment as defined above exceeds the estimate of one right whales, one humpback whale and seven fin whales as a result of the HRG survey. No right, humpback or fin whales are anticipated to be harmed, injured, or killed as a result of the HRG survey; therefore, no such take is exempted.

11.2.3 Exceedence of the ITS for Bay State Wind

We will consider the ITS for Bay State Wind to be exceeded if any of the following occur during Bay State Wind's geophysical survey of Lease Area OCS A-0501:

- Peak noise for any equipment operating below 1,000 Hz is louder than 212 dB re 1uPa at a distance of more than 1 m from the source (this suggests that unanticipated injury to Atlantic sturgeon occurred).
- The extent of the 180 dB re 1uPa RMS isopleth for any equipment operating below 1,000 Hz exceeds 200m (this means that the exclusion zone is not big enough to prevent sea turtle injury).
- The extent of the area ensonified with noise louder than 166 dB re 1uPa RMS, which is anticipated to be 0.18 km^2 during each pulse of the boomer, and a total area that includes the 759 km^2 lease area and extends 240m in every direction from the 759 km^2 lease area, is exceeded.
- The extent of the area ensonified with noise louder than 150 dB re 1uPa RMS, which is anticipated to be 4.08 km^2 during each pulse of the boomer, and a total

area that extends 1.14km in every direction from the 759 km^2 lease area, is exceeded.
- The HRG survey takes place on more than 30 days.
- A total area greater than 759 km^2 is surveyed with equipment operating below 1,000 Hz.
- Any sea turtles or Atlantic sturgeon are harmed, injured or killed as a result of the HRG survey.
- Any right, humpback or fin whales are harmed, injured, or killed as a result of the HRG survey.
- If the number of such whales taken by acoustic harassment as defined above exceeds the estimate of one right whale, one humpback whale and seven fin whales.

11.3 Amount or Extent of Take Anticipated during Activities Proposed by Ocean Wind (OCS A-0498) – AMENDED [redacted]

Ocean Wind will carry out marine site characterization surveys in the approximately 160,480-acre (649.4 square km) Lease Area located approximately 9 nautical miles (nm) southeast of Atlantic City, New Jersey. Marine site characterization surveys will consist of both HRG and geotechnical survey activities. The purpose of the marine site characterization surveys is to: support the siting, design, and deployment of up to two meteorological data collection buoys referred to as floating light and detection ranging buoys (FLIDARs) and up to two metocean and current buoys; and obtain a baseline assessment of seabed/sub-surface soil conditions in the Lease Area. There will be a total of approximately 42 survey days scheduled to begin in June 2017. No take is anticipated or exempted for the installation, operation or decommissioning of the buoys or the geotechnical survey (anticipated over 12 days in September 2017).

11.3.1 Sea turtles and Sturgeon- Ocean Wind

As explained in the Opinion, sea turtles and Atlantic sturgeon can only perceive noise at frequencies less than 1,000 Hz (1 kHz). The only equipment being used by Ocean Wind that operates below 1000 Hz is the sparker (200-800 Hz), which is a sub-bottom profiler with similar operational frequencies and source levels as a boomer. The effects of using sub-bottom profilers for HRG surveys are considered in the Opinion. The source level of thesub-bottom profiler being used by Ocean Wind is is equivalent to the "worst-case scenario" analyzed in the programmatic Opinion; however, the distances to the isopleths of concern are smaller than the modelled distances considered in the programmatic Opinion as a result of more recent empirical data collection (see Table below, BSW 2016)). The distances to the 180, 166, 160 and 150 dB re 1uPa RMS isopleth for the sparker being used in the HRG surveys as reported by Bay State Wind are 3 m, 14m, 27 m and 87 m, respectively. The actual isopleth distances will be verified through sound source verification in the field.

BOEM Sound Level Isopleth	Chirp SBP	Sparker (600J)	Sparker (800J)
207dB re 1 µPa $SPL_{RMS90\%}$ Injurious Thresholds for Marine Turtles	0m	0m	0m
180dB re 1 µPa $SPL_{RMS90\%}$ Marine Mammal Level A Harassment Zone	0m	2m	3m
166dB re 1 µPa $SPL_{RMS90\%}$ Behavioral Threshold for Marine Turtles	2m	6m	14m
160dB re 1 µPa $SPL_{RMS90\%}$	4m	12m	27m

Marine Mammal Level B Harassment Zone			
150dB re 1 μPa $SPL_{RMS90\%}$ Behavioral Threshold for Atlantic Sturgeon	13m	37m	87m
187dB re 1 $\mu Pa^2.s$ cSEL Physiological Effects on Fish	6m	12m	31m

As required by the lease, a 200-meter exclusion zone will be maintained by Ocean Wind. This ensures that, as explained in the Opinion, no sea turtles will be exposed to underwater noise that could result in injury. Because we do not expect any sea turtles to be exposed to noise greater than 180 dB re 1uPa RMS, no injury is anticipated or exempted.

In the Opinion, we calculated the amount of sea turtles to be taken by harassment by applying the density estimates to the total area that would experience disturbing levels of noise. The distances to the 180, 166, 160 and 150 dB re 1uPa RMS isopleth surveys as reported by BOEM in regards to the 2016 Bay State Wind SAP survey plan are 90 m, 240 m, 380 m and 1,140 m, respectively. For the Ocean Wind HRG survey, the sparker that will be used will pulse for less than one second. One pulse will occur approximately every 12 meters as the survey vessel moves along the survey track lines. During each pulse, an area extending approximately 75 m from the source will have noise levels exceeding 166 dB re 1uPa RMS. Assuming that the survey track lines will extend to the border of the lease area and given that the track lines will cover the entirety of the lease area, the total area that will experience disturbing levels of noise over the 42-day survey period includes the 649.4 km^2 lease area and extends 240m in every direction from the edge of the lease area. Applying the density estimates used in the Opinion (0.51 loggerheads/km^2 and 0.037 leatherbacks/km^2) and considering that we expect fewer green and Kemp's ridley sea turtles in the action area than leatherbacks, we calculate that no more than 331 loggerheads, 24 leatherbacks, 24 green and 24 Kemp's ridley sea turtles will be harassed during the 42-day Ocean Wind HRG survey. Given the large area to be affected by disturbing levels of sound we do not expect that all of these sea turtles will be observed. Even though we have identified numbers of sea turtles likely to be adversely affected, in situations in which monitoring numbers of individuals is difficult or impossible, a surrogate measure of incidental take that can be monitored provides an alternative means of determining when anticipated incidental take levels have been exceeded. Given the large area to be affected, the fact that sea turtles would swim underwater when disturbed, and the resulting difficulty in monitoring sea turtle impacts, the spatial and temporal extent of the area where underwater noise is elevated above 166 dB re 1uPa RMS, which is anticipated to be 0.18 km^2 during each pulse of the boomer, and a total area that includes the 649.4 km^2 lease area and extends 240m in every direction from the lease area, will serve as a surrogate for estimating the amount of incidental take from harassment. Monitoring the spatial and temporal extent of this area will allow NMFS to determine the area and time when loggerhead, leatherback, Kemp's ridley and green sea turtles will be exposed to noise that would result in behaviors consistent with the definition of harassment and when the anticipated level of incidental take has been exceeded.

As explained in the Opinion, injury to sturgeon is expected if exposed to pulsed noise louder than 212 dB re 1uPa peak. Peak noise greater than 212 dB re 1uPa is only experienced within 1 m of the sparker. As explained in the Opinion we do not expect any sturgeon to be exposed to noise greater than 212 dB re 1uPa peak because we do not expect any to occur within 1 m of the source. Therefore, no injury is anticipated or exempted.

In the Opinion, we explained that without density estimates, we could not calculate the total number of Atlantic sturgeon, or of any DPS, to be taken by harassment. We explain that the area with noise above 150 dB re 1uPa RMS will serve as a surrogate for estimating the amount of incidental take from harassment as it allows NMFS to determine the area and time when Atlantic sturgeon will be exposed to noise would result in behaviors consistent with the definition of harassment. For this action, the spatial and temporal extent of the area where underwater noise is elevated above 150dB re 1uPa RMS is anticipated to be 4.08 km^2 during each pulse of the sparker, and a total area that includes the 649.4 km^2 lease area and extends 1.14km in every direction from the 649.4 km^2 lease area. It should be noted that the modelled distances in the Opinion are conservative when compared to the sound source verification results presented in the table above.

11.3.2 Whales -- Ocean Wind

BOEM will approve a Survey Plan for Ocean Wind's lease area off the coast of New Jersey upon amendment of this ITS. NMFS' OPR has determined the proposed high resolution geophysical survey, to be carried out over an approximately 42-day period beginning in June 2017, is likely to result in Level B harassment (temporary avoidance or alteration of opportunistic foraging behavior), due to exposure to underwater noise between 160 and 179 dB re 1uPa RMS, of five fin whales. The IHA will be effective for one year and no renewals are anticipated as the surveys are anticipated to occur only once. While the IHA will be effective from [redacted], survey work, and associated take, is only expected to occur over a 42-day period in June and July 2017. No take of any whale species is anticipated as a result of the proposed geotechnical survey or the installation of the meteorological buoys.

The amount of exempted take will be exceeded if the number of fin whales taken by acoustic harassment as defined above exceeds the estimate of five fin whales as a result of the HRG survey. No right, sperm or sei whales are anticipated to be harassed as a result of the HRG survey; therefore, no such take is exempted. No whales of any species are anticipated to be harmed, injured, or killed as a result of the HRG survey; therefore, no such take is exempted.

11.3.3 Exceedence of the ITS for Ocean Wind

We will consider the ITS for Ocean Wind to be exceeded if any of the following occur during Ocean Wind's geophysical survey of Lease Area OCS A-0498:

- Peak noise for any equipment operating below 1,000 Hz is louder than 212 dB re 1uPa at adepth of $\geq$ 50 m from the source (this suggests that unanticipated injury to Atlantic sturgeon occurred).
- The extent of the 180 dB re 1uPa RMS isopleth for any equipment operating below 1,000 Hz exceeds 200m (this means that the exclusion zone is not big enough to prevent sea turtle injury).
- The extent of the area ensonified with noise louder than 166 dB re 1uPa RMS, which is anticipated to be 0.18 km^2 during each pulse of the sparker, and a total area that includes the 649.4 km^2 lease area and extends 240m in every direction from the 649.4 km^2 lease area, is exceeded.
- The extent of the area ensonified with noise louder than 150 dB re 1uPa RMS, which is anticipated to be 4.08 km^2 during each pulse of the sparker, and a total

area that extends 1.14km in every direction from the 649.4 km^2 lease area, is exceeded.
- The HRG survey takes place on more than 42 days.
- A total area greater than 649.4 km^2 is surveyed with equipment operating below 1,000 Hz.
- Any sea turtles or Atlantic sturgeon are harmed, injured or killed as a result of the HRG survey.
- Any whales are harmed, injured, or killed as a result of the HRG survey.
- If the number of such whales taken by acoustic harassment as defined above exceeds the estimate of five fin whales.

11.5 Reasonable and Prudent Measures and Terms and Conditions Included in the Programmatic ITS

Reasonable and prudent measures (RPMs) are those measures necessary and appropriate to minimize and monitor incidental take of a listed species. These RPMs are in addition to the project design criteria proposed by BOEM that will be required for all lessees (see section 3.6 of the Opinion). The RPMs and Terms and Conditions (T&Cs) identified below are the ones developed for the programmatic Opinion as a whole. Following that list, we identify those that are required for specific activities being carried out under the programmatic Opinion; this is based on the actual activities proposed by the applicants (e.g., if an applicant is not proposing any pile driving, the programmatic RPMs and T&Cs related to pile driving would not be relevant).

We believe the following reasonable and prudent measures are necessary and appropriate to minimize and monitor impacts of incidental take of sea turtles and Atlantic sturgeon due to the program as a whole.

1. BOEM must provide NMFS with notice and opportunity to comment on the proposed issuance of leases, approval of SAPs, data collection plans, and decommissioning applications for facilities constructed under an approved SAP. This notification may occur through e-mail to NMFS staff that will be identified annually.
2. Field verification of modeled noise levels must be undertaken for electromechanical survey equipment operating below 200 kHz in each of the lease holds. This verification must take place prior to the equipment being used for any survey activities.
3. In order to monitor the acoustic effects of pile driving, acoustic monitoring of pile driving must be conducted to confirm the sound levels modeled by BOEM and reported in the BA.
4. BOEM must keep NMFS informed of all geophysical and geotechnical surveys and pile driving activity conducted by BOEM lessees in support of a SAP, COP, or GAP in the MA/RI, MA, NY and NJ WEAs.

In order to be exempt from prohibitions of section 9 of the ESA, BOEM must comply with the following programmatic terms and conditions, which implement the programmatic reasonable

and prudent measures described above and which outline required minimization and monitoring requirements. These terms and conditions are non-discretionary.

1. To implement RPM #1, BOEM must provide NMFS (by e-mail to the NERO PRD Section 7 coordinator, or other contact provided annually by NMFS) with written notification of any proposed issuance of a lease. This must contain information on the location of the lease blocks and any proposed activities that will occur on the lease.
2. To implement RPM #1, BOEM must review each SAP, data collection plan, and/or decommissioning application for facilities in a BOEM-approved SAP to determine if it is wholly consistent with the activities considered in this consultation. At least 30 days prior to review of a survey plan, approval of a SAP or decommissioning application for facilities approved in a SAP BOEM will provide NMFS with written notification of its determination that the site assessment, data collection activities, or decommissioning application are wholly consistent with the activities and conditions outlined in this consultation. If BOEM has determined that the applicant's proposal is not consistent with the activities and conditions outlined in this consultation, BOEM must provide NMFS with a written explanation of how the plan will be modified. If the plan will not be modified, BOEM must request a separate section 7 consultation.
3. To implement RPM #2, sound source verification must be conducted prior to the commencement of surveys that involve the operation of the electromechanical survey equipment operating below 200 kHz in each of the lease holds in the four WEAs. Acoustic measurements must be sufficient to establish the following: source level (peak at 1 meter) and distance to the 180, 160 and 150 dB re 1uPa RMS isopleths. Results of this monitoring must be reported to NMFS as soon as practicable.
4. To implement RPM #3, acoustic monitoring must be conducted during the installation each meteorological tower requiring pile driving. Acoustic monitoring must be sufficient to determine the following: source level (peak at 1 meter) and distance to the 180, 160 and 150 dB re 1μPa RMS isopleths as well as 187 dB re 1μPa CSEL. Results of this monitoring must be reported to NMFS as soon as practicable after the completion of the pile driving activity.
5. To implement RPM #4, BOEM must provide NMFS with notice (email or telephone, to a contact provided annually by NMFS) no later than three days prior to scheduled geological and geophysical surveys and meteorological tower construction. BOEM must also provide notice when these activities are completed.
6. To implement RPM #4, prior to April 1 of each year, BOEM must submit a report to NMFS detailing the activities that occurred in the previous calendar year that were subject to this consultation and any impacts to listed species from those activities.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize and monitor the impact of incidental take that might otherwise result from the proposed action. Specifically, these RPMs and Terms and Conditions will ensure that no listed species are exposed to injurious levels of sound and will verify the modeling results provided by BOEM based on which NMFS has made conclusions regarding take. The RPMs and Terms and Conditions also serve to monitor and track individual and cumulative effects of

activities subject to this programmatic consultation. Below, we explain why each of the RPMs from the programmatic ITS and its implementing terms and conditions are necessary and appropriate and why they are not considered to be more than a minor change.

RPM #1 and Term and Condition #1 and #2 are necessary and appropriate because they will allow BOEM and NMFS to keep track of the activities that are being considered for coverage under this Opinion and ITS and will allow both agencies to track individual and cumulative effects of the activities considered here. This is only a minor change because it is not expected to result in any delay to the project or increased cost and will merely involve occasional communications and coordination between BOEM and NMFS staff.

RPM #2 and 3 and Term and Condition #3 and 4 are necessary and appropriate because they are designed to verify that the sound levels modeled by BOEM are valid and that the estimated areas where sound levels are expected to be greater than the threshold levels for effects to listed species are accurate. Any increases in cost or time are expected to be minor as these measurements will not be required for all survey activities or for the installation of all piles.

RPM #4 and Term and Condition #5 and 6 are necessary and appropriate because they will serve to ensure that we are aware of the dates and locations of all survey and pile driving activities. This will allow us to monitor the duration and seasonality of these activities as well as give us an opportunity to provide BOEM with any updated contact information for NMFS staff. This is only a minor change because it is not expected to result in any delay to the project and will merely involve an occasional telephone call or e-mail between BOEM and NMFS staff.

11.5.1 RPMs and Terms and Conditions for Bay State Wind Activities in BOEM Lease Area (OCS A-0500) ***AMENDED AUGUST 12, 2016***

Reasonable and prudent measures are those measures necessary and appropriate to minimize and monitor incidental take of a listed species. These reasonable and prudent measures are in addition to the project design criteria proposed by BOEM that are incorporated into the lease issued for Bay State Wind (OCS A-0500; see pages C-11 to C-16[1]). We have reviewed the RPMs and Terms and Conditions developed for the programmatic Opinion as a whole and identify those that are required for the Bay State Wind surveys; this is based on the actual activities proposed by Bay State Wind.

The following reasonable and prudent measures are necessary and appropriate to minimize and monitor impacts of incidental take of sea turtles, Atlantic sturgeon, right, humpback and fin whales.

Reasonable and Prudent Measures—Bay State Wind (OCS A-0500)

1. Field verification of modeled noise levels must be undertaken for electromechanical survey equipment operating below 200 kHz in the lease area. This verification must

[1] A copy of the lease is available at http://www.boem.gov/Lease-OCS-A-0500/

take place prior to the equipment being used for any survey activities[2].

2. BOEM must keep NMFS informed of all geophysical and geotechnical surveys conducted by Bay State Wind in support of the SAP.
3. BOEM must require Bay State Wind to report all project-related observations of listed species to NMFS Greater Atlantic Region.

Terms and Conditions – Bay State Wind (OCS A-0501)

In order to be exempt from prohibitions of section 9 of the ESA, BOEM and Bay State Wind must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and which outline required minimization and monitoring requirements. These terms and conditions are non-discretionary.

1. To implement RPM #1, sound source verification must be conducted prior to the commencement of surveys that involve the operation of the electromechanical survey equipment operating below 200 kHz in the lease area. Acoustic measurements must be sufficient to establish the following: source level (peak at 1 meter) and distance to the 180, 160 and 150 dB re 1uPa RMS isopleths. Results of this monitoring must be reported to NMFS as soon as practicable, but no later than 48 hours after completion, (by email to Julie.Crocker@noaa.gov and incidental.take@noaa.gov).
2. To implement RPM #2, BOEM must provide NMFS with notice (email or telephone, to a contact provided annually by NMFS) no later than three days prior to scheduled geological and geophysical surveys and meteorological tower construction. BOEM must also provide notice when these activities are completed.
3. To implement RPM #3, within 60 days of the end of the survey period, BOEM must submit a report to NMFS detailing the activities that occurred pursuant to the SAP that were subject to this consultation and any impacts to listed species from those activities.
4. To implement RPM #3, BOEM must report any observations of injured or dead whales, sea turtles or Atlantic sturgeon observed in the lease area to NMFS within 24-hours. This report must include photographs whenever possible; date, time and coordinates of sighting; and a summary of project activities occurring in the previous 24-hours. These reports must be submitted by email to incidental.take@noaa.gov.
5. To implement RPM #3, BOEM must ensure:
   a. Bay State Wind immediately reports any whale taken in a manner not authorized by the Incidental Harassment Authorization (e.g., injury, serious injury, or mortality) to NMFS Greater Atlantic Region (978-281-9328) and via email to incidental.take@noaa.gov.

[2] It is reasonable to expect that noise levels recorded during the sound source verification will be representative of the noise levels that will be experienced during the entirety of the survey. This is because the verification will occur in an area expected to result in the "worst case scenario"; that is, the area where the isopleths would be expected to be largest.

b. Bay State Wind submits to the NMFS Greater Atlantic Region a report that documents the survey activities along with a detailed description of any observation and/or takes of ESA listed species including right, humpback and fin whales.

6. To implement RPM #3, the requirements of the Incidental Harassment Authorization (August 11, 2016) issued under section 101(a)(5)(A) of the MMPA are incorporated by reference herein.

11.5.2 RPMs and Terms and Conditions for Ocean Wind Activities in BOEM Lease Area (OCS A-0498) ***AMENDED JUNE 12, 2017***

Reasonable and prudent measures are those measures necessary and appropriate to minimize and monitor incidental take of a listed species. These reasonable and prudent measures are in addition to the project design criteria proposed by BOEM that are incorporated into the lease issued for Ocean Wind (OCS A-0498; see pages C-6 to C-17[3]). We have reviewed the RPMs and Terms and Conditions developed for the programmatic Opinion as a whole and identify those that are required for the Ocean Wind surveys; this is based on the actual activities proposed by Ocean Wind.

The following reasonable and prudent measures are necessary and appropriate to minimize and monitor impacts of incidental take of sea turtles, Atlantic sturgeon, and fin whales.

Reasonable and Prudent Measures—Ocean Wind (OCS A-0498)

1. Field verification of modeled noise levels must be undertaken for electromechanical survey equipment operating below 200 kHz in the lease area. This verification must take place prior to the equipment being used for any survey activities[4].
2. BOEM must keep NMFS informed of all geophysical and geotechnical surveys conducted by Ocean Wind in support of the SAP.
3. BOEM must require Ocean Wind to report all project-related observations of listed species to NMFS Greater Atlantic Region.

Terms and Conditions – Ocean Wind (OCS A-0498)

In order to be exempt from prohibitions of section 9 of the ESA, BOEM and Bay State Wind must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and which outline required minimization and monitoring requirements. These terms and conditions are non-discretionary.

1. To implement RPM #1, sound source verification must be conducted prior to the commencement of surveys that involve the operation of the electromechanical survey equipment operating below 200 kHz in the lease area. Acoustic measurements must be sufficient to establish the following: source level (peak at 1 meter) and distance to

[3] A copy of the lease is available at *https://www.boem.gov/NJ-SIGNED-LEASE-OCS-A-0498/*

[4] It is reasonable to expect that noise levels recorded during the sound source verification will be representative of the noise levels that will be experienced during the entirety of the survey. This is because the verification will occur in an area expected to result in the "worst case scenario"; that is, the area where the isopleths would be expected to be largest.

the 180, 160 and 150 dB re 1uPa RMS isopleths. Results of this monitoring must be reported to NMFS as soon as practicable, but no later than 48 hours after completion, (by email to Julie.Crocker@noaa.gov and incidental.take@noaa.gov).

2. To implement RPM #2, BOEM must provide NMFS with notice (email or telephone, to a contact provided annually by NMFS) no later than three days prior to scheduled geological and geophysical surveys and meteorological tower construction. BOEM must also provide notice when these activities are completed.
3. To implement RPM #3, within 60 days of the end of the survey period, BOEM must submit a report to NMFS detailing the activities that occurred pursuant to the SAP that were subject to this consultation and any impacts to listed species from those activities.
4. To implement RPM #3, BOEM must report any observations of injured or dead whales, sea turtles or Atlantic sturgeon observed in the lease area to NMFS within 24-hours. This report must include photographs whenever possible; date, time and coordinates of sighting; and a summary of project activities occurring in the previous 24-hours. These reports must be submitted by email to incidental.take@noaa.gov.
5. To implement RPM #3, BOEM must ensure:
   a. Ocean Wind immediately reports any whale taken in a manner not authorized by the Incidental Harassment Authorization (e.g., injury, serious injury, or mortality) to NMFS Greater Atlantic Region (978-281-9328) and via email to incidental.take@noaa.gov.

   b. Ocean Wind submits to the NMFS Greater Atlantic Region a report that documents the survey activities along with a detailed description of any observation and/or takes of ESA listed species including ESA listed whales.

6. To implement RPM #3, the requirements of the Incidental Harassment Authorization (June 9, 2017) issued under section 101(a)(5)(A) of the MMPA are incorporated by reference herein.

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XF286

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Site Characterization Surveys off the Coast of New Jersey

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; issuance of an Incidental Harassment Authorization.

SUMMARY: In accordance with the regulations implementing the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that NMFS has issued an incidental harassment authorization (IHA) to Ocean Wind, LLC (Ocean Wind), to incidentally harass, by Level B harassment only, marine mammals during high-resolution geophysical (HRG) and geotechnical survey investigations associated with marine site characterization activities off the coast of New Jersey in the area of the Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf (OCS–A 0498) (Lease Area).

DATES: This Authorization is effective from June 8, 2017, through June 7, 2018.

FOR FURTHER INFORMATION CONTACT: Laura McCue, Office of Protected Resources, NMFS, (301) 427–8401. Electronic copies of the applications and supporting documents, as well as a list of the references cited in this document, may be obtained online at: *www.nmfs.noaa.gov/pr/permits/incidental/energy_other.htm.* In case of problems accessing these documents, please call the contact listed above.

SUPPLEMENTARY INFORMATION:

Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

An authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth.

NMFS has defined ''negligible impact'' as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.

The MMPA states that the term ''take'' means to harass, hunt, capture, kill or attempt to harass, hunt, capture, or kill any marine mammal.

Except with respect to certain activities not pertinent here, the MMPA defines ''harassment'' as: Any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

National Environmental Policy Act

To comply with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq.*) and NOAA Administrative Order (NAO) 216–6A, NMFS must review our proposed action with respect to environmental consequences on the human environment.

Summary of Request

NMFS received a request from Ocean Wind for an IHA to take marine mammals incidental to 2017 geophysical survey investigations off the coast of New Jersey in the OCS–A 0498 Lease Area, designated and offered by the U.S. Bureau of Ocean Energy Management (BOEM), to support the development of an offshore wind project. Ocean Wind's request was for harassment only, and NMFS concurs that mortality is not expected to result from this activity; therefore, an IHA is appropriate.

The planned geophysical survey activities will occur for 42 days beginning in early June 2017, and geotechnical survey activities will take place in September 2017 and last for approximately 12 days. The following specific aspects of the planned activities are likely to result in the take of marine mammals: shallow and medium-penetration sub-bottom profilers (chirper and sparker) used during the HRG survey, and dynamically-positioned (DP) vessel thruster used in support of geotechnical survey activities. Take, by Level B Harassment only, of individuals of five species of marine mammals is anticipated to result from the specified activities. No serious injury or mortality is expected from Ocean Wind's HRG and geotechnical surveys.

Description of the Specified Activity

Overview

Ocean Wind plans to conduct a geophysical and geotechnical survey off the coast of New Jersey in the Lease Area to support the characterization of the existing seabed and subsurface geological conditions in the Lease Area. This information is necessary to support the siting, design, and deployment of up to two meteorological data collection buoys called floating light and detection ranging buoys (FLIDARs) and up to two metocean and current buoys, as well as to obtain a baseline assessment of seabed/sub-surface soil conditions in the Lease Area to support the siting of the wind farm. Surveys will include the use of the following equipment: multi-beam depth sounder, side-scan sonar, sub-bottom profiler, and cone penetration tests (CPTs). A detailed description of the planned marine site characterization project was provided in the **Federal Register** notice for the proposed IHA (82 FR 20563; May 3, 2017). Since that time, no changes have been made to the planned activities. Therefore, a detailed description is not provided here. Please refer to that **Federal Register** notice for the description of the specific activity.

Dates and Duration

HRG surveys are anticipated to commence in early June 2017 and will last for approximately 42 days, including estimated weather down time. Geotechnical surveys requiring the use of the DP drill ship will take place in September 2017, at the earliest, and will last for approximately 12 days excluding weather downtime. Equipment is expected run continuously for 24 hours per day.

Specified Geographic Region

Ocean Wind's survey activities will occur in the approximately 160,480-acre Lease Area designated and offered by the BOEM, located approximately nine miles (mi) southeast of Atlantic City, New Jersey, at its closest point (see Figure 1 of the IHA application). The

Lease Area falls within the New Jersey Wind Energy Area (NJ WEA; Figure 1–1 of the IHA application) with water depths ranging from 15–40 meters (m) (49–131 feet (ft)).

Detailed Description of Specific Activities

HRG Survey Activities

Marine site characterization surveys will include the following HRG survey activities:

- Depth sounding (multibeam depth sounder) to determine water depths and general bottom topography;
- Magnetic intensity measurements for detecting local variations in regional magnetic field from geological strata and potential ferrous objects on and below the bottom;
- Seafloor imaging (sidescan sonar survey) for seabed sediment classification purposes, to identify natural and man-made acoustic targets resting on the bottom as well as any anomalous features;
- Shallow penetration sub-bottom profiler (chirper) to map the near surface stratigraphy (top 0–5 meter (m) soils below seabed); and
- Medium penetration sub-bottom profiler (sparker) to map deeper subsurface stratigraphy as needed (soils down to 75–100 m below seabed).

Table 1 identifies the representative survey equipment that is being considered in support of the HRG survey activities. The make and model of the listed HRG equipment will vary depending on availability but will be finalized as part of the survey preparations and contract negotiations with the survey contractor. The final selection of the survey equipment will be confirmed prior to the start of the HRG survey program. Only the make and model of the HRG equipment may change, not the types of equipment or the addition of equipment with characteristics that might have effects beyond (*i.e.,* resulting in larger ensonified areas) those considered in this proposed IHA. None of the proposed HRG survey activities will result in the disturbance of bottom habitat in the Lease Area.

TABLE 1—SUMMARY OF PROPOSED HRG SURVEY EQUIPMENT

HRG equipment	Operating frequencies	Source level (manufacturer) (dB_{peak}; dB_{rms})	Source level (bay state wind survey)* (dB_{peak}; dB_{rms})	Beamwidth (degree)	Pulse duration (millisec)
Sonardyne Ranger 2 USBL	35–50 kHz	200 dB_{Peak}; n/a	194 dB_{Peak}; 166.10 dB_{rms}.	180	1.
Klein 3000H Sidescan Sonar	445/900 kHz	245 dB_{Peak}; 242 dB_{rms}.	n/a; n/a	0.2	0.0025 to 0.4.
GeoPulse Sub-bottom Profiler (chirper)	1.5 to 18 kHz	223.5 dB_{Peak}; 208 dB_{rms}.	203 dB_{Peak}; 172.45 dB_{rms}.	55	0.1 to 22.
Geo-Source 600/800 (sparker)	50 to 5000 Hz	222/223 dB_{Peak}; 221/223 dB_{rms}.	206/212 dB_{Peak}; 182.10/188.15 dB_{rms}.	110	1 to 10.
SeaBat 7125 Multibeam Sonar	200/400 kHz	220 dB_{Peak}; 213 dB_{rms}.	n/a; n/a	2	0.03 to 0.3.

* Gardline 2016, 2017.

The HRG survey activities will be supported by a vessel approximately 98 to 180 feet (ft) in length and capable of maintaining course and a survey speed of approximately 4.5 knots while transiting survey lines. HRG survey activities across the Lease Area will generally be conducted at 900-meter (m) line spacing. Up to two FLIDARs and two wave buoys will be deployed within the Lease Area, and up to three potential locations for FLIDAR deployment will be investigated. At each FLIDAR and wave buoy deployment locations, the survey will be conducted along a tighter 30-m line spacing to meet the BOEM requirements as set out in the July 2015 Guidelines for Providing Geophysical, Geotechnical, and Geohazard Information Pursuant and Archeological and Historic Property Information in 30 CFR part 585.

The equipment positioning systems use vessel-based underwater acoustic positioning to track equipment (in this case, the sub-bottom profiler) in very shallow to very deep water. Equipment positioning systems will be operational at all times during HRG survey data acquisition (*i.e,* concurrent with the sub-bottom profiler operation). Sub-bottom profiling systems identify and measure various marine sediment layers that exist below the sediment/water interface. A sound source emits an acoustic signal vertically downwards into the water and a receiver monitors the return signal that has been reflected off the sea floor. Some of the acoustic signal will penetrate the seabed and be reflected when it encounters a boundary between two layers that have different acoustic impedance. The system uses this reflected energy to provide information on sediment layers beneath the sediment-water interface. A shallow penetration sub-bottom profiler will be used to map the near surface stratigraphy of the Lease Area. A Geo-Source 200/800, or similar model, medium-penetration sub-bottom profiler (sparker) will be used to map deeper subsurface stratigraphy in the Lease Area as needed (soils down to 75–100 m below seabed). The sparker is towed from a boom arm off the side of the survey vessel and emits a downward pulse with a duration of 1 to 10 millisecond (ms) at an operating frequency of 50 to 5000 Hertz (Hz).

Geotechnical Survey Activities

Marine site characterization surveys will involve the following geotechnical survey activities:

- Sample boreholes to determine geological and geotechnical characteristics of sediments;
- Deep CPTs to determine stratigraphy and in-situ conditions of the deep surface sediments; and
- Shallow CPTs to determine stratigraphy and in-situ conditions of the near surface sediments.

It is anticipated that the geotechnical surveys will take place no sooner than September 2017. The geotechnical survey program will consist of up to 8 deep sample bore holes and adjacent 8 deep CPTs both to a depth of approximately 130 ft to 200 ft (40 m to 60 m) below the seabed, as well as 30 shallow CPTs, up to 130 ft (40 m) below seabed.

The investigation activities are anticipated to be conducted from a 250-ft to 350-ft (76 m to 107 m) DP drill ship. DP vessel thruster systems maintain their precise coordinates in waters with automatic controls. These control systems use variable levels of power to counter forces from current and wind.

Operations will take place over a 24-hour period to ensure cost, the duration of survey activities, and the period of potential impact on marine species are minimized. Based on 24-hour operations, the estimated duration of the geotechnical survey activities will be approximately 12 days excluding weather downtime. Estimated weather downtime is approximately 10 days.

Please see the previously referenced **Federal Register** notice (82 FR 20563; May 3, 2017) for a more detailed description of the specified activity.

Comments and Responses

A notice of NMFS' proposal to issue an IHA to Ocean Wind was published in the **Federal Register** on May 3, 2017 (82 FR 20563). That notice described, in detail, Ocean Wind's activity, the marine mammal species that may be affected by the activity and the anticipated effects on marine mammals. During the 30-day public comment period, NMFS received comments from the Marine Mammal Commission (Commission) and the Center for Regulatory Effectiveness (CRE).

Comment 1: The Commission recommends that, until the behavior thresholds are updated, NMFS require applicants to use the 120- rather than 160-dB re 1 µPa threshold for acoustic, non-impulsive sources (*e.g.,* chirp-type sub-bottom profilers, echosounders, and other sonars including side-scan and fish-finding).

Response: NMFS considers sub-bottom profilers to be impulsive sources; therefore, 160 dB threshold will continue to be used. Additionally, BOEM listed sparkers as impulsive sources (BOEM 2016). The 120-dB threshold is typically associated with continuous sources. Continuous sounds are those whose sound pressure level remains above that of the ambient sound, with negligibly small fluctuations in level (NIOSH, 1998; ANSI, 2005). Intermittent sounds are defined as sounds with interrupted levels of low or no sound (NIOSH, 1998). Sub-bottom profiler signals are intermittent sounds. Intermittent sounds can further be defined as either impulsive or non-impulsive. Impulsive sounds have been defined as sounds which are typically transient, brief (<1 sec), broadband, and consist of a high peak pressure with rapid rise time and rapid decay (ANSI, 1986; NIOSH, 1998). Non-impulsive sounds typically have more gradual rise times and longer decays (ANSI, 1995; NIOSH, 1998). Sub-bottom profiler signals have durations that are typically very brief (<1 sec), with temporal characteristics that more closely resemble those of impulsive sounds than non-impulsive sounds. With regard to behavioral thresholds, we consider the temporal and spectral characteristics of sub-bottom profiler signals to more closely resemble those of an impulse sound rather than a continuous sound. The 160-dB threshold is typically associated with impulsive sources. Therefore, the 160-dB threshold (typically associated with impulsive sources) is more appropriate than the 120-dB threshold (typically associated with continuous sources) for estimating takes by behavioral harassment incidental to use of such sources.

Comment 2: The Commission recommends that NMFS work with the BOEM Office of Renewable Energy to determine the circumstances under which adoption of mutually agreed-upon mitigation measures would avoid the potential for taking marine mammals and the need for an IHA. The Commission further recommends that NMFS use a consistent approach for reducing (or not reducing) the numbers of estimated takes based on the requirement to implement mitigation measures to preclude taking in the respective Level B harassment zones.

Response: NMFS appreciates the Commission's recommendations to streamline our incidental take authorization (ITA) process. NMFS believes that for this project with activities occurring at night and over a long duration, we are not comfortable assuming we can avoid all takes with mitigation measures in place. Ocean Wind's application included conservative monitoring measures, which will help reduce take of marine mammals, but may not completely eliminate the possibility for take.

In regards to the Commission's recommendation for using a consistent approach to reducing the number of estimated take, they referenced our ITAs involving Cook Inlet beluga whales. First, Ocean Wind's project is not the same situation as in Cook Inlet. In Cook Inlet there is a small resident population of beluga whales, and applicants have proposed shutting down when a certain number of total belugas observed within the Level B zone is reached to help ensure that no more than small numbers (an MMPA requirement) of belugas are taken during their activity. Second, regarding consistency, NMFS generally applies standard minimum mitigation requirements to different activity types. However, if an applicant proposes measures that are more protective than the standard minimum in their application (and NMFS believes that those measures will effect a reduction of impacts beyond the standard minimum measures), it suggests that those measures are practicable for the applicant may be appropriate for NMFS to include them to meet our least practicable adverse impact standard. Though standard minimum measures are helpful and generally used, the overall suite of mitigation measures is determined on a case-by-case basis, is dependent upon multiple factors specific to the activity, environment, and affected species, and may vary some between projects.

Comment 3: CRE does not oppose NMFS' issuance of the IHA, but they do oppose NMFS' use of the acoustic Guidance in the IHA. Given the Executive Order (EO) 13795, CRE commented that NMFS does not have the authority to use the Guidance until the Commerce Secretary has completed his review and made a decision as to whether to revise or rescind the Guidance. They further recommend that NMFS remove any claim that OMB had approved an Information Collection Request (ICR) for the Guidance, and NMFS should correct information disseminations that suggest or require that the Guidance may be used for any regulatory purpose.

Response: As described in our May 31, 2017 **Federal Register** notice (82 FR 24950), NMFS is soliciting public comment on the Guidance in accordance with EO 13795. NMFS will also consult the appropriate Federal agencies to assist the Secretary of Commerce in reviewing the Technical Guidance for consistency with the policy in section 2 of EO 13795. As mandated by the EO, at the conclusion of the review the Secretary of Commerce will make a determination of how to proceed. At that point, NMFS will determine what information will be provided on our information disseminations. EO 13795 does not state that the Guidance cannot be used during the review process; therefore, the Guidance remains applicable during this time. The Guidance explicitly states that ITA applicants are not required to use it and that, if an alternative approach is likely to produce a more accurate estimate of auditory impact for the project being evaluated, the applicant may propose such an alternate approach (NMFS 2016).NMFS is currently in compliance under the Paperwork Reduction Act (PRA) for the ICR.

Description of Marine Mammals in the Area of the Specified Activity

There are 35 species of marine mammals that potentially occur in the Northwest Atlantic OCS region (BOEM 2014) (Table 2). The majority of these

species are pelagic and/or northern species, or are so rarely sighted that their presence in the Lease Area is unlikely. Five species are considered to have the potential to co-occur with the planned survey activities: fin whale (*Balaenoptera physalus*), bottlenose dolphin (*Tursiops truncatus*), short-beaked common dolphin (*Delphinus delphis*), harbor porpoise (*Phocoena phocoena*), and harbor seal (*Phoca vitulina*) (Right Whale Consortium 2016). Table 2 lists all species with expected potential for occurrence in the NE Atlantic OCS and summarizes information related to the population or stock. For status of species, we provide information regarding U.S. regulatory status under the MMPA and ESA. All managed stocks in this region are assessed in NMFS's U.S. 2016 Atlantic SARs and can be found here: *http://www.nmfs.noaa.gov/pr/species/*. All values presented in Table 2 are the most recent available at the time of publication and are available in the draft 2016 SARs. A detailed description of the of the species likely to be affected by the marine site characterization project, including brief introductions to the species and relevant stocks as well as available information regarding population trends and threats, and information regarding local occurrence, were provided in the **Federal Register** notice for the proposed IHA (82 FR 20563; May 3, 2017). Since that time, we are not aware of any changes in the status of these species and stocks; therefore, detailed descriptions are not provided here. Please refer to that **Federal Register** notice for these descriptions. Please also refer to NMFS' Web site (*www.nmfs.noaa.gov/pr/species/mammals/*) for generalized species accounts.

TABLE 2—MARINE MAMMALS KNOWN TO OCCUR IN THE WATERS OFF THE NORTHWEST ATLANTIC OCS

Common name	Stock	NMFS MMPA and ESA status; strategic (Y/N) [1]	Stock Abundance (CV,Nmin, most recent abundance survey) [2]	PBR [3]	Occurrence and seasonality in the NW Atlantic OCS
Toothed whale (Odontoceti)					
Atlantic white-sided dolphin (*Lagenorhynchus acutus*).	W. North Atlantic	-; N	48,819 (0.61; 30,403; n/a).	304	rare.
Atlantic spotted dolphin (*Stenella frontalis*).	W. North Atlantic	-; N	44,715 (0.43; 31,610; n/a).	316	rare.
Bottlenose dolphin (*Tursiops truncatus*).	W. North Atlantic, Offshore.	-; N	77,532 (0.40; 56,053; 2011).	561	Common year round.
Clymene Dolphin (*Stenella clymene*)	W. North Atlantic	-; N	Unknown (unk; unk; n/a)	Undet	rare.
Pantropical Spotted Dolphin (*Stenella attenuata*).	W. North Atlantic	-; N	3,333 (0.91; 1,733; n/a)	17	rare.
Risso's dolphin (*Grampus griseus*)	W. North Atlantic	-; N	18,250 (0.46; 12,619; n/a).	126	rare.
Short-beaked common dolphin (*Delphinus delphis*).	W. North Atlantic	-; N	70,184 (0.28; 55,690; 2011).	557	Common year round.
Striped dolphin (*Stenella coeruleoalba*).	W. North Atlantic	-; N	54,807 (0.3; 42,804; n/a).	428	rare.
Spinner Dolphin (*Stenella longirostris*).	W. North Atlantic	-; N	Unknown (unk; unk; n/a)	Undet	rare.
White-beaked dolphin (*Lagenorhynchus albirostris*).	W. North Atlantic	-; N	2,003 (0.94; 1,023; n/a)	10	rare.
Harbor porpoise (*Phocoena phocoena*).	Gulf of Maine/Bay of Fundy.	-; N	79,833 (0.32; 61,415; 2011).	706	Common year round.
Killer whale (*Orcinus orca*)	W. North Atlantic	-; N	Unknown (unk; unk; n/a)	Undet	rare.
False killer whale (*Pseudorca crassidens*).	W. North Atlantic	-;Y	442 (1.06; 212; n/a)	2.1	rare.
Long-finned pilot whale (*Globicephala melas*).	W. North Atlantic	-;Y	5,636 (0.63; 3,464; n/a)	35	rare.
Short-finned pilot whale (*Globicephala macrorhynchus*).	W. North Atlantic	-;Y	21,515 (0.37; 15,913; n/a).	159	rare.
Sperm whale (*Physeter macrocephalus*).	North Atlantic	E; Y	2,288 (0.28; 1,815; n/a)	3.6	Year round in continental shelf and slope waters, occur seasonally to forage.
Pygmy sperm whale (*Kogia breviceps*).	W. North Atlantic	-; N	3,785 [b/](0.47; 2,598; n/a).	26	rare.
Dwarf sperm whale (*Kogia sima*)	W. North Atlantic	-; N	3,785 [b/](0.47; 2,598; n/a).	26	rare.
Cuvier's beaked whale (*Ziphius cavirostris*).	W. North Atlantic	-; N	6,532 (0.32; 5,021; n/a)	50	rare.
Blainville's beaked whale (*Mesoplodon densirostris*).	W. North Atlantic	-; N	7,092 [c/](0.54; 4,632; n/a).	46	rare.
Gervais' beaked whale (*Mesoplodon europaeus*).	W. North Atlantic	-; N	7,092 [c/](0.54; 4,632; n/a).	46	rare.
True's beaked whale (*Mesoplodon mirus*).	W. North Atlantic	-; N	7,092 [c/](0.54; 4,632; n/a).	46	rare.
Sowerby's Beaked Whale (*Mesoplodon bidens*).	W. North Atlantic	-; N	7,092 [c/](0.54; 4,632; n/a).	46	rare.

TABLE 2—MARINE MAMMALS KNOWN TO OCCUR IN THE WATERS OFF THE NORTHWEST ATLANTIC OCS—Continued

Common name	Stock	NMFS MMPA and ESA status; strategic (Y/N) [1]	Stock Abundance (CV,Nmin, most recent abundance survey) [2]	PBR [3]	Occurrence and seasonality in the NW Atlantic OCS
Melon-headed whale (*Peponocephala electra*).	W. North Atlantic	-; N	Unknown (unk; unk; n/a)	Undet	rare.
Baleen whales (Mysticeti)					
Minke whale (*Balaenoptera acutorostrata*).	Canadian East Coast	-; N	2,591 (0.81; 1,425; n/a)	162	Year round in continental shelf and slope waters, occur seasonally to forage.
Blue whale (*Balaenoptera musculus*)	W. North Atlantic	E; Y	Unknown (unk; 440; n/a)	0.9	Year round in continental shelf and slope waters, occur seasonally to forage.
Fin whale (*Balaenoptera physalus*)	W. North Atlantic	E; Y	1,618 (0.33; 1,234; n/a)	2.5	Year round in continental shelf and slope waters, occur seasonally to forage.
Humpback whale (*Megaptera novaeangliae*).	Gulf of Maine	-; N	823 (0; 823; n/a)	2.7	Common year round.
North Atlantic right whale (*Eubalaena glacialis*).	W. North Atlantic	E; Y	440 (0; 440; n/a)	1	Year round in continental shelf and slope waters, occur seasonally to forage.
Sei whale (*Balaenoptera borealis*)	Nova Scotia	E; Y	357 (0.52; 236; n/a)	0.5	Year round in continental shelf and slope waters, occur seasonally to forage.
Earless seals (Phocidae)					
Gray seals (*Halichoerus grypus*)	North Atlantic	-; N	505,000 (unk; unk; n/a)	Undet	Unlikely.
Harbor seals (*Phoca vitulina*)	W. North Atlantic	-; N	75,834 (0.15; 66,884; 2012).	2,006	Common year round.
Hooded seals (*Cystophora cristata*)	W. North Atlantic	-; N	Unknown (unk; unk; n/a)	Undet	rare.
Harp seal (*Phoca groenlandica*)	North Atlantic	-; N	Unknown (unk; unk; n/a)	Undet	rare.

[1] ESA status: Endangered (E), Threatened (T)/MMPA status: Depleted (D). A dash (-) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR (see footnote 3) or which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.

[2] CV is coefficient of variation; N_{min} is the minimum estimate of stock abundance. In some cases, CV is not applicable. For certain stocks, abundance estimates are actual counts of animals and there is no associated CV. The most recent abundance survey that is reflected in the abundance estimate is presented; there may be more recent surveys that have not yet been incorporated into the estimate. All values presented here are from the draft 2016 Pacific SARs.

[3] Potential biological removal, defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population size (OSP).

Potential Effects of the Specified Activity on Marine Mammals and Their Habitat

The effects of underwater noise from HRG and geotechnical activities for the marine site characterization project have the potential to result in behavioral harassment of marine mammals in the vicinity of the action area. The **Federal Register** notice for the proposed IHA (82 FR 20563; May 3, 2017) included a discussion of the effects of anthropogenic noise on marine mammals, therefore that information is not repeated here. Please refer to the **Federal Register** notice (82 FR 20563; May 3, 2017) for that information.

Estimated Take

This section provides an estimate of the number of incidental takes authorized in this IHA, which informed both NMFS' consideration of whether the number of takes is "small" and the negligible impact determination.

Harassment is the only type of take expected to result from these activities. Except with respect to certain activities not pertinent here, the MMPA defines "harassment" as: Any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Authorized takes will be by Level B harassment only, in the form of disruption of behavioral patterns for individual marine mammals resulting from exposure to HRG and geotechnical surveys. Based on the nature of the activity, the short duration of activities, and the small Level A isopleths (less than 3 m for all sources), Level A harassment is neither anticipated nor authorized. The death of a marine mammal is also a type of incidental take. However, as described previously, no mortality is anticipated or authorized for this activity. Below we describe how the take is estimated for this project.

Project activities that have the potential to harass marine mammals, as defined by the MMPA, include underwater noise from operation of the HRG survey sub-bottom profilers and noise propagation associated with the use of DP thrusters during geotechnical survey activities that require the use of a DP drill ship. NMFS anticipates that impacts to marine mammals will be in the form of behavioral harassment, and no take by injury, serious injury, or mortality is authorized.

The basis for the take estimate is the number of marine mammals that will be exposed to sound levels in excess of NMFS' Level B harassment criteria for impulsive noise (160 dB re 1 µPa (rms) and continuous noise (120 dB re 1 µPa (rms)), which is generally determined by overlaying the area ensonified above NMFS acoustic thresholds for harassment within a day with the density of marine mammals, and multiplying by the number of days. NMFS' current acoustic thresholds for estimating take are shown in Table 3 below.

TABLE 3—NMFS'S ACOUSTIC EXPOSURE CRITERIA

Criterion	Definition	Threshold
Level B harassment (underwater)	Behavioral disruption	160 dB (impulsive source)/120 dB (continuous source) (rms).
Level B harassment (airborne)	Behavioral disruption	90 dB (harbor seals)/100 dB (other pinnipeds) (unweighted).

Modeling took into consideration sound sources using the potential operational parameters, bathymetry, geoacoustic properties of the Lease Area, time of year, and marine mammal hearing ranges. Results from the hydroacoustic modeling and measurements showed that estimated maximum distance to the 160 dB re 1 µPa (rms) MMPA threshold for all water depths for the HRG survey sub-bottom profilers (the HRG survey equipment with the greatest potential for effect on marine mammal) was approximately 75.28 m from the source using practical spreading (Subacoustech 2016), and the estimated maximum critical distance to the 120 dB re 1 µPa (rms) MMPA threshold for all water depths for the drill ship DP thruster was approximately 500 m from the source (Subacoustech 2016). Ocean Wind and NMFS believe that these estimates represent the a conservative scenario and that the actual distances to the Level B harassment threshold may be shorter for HRG equipment, as practical spreading (15logR) was used to estimate the ensonified area here and there are some sound measurements taken in the Northeast that suggest a higher spreading coefficient (which would result in a shorter distance) may be applicable.

Ocean Wind estimated species densities within the project area in order to estimate the number of marine mammal exposures to sound levels above the 120 dB Level B harassment threshold for continuous noise (*i.e.,* DP thrusters) and the 160 dB Level B harassment threshold for intermittent, impulsive noise (*i.e.,* sub-bottom profiler). Research indicates that marine mammals generally have extremely fine auditory temporal resolution and can detect each signal separately (*e.g.,* Au *et al.,* 1988; Dolphin *et al.,* 1995; Supin and Popov 1995; Mooney *et al.,* 2009b), especially for species with echolocation capabilities. Therefore, it is likely that marine mammals will perceive the acoustic signals associated with the HRG survey equipment as being intermittent rather than continuous, and we base our takes from these sources on exposures to the 160 dB threshold.

The data used as the basis for estimating cetacean density (''D'') for the Lease Area are sightings per unit effort (SPUE) derived by Duke University (Roberts *et al.,* 2016). For pinnipeds, the only available comprehensive data for seal abundance is the Northeast Navy Operations Area (OPAREA) Density Estimates (DoN 2007). SPUE (or, the relative abundance of species) is derived by using a measure of survey effort and number of individual cetaceans sighted. SPUE allows for comparison between discrete units of time (*i.e.* seasons) and space within a project area (Shoop and Kenney 1992). The Duke University (Roberts *et al.,* 2016) cetacean density data represent models derived from aggregating line-transect surveys conducted over 23 years by 5 institutions (NMFS Northeast Fisheries Science Center (NEFSC), New Jersey Department of Environmental Protection (NJDEP), NMFS Southeast Fisheries Science Center (SEFSC), University of North Carolina Wilmington (UNCW), Virginia Aquarium & Marine Science Center (VAMSC)), the results of which are freely available online at the Ocean Biogeographic Information System Spatial Ecological Analysis of Megavertebrate Populations (OBIS–SEAMAP) repository. Monthly density values were within the survey area were averaged by season to provide seasonal density estimates. The OPAREA Density Estimates (DoN 2007) used for pinniped densities were based on data collected through NMFS NWFSC aerial surveys conducted between 1998 and 2005.

The Zone of influence (ZOI) is the extent of the ensonified zone in a given day. The ZOI was calculated using the following equations:

- Stationary source (*e.g.* DP thruster): πr^2
- Mobile source (*e.g.* sparkers): (distance/day * 2r) + πr^2

Where distance is the maximum survey trackline per day (177.6 km) and r is the distance to the 160 dB (for impulsive sources) and 120 dB (for non-impulsive sources) isopleths. The isopleths were calculated using practical spreading.

Estimated takes were calculated by multiplying the species density (animals per km^2) by the appropriate ZOI, multiplied by the number of appropriate days (*e.g.* 42 for HRG activities or 12 for geotechnical activities) of the specified activity. A detailed description of the acoustic modeling used to calculate zones of influence is provided in Ocean Wind's IHA application (also see the discussion in the *Mitigation Measures* section below).

Ocean Wind used a ZOI of 26.757 km^2 and a survey period of 42 days, which includes estimated weather downtime, to estimate take from use of the HRG survey equipment during geophysical survey activities. The ZOI is based on the worst case (since it assumes the higher powered GeoSource 800 sparker will be operating all the time) and a maximum survey trackline of 110.4 mi (177.6 km) per day. Based on the planned HRG survey schedule (June 2017), take calculations were based on the summer seasonal species density as derived from Roberts *et al.* (2016) for cetaceans and seasonal OPAREA density estimates (DoN, 2007) for pinnipeds. The resulting take estimates

(rounded to the nearest whole number) are presented in Table 4.

TABLE 4—ESTIMATED LEVEL B HARASSMENT TAKES FOR HRG SURVEY ACTIVITIES

Species	Density for summer (No./km^2)	Calculated take (No.)	Requested take authorization (No.)	Percentage of stock potentially affected
Fin Whale	.0008	0.89	*5	0.061
Bottlenose Dolphin	.2534	284.7	285	0.385
Short beaked common Dolphin	.0282	31.69	32	0.047
Harbor Porpoise	.0012	1.34	*4	0.006

* Requested take authorization was increased to account for average group size of fin whales (5) and harbor porpoise (4).

Ocean Wind used a ZOI of 0.31 m^2 (0.79 km^2) and a maximum DP thruster use period of 12 days to estimate take from use of the DP thruster during geotechnical survey activities. The ZOI represents the field-verified distance to the 120 dB isopleth for DP thruster use. Based on the planned geotechnical survey schedule (September 2017), take calculations were based on the fall seasonal species density estimates (Roberts *et al.,* 2016; DoN, 2007) (Table 5). The resulting take estimates (rounded to the nearest whole number) based upon these conservative assumptions for bottlenose dolphins and harbor seals are presented in Table 5. These numbers are based on 12 days and represent only 0.001 percent of the stock for each of these 2 species. Take estimates were increased to take into account average group size where needed (fin whale and harbor porpoise).

TABLE 5—ESTIMATED LEVEL B HARASSMENT TAKES FOR GEOTECHNICAL SURVEY ACTIVITIES

Species	Density for fall (No./100 km^2)	Calculated take (No.)	Requested take authorization (No.)	Percentage of stock potentially affected
Bottlenose Dolphin	11.44	1.08	*1	0.001
Harbor seal	9.74	0.92	1	0.001

* It is understood that typical pod size for bottlenose dolphins can be 2 to 15 individuals (NOAA 2015b). Given that take for this species has been requested to cover HRG survey activities, in conjunction with mitigation measures, the Applicant has determined that increasing take to account for group size is not necessary.

Ocean Wind's requested take numbers are provided in Tables 4 and 5 and are also the number of takes NMFS is authorizing. Ocean Wind's calculations do not take into account whether a single animal is harassed multiple times or whether each exposure is a different animal. Therefore, the numbers in Tables 4 and 5 are the maximum number of animals that may be harassed during the HRG and geotechnical surveys (*i.e.,* Ocean Wind assumes that each exposure event is a different animal). These estimates do not account for prescribed mitigation measures that Ocean Wind will implement during the specified activities and the fact that shutdown/powerdown procedures shall be implemented if an animal enters within 200 m of the vessel during HRG activities, and 500 m during geotechnical activities, further reducing the potential for any takes to occur during these activities.

Ocean Wind used NMFS' Guidance (NMFS 2016) to determine sound exposure thresholds to determine when an activity that produces sound might result in impacts to a marine mammal such that a take by injury, in the form of PTS, might occur. The functional hearing groups and the associated PTS onset acoustic thresholds are indicated in Table 6 below. Ocean Wind used the user spreadsheet to calculate the isopleth for the loudest source (sparker, sub-bottom profiler). The sub-bottom profiler was calculated with the following conditions: Source level at 172.4 rms, vessel velocity of 2.058 m/s, repetition rate of 0.182, pulse duration of 22 ms and a weighting factor adjustment of 10 based on the spectrogram for this equipment (Gardline 2016). Isopleths were less than 3 m for all hearing groups; therefore, no Level A takes were requested. The Geo-Source sparker model used the following parameters: Source level at 188.7 rms Source level, vessel velocity of 2.058 meters per second (m/s), repetition rate of 0.25 seconds, pulse duration of 10 ms and weighting factor adjustment of 3 based on the spectrograms for this equipment. Isopleths were less than 2 m for all hearing groups; therefore, no Level A takes were requested. The DP thruster was defined as non-impulsive static continuous source with an extrapolated source level of 150 dB rms based on far field measurements (Subacoustech 2016), an activity duration of 4 hours and weighting factor adjustment of 2. The transmission loss coefficient of 11.1 was used based on the slope of best fit from field measurements (Subacoustech 2016). Isopleths were less than 1 m for all hearing groups; therefore, no Level A take were requested. No level A take is requested or authorized for any of the sources used during HRG and geotechnical surveys.

TABLE 6—SUMMARY OF PTS ONSET ACOUSTIC THRESHOLDS

Hearing group	PTS onset acoustic thresholds[1] (Received level)	
	Impulsive	Non-impulsive
Low-frequency cetaceans	*Cell 1:* Lpk,flat: 219 dB; LE,LF,24h: 183 dB.	*Cell 2:* LE,LF,24h: 199 dB.
Mid-frequency cetaceans	*Cell 3:* Lpk,flat: 230 dB; LE,MF,24h: 185 dB.	*Cell 4:* LE,MF,24h: 198 dB.
High-frequency cetaceans	*Cell 5:* Lpk,flat: 202 dB; LE,HF,24h: 155 dB.	*Cell 6:* LE,HF,24h: 173 dB.
Phocid Pinnipeds (underwaters)	*Cell 7:* Lpk,flat: 218 dB; LE,PW,24h: 185 dB.	*Cell 8:* LE,PW,24h: 201 dB.
Otariid Pinnipeds (underwater)	*Cell 9:* Lpk,flat: 232 dB; LE,OW,24h: 203 dB.	*Cell 10:* LE,OW,24h: 219 dB.

[1] NMFS 2016.

Mitigation Measures

In order to issue an IHA under section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking for certain subsistence uses (latter not applicable for this action). NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting such activity or other means of effecting the least practicable adverse impact upon the affected species or stocks and their habitat (50 CFR 216.104(a)(11)).

In evaluating how mitigation may or may not be appropriate to ensure the least practicable adverse impact on species or stocks and their habitat, as well as subsistence uses where applicable, we carefully balance two primary factors: (1) The manner in which, and the degree to which, the successful implementation of the measure(s) is expected to reduce impacts to marine mammals, marine mammal species or stocks, and their habitat, which considers the nature of the potential adverse impact being mitigated (likelihood, scope, range), as well as the likelihood that the measure will be effective if implemented; and the likelihood of effective implementation, and; (2) the practicability of the measures for applicant implementation, which may consider such things as cost, impact on operations, and, in the case of a military readiness activity, personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.

With NMFS' input during the application process, and as per the BOEM Lease, Ocean Wind will implement the following mitigation measures during site characterization surveys utilizing HRG survey equipment and use of the DP thruster. The mitigation measures outlined in this section are based on protocols and procedures that have been successfully implemented and resulted in no observed take of marine mammals for similar offshore projects and previously approved by NMFS (ESS 2013; Dominion 2013 and 2014).

Marine Mammal Exclusion Zones

Protected species observers (PSOs) will monitor the following exclusion/monitoring zones for the presence of marine mammals:

- A 200-m exclusion zone during HRG surveys (this exceeds the estimated Level B harassment isopleth).
- A 500-m monitoring zone during the use of DP thrusters during geotechnical survey activities (this is equal to the Level B harassment isopleth).

The 200 m exclusion zone is the default exclusion zone specified in stipulation 4.4.6.1 of the New Jersey OCS–A 0498 Lease Agreement. The 500 m exclusion zone is based on field-verified distances established during similar survey work conducted within the Bay State Wind Lease Area (Subacoustech 2016).

Visual Monitoring

Visual monitoring of the established exclusion zone(s) for the HRG and geotechnical surveys will be performed by qualified and NMFS-approved PSOs, the resumes of whom will be provided to NMFS for review and approval prior to the start of survey activities. An observer team comprising a minimum of four NMFS-approved PSOs and two certified Passive Acoustic Monitoring (PAM) operators (PAM operators will not function as PSOs), operating in shifts, will be stationed aboard either the survey vessel or a dedicated PSO-vessel. PSOs and PAM operators will work in shifts such that no one monitor will 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 will rotate in shifts of one on and three off, while during nighttime operations PSOs will work in pairs. The PAM operators will also be on call as necessary during daytime operations should visual observations become impaired. Each PSO will monitor 360 degrees of the field of vision.

PSOs will be responsible for visually monitoring and identifying marine mammals approaching or within the established exclusion zone(s) during survey activities. It will be the responsibility of the Lead PSO on duty to communicate the presence of marine mammals as well as to communicate and enforce the action(s) that are necessary to ensure mitigation and monitoring requirements are implemented as appropriate. PAM operators will communicate detected vocalizations to the Lead PSO on duty, who will then be responsible for implementing the necessary mitigation procedures. A mitigation and monitoring communications flow diagram has been included as Appendix A in the IHA application.

PSOs will be equipped with binoculars and have the ability to estimate distances to marine mammals located in proximity to the vessel and/or exclusion zone using range finders. Reticulated binoculars will also be available to PSOs for use as appropriate based on conditions and visibility to support the siting and monitoring of marine species. Digital single-lens reflex

camera equipment will be used to record sightings and verify species identification. During night operations, PAM (see *Passive Acoustic Monitoring* requirements below) and night-vision equipment in combination with infrared technology will be used (Additional details and specifications are provided in Ocean Wind's application in Appendix B for night-vision devices and Appendix C for infrared video monitoring technology). Position data will be recorded using hand-held or vessel global positioning system (GPS) units for each sighting.

The PSOs will begin observation of the exclusion zone(s) at least 60 minutes prior to ramp-up of HRG survey equipment. Use of noise-producing equipment will not begin until the exclusion zone is clear of all marine mammals for at least 60 minutes, as per the requirements of the BOEM Lease.

If a marine mammal is detected approaching or entering the 200-m exclusion zones during the HRG survey, or the 500-m monitoring zone during DP thrusters use, the vessel operator will adhere to the shutdown (during HRG survey) or powerdown (during DP thruster use) procedures described below to minimize noise impacts on the animals.

At all times, the vessel operator will maintain a separation distance of 500 m from any sighted North Atlantic right whale as stipulated in the *Vessel Strike Avoidance* procedures described below. These stated requirements will be included in the site-specific training to be provided to the survey team.

Vessel Strike Avoidance

The Applicant will ensure that vessel operators and crew maintain a vigilant watch for cetaceans and pinnipeds and slow down or stop their vessels to avoid striking these species. Survey vessel crew members responsible for navigation duties will receive site-specific training on marine mammal and sea turtle sighting/reporting and vessel strike avoidance measures. Vessel strike avoidance measures will include the following, except under extraordinary circumstances when complying with these requirements would put the safety of the vessel or crew at risk:

- All vessel operators will comply with 10 knot (<18.5 km per hour [km/h]) speed restrictions in any Dynamic Management Area (DMA). In addition, all vessels operating from November 1 through July 31 will operate at speeds of 10 knots (<18.5 km/h) or less.
- All survey vessels will maintain a separation distance of 500 m or greater from any sighted North Atlantic right whale.
- If underway, vessels must steer a course away from any sited North Atlantic right whale at 10 knots (<18.5 km/h) or less until the 500 m minimum separation distance has been established. If a North Atlantic right whale is sighted in a vessel's path, or within 100 m to an underway vessel, the underway vessel must reduce speed and shift the engine to neutral. Engines will not be engaged until the North Atlantic right whale has moved outside of the vessel's path and beyond 100 m. If stationary, the vessel must not engage engines until the North Atlantic right whale has moved beyond 100 m.
- All vessels will maintain a separation distance of 100 m or greater from any sighted non-delphinoid (*i.e.,* mysticetes and sperm whales) cetaceans. 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 will not engage engines until the non-delphinoid cetacean has moved out of the vessel's path and beyond 100 m.
- All vessels will maintain a separation distance of 50 m or greater from any sighted delphinoid cetacean. Any vessel underway will remain parallel to a sighted delphinoid cetacean's course whenever possible and avoid excessive speed or abrupt changes in direction. Any vessel underway reduces vessel speed to 10 knots or less when pods (including mother/calf pairs) or large assemblages of delphinoid cetaceans are observed. Vessels may not adjust course and speed until the delphinoid cetaceans have moved beyond 50 m and/or abeam (*i.e.,* moving away and at a right angle to the centerline of the vessel) of the underway vessel.
- All vessels will maintain a separation distance of 50 m (164 ft) or greater from any sighted pinniped.

The training program will be provided to NMFS for review and approval prior to the start of surveys. Confirmation of the training and understanding of the requirements will be documented on a training course log sheet. Signing the log sheet will certify that the crew members understand and will comply with the necessary requirements throughout the survey event.

Seasonal Operating Requirements

Between watch shifts, members of the monitoring team will consult the NMFS North Atlantic right whale reporting systems for the presence of North Atlantic right whales throughout survey operations. The planned survey activities however, will occur outside of the SMA located off the coasts of Delaware and New Jersey. The planned survey activities will also occur in June/July and September, which is outside of the seasonal mandatory speed restriction period for this SMA (November 1 through April 30).

Throughout all survey operations, Ocean Wind will monitor the NMFS North Atlantic right whale reporting systems for the establishment of a DMA. If NMFS should establish a DMA in the Lease Area under survey, within 24 hours of the establishment of the DMA Ocean Wind will work with NMFS to shut down and/or alter the survey activities to avoid the DMA.

Passive Acoustic Monitoring

As per the BOEM Lease, alternative monitoring technologies (*e.g.,* active or passive acoustic monitoring) are required if a Lessee intends to conduct geophysical surveys at night or when visual observation is otherwise impaired. To support 24-hour HRG survey operations, Ocean Wind will use certified PAM operators with experience reviewing and identifying recorded marine mammal vocalizations, as part of the project monitoring during nighttime operations to provide for optimal acquisition of species detections at night, or as needed during periods when visual observations may be impaired. In addition, PAM systems shall be employed during daylight hours to support system calibration and PSO and PAM team coordination, as well as in support of efforts to evaluate the effectiveness of the various mitigation techniques (*i.e.,* visual observations during day and night, compared to the PAM detections/operations).

Given the range of species that could occur in the Lease Area, the PAM system will consist of an array of hydrophones with both broadband (sampling mid-range frequencies of 2 kHz to 200 kHz) and at least one low-frequency hydrophone (sampling range frequencies of 75 Hz to 30 kHz). Monitoring of the PAM system will be conducted from a customized processing station aboard the HRG survey vessel. The on-board processing station provides the interface between the PAM system and the operator. The PAM operator(s) will monitor the hydrophone signals in real time both aurally (using headphones) and visually (via the monitor screen displays). Ocean Wind plans to use PAMGuard software for ''target motion analysis'' to support localization in relation to the identified exclusion zone. PAMGuard is an open source and versatile software/hardware interface to enable flexibility in the

configuration of in-sea equipment (number of hydrophones, sensitivities, spacing, and geometry). PAM operators will immediately communicate detections/vocalizations to the Lead PSO on duty who will ensure the implementation of the appropriate mitigation measure (*e.g.,* shutdown) even if visual observations by PSOs have not been made.

Ramp-Up

As per the BOEM Lease, a ramp-up procedure will be used for HRG survey equipment capable of adjusting energy levels at the start or re-start of HRG survey activities. A ramp-up procedure will be used at the beginning of HRG survey activities in order to provide additional protection to marine mammals near the Lease Area by allowing them to vacate the area prior to the commencement of survey equipment use. The ramp-up procedure will not be initiated during daytime, night time, or periods of inclement weather if the exclusion zone cannot be adequately monitored by the PSOs using the appropriate visual technology (*e.g.,* reticulated binoculars, night vision equipment) and/or PAM for a 60-minute period. A ramp-up will begin with the power of the smallest acoustic HRG equipment at its lowest practical power output appropriate for the survey. The power will then be gradually turned up and other acoustic sources added such that the source level will increase in steps not exceeding 6 dB per 5-minute period. If marine mammals are detected within the HRG survey exclusion zone prior to or during the ramp-up, activities will be delayed until the animal(s) has moved outside the monitoring zone and no marine mammals are detected for a period of 60 minutes.

The DP vessel thrusters will be engaged to support the safe operation of the vessel and crew while conducting geotechnical survey activities and require use as necessary. Therefore, there is no opportunity to engage in a ramp-up procedure.

Shutdown and Powerdown

HRG Survey—The exclusion zone(s) around the noise-producing activities (HRG survey equipment) will be monitored, as previously described, by PSOs and at night by PAM operators for the presence of marine mammals before, during, and after any noise-producing activity. The vessel operator must comply immediately with any call for shutdown by the Lead PSO. Any disagreement should be discussed only after shutdown.

As per the BOEM Lease, if a non-delphinoid (*i.e.,* mysticetes and sperm whales) cetacean is detected at or within the established exclusion zone (200-m exclusion zone), an immediate shutdown of the HRG survey equipment is required. Subsequent restart of the electromechanical survey equipment must use the ramp-up procedures described above and may only occur following clearance of the exclusion zone for 60 minutes. These are extremely conservative shutdown zones, as the 200-m exclusion radii exceed the distances to the estimated Level B harassment isopleths (75.28 m).

As per the BOEM Lease, if a delphinoid cetacean or pinniped is detected at or within the exclusion zone, the HRG survey equipment (including the sub-bottom profiler) must be powered down to the lowest power output that is technically feasible. Subsequent power up of the survey equipment must use the ramp-up procedures described above and may occur after (1) the exclusion zone is clear of a delphinoid cetacean and/or pinniped for 60 minutes or (2) a determination by the PSO after a minimum of 10 minutes of observation that the delphinoid cetacean or pinniped is approaching the vessel or towed equipment at a speed and vector that indicates voluntary approach to bow-ride or chase towed equipment.

If the HRG sound source (including the sub-bottom profiler) shuts down for reasons other than encroachment into the exclusion zone by a marine mammal including but not limited to a mechanical or electronic failure, resulting in the cessation of sound source for a period greater than 20 minutes, a restart for the HRG survey equipment (including the sub-bottom profiler) is required using the full ramp-up procedures and clearance of the exclusion zone of all cetaceans and pinnipeds for 60 minutes. If the pause is less than 20 minutes, the equipment may be restarted as soon as practicable at its operational level as long as visual surveys were continued diligently throughout the silent period and the exclusion zone remained clear of cetaceans and pinnipeds. If the visual surveys were not continued diligently during the pause of 20 minutes or less, a restart of the HRG survey equipment (including the sub-bottom profiler) is required using the full ramp-up procedures and clearance of the exclusion zone for all cetaceans and pinnipeds for 60 minutes.

Geotechnical Survey (DP Thrusters)—During geotechnical survey activities, a constant position over the drill or CPT site must be maintained to ensure the integrity of the survey equipment. Any stoppage of DP thruster during the geotechnical activities has the potential to result in significant damage to survey equipment. Therefore, during geotechnical survey activities, if marine mammals enter or approach the established exclusion and monitoring zone, Ocean Wind shall reduce DP thruster to the maximum extent possible, except under circumstances when reducing DP thruster use would compromise safety (both human health and environmental) and/or the integrity of the equipment. Reducing thruster energy will effectively reduce the potential for exposure of marine mammals to sound energy. After decreasing thruster energy, PSOs will continue to monitor marine mammal behavior and determine if the animal(s) is moving towards or away from the established monitoring zone. If the animal(s) continues to move towards the sound source then DP thruster use will remain at the reduced level. Normal use will resume when PSOs report that the marine mammals have moved away from and remained clear of the monitoring zone for a minimum of 60 minutes since the last sighting.

Based on our evaluation of the applicant's planned measures, as well as other measures considered by NMFS, NMFS has determined that the planned mitigation measures provide the means of effecting the least practicable impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Monitoring and Reporting

In order to issue an IHA for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth, requirements pertaining to the monitoring and reporting of such taking. The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for incidental take authorizations (ITAs) must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the action area. Effective reporting is critical both to compliance as well as ensuring that the most value is obtained from the required monitoring.

Monitoring measures prescribed by NMFS should contribute to improved understanding of one or more of the following general goals:

- Occurrence of marine mammal species or stocks in the action area (*e.g.,* presence, abundance, distribution, density).

- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) Action or environment (*e.g.,* source characterization, propagation, ambient noise); (2) affected species (*e.g.,* life history, dive patterns); (3) co-occurrence of marine mammal species with the action; or (4) biological or behavioral context of exposure (*e.g.,* age, calving or feeding areas).
- Individual marine mammal responses (behavioral or physiological) to acoustic stressors (acute, chronic, or cumulative), other stressors, or cumulative impacts from multiple stressors.
- How anticipated responses to stressors impact either: (1) Long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks.
- Effects on marine mammal habitat (*e.g.,* marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat).
- Mitigation and monitoring effectiveness.

Ocean Wind submitted marine mammal monitoring and reporting measures as part of the IHA application. These measures are described below.

Visual Monitoring—Visual monitoring of the established Level B harassment zones (200-m radius during HRG surveys (note that this is the same as the mitigation exclusion/shutdown zones established for HRG survey sound sources); 500-m radius during DP thruster use (note that this is the same as the mitigation powerdown zone established for DP thruster sound sources)) will be performed by qualified and NMFS-approved PSOs (see discussion of PSO qualifications and requirements in *Marine Mammal Exclusion Zones* above).

The PSOs will begin observation of the monitoring zone during all HRG survey activities and all geotechnical operations where DP thrusters are employed. Observations of the monitoring zone will continue throughout the survey activity and/or while DP thrusters are in use. PSOs will be responsible for visually monitoring and identifying marine mammals approaching or entering the established monitoring zone during survey activities.

Observations will take place from the highest available vantage point on the survey vessel. General 360-degree scanning will occur during the monitoring periods, and target scanning by the PSO will occur when alerted of a marine mammal presence.

Data on all PSO observations will be recorded based on standard PSO collection requirements. This will include dates and locations of construction operations; time of observation, location and weather; details of the sightings (*e.g.,* species, age classification (if known), numbers, behavior); and details of any observed ''taking'' (behavioral disturbances or injury/mortality). The data sheet will be provided to both NMFS and BOEM for review and approval prior to the start of survey activities. In addition, prior to initiation of survey work, all crew members will undergo environmental training, a component of which will focus on the procedures for sighting and protection of marine mammals. A briefing will also be conducted between the survey supervisors and crews, the PSOs, and Ocean Wind. The purpose of the briefing will be to establish responsibilities of each party, define the chains of command, discuss communication procedures, provide an overview of monitoring purposes, and review operational procedures.

Acoustic Field Verification—As per the requirements of the BOEM Lease, field verification of the exclusion/monitoring zones will be conducted to determine whether the zones correspond accurately to the relevant isopleths and are adequate to minimize impacts to marine mammals. The details of the field verification strategy will be provided in a Field Verification Plan no later than 45 days prior to the commencement of field verification activities.

Ocean Wind must conduct field verification of the exclusion zone (the 160 dB isopleth) for HRG survey equipment and the powerdown zone (the 120 dB isopleth) for DP thruster use for all equipment operating below 200 kHz. Ocean Wind must take acoustic measurements at a minimum of two reference locations and in a manner that is sufficient to establish source level (peak at 1 meter) and distance to the 160 dB isopleth (the Level B harassment zones for HRG surveys) and 120 dB isopleth (the Level B harassment zone) for DP thruster use. Sound measurements must be taken at the reference locations at two depths (*i.e.,* a depth at mid-water and a depth at approximately 1 meter (3.28 ft) above the seafloor).

Ocean Wind may use the results from its field-verification efforts to request modification of the exclusion/monitoring zones for the HRG or geotechnical surveys. Any new exclusion/monitoring zone radius proposed by Ocean Wind must be based on the most conservative measurements (*i.e.,* the largest safety zone configuration) of the target Level A or Level B harassment acoustic threshold zones. The modified zone must be used for all subsequent use of field-verified equipment. Ocean Wind must obtain approval from NMFS and BOEM of any new exclusion/monitoring zone before it may be implemented and the IHA shall be modified accordingly.

Reporting Measures

The Applicant will provide the following reports as necessary during survey activities:

- The Applicant will contact NMFS and BOEM within 24 hours of the commencement of survey activities and again within 24 hours of the completion of the activity.
- As per the BOEM Lease: Any observed significant behavioral reactions (*e.g.,* animals departing the area) or injury or mortality to any marine mammals must be reported to NMFS and BOEM within 24 hours of observation. Dead or injured protected species are reported to the NMFS Greater Atlantic Regional Fisheries Office (GARFO) Stranding Hotline (800–900–3622) within 24 hours of sighting, regardless of whether the injury is caused by a vessel. In addition, if the injury of death was caused by a collision with a project related vessel, Ocean Wind must ensure that NMFS and BOEM are notified of the strike within 24 hours. Additional reporting requirements for injured or dead animals are described below (*Notification of Injured or Dead Marine Mammals*).
- *Notification of Injured or Dead Marine Mammals*—In the unanticipated event that the specified HRG and geotechnical activities lead to an injury of a marine mammal (Level A harassment) or mortality (*e.g.,* ship-strike, gear interaction, and/or entanglement), Ocean Wind will immediately cease the specified activities and report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources and the NOAA GARFO Stranding Coordinator. The report will include the following information:
  - Time, date, and location (latitude/longitude) of the incident;
  - Name and type of vessel involved;
  - Vessel's speed during and leading up to the incident;
  - Description of the incident;
  - Status of all sound source use in the 24 hours preceding the incident;
  - Water depth;

- Environmental conditions (*e.g.,* wind speed and direction, Beaufort sea state, cloud cover, and visibility);
- Description of all marine mammal observations in the 24 hours preceding the incident;
- Species identification or description of the animal(s) involved;
- Fate of the animal(s); and
- Photographs or video footage of the animal(s) (if equipment is available).

Activities will not resume until NMFS is able to review the circumstances of the event. NMFS will work with Ocean Wind to minimize reoccurrence of such an event in the future. Ocean Wind will not resume activities until notified by NMFS.

In the event that Ocean Wind discovers an injured or dead marine mammal and determines that the cause of the injury or death is unknown and the death is relatively recent (*i.e.,* in less than a moderate state of decomposition), Ocean Wind will immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources and the GARFO Stranding Coordinator. The report will include the same information identified in the paragraph above. Activities will be able to continue while NMFS reviews the circumstances of the incident. NMFS will work with Ocean Wind to determine if modifications in the activities are appropriate.

In the event that Ocean Wind discovers an injured or dead marine mammal and determines that the injury or death is not associated with or related to the activities authorized in the IHA (*e.g.,* previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), Ocean Wind will report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, and the GARFO Regional Stranding Coordinator, within 24 hours of the discovery. Ocean Wind will provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS. Ocean Wind can continue its operations under such a case.

- Within 90 days after completion of the marine site characterization survey activities, a technical report will be provided to NMFS and BOEM 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, 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.
- In addition to the Applicant's reporting requirements outlined above, Ocean Wind will provide an assessment report of the effectiveness of the various mitigation techniques, *i.e.,* visual observations during day and night, compared to the PAM detections/operations. This will be submitted as a draft to NMFS and BOEM 30 days after the completion of the HRG and geotechnical surveys and as a final version 60 days after completion of the surveys.

Negligible Impact Analysis and Determinations

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival. A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.,* population-level effects). An estimate of the number of takes, alone, is not enough information on which to base an impact determination. In addition to considering the authorized number of marine mammals that might be "taken" through harassment, NMFS considers other factors, such as the likely nature of any responses (*e.g.,* intensity, duration), the context of any responses (*e.g.,* critical reproductive time or location, migration, etc.), as well as effects on habitat, the status of the affected stocks, and the likely effectiveness of the mitigation. Consistent with the 1989 preamble for NMFS' implementing regulations (54 FR 40338; September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into these analyses via their impacts on the environmental baseline (*e.g.,* as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

As discussed in the *Potential Effects of the Specified Activity on Marine Mammals and their Habitat* section, permanent threshold shift, masking, non-auditory physical effects, and vessel strike are not expected to occur. Further, once an area has been surveyed, it is not likely that it will be surveyed again, thereby reducing the likelihood of repeated impacts within the project area.

Potential impacts to marine mammal habitat were discussed previously in this document (see the *Potential Effects of the Specified Activity on Marine Mammals and their Habitat* section). Marine mammal habitat may be impacted by elevated sound levels and some sediment disturbance, but these impacts would be temporary. Feeding behavior is not likely to be significantly impacted, as marine mammals appear to be less likely to exhibit behavioral reactions or avoidance responses while engaged in feeding activities (Richardson *et al.,* 1995). Prey species are mobile and are broadly distributed throughout the Lease Area; therefore, marine mammals that may be temporarily displaced during survey activities are expected to be able to resume foraging once they have moved away from areas with disturbing levels of underwater noise. Because of the temporary nature of the disturbance, the availability of similar habitat and resources in the surrounding area, and the lack of important or unique marine mammal habitat, the impacts to marine mammals and the food sources that they utilize are not expected to cause significant or long-term consequences for individual marine mammals or their populations. Furthermore, there are no rookeries or mating grounds known to be biologically important to marine mammals within the planned project area. A biologically important feeding area for North Atlantic right whale encompasses the Lease Area (LaBrecque *et al.,* 2015); however, there is no temporal overlap between the biologically important area (BIA) (effective March-April; November-December) and the planned survey activities (June-July; September). There is one ESA-listed species for which takes are authorized: The fin whale. There are currently insufficient data to determine population trends for fin whale (Waring *et al.,* 2015); however, we are authorizing five takes for this species, therefore, we do not expect population-level impacts. There is no designated critical habitat for any ESA-listed marine mammals within the Lease Area, and none of the stocks for non-listed species taken are considered "depleted" or "strategic" by NMFS under the MMPA.

The planned mitigation measures are expected to reduce the number and/or severity of takes by (1) giving animals the opportunity to move away from the sound source before HRG survey equipment reaches full energy and (2) reducing the intensity of exposure within a certain distance by reducing the DP thruster power. Additional vessel strike avoidance requirements will further mitigate potential impacts

to marine mammals during vessel transit to and within the Study Area.

Ocean Wind did not request, and NMFS is not authorizing, take of marine mammals by injury, serious injury, or mortality. NMFS expects that most takes will be in the form of short-term Level B behavioral harassment in the form of brief startling reaction and/or temporary avoidance of the area or decreased foraging (if such activity were occurring)—reactions that are considered to be of low severity and with no lasting biological consequences (*e.g.,* Southall *et al.,* 2007). This is largely due to the short time scale of the planned activities, the low source levels and intermittent nature of many of the technologies planned to be used, as well as the required mitigation measures.

NMFS concludes that exposures to marine mammal species and stocks due to Ocean Wind's HRG and geotechnical survey activities will result in only short-term (temporary and short in duration) and relatively infrequent effects to individuals exposed and not of the type or severity that will be expected to be additive for the very small portion of the stocks and species likely to be exposed. Given the duration and intensity of the activities (including the mitigation) NMFS does not anticipate the number of takes to impact annual rates of recruitment or survival. Animals may temporarily avoid the immediate area, but are not expected to permanently abandon the area. Major shifts in habitat use, distribution, or foraging success, are not expected.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the monitoring and mitigation measures, NMFS finds that the total marine mammal take from the planned activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted above, only small numbers of incidental take may be authorized under Section 101(a)(5)(D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, NMFS compares the number of individuals taken to the most appropriate estimation of the relevant species or stock size in our determination of whether an authorization is limited to small numbers of marine mammals.

TABLE 7—SUMMARY OF POTENTIAL MARINE MAMMAL TAKES AND PERCENTAGE OF STOCKS AFFECTED

Species	Requested take authorization (number)	Stock abundance estimate	Percentage of stock potentially affected
Fin Whale (*Balaenoptera physalus*)	*5	1,618	0.31
Bottlenose Dolphin (*Tursiops truncatus*)	286	77,532	0.368
Short beaked common Dolphin (*Delphinus delphis*)	32	70,184	0.045
Harbor Porpoise (*Phocoena phocoena*)	*4	79,883	0.005
Harbor Seal (*Phoca vitulina*)	1	75,834	0.001

*Modeled take of this species was increased to account for average group size.

The authorized takes for the HRG and geotechnical surveys represent 0.31 percent of the WNA stock of fin whale, 0.045 percent of the WNA stock of short-beaked common dolphin, 0.368 percent of the Western north Atlantic, offshore stock of bottlenose dolphin, 0.005 percent of the Gulf of Maine/Bay of Fundy stock of harbor porpoise, and 0.001 percent of the WNA stock of harbor seal (Table 7). These take estimates represent the percentage of each species or stock that could be taken by Level B behavioral harassment and are extremely small numbers (less than 1 percent) relative to the affected species or stock sizes.

Based on the analysis contained herein of the planned activity (including the mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS finds that small numbers of marine mammals will be taken relative to the population size of the affected species or stocks.

Unmitigable Adverse Impact Analysis and Determination

There are no relevant subsistence uses of the affected marine mammal stocks or species implicated by this action. Therefore, NMFS has determined that the total taking of affected species or stocks will not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

Endangered Species Act

Issuance of an MMPA authorization requires compliance with the ESA. Within the project area, fin, humpback, and North Atlantic right whale are listed as endangered under the ESA. Under section 7 of the ESA, BOEM consulted with NMFS on commercial wind lease issuance and site assessment activities on the Atlantic Outer Continental Shelf in Massachusetts, Rhode Island, New York and New Jersey Wind Energy Areas. NOAA's GARFO issued a Biological Opinion concluding that these activities may adversely affect but are not likely to jeopardize the continued existence of fin whale, humpback whale, or North Atlantic right whale. The Biological Opinion can be found online at *http://www.nmfs.noaa.gov/pr/permits/incidental/energy_other.htm.* NMFS is also consulting internally on the issuance of an IHA under section 101(a)(5)(D) of the MMPA for this activity. Following issuance of the Ocean Wind's IHA, the Biological Opinion may be amended to include an incidental take exemption for these marine mammal species, as appropriate.

National Environmental Policy Act (NEPA)

NMFS prepared an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) and signed a Finding of No Significant Impact (FONSI) in June 2017. The EA and FONSI can be found at *http://www.nmfs.noaa.gov/pr/permits/incidental/energy_other.htm.*

Authorization

NMFS has issued an IHA to Ocean Wind for the potential harassment of small numbers of five marine mammal species incidental to the marine site characterization project off the coast of New Jersey in the area of the Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf (OCS–A 0498), provided the previously mentioned mitigation, monitoring and reporting.

Dated: June 30, 2017.

Donna S. Wieting,

Director, Office of Protected Resources, National Marine Fisheries Service.

[FR Doc. 2017–14260 Filed 7–6–17; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XF519

Fisheries of the Gulf of Mexico; Southeast Data, Assessment, and Review (SEDAR); Post Data-Workshop Webinar Gulf of Mexico Gray Snapper; Public Meeting

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of SEDAR 51 assessment webinar I for Gulf of Mexico gray snapper.

SUMMARY: The SEDAR 51 assessment process of Gulf of Mexico gray snapper will consist of a Data Workshop, a series of Assessment webinars, and a Review Workshop. See **SUPPLEMENTARY INFORMATION.**

DATES: The SEDAR 51 Assessment Webinar I will be held July 26, 2017, from 1 p.m. to 3 p.m., Eastern Time.

ADDRESSES: The meeting will be held via webinar. The webinar is open to members of the public. Those interested in participating should contact Julie A. Neer at SEDAR (see **FOR FURTHER INFORMATION CONTACT**) to request an invitation providing webinar access information. Please request webinar invitations at least 24 hours in advance of each webinar.

SEDAR address: 4055 Faber Place Drive, Suite 201, North Charleston, SC 29405.

FOR FURTHER INFORMATION CONTACT: Julie A. Neer, SEDAR Coordinator; phone: (843) 571–4366; email: *Julie.neer@safmc.net.*

SUPPLEMENTARY INFORMATION: The Gulf of Mexico, South Atlantic, and Caribbean Fishery Management Councils, in conjunction with NOAA Fisheries and the Atlantic and Gulf States Marine Fisheries Commissions have implemented the Southeast Data, Assessment and Review (SEDAR) process, a multi-step method for determining the status of fish stocks in the Southeast Region. SEDAR is a multi-step process including: (1) Data Workshop, (2) a series of assessment webinars, and (3) A Review Workshop. The product of the Data Workshop is a report that compiles and evaluates potential datasets and recommends which datasets are appropriate for assessment analyses. The assessment webinars produce a report that describes the fisheries, evaluates the status of the stock, estimates biological benchmarks, projects future population conditions, and recommends research and monitoring needs. The product of the Review Workshop is an Assessment Summary documenting panel opinions regarding the strengths and weaknesses of the stock assessment and input data. Participants for SEDAR Workshops are appointed by the Gulf of Mexico, South Atlantic, and Caribbean Fishery Management Councils and NOAA Fisheries Southeast Regional Office, HMS Management Division, and Southeast Fisheries Science Center. Participants include data collectors and database managers; stock assessment scientists, biologists, and researchers; constituency representatives including fishermen, environmentalists, and NGO's; International experts; and staff of Councils, Commissions, and state and federal agencies.

The items of discussion during the Assessment 1 webinar are as follows:

1. Using datasets and initial assessment analysis recommended from the Data Webinar, panelists will employ assessment models to evaluate stock status, estimate population benchmarks and management criteria, and project future conditions.

2. Participants will recommend the most appropriate methods and configurations for determining stock status and estimating population parameters.

Although non-emergency issues not contained in this agenda may come before this group for discussion, those issues may not be the subject of formal action during this meeting. Action will be restricted to those issues specifically identified in this notice and any issues arising after publication of this notice that require emergency action under section 305(c) of the Magnuson-Stevens Fishery Conservation and Management Act, provided the public has been notified of the intent to take final action to address the emergency.

Special Accommodations

The meeting is physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to the Council office (see **ADDRESSES**) at least 5 business days prior to each workshop.

Note: The times and sequence specified in this agenda are subject to change.

Authority: 16 U.S.C. 1801 *et seq.*

Dated: July 3, 2017.

Tracey L. Thompson,

Acting Deputy Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. 2017–14266 Filed 7–6–17; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XF515

Fisheries of the South Atlantic; South Atlantic Fishery Management Council; Public Meetings

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of meetings of the South Atlantic Fishery Management Council's Citizen Science Advisory Panel Action Teams.

SUMMARY: The South Atlantic Fishery Management Council (Council) will hold three meetings of its Citizen Science Advisory Panel Action Teams via webinar.

DATES: The meetings will be held July 24, 2017 at 7 p.m., July 27, 2017 at 10 a.m., and July 27, 2017 at 1 p.m. Each meeting is scheduled to last approximately 90 minutes.

ADDRESSES:

Meeting address: The meetings will be held via webinar and are open to members of the public to listen. Webinar registration is required and registration links will be posted to the Council's Web site at *www.safmc.net.*

Council address: South Atlantic Fishery Management Council, 4055 Faber Place Drive, Suite 201, N. Charleston, SC 29405.

FOR FURTHER INFORMATION CONTACT: Amber Von Harten, Citizen Science Program Manager, SAFMC; phone: (843) 302–8433 or toll free (866) SAFMC–10; fax: (843) 769–4520; email: *amber.vonharten@safmc.net.*

SUPPLEMENTARY INFORMATION: The South Atlantic Fishery Management Council is developing a Citizen Science Program. In March 2016, the Council adopted the Citizen Science Program Blueprint outlining specific program components needed to develop the Citizen Science Program. In the Citizen Science Program Blueprint, development of Action Teams in the areas of *Volunteers, Data Management, Projects/Topics Management, Finance,* and *Communication/Outreach/Education*

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

DEC 13 2016

Edward Bonner, Chief
Regulatory Branch
Philadelphia District
U.S. Army Corps of Engineers
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390

Dear Mr. Bonner:

We have reviewed the proposed 2017 Nationwide Permits (NWP) and the proposed regional conditions for the states of Delaware and New Jersey. Although portions of New Jersey are under the jurisdiction of the New York District, the Philadelphia District has the lead in developing regional conditions for all of New Jersey, including those areas under the New York District's jurisdiction. As a result, our comments and recommendations apply to all of New Jersey.

The Magnuson Stevens Fishery Conservation and Management Act (MSA) requires federal agencies such as the Corps to consult with us on projects that may adversely affect essential fish habitat (EFH). This process is guided by the requirements of our EFH regulation at 50 CFR 600.905, which mandates the preparation of EFH assessments and generally outlines each agency's obligations in the consultation process. Because the activities authorized by NWPs may impact EFH and other NOAA Fisheries trust resources, consultation with us is required.

Although an EFH assessment has not yet been provided to us for the 2017 NWPs and the proposed regional conditions, we have coordinated with you and your staff on the reissuance of the NWPs since the issuance of our EFH regulations. As a result, we are able to initiate a programmatic consultation on the NWPs and the existing and proposed regional general conditions and permit specific regional conditions. We are also able to provide an EFH general concurrence for some NWPs, modified permit-specific regional conditions for other NWPs, and identify those that will require further consultation and a pre-construction notice (PCN) to us.

Please note that Section 305(b)(4)(B) of the MSA requires you to provide us with a detailed written response to these EFH conservation recommendations, including a description of measures for avoiding, mitigating, or offsetting the impact of the project on EFH. In the case of a response that is inconsistent with our recommendations, Section 305(b) (4) (B) of the MSA also requires you to explain your reasons for not following the recommendations. Included in such reasoning would be the scientific justification for any disagreements with us over the anticipated effects of the proposed action and the measures needed to avoid, minimize, mitigate, or offset such effects pursuant to 50 CFR 600.920(k).

Please also note that a distinct and further EFH consultation must be reinitiated pursuant to 50 CFR 600.920(j) if new information becomes available, or if the project is revised in such a manner that affects the basis for our determination.

Recommended changes to Nationwide Permit General Regional Conditions for New Jersey and Delaware

Modification to New Jersey Regional Condition – (G-5)
This regional condition requires the use of non-polluted materials in areas mapped as shellfish habitat as defined in the State of New Jersey Department of Environmental Protection "Coastal Permit Program Rules" N.J.A.C 7:7 E-3.2 (a) (1-4). This citation should be corrected. The definition of shellfish habitat can be found in N.J.A.C. 7:7-9.2, Coastal Zone Management Rules, as amended on June 20, 2016.

New Regional Condition to Protect Habitat Areas of Particular Concern (HAPCs)
Some NWP Regional Conditions restrict activities in mapped SAV habitat; however, we are still concerned about activities that may occur near but not directly in SAV. We recommend that a PCN be sent to us for all activities proposed within 50 feet of SAV beds or mapped SAV habitat. We also recommend that a PCN be sent to us for all activities occurring within sandbar shark HAPC (as depicted by the EFH Mapper).

This proposed new regional condition is an EFH conservation recommendation pursuant to Section 305(b) (4) (A) of the MSA.

New Regional General Condition for Diadromous Fish and EFH
National General Conditions 2 – Aquatic Life Movements and 3 – Spawning Areas are intended to protect and minimize adverse effects to migrating and spawning aquatic species. However, because they are national in scope and do not provide specific means of protecting aquatic life movements and spawning, the broad language of the conditions is not sufficient to protect diadromous species within the Philadelphia District. These species include alewife, blueback herring, American shad, striped bass, and American eel.

Alewife and blueback herring, collectively known as river herring, are NOAA Species of Concern. "Species of Concern" are those species about which NOAA has some concerns regarding status and threats, but for which insufficient information is available to indicate a need to list the species under the Endangered Species Act. In addition, *Alosa* species such as alewife and blueback herring are a food source for federally managed species such as bluefish, windowpane and summer flounder. Because prey species are a component of EFH, adverse effects to prey species can be considered an adverse effect to EFH. As a result, the recommended new Regional General Condition and the associated seasonal work restrictions are EFH conservation recommendations.

For the NWPs listed below, seasonal in-water work restrictions should be employed as follows:

3 – Maintenance, 12 – Utility Line Activities, 13 – Bank Stabilization, 14 – Linear Transportation Projects, 18 – Minor Discharges, 19 – Minor Dredging, 22 – Removal of Vessels,

25 – Structural Discharges, 28 – Modifications to Existing Marinas, 33 – Temporary Construction Access, 36 – Boat Ramps, 45 – Repair of Uplands Damaged by Discrete Events, 29 – Residential Developments, 39 – Commercial and Institutional Developments, and 42 – Recreational Activities

In the Delaware River mainstem above the Commodore Barry Bridge, hopper dredging should be avoided from March 15 to June 30, from the mouth of the Delaware Bay to Trenton and from March 15 to July 15 north of Trenton. Hydraulic dredging should be avoided from March 15 to July 31, from the mouth of the Delaware Bay to Trenton and from March 1 to July 31 from Trenton to Delaware Water Gap.

In the Delaware River and in all other waterways in Delaware, Pennsylvania, and New Jersey, in-water work including dredging, pile and sheetpile driving and removal, and other sediment and noise generating activities should be avoided from *March 1 to June 30* to protect anadromous fish migration and spawning activities.

Work within cofferdams that fully enclose and dewater the project area can proceed any time during the year provided that the cofferdams are installed or removed outside of the seasonal work restriction. A PCN should be provided to us if a waiver of this seasonal work window is requested.

New Regional Condition for Horseshoe Crab Protection

Horseshoe crabs (*Limulus polyphemus*) spawn on sandy beaches and within coves in Delaware Bay, Rehoboth Bay, and Indian River Bay. Delaware Bay supports the largest population of spawning horseshoe crabs in the world. Horseshoe crabs are an important resource for commercial fishermen, the biomedical industry, and migrating shorebirds, including the federally listed red knot (*Calidris canutus*). To protect horseshoe crabs, in-water work should be avoided from April 15 to August 30 at the following locations:

- Delaware Bay
- The mouth of Delaware Bay tributaries in both Delaware and New Jersey waters from the entrance to Delaware Bay upstream to the Delaware Memorial Bridge
- Rehoboth Bay
- Indian River Bay

New Regional Condition on Compensatory Mitigation

National General Condition 23 of the NWPs requires compensatory mitigation at a minimum of a 1:1 ratio for all wetland losses that exceed 0.1 acres. Compensatory mitigation is not mandatory for impacts in open water, including EFH, unvegetated tidal waters, and in tidal and non-tidal open waters that support anadromous fish. To ensure that impacts to these areas are offset, we recommend that a new General Regional Condition be issued that requires compensatory mitigation for impacts to these habitats that exceed 0.1 acres. The condition should also clarify that a higher than 1:1 ratio may be required if the form of mitigation does not create or restore wetland acreage or if the habitat type affected is difficult to replace. Because EFH has been designated in open water areas not covered by the existing National General Condition 23, this is an EFH conservation recommendation.

New Regional Condition on Construction Best Management Practices (BMPs)
We recommend that the five districts within the North Atlantic Division develop a consistent list of BMPs for use with the NWPs throughout the division. Until this coordinated list of BMPs is developed, we recommend that the Philadelphia District adopt the following language based upon the New York District's Regional General Condition. This condition applies to all NWPs:

A. Construction Best Management Practices (BMP's): Unless specifically approved otherwise through issuance of a waiver by the District Engineer, the following BMP's must be implemented to the maximum degree practicable, to minimize erosion, migration of sediments, and adverse environmental impacts.

1. All synthetic erosion control features (e.g., silt fencing, netting, mats), which are intended for temporary use during construction, shall be completely removed and properly disposed of after their initial purpose has been served. Only natural fiber materials, which will degrade over time, may be abandoned in place.

2. Materials resulting from trench excavation for utility line installation or ditch reshaping activities which are temporarily sidecast or stockpiled into waters of the U.S. must be backfilled or removed to an upland area within 30 days of the date of deposition. Note: upland options shall be utilized prior to temporary placement within waters of the U.S., unless it can be demonstrated that it would not be practicable or if the impacts of complying with this upland option requirement would result in more adverse impacts to the aquatic environment.

3. For trenching activities in wetlands, the applicant shall install impermeable trench dams or trench breakers at the wetland boundaries and every 100 feet within wetland areas to prevent inadvertent drainage of wetlands or other waters of the U.S.

4. Dry stream crossing methods (e.g., diversion, dam and pump, flume, bore) shall be utilized for culvert or other pipe, or utility installations to reduce downstream impacts from turbidity and sedimentation. This may require piping or pumping the stream flow around the work area and the use of cofferdams.

5. No in-stream work shall occur during periods of high flow, except for work that occurs in dewatered areas behind temporary diversions, cofferdams or causeways.

6. Construction access shall be by means that avoid or minimize impacts to aquatic sites (e.g. upland access, floating barges, mats, etc.). Discharges of fill material associated with the construction of temporary access roads and work pads in wetlands shall be placed on filter fabric. All temporary fills shall be removed upon completion of the work and the disturbed area restored to pre-construction contours, elevations, and wetland conditions.

7. All return flow from dredge material disposal areas shall not result in an increase in turbidity in the receiving water body that will cause a substantial visible contrast to natural conditions. (See NWP #16)

8. For activities involving the placement of concrete into waters of the U.S., the permittee must employ watertight forms. The forms shall be dewatered prior to the placement of the concrete. The use of tremie concrete is allowed, provided that it complies with New Jersey and Delaware State water quality standards.

9. New stormwater management facilities shall be located outside of waters of the U.S. A waiver of this requirement may be requested with the submission of a PCN. The PCN must include justification which demonstrates that avoidance and minimization efforts have been met.

10. To the maximum extent practicable, the placement of fill in wetlands must be designed to maintain pre-construction surface water flows/conditions between remaining on or off-site waters. This may require the use of culverts and/or other measures. Furthermore, the activity must not restrict or impede the passage of normal or expected high flows (unless the primary purpose of the fill is to impound waters). The activity may alter the pre-construction flows/conditions if it can be shown that it benefits the aquatic environment (i.e. wetland restoration and/or enhancement).

11. In order to ensure compliance with NWP General Condition #2 – Aquatic Life Movement and #9 Management of Water Flows, all new or replacement culverts shall be constructed/installed in accordance with the following:

    General Information:

    a. Use of the following requirements and recommendations alone will not satisfy the need for proper engineering and design. In particular, appropriate engineering is required to ensure structures are sized and designed to provide adequate capacity (to pass various flood flows) and stability (bed, bed forms, footings, and abutments).

    b. Site-specific information (e.g., stream bed slope, type and size of stream bed material, stream type, existing natural or manmade barriers, etc.) should be assessed to determine appropriate culvert design and to ensure management of water flows and aquatic life movement.

    c. Before replacing a culvert or other crossing structure with a larger structure, it is essential that the replacement be evaluated for its impacts on: downstream flooding, upstream and downstream habitat (in-stream habitat, wetlands), and potential for erosion and headcutting, and stream stability.

    d. Measures should be included in all culvert designs that will promote the safe passage of fish and other indigenous aquatic organisms.

e. The dimension, pattern, and profile of the stream above and below the stream crossing should not be permanently modified by changing the width or depth of the stream channel.

EFH General Concurrence

A general concurrence identifies specific types of federal actions that may adversely affect EFH, but for which no further consultation is required because we have determined, through an analysis of that type of action, that the action will likely result in no more than minimal adverse effects individually and cumulatively. For actions to qualify for general concurrence, we must determine that the actions meet all of the following criteria pursuant to 50 CFR 600.920(9): 1) The actions must be similar in nature and similar in their impact on EFH; 2) The actions must not cause greater than minimal adverse effects on EFH when implemented individually, and; 3) The actions must not cause greater than minimal cumulative adverse effects on EFH.

The following NWPs qualify for a general concurrence without additional permit-specific regional conditions:

1 – Aids to Navigation*
2 – Structures in Artificial Canals
4 – Fish and Wildlife Harvesting, Enhancement, and Attraction Devices*
8 – Oil and Gas Structures on the Outer Continental Shelf
9 – Structures in Anchorage Areas*
15 – US Coast Guard Approved Bridges*
16 – Return Water from Uplands Contained Disposal Areas*
17 – Hydropower Projects*
20 – Oils Spill Response *
21 – Surface Coal Mining
24 – Indian Tribe or State Administered 404 Programs
30 – Moist Soil Management
31 – Maintenance of Existing Flood Control Facilities*
34 – Cranberry Production Activities
37 – Emergency Watershed Protection*
44 – Mining Activities
46 – Discharges in Existing Drainage Ditches
49 – Coal Remining Activities
50 – Underground Coal Mining Activities
51 – Land Based Renewable Energy Generation Facilities

* With the new General Regional Condition for HAPCs.

NWPs that do not need changes to their existing or proposed permit specific regional conditions

The Corps has proposed Regional Conditions for NWPs based on previous consultations with us and they include conditions such as time-of-year-restrictions to protect anadromous fish

spawning and migration, best management practices, and coordinating with us for certain types of activities. These NWPs qualify for a general concurrence without any changes to their existing permit-specific regional conditions or to the permit-specific regional conditions d with your June 20, 2016 letter to us. We do not need a PCN for activities under these NWPs unless a waiver of the permit-specific regional conditions is requested or, for some of the NWPs, the project site is within 50 feet of SAV.

5 – Scientific Measurement Devices*
6 – Survey Activities
7 – Outfall and Intake Structures *
10 – Mooring Buoys*
11 – Temporary Recreational Structures*
23 – Approved Categorical Exclusions*
35 – Maintenance Dredging of Existing Boat Basins*
40 – Agricultural Activities
41 – Reshaping Existing Drainage Ditches
42 – Recreational Facilities
43 – Stormwater Management Facilities

* With the new General Regional Condition for HAPCs

EFH Conservation Recommendations for NWPs in Delaware and New Jersey

Several NWPs have the potential to adversely affect EFH and other aquatic resources directly, indirectly, individually, and/or cumulatively. These adverse effects can be minimized through the use of permit-specific regional conditions. We offer the following EFH conservation recommendations pursuant to Section 305(b)(4)(A) of the MSA to minimize the adverse effects of the listed NWPs on EFH in addition to the changes already included in the Public Notice.

3 – Maintenance:

- In areas supporting diadromous fish migration and spawning, in-water work should be restricted during migration and spawning seasons. See recommended new Regional General Condition Diadromous Species above.
- In areas identified as EFH for winter flounder eggs and larvae, in-water work should be avoided from January 15 to May 31 of any year. A PCN should be provided to us if a waiver of this seasonal work window is requested.
- A PCN should be provided to us for all actions within 50 feet of SAV habitat.
- If tide gate replacement or maintenance is proposed, tide gates should be replaced with self-regulating tide gates that allow tidal flow and fish passage but can be set to close at a specified water level, unless it can be demonstrated that a self-regulating tide gate would not be practicable due to ecological or public safety reasons. A PCN should be provided to us for all tide gate replacements and maintenance in which a one-way gate is proposed. The PCN should describe fully the existing conditions of the tide gate and the habitat upstream of the gate and include documentation of its condition, function, and maintenance over the previous decade.

12 – Utility Line Activities, 13 – Bank Stabilization, 14 – Linear Transportation Projects, 18 – Minor Discharges, 19 – Minor Dredging, 22 – Removal of Vessels, 25 – Structural Discharges, 28 – Modifications to Existing Marinas, 33 – Temporary Construction Access, 36 – Boat Ramps, 45 – Repair of Uplands Damaged by Discrete Events:

- In areas supporting diadromous fish migration and spawning, in-water work should be restricted during migration and spawning seasons. See recommended new Regional General Condition for Diadromous Species above.
- In areas identified as EFH for winter flounder eggs and larvae life stages, in-water work should be avoided from January 15 to May 31 of any year. A PCN should be provided to us if a waiver of this seasonal work window is requested.
- A PCN should be provided to us for all actions within 50 feet of SAV habitat.

29 – Residential Developments, 39 – Commercial and Institutional Developments, 42 – Recreational Activities:

- In areas supporting diadromous fish migration and spawning, in-water work should be restricted during migration and spawning seasons. See recommended new Regional General Condition for Diadromous Species above.

32 – Completed Enforcement Actions:

- If restoration work is required –
    - In areas supporting diadromous fish migration and spawning, in-water work should be restricted during migration and spawning seasons. See recommended new Regional General Condition for Diadromous Species above.
    - In areas identified as EFH for winter flounder eggs and larvae, in-water work should be avoided from January 15 to May 31 of any year. A PCN should be provided to us if a waiver of this seasonal work window is requested.
    - A PCN should be provided to us for all actions within 50 feet of SAV habitat.
- A PCN should be provided to us if compensatory mitigation is required for impacts to tidal waters.

48 – Existing Commercial Aquaculture Shellfish Activities

- Activities in SAV should not be authorized.
- A PCN should be provided to us for all actions within 50 feet of SAV habitat, regardless of when the activity has last occurred.
- Use of unsuitable materials for shellfish seeding (i.e., asphalt, bituminous concrete slag, tires, wallboard, plastic, wood, metal, crushed glass, and garbage) should be prohibited.
- Predator control devices (i.e., mesh fences, mesh nets, and mesh tents) suspended or erected vertically or obliquely in the water column to surround or enclose shellfish containment gear should be prohibited.
- Activities that impound water should be prohibited.
- Shellfish introduced into Delaware or New Jersey waters must be certified as (under the applicable state standard) disease and parasite free.
- Only native species should be used.
- All structures should be removed when activity is abandoned.

NWPs Requiring Project-Specific Consultation

Due to the nature of the following NWPs, adverse effects to EFH are possible both individually and cumulatively. As a result, further consultation under the MSA is needed on a project-specific basis. A PCN should be provided to us for all projects for which the Corps received a PCN under the following NWPs so that project-specific coordination can be completed.

27 – Aquatic Habitat Restoration, Establishment and Enhancement Activities
38 – Cleanup of Hazardous Waste Sites
- In tidal waters and in non-tidal areas adjacent to tidal waters and in waterways supporting anadromous fish migration and spawning.

52 – Water Based Renewable Energy Generation Pilot Projects
A – Removal of Low Head Dams
B – Living Shorelines

NOAA Fisheries' Notification and Comment Period

A 15-day comment period is generally sufficient for most PCNs. However, our EFH regulations allow for a 30-day review of EFH assessments under the abbreviated consultation format. In our EFH Finding with the Philadelphia District issued in 1999, we agreed to conduct EFH consultations following your existing regulatory process under Section 10 of the Rivers and Harbors Act, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection Research and Sanctuaries Act, provided we receive timely notification and a complete EFH assessment. There may be instances in which the information provided in the PCN is not sufficient to initiate consultation. In those cases, we may request additional time to provide comments as discussed in the 1992 Clean Water Act Memorandum of Agreement between our agencies.

In addition, PCNs should be sent to our Annapolis, MD field office for all projects in Delaware and the following counties in New Jersey: Cumberland, Salem, Gloucester, Camden, Burlington, Mercer, Hunterdon, Warren, and Sussex. PCNs should be sent to our Sandy Hook, NJ field office for the following counties: Atlantic Ocean, Monmouth, Middlesex, Somerset, Union, Morris, Essex, Hudson, Bergen, and Passaic. PCNs for projects in Cape May county should be sent to both the Annapolis and Sandy Hook field offices.

Project Tracking

Our EFH regulations require that actions qualifying for general concurrence must be tracked to ensure that their cumulative effects are no more than minimal. Tracking should include numbers of actions and the amount and type of habitat adversely affected, and should specify the baseline against which the actions will be tracked. This information should be provided to us, the applicable fishery management councils, and the public on an annual basis. Based upon our discussions during the July 14, 2016, meeting at our Sandy Hook, NJ field office, we understand that annual reporting of NWP actions is possible and can be reported by NWP and habitat type. We will work with your staff to develop a reporting template that will satisfy the tracking requirement of our rules and allow for an evaluation of cumulative effects.

Conclusion

Thank you for the opportunity to review the proposed NWPs and regional conditions. Should you have any questions about our comments, please contact Karen Greene at 732-872-3023 (karen.greene@noaa.gov) or Michelle Magliocca at 410-573-4559 (michelle.magliocca@noaa.gov). Our Protected Resources Division will provide comments separately. For additional information on the ESA consultation, please contact Mark Murray Brown at 978 281-9306 (mark.muray-brown@noaa.gov)

Sincerely,

Louis A. Chiarella
Assistant Regional Administrator
Habitat Conservation Division

cc: PRD- M. Murray-Brown
HCD Annapolis – M. Magliocca
MAFMC – C. Moore
NEFMC – T. Nies
ASMFC – L. Havel

Coastal Zone Management Act

Emails exchanges between NJDEP and BOEM

August 10, 2011 letter from NJDEP to BOEM

From: Thurston, Jean
Sent: Thursday, October 06, 2011 9:00 AM
To: Byrum, Algene D
Cc: Morin, Michelle
Subject: FW: FW: CZMA federal consistency letter

Algene,

Please include this email as part of our administrative record for NJ CZMA concurrence.

Thanks!
Jean

-----Original Message-----
From: Tom Micai [mailto:Tom.Micai@dep.state.nj.us]
Sent: Wednesday, October 05, 2011 2:52 PM
To: Thurston, Jean
Cc: Morin, Michelle; Marilyn Lennon; Michele Siekerka
Subject: Re: FW: CZMA federal consistency letter

Afternoon Jean: There was additional internal discussion today here at the NJDEP, and I can now affirm via this e-mail that the Commissioner's 8/11 letter sent to you should be construed as a determination of Concurrence from New Jersey. If you have further, questions, please call me.

Thomas Micai, Director
NJDEP Office of Land Use Planning
609-984-0058

>>> "Thurston, Jean" <Jean.Thurston@boem.gov> 10/4/2011 5:49 PM >>>
Tom,

Can you provide us an email that states whether or not the letter sent to BOEMRE in August (with the mis-date) reflects that the State of New Jersey has completed its review of the Regional Federal Consistency Determination (RFCD) and that, in accordance with 15 CFR 930.41, this letter supports the position that the State of New Jersey concurs (or not) with the RFCD for the project under the enforceable policies of the New Jersey's Coastal Management Program?

Thanks!
Jean

-----Original Message-----
From: Thurston, Jean
Sent: Tuesday, October 04, 2011 11:08 AM
To: 'Tom Micai'
Subject: RE: CZMA federal consistency letter

Thanks Tom!

-----Original Message-----
From: Tom Micai [mailto:Tom.Micai@dep.state.nj.us]
Sent: Tuesday, October 04, 2011 11:05 AM
To: Thurston, Jean
Cc: Kilanski, Jennifer; Morin, Michelle; Marilyn Lennon
Subject: RE: CZMA federal consistency letter

I agree, we normally do that in our consistency reviews and determinations, however in this case, a different office drafted the response for the Commissioner's signature. We are in discussion mode internally to clarify the Commisioner's response to you. I hope to hear the response today, and communicate that to you shortly.

>>> "Thurston, Jean" <Jean.Thurston@boem.gov> 10/4/2011 10:54 AM >>>
Hello Tom,

Thanks for looking into this further. A state's response to a federal consistency determination should clearly state whether it concurs with or objects to the Federal agency activity. Unfortunately, the letter you sent does not seem to provide BOEM with the level of certainty required to meet our CZMA federal consistency responsibilities. If you could please provide a letter that clearly states New Jersey's response in regard to CZMA we would appreciate it. Would it be possible for your office to provide this to us by the end of the week?

Thanks again for your time and consideration!

Thanks,
Jean

-----Original Message-----
From: Tom Micai [mailto:Tom.Micai@dep.state.nj.us]
Sent: Monday, October 03, 2011 2:27 PM
To: Thurston, Jean
Cc: Marilyn Lennon
Subject: Re: CZMA federal consistency letter

Jean: The attached letter was sent as NJ's comments from Commissioner Martin. Note, the letter is mis-dated, its a 2011 letter, not a 2010 letter. I am trying to decypher whetther the conclusion is concurrence or not, and will get back to you shortly with that reply.

>>> "Thurston, Jean" <Jean.Thurston@boem.gov> 10/3/2011 11:45 AM >>>
Hi Tom,

We are completing our environmental analysis of the Commercial Wind Lease Issuance and Site Characterization Activities on the Atlantic Outer Continental Shelf Offshore New Jersey, Delaware, Maryland and Virginia. We would like to have a letter from your agency regarding the status of the State of New Jersey's review of the Regional Federal Consistency document we sent to you in July for our records. Please feel free to call me if you have any questions!

Thank you,

Jean

Nina (Jean) Thurston

_____

U.S. Department of Interior

Bureau of Ocean Energy Managment

Office of Offshore Renewable Energy Programs

381 Elden St, MS 1328

Herndon, VA 20170

Office: 703.787.1768

Jean.Thurston@boemre.gov

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
PO Box 402
Trenton, New Jersey 08625-0402
TEL # (609) 292-2885
FAX # (609) 292-7695

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

August 10, 2010

Program Manager
Office of Offshore Alternative Energy Programs (MS 4090)
Bureau of Ocean Energy Management, Regulation and Enforcement
381 Elden Street
Herndon, VA 20170

Dear Program Manager:

This letter is written to provide the State of New Jersey's comments on the draft Environmental Assessment (EA) for offshore wind site assessment activities in the Mid-Atlantic region.

As you know, the New Jersey Department of Environmental Protection conducted a systematic Baseline Study to collect scientific data regarding the distribution, abundance, and migratory patterns of birds and mammals above the Outer Continental Shelf. In addition, a thorough review of fish species and fisheries was conducted, along with data collected on physical parameters (including wind speeds). The study area encompassed 1,360 square nautical miles from Seaside Park, south to Stone Harbor, and extended out 20 nautical miles perpendicular to the shoreline. Data were collected on birds, sea turtles, and marine mammals over a 24-month period from January 2008 to December 2009.

This study is unique along the Atlantic coast given the amount of biological data collected to support an evaluation of the effects of offshore wind development. The boundaries of New Jersey's Wind Energy Area (WEA) were informed by the Baseline Study to minimize impacts during site assessment and construction activities. For example, the WEA was moved further offshore to exclude all near-shore blocks due to the high avian densities identified in the Baseline Study from zero to seven miles off the coast.

The WEA was also modified by the NJ Task Force process which included all stakeholders. This process resulted in the removal of numerous OCS blocks due to competing interests. For example, major shipping lanes, areas with marine traffic safety concerns, and blocks used for emergency preparedness and other exercises by the U.S. Department of Defense were excluded.

New Jersey has engaged commercial, private and governmental maritime interests in direct dialog. Automatic Identification System (AIS) data from 2009 shows the routes of heaviest use by marine vessels are outside the New Jersey WEA (see figure 4.7b, page 148, Mid-Atlantic Regional EA). New Jersey believes that navigation interests are 'paramount' only in designated port access routes. In all other areas along the eastern seaboard, navigation interests are just one of many competing interests in areas where multiple uses must be accommodated. Therefore, we do not believe the results of the Port Access Route Study (PARS) will further impact the New Jersey WEA.
As part of the Smart from the Start initiative, BOEMRE used the Interim Policy Environmental Assessment to analyze the potential environmental impacts of conducting initial site assessment activities, including meteorological towers, offshore New Jersey (and Delaware). As a result of the Interim Policy EA, three interim leases for site assessment activities were issued by BOEMRE offshore New Jersey. It follows, then, that site assessment activities in support of a commercial lease would also be issued without an Environmental Impact Statement (EIS) under Smart from the Start.

As a result of the extensive ecological work conducted to date for the New Jersey WEA, we believe that the issuance of a Finding of No Significant Impact (FONSI) for site assessment activities in New Jersey is justified at this time. In the event that an EIS for site assessment activities is determined to be necessary in other states, a FONSI would still be warranted for New Jersey due to New Jersey's advanced ecological work, which is recognized as extensive within the federal notice, and has been held out as a best practice for federal grants, conference and other offshore wind programming. We believe that this result would be consistent with the federal government's Smart from the Start initiative designed to encourage and support more expedient and efficient offshore wind energy development.

In conclusion, New Jersey's WEA is defined by careful consideration of competing interests and two years of scientific data. The information contained in the draft EA, combined with the New Jersey Baseline Study, provides sufficient data to allow us to conclude that site assessment activities in support of offshore wind energy projects will not result in significant impacts to ecological or biological resources.

Therefore, we respectfully request that the Final EA for the Mid-Atlantic Region should indicate that a FONSI will be issued for the preferred alternative (Alternative A) for the New Jersey WEA.

Sincerely,

Bob Martin
Commissioner

C: Tricia Calliquire, Policy Advisor
Lee Solomon, President, BPU
Kenneth J. Sheehan, Chief Counsel, BPU
Michele Siekerka, Assistant Commissioner, NJDEP, EGGE