Petersburg, FL; and one webinar. For specific locations, see **SUPPLEMENTARY INFORMATION**.

Public comments: Comments may be submitted online through the Council's public portal by visiting *www.gulfcouncil.org* and clicking on ''CONTACT US''.

FOR FURTHER INFORMATION CONTACT: Douglas Gregory, Executive Director, Gulf of Mexico Fishery Management Council; telephone: (813) 348–1630.

SUPPLEMENTARY INFORMATION: The agenda for the two public hearings and one webinar are as follows: Council staff will brief the public on Reef Fish Amendment 43. The staff will then open the meeting for questions and public comments.

Locations, Schedules, and Agendas

Monday, May 9, 2016; Holiday Inn Express & Suites, 1785—5th Avenue South, Naples, FL 34102; telephone: (239) 261–3500.

Tuesday, May 10, 2016; Holiday Inn Express, 2171—54th Avenue North, St. Petersburg, FL 33714; telephone: (727) 520–7800.

Wednesday, May 11, 2016, Webinar—6 p.m. EST at: *https://attendee.gotowebinar.com/register/3081763240819912449*.

After registering, you will receive a confirmation email containing information about joining the webinar.

Special Accommodations

These hearings are physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Kathy Pereira (see **ADDRESSES**), at least 5 working days prior to the meeting date.

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

Dated: April 12, 2016.

Tracey L. Thompson,

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

[FR Doc. 2016–08778 Filed 4–14–16; 8:45 am]

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XE498

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to the Installation of the Block Island Wind Farm Export and Inter-Array Cables

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

ACTION: Notice; proposed incidental harassment authorization; request for comments.

SUMMARY: NMFS has received an application from Deepwater Wind Block Island, LLC (DWBI) for an Incidental Harassment Authorization (IHA) to take marine mammals, by harassment, incidental to the installation of the Block Island Wind Farm (BIWF) Export and Inter-Array Cables. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an IHA to DWBI to incidentally take, by Level B harassment only, small numbers of marine mammals during the specified activity.

DATES: Comments and information must be received no later than May 16, 2016.

ADDRESSES: Comments on DWBI's IHA application (the application) should be addressed to Jolie Harrison, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910. The mailbox address for providing email comments is *itp.fiorentino@noaa.gov.* Comments sent via email, including all attachments, must not exceed a 25-megabyte file size. NMFS is not responsible for comments sent to addresses other than those provided here.

Instructions: All comments received are a part of the public record and will generally be posted to *http://www.nmfs.noaa.gov/pr/permits/incidental/* without change. All Personal Identifying Information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information.

FOR FURTHER INFORMATION CONTACT: John Fiorentino, Office of Protected Resources, NMFS, (301) 427–8401.

SUPPLEMENTARY INFORMATION:

Availability

An electronic copy of the application and supporting documents, as well as a list of the references cited in this document, may be obtained by visiting the Internet at: *www.nmfs.noaa.gov/pr/permits/incidental/.* In case of problems accessing these documents, please call the contact listed above.

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'' in 50 CFR 216.103 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.''

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].

Summary of Request

On March 11, 2016, NMFS received an application from DWBI for the taking of marine mammals incidental to the installation of the BIWF export and inter-array cables. This work was originally authorized by NMFS as part of a September 2014 (modified in June 2015) IHA issued to DWBI for construction of the BIWF (offshore installation of wind turbine generator [WTG] jacket foundations and export/inter-array cable installation [79 FR 53409]); however, only the construction activities associated with the WTG jacket foundation installation were performed during that one-year authorization which expired in October 2015. DWBI has, therefore, reapplied for a new IHA to complete the remaining export and inter-array cable installation activities. The proposed export and inter-array cable installation activities

remain the same as those described in the **Federal Register** notice for the original 2014 BIWF IHA. NMFS determined that the application was adequate and complete on March 14, 2016.

DWBI has begun construction of the BIWF, a 30 megawatt offshore wind farm. Construction activities began in July of 2015 with the installation of the five WTG foundations. The submarine cable (export and inter-array cables) installation is scheduled to occur sometime between May and October, 2016. Use of dynamically positioned (DP) vessel thrusters during cable installation may result in the take of marine mammals. Take, by Level B Harassment only, of individuals of nine species is anticipated to result from the specified activity.

Description of the Specified Activity

Overview

The BIWF will consist of five, 6 megawatt WTGs, a submarine cable interconnecting the WTGs, and a transmission cable. The WTG jacket foundations were installed in 2015. Erection of the five WTGs, installation of the inter-array and export cable, and construction of the onshore components of the BIWF is planned for 2016. The generation of underwater noise during use of vessel thrusters while the cable laying vessel is keeping position by its DP system during installation activities may result in the incidental take of marine mammals.

Dates and Duration

BIWF cable installation activities are scheduled to occur sometime between May and October, 2016. NMFS is proposing to issue an authorization effective May 2016 through April 2017, based on the anticipated work window for the in-water cable installation activities construction that could result in the incidental take of marine mammals. While project activities may occur for over a 6-month period, use of the DP vessel thruster during cable installation activities is expected to occur for approximately 28 days. Cable installation (and subsequent use of the DP vessel thruster) would be conducted 24 hours per day.

Specified Geographic Region

The offshore components of the BIWF will be located in state territorial waters. The WTGs will be located on average of about 4.8 kilometers (km) southeast of Block Island, and about 25.7 km south of the Rhode Island mainland. The WTGs will be arranged in a radial configuration spaced about 0.8 km apart. The inter-array cable will connect the five WTGs for a total length of 3.2 km from the northernmost WTG to the southernmost WTG (Figure 1–1 of DWBI's application). Water depths along the inter-array cable range up to 23.3 meters (m). The export cable will originate at the northernmost WTG and travel 10 km to a manhole located in the town of New Shoreham (Block Island) in Washington County, Rhode Island. Water depths along the export cable submarine route range up to 36.9 m. Construction staging and laydown for offshore construction is planned to occur at the Port of Providence, Providence, Rhode Island.

The inter-array cable and submarine portions of the export cable will be installed by a jet plow supported by a DP vessel.

Detailed Description of Activities

DWBI would use a jet plow, supported by a DP cable installation barge, to install the export cable and inter-array cable below the seabed. The jet plow would be positioned over the trench and pulled from shore by the cable installation vessel. The jet plow would be pulled along the seafloor behind the cable-laying barge with assistance of a non-DP material barge. High-pressure water from vessel-mounted pumps would be injected into the sediments through nozzles situated along the plow, causing the sediments to temporarily fluidize and create a liquefied trench. DWBI anticipates a temporary trench width of up to 1.5 m. As the plow is pulled along the route behind the barge, the cable would be laid into the temporary, liquefied trench through the back of the plow. The trench would be backfilled by the water current and the natural settlement of the suspended material. Umbilical cords would connect the submerged jet plow to control equipment on the vessel to allow the operators to monitor and control the installation process and make adjustments to the speed and alignment as the installation proceeds across the water.

The Export Cable and Inter-Array Cable would be buried to a target depth of 1.8 m beneath the seafloor. The actual burial depth depends on substrate encountered along the route and could vary from 1.2 to 2.4 m. If less than 1.2 m burial is achieved, DWBI may elect to install additional protection, such as concrete matting or rock piles. At each of the WTGs, the Inter-Array cable would be pulled into the jacket foundation through J-tubes installed on the sides of the jacket foundations. At the J-tubes, additional cable armoring such as sand bags and/or rocks would be used to protect the inter-array cable.

A DP vessel would be used during cable installation in order to maintain precise coordinates. DP systems maintain their precise coordinates in waters through the use of automatic controls. These control systems use variable levels of power to counter forces from current and wind. During cable-lay activities, DWBI expects that a reduced 50 percent power level will be used by DP vessels. DWBI modeled scenarios using a source level of 180 dB re 1 micro Pascal (μPa) for the DP vessel thruster, assuming water depths of 7, 10, 20, and 40 m, and thruster power of 50 percent. Detailed information on the acoustic modeling for this source is provided in Appendix A of DWBI's application. Installation of the export cable and inter-array cable is expected to take approximately 28 days. Cable installation will occur 24 hours per day, seven days a week.

Description of Marine Mammals in the Area of the Specified Activity

There are 38 species of marine mammals protected under the MMPA that potentially occur within the marine waters around Rhode Island Sound (see Table 3–1 of DWBI's application). The majority of these species are pelagic and/or northern species, or are so rarely sighted that their presence in the project area is unlikely. Six marine mammal species are listed under the Endangered Species Act (ESA) and are known to be present, at least seasonally, in the waters of Southern New England: Blue whale, fin whale, humpback whale, right whale, sei whale, and sperm whale. These species are highly migratory and do not spend extended periods of time in a localized area; the waters of Southern New England are primarily used as a stopover point for these species during seasonal movements north or south between important feeding and breeding grounds. While fin, humpback, and right whales have the potential to occur within the project area, the sperm, blue, and sei whales are more pelagic and/or northern species, and their presence within the shallow waters of the project area is unlikely. Because the potential for sperm, blue, and sei whales to occur within the project area during the marine construction period is unlikely, these species will not be described further in this analysis.

The following species are both common in the waters of Rhode Island Sound and have the highest likelihood of occurring, at least seasonally, in the project area: North Atlantic right whale (*Eubalaena glacialis*), humpback whale

(*Megaptera novaeangliae*), fin whale (*Balaenoptera physalus*), minke whale (*Balaenoptera acutorostrata*), harbor porpoise (*Phocoena phocoena*), Atlantic white-sided dolphin (*Lagenorhynchus acutus*), short-beaked common dolphin (*Delphinus delphis*), harbor seal (*Phoca vitulina*), and gray seal (*Halichorus grypus*) (Right Whale Consortium, 2014) (Table 1).

Further information on the biology, ecology, abundance, and distribution of those species likely to occur in the project area can be found in section 4 of the application (which NMFS has reviewed and concluded as adequate), and the NMFS Marine Mammal Stock Assessment Reports (see Waring *et al.,* 2015), which are available online at: *http://www.nmfs.noaa.gov/pr/sars/.* Marine mammal species descriptions are also available online at: *http://www.nmfs.noaa.gov/pr/species/mammals/.*

TABLE 2—MARINE MAMMALS LIKELY TO OCCUR IN THE PROJECT AREA

Common name	Scientific name	NMFS status	Stock abundance	Stock
Toothed Whales (Odontoceti)				
Atlantic white-sided dolphin	*Lagenorhynchus acutus*	N/A	48,819	W. North Atlantic.
Short-beaked common dolphin	*Delphinus delphis*	N/A	120,743	W. North Atlantic.
Harbor porpoise	*Phocoena phocoena*	N/A	79,833	Gulf of Maine/Bay of Fundy.
Baleen Whales (Mysticeti)				
Minke whale	*Balaenoptera acutorostrata*	N/A	20,741	Canadian East Coast.
Fin whale	*Balaenoptera physalus*	Endangered	1,618	W. North Atlantic.
Humpback whale	*Megaptera novaeangliae*	Endangered	823	Gulf of Maine.
North Atlantic right whale	*Eubalaena glacialis*	Endangered	465	W. North Atlantic.
Earless Seals (Phocidae)				
Gray seals	*Halichoerus grypus*	N/A	348,900	North Atlantic.
Harbor seals	*Phoca vitulina*	N/A	75,834	W. North Atlantic.

Sources: Waring *et al.,* 2015; Waring *et al.,* 2013; Waring *et al.,* 2011; Warring *et al.,* 2010; RI SAMP, 2011; Kenney and Vigness-Raposa, 2009; NMFS, 2012.

Potential Effects of the Specified Activity on Marine Mammals

This section includes a summary and discussion of the ways that the types of stressors associated with the specified activity have been observed to impact marine mammals. This discussion may also include reactions that we consider to rise to the level of a take and those that we do not consider to rise to the level of a take (for example, with acoustics, we may include a discussion of studies that showed animals not reacting at all to sound or exhibiting barely measurable avoidance). This section is intended as a background of potential effects and does not consider either the specific manner in which this activity will be carried out or the mitigation that will be implemented, and how either of those will shape the anticipated impacts from this specific activity. The ''Estimated Take by Incidental Harassment'' section later in this document will include a quantitative analysis of the number of individuals that are expected to be taken by this activity. The ''Negligible Impact Analysis'' section will include the analysis of how this specific activity will impact marine mammals and will consider the content of this ''Potential Effects of the Specified Activity on Marine Mammals'' section, the ''Estimated Take by Incidental Harassment'' section, the ''Proposed Mitigation'' section, and the ''Anticipated Effects on Marine Mammal Habitat'' section to draw conclusions regarding the likely impacts of this activity on the reproductive success or survivorship of individuals, and from that on the affected marine mammal populations or stocks.

Background on Sound

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air or water, and is generally characterized by several variables. Frequency describes the sound's pitch and is measured in hertz (Hz) or kilohertz (kHz), while sound level describes the sound's intensity and is measured in decibels (dB). Sound level increases or decreases exponentially with each dB of change. The logarithmic nature of the scale means that each 10-dB increase is a 10-fold increase in acoustic power (and a 20-dB increase is then a 100-fold increase in power). A 10-fold increase in acoustic power does not mean that the sound is perceived as being 10 times louder, however. Sound levels are compared to a reference sound pressure (micro-Pascal) to identify the medium. For air and water, these reference pressures are ''re: 20 µPa'' and ''re: 1 µPa,'' respectively. Root mean square (RMS) is the quadratic mean sound pressure over the duration of an impulse. RMS is calculated by squaring all of the sound amplitudes, averaging the squares, and then taking the square root of the average (Urick, 1975). RMS accounts for both positive and negative values; squaring the pressures makes all values positive so that they may be accounted for in the summation of pressure levels. This measurement is often used in the context of discussing behavioral effects, in part because behavioral effects, which often result from auditory cues, may be better expressed through averaged units rather than by peak pressures.

Acoustic Impacts

Use of the DP vessel thrusters during the BIWF project may temporarily impact marine mammals in the area due to elevated in-water sound levels. Marine mammals are continually exposed to many sources of sound. Naturally occurring sounds such as lightning, rain, sub-sea earthquakes, and biological sounds (*e.g.,* snapping shrimp, whale songs) are widespread throughout the world's oceans. Marine mammals produce sounds in various contexts and use sound for various biological functions including, but not limited to: (1) Social interactions; (2)

foraging; (3) orientation; and (4) predator detection. Interference with producing or receiving these sounds may result in adverse impacts. Audible distance, or received levels of sound depend on the nature of the sound source, ambient noise conditions, and the sensitivity of the receptor to the sound (Richardson *et al.,* 1995). Type and significance of marine mammal reactions to sound are likely dependent on a variety of factors including, but not limited to, (1) the behavioral state of the animal (*e.g.,* feeding, traveling, etc.); (2) frequency of the sound; (3) distance between the animal and the source; and (4) the level of the sound relative to ambient conditions (Southall *et al.,* 2007).

When considering the influence of various kinds of sound on the marine environment, it is necessary to understand that different kinds of marine life are sensitive to different frequencies of sound. Current data indicate that not all marine mammal species have equal hearing capabilities (Richardson *et al.,* 1995; Southall *et al.,* 1997; Wartzok and Ketten, 1999; Au and Hastings, 2008).

Southall *et al.* (2007) designated ''functional hearing groups'' for marine mammals based on available behavioral data; audiograms derived from auditory evoked potentials; anatomical modeling; and other data. Southall *et al.* (2007) also estimated the lower and upper frequencies of functional hearing for each group. However, animals are less sensitive to sounds at the outer edges of their functional hearing range and are more sensitive to a range of frequencies within the middle of their functional hearing range. Note that direct measurements of hearing sensitivity do not exist for all species of marine mammals, including low-frequency cetaceans. The functional hearing groups and the associated frequencies developed by Southall *et al.* (2007) were revised by Finneran and Jenkins (2012) and have been further modified by NOAA. Table 2 provides a summary of sound production and general hearing capabilities for marine mammal species (note that values in this table are not meant to reflect absolute possible maximum ranges, rather they represent the best known ranges of each functional hearing group). For purposes of the analysis in this document, marine mammals are arranged into the following functional hearing groups based on their generalized hearing sensitivities: High-frequency cetaceans, mid-frequency cetaceans, low-frequency cetaceans (mysticetes), phocids (true seals), and otariids (sea lion and fur seals). A detailed discussion of the functional hearing groups can be found in Southall *et al.* (2007) and Finneran and Jenkins (2012).

TABLE 3—MARINE MAMMAL FUNCTIONAL HEARING GROUPS

Functional hearing group	Functional hearing range*
Low-frequency (LF) cetaceans (baleen whales)	7 Hz to 25 kHz.
Mid-frequency (MF) cetaceans (dolphins, toothed whales, beaked whales, bottlenose whales)	150 Hz to 160 kHz.
High-frequency (HF) cetaceans (true porpoises, *Kogia,* river dolphins, cephalorhynchid, *Lagenorhynchus cruciger* and *L. australis*).	200 Hz to 180 kHz.
Phocid pinnipeds (underwater) (true seals)	75 Hz to 100 kHz.
Otariid pinnipeds (underwater) (sea lions and fur seals)	100 Hz to 48 kHz.

Adapted and derived from Southall *et al.* (2007).

*Represents frequency band of hearing for entire group as a composite (*i.e.,* all species within the group), where individual species' hearing ranges are typically not as broad. Functional hearing is defined as the range of frequencies a group hears without incorporating non-acoustic mechanisms (Wartzok and Ketten, 1999). This is ~60 to ~70 dB above best hearing sensitivity (Southall *et al.,* 2007) for all functional hearing groups except LF cetaceans, where no direct measurements on hearing are available. For LF cetaceans, the lower range is based on recommendations from Southall *et al.,* 2007 and the upper range is based on information on inner ear anatomy and vocalizations.

When sound travels (propagates) from its source, its loudness decreases as the distance traveled by the sound increases. Thus, the loudness of a sound at its source is higher than the loudness of that same sound a kilometer away. Acousticians often refer to the loudness of a sound at its source (typically referenced to one meter from the source) as the source level and the loudness of sound elsewhere as the received level (*i.e.,* typically the receiver). For example, a humpback whale 3 km from a device that has a source level of 230 dB may only be exposed to sound that is 160 dB loud, depending on how the sound travels through water (*e.g.,* spherical spreading [6 dB reduction with doubling of distance] was used in this example). As a result, it is important to understand the difference between source levels and received levels when discussing the loudness of sound in the ocean or its impacts on the marine environment.

As sound travels from a source, its propagation in water is influenced by various physical characteristics, including water temperature, depth, salinity, and surface and bottom properties that cause refraction, reflection, absorption, and scattering of sound waves. Oceans are not homogeneous and the contribution of each of these individual factors is extremely complex and interrelated. The physical characteristics that determine the sound's speed through the water will change with depth, season, geographic location, and with time of day (as a result, in actual active sonar operations, crews will measure oceanic conditions, such as sea water temperature and depth, to calibrate models that determine the path the sonar signal will take as it travels through the ocean and how strong the sound signal will be at a given range along a particular transmission path). As sound travels through the ocean, the intensity associated with the wavefront diminishes, or attenuates. This decrease in intensity is referred to as propagation loss, also commonly called transmission loss.

As mentioned previously in this document, nine marine mammal species (seven cetaceans and two pinnipeds) are most likely to occur in the project area. Of the seven cetacean species likely to occur in the project area, four are classified as low-frequency cetaceans (*i.e.,* minke whale, fin whale, humpback whale, and North Atlantic right whale), two are classified as mid-frequency cetaceans (*i.e.,* Atlantic white-sided dolphin and short-beaked common dolphin), and one is classified as a high-frequency cetacean (*i.e.,* harbor porpoise) (Southall *et al.,* 2007). A species' functional hearing group is a consideration when we analyze the effects of exposure to sound on marine mammals.

Hearing Impairment

Marine mammals may experience temporary or permanent hearing impairment when exposed to loud sounds. Hearing impairment is

classified by temporary threshold shift (TTS) and permanent threshold shift (PTS). There are no empirical data for onset of PTS in any marine mammal; therefore, PTS-onset must be estimated from TTS-onset measurements and from the rate of TTS growth with increasing exposure levels above the level eliciting TTS-onset. PTS is presumed to be likely if the hearing threshold is reduced by ≥40 dB (that is, 40 dB of TTS). PTS is considered auditory injury (Southall *et al.,* 2007) and occurs in a specific frequency range and amount. Irreparable damage to the inner or outer cochlear hair cells may cause PTS; however, other mechanisms are also involved, such as exceeding the elastic limits of certain tissues and membranes in the middle and inner ears and resultant changes in the chemical composition of the inner ear fluids (Southall *et al.,* 2007). Given the higher level of sound and longer durations of exposure necessary to cause PTS as compared with TTS, it is considerably less likely that PTS would occur during DP vessel thruster use associated with the cable laying activities.

Temporary Threshold Shift (TTS)

TTS is the mildest form of hearing impairment that can occur during exposure to a loud sound (Kryter, 1985). While experiencing TTS, the hearing threshold rises and a sound must be stronger in order to be heard. At least in terrestrial mammals, TTS can last from minutes or hours to (in cases of strong TTS) days, can be limited to a particular frequency range, and can occur to varying degrees (*i.e.,* a loss of a certain number of dBs of sensitivity). For sound exposures at or somewhat above the TTS threshold, hearing sensitivity in both terrestrial and marine mammals recovers rapidly after exposure to the noise ends.

Marine mammal hearing plays a critical role in communication with conspecifics and in interpretation of environmental cues for purposes such as predator avoidance and prey capture. Depending on the degree (elevation of threshold in dB), duration (*i.e.,* recovery time), and frequency range of TTS and the context in which it is experienced, TTS can have effects on marine mammals ranging from discountable to serious. For example, a marine mammal may be able to readily compensate for a brief, relatively small amount of TTS in a non-critical frequency range that takes place during a time when the animals is traveling through the open ocean, where ambient noise is lower and there are not as many competing sounds present. Alternatively, a larger amount and longer duration of TTS sustained during a time when communication is critical for successful mother/calf interactions could have more serious impacts if it were in the same frequency band as the necessary vocalizations and of a severity that it impeded communication. The fact that animals exposed to levels and durations of sound that would be expected to result in this physiological response would also be expected to have behavioral responses of a comparatively more severe or sustained nature is also notable and potentially of more importance than the simple existence of a TTS.

Currently, TTS data only exist for four species of cetaceans (bottlenose dolphin, beluga whale [*Delphinapterus leucas*], harbor porpoise, and Yangtze finless porpoise [*Neophocoena asiaeorientalis*]) and three species of pinnipeds (northern elephant seal, harbor seal, and California sea lion) exposed to a limited number of sound sources (*i.e.,* mostly tones and octave-band noise) in laboratory settings (*e.g.,* Finneran *et al.,* 2002 and 2010; Nachtigall *et al.,* 2004; Kastak *et al.,* 2005; Lucke *et al.,* 2009; Mooney *et al.,* 2009; Popov *et al.,* 2011; Finneran and Schlundt, 2010). In general, harbor seals (Kastak *et al.,* 2005; Kastelein *et al.,* 2012a) and harbor porpoises (Lucke *et al.,* 2009; Kastelein *et al.,* 2012b) have a lower TTS onset than other measured pinniped or cetacean species. However, even for these animals, which are better able to hear higher frequencies and may be more sensitive to higher frequencies, exposures on the order of approximately 170 dB rms or higher for brief transient signals are likely required for even temporary (recoverable) changes in hearing sensitivity that would likely not be categorized as physiologically damaging (NEFSC, 2014). Additionally, the existing marine mammal TTS data come from a limited number of individuals within these species. There are no data available on noise-induced hearing loss for mysticetes. For summaries of data on TTS in marine mammals or for further discussion of TTS onset thresholds, please see Southall *et al.* (2007), Finneran and Jenkins (2012), and Finneran (2015).

Scientific literature highlights the inherent complexity of predicting TTS onset in marine mammals, as well as the importance of considering exposure duration when assessing potential impacts (Mooney *et al.,* 2009a, 2009b; Kastak *et al.,* 2007). Generally, with sound exposures of equal energy, quieter sounds (lower SPL) of longer duration were found to induce TTS onset more than louder sounds (higher SPL) of shorter duration. For intermittent sounds, less threshold shift will occur than from a continuous exposure with the same energy (some recovery will occur between intermittent exposures) (Kryter *et al.,* 1966; Ward, 1997). For sound exposures at or somewhat above the TTS-onset threshold, hearing sensitivity recovers rapidly after exposure to the sound ends. Southall *et al.* (2007) considers a 6 dB TTS (that is, baseline thresholds are elevated by 6 dB) to be a sufficient definition of TTS-onset. NMFS considers TTS as Level B harassment that is mediated by physiological effects on the auditory system; however, NMFS does not consider TTS-onset to be the lowest level at which Level B harassment may occur.

Although the duration of the DP thruster sound source has the potential to induce TTS onset, animals in the project during the inter-array and export cable installation activities are not expected to incur more than mild TTS hearing impairment due to low source levels and the fact that most marine mammals would more likely avoid a loud sound source rather than swim in such close proximity as to result in TTS. Any disturbance to marine mammals is likely to be in the form of temporary avoidance or alteration of opportunistic foraging behavior near the survey location.

Masking

Masking is the obscuring of sounds of interest to an animal by other sounds, typically at similar frequencies. Chronic exposure to excessive, though not high-intensity, noise has the potential to cause masking at particular frequencies for marine mammals that utilize sound for vital biological functions (Clark *et al.* 2009). Marine mammals are highly dependent on sound, and their ability to recognize sound signals amid other sound is important in communication and detection of both predators and prey. Background ambient sound may interfere with or mask the ability of an animal to detect a sound signal even when that signal is above its absolute hearing threshold. Even in the absence of anthropogenic sound, the marine environment is often loud. Natural ambient sound includes contributions from wind, waves, precipitation, other animals, and (at frequencies above 30 kHz) thermal sound resulting from molecular agitation (Richardson *et al.,* 1995).

Background sound may also include anthropogenic sound, and masking of natural sounds can result when human activities produce high levels of background sound. Conversely, if the background level of underwater sound

is high (*e.g.,* on a day with strong wind and high waves), an anthropogenic sound source would not be detectable as far away as would be possible under quieter conditions and would itself be masked. Ambient sound is highly variable on continental shelves (Thompson, 1965; Myrberg, 1978; Chapman *et al.,* 1998; Desharnais *et al.,* 1999). This results in a high degree of variability in the range at which marine mammals can detect anthropogenic sounds.

Although masking is a phenomenon which may occur naturally, the introduction of loud anthropogenic sounds into the marine environment at frequencies important to marine mammals increases the severity and frequency of occurrence of masking. For example, if a baleen whale is exposed to continuous low-frequency sound from an industrial source, this would reduce the size of the area around that whale within which it can hear the calls of another whale. The components of background noise that are similar in frequency to the signal in question primarily determine the degree of masking of that signal. In general, little is known about the degree to which marine mammals rely upon detection of sounds from conspecifics, predators, prey, or other natural sources. In the absence of specific information about the importance of detecting these natural sounds, it is not possible to predict the impact of masking on marine mammals (Richardson *et al.,* 1995). In general, masking effects are expected to be less severe when sounds are transient than when they are continuous. Masking is typically of greater concern for those marine mammals that utilize low-frequency communications, such as baleen whales, because of how far low-frequency sounds propagate. Therefore, since noise generated from vessels dynamic positioning activity is mostly concentrated at low frequency ranges, it may have less effect on high frequency echolocation sounds by odontocetes (toothed whales).

As the DP vessel is continually moving along the cable route over a 24-hour period, the area within the 120 dB isopleth is constantly moving and shifting within a 24-hour period.

Therefore, no single area in Rhode Island Sound will have noise levels above 120 dB for more than a few hours. While continuous sound from the DP thruster when in use is predicted to extend up to 4.75 km to the 120 dB threshold, the low source levels, coupled with the likelihood of animals to avoid the sound source, would result in very little opportunity for this activity to mask the communication of local marine mammals for more than a brief period of time.

Non-Auditory Physical Effects (Stress)

Classic stress responses begin when an animal's central nervous system perceives a potential threat to its homeostasis. That perception triggers stress responses regardless of whether a stimulus actually threatens the animal; the mere perception of a threat is sufficient to trigger a stress response (Moberg, 2000; Sapolsky *et al.,* 2005; Seyle, 1950). Once an animal's central nervous system perceives a threat, it mounts a biological response or defense that consists of a combination of the four general biological defense responses: Behavioral responses, autonomic nervous system responses, neuroendocrine responses, or immune responses.

In the case of many stressors, an animal's first and sometimes most economical (in terms of biotic costs) response is behavioral avoidance of the potential stressor or avoidance of continued exposure to a stressor. An animal's second line of defense to stressors involves the sympathetic part of the autonomic nervous system and the classical ''fight or flight'' response which includes the cardiovascular system, the gastrointestinal system, the exocrine glands, and the adrenal medulla to produce changes in heart rate, blood pressure, and gastrointestinal activity that humans commonly associate with ''stress.'' These responses have a relatively short duration and may or may not have significant long-term effect on an animal's welfare.

An animal's third line of defense to stressors involves its neuroendocrine systems; the system that has received the most study has been the hypothalamus-pituitary-adrenal system (also known as the HPA axis in mammals or the hypothalamus-pituitary-interrenal axis in fish and some reptiles). Unlike stress responses associated with the autonomic nervous system, virtually all neuro-endocrine functions that are affected by stress—including immune competence, reproduction, metabolism, and behavior—are regulated by pituitary hormones. Stress-induced changes in the secretion of pituitary hormones have been implicated in failed reproduction (Moberg, 1987; Rivier, 1995), altered metabolism (Elasser *et al.,* 2000), reduced immune competence (Blecha, 2000), and behavioral disturbance. Increases in the circulation of glucocorticosteroids (cortisol, corticosterone, and aldosterone in marine mammals; see Romano *et al.,* 2004) have been equated with stress for many years.

The primary distinction between stress (which is adaptive and does not normally place an animal at risk) and distress is the biotic cost of the response. During a stress response, an animal uses glycogen stores that can be quickly replenished once the stress is alleviated. In such circumstances, the cost of the stress response would not pose a risk to the animal's welfare. However, when an animal does not have sufficient energy reserves to satisfy the energetic costs of a stress response, energy resources must be diverted from other biotic function, which impairs those functions that experience the diversion. For example, when mounting a stress response diverts energy away from growth in young animals, those animals may experience stunted growth. When mounting a stress response diverts energy from a fetus, an animal's reproductive success and its fitness will suffer. In these cases, the animals will have entered a pre-pathological or pathological state which is called ''distress'' (Seyle, 1950) or ''allostatic loading'' (McEwen and Wingfield, 2003). This pathological state will last until the animal replenishes its biotic reserves sufficient to restore normal function. Note that these examples involved a long-term (days or weeks) stress response exposure to stimuli.

Relationships between these physiological mechanisms, animal behavior, and the costs of stress responses have also been documented fairly well through controlled experiments; because this physiology exists in every vertebrate that has been studied, it is not surprising that stress responses and their costs have been documented in both laboratory and free-living animals (for examples see, Holberton *et al.,* 1996; Hood *et al.,* 1998; Jessop *et al.,* 2003; Krausman *et al.,* 2004; Lankford *et al.,* 2005; Reneerkens *et al.,* 2002; Thompson and Hamer, 2000). Information has also been collected on the physiological responses of marine mammals to exposure to anthropogenic sounds (Fair and Becker, 2000; Romano *et al.,* 2002; Wright *et al.,* 2008). For example, Rolland *et al.* (2012) found that noise reduction from reduced ship traffic in the Bay of Fundy was associated with decreased stress in North Atlantic right whales. In a conceptual model developed by the Population Consequences of Acoustic Disturbance (PCAD) working group, serum hormones were identified as possible indicators of behavioral effects that are translated into altered rates of reproduction and mortality.

Studies of other marine animals and terrestrial animals would also lead us to expect some marine mammals to experience physiological stress responses and, perhaps, physiological responses that would be classified as ''distress'' upon exposure to high frequency, mid-frequency, or low-frequency sounds. For example, Jansen (1998) reported on the relationship between acoustic exposures and physiological responses that are indicative of stress responses in humans (for example, elevated respiration and increased heart rates). Jones (1998) reported on reductions in human performance when faced with acute, repetitive exposures to acoustic disturbance. Trimper *et al.* (1998) reported on the physiological stress responses of osprey to low-level aircraft noise while Krausman *et al.* (2004) reported on the auditory and physiology stress responses of endangered Sonoran pronghorn to military overflights. Smith *et al.* (2004a, 2004b), for example, identified noise-induced physiological transient stress responses in hearing-specialist fish (*i.e.,* goldfish) that accompanied short- and long-term hearing losses. Welch and Welch (1970) reported physiological and behavioral stress responses that accompanied damage to the inner ears of fish and several mammals.

Hearing is one of the primary senses marine mammals use to gather information about their environment and to communicate with conspecifics. Although empirical information on the relationship between sensory impairment (TTS, PTS, and acoustic masking) on marine mammals remains limited, it seems reasonable to assume that reducing an animal's ability to gather information about its environment and to communicate with other members of its species would be stressful for animals that use hearing as their primary sensory mechanism. Therefore, we assume that acoustic exposures sufficient to trigger onset PTS or TTS would be accompanied by physiological stress responses because terrestrial animals exhibit those responses under similar conditions (NRC, 2003). More importantly, marine mammals might experience stress responses at received levels lower than those necessary to trigger onset TTS. Based on empirical studies of the time required to recover from stress responses (Moberg, 2000), we also assume that stress responses are likely to persist beyond the time interval required for animals to recover from TTS and might result in pathological and pre-pathological states that would be as significant as behavioral responses to TTS.

In general, there are few data on the potential for strong, anthropogenic underwater sounds to cause non-auditory physical effects in marine mammals. Such effects, if they occur at all, would presumably be limited to short distances and to activities that extend over a prolonged period. The available data do not allow identification of a specific exposure level above which non-auditory effects can be expected (Southall *et al.,* 2007). There is no definitive evidence that any of these effects occur even for marine mammals in close proximity to an anthropogenic sound source. In addition, marine mammals that show behavioral avoidance of vessels and related sound sources, are unlikely to incur non-auditory impairment or other physical effects. NMFS does not expect that the generally short-term and transitory cable installation activities would create conditions of long-term, continuous noise leading to long-term physiological stress responses in marine mammals.

Behavioral Disturbance

Behavioral responses to sound are highly variable and context-specific. An animal's perception of and response to (in both nature and magnitude) an acoustic event can be influenced by prior experience, perceived proximity, bearing of the sound, familiarity of the sound, etc. (Southall *et al.,* 2007). If a marine mammal does react briefly to an underwater sound by changing its behavior or moving a small distance, the impacts of the change are unlikely to be significant to the individual, let alone the stock or population. However, if a sound source displaces marine mammals from an important feeding or breeding area for a prolonged period, impacts on individuals and populations could be significant (*e.g.,* Lusseau and Bejder, 2007; Weilgart, 2007).

Southall *et al.* (2007) reports the results of the efforts of a panel of experts in acoustic research from behavioral, physiological, and physical disciplines that convened and reviewed the available literature on marine mammal hearing and physiological and behavioral responses to human-made sound with the goal of proposing exposure criteria for certain effects. This peer-reviewed compilation of literature is very valuable, though Southall *et al.* (2007) note that not all data are equal, some have poor statistical power, insufficient controls, and/or limited information on received levels, background noise, and other potentially important contextual variables—such data were reviewed and sometimes used for qualitative illustration but were not included in the quantitative analysis for the criteria recommendations. All of the studies considered, however, contain an estimate of the received sound level when the animal exhibited the indicated response.

In the Southall *et al.* (2007) publication, for the purposes of analyzing responses of marine mammals to anthropogenic sound and developing criteria, the authors differentiate between pulse sounds (single and multiple) and non-pulse sounds.

The studies that address responses of low-frequency cetaceans to non-pulse sounds sounds (such as the sound emitted from a DP vessel thruster) include data gathered in the field and related to several types of sound sources, including: Vessel noise, drilling and machinery playback, low-frequency M-sequences (sine wave with multiple phase reversals) playback, tactical low-frequency active sonar playback, drill ships, and non-pulse playbacks. These studies generally indicate no (or very limited) responses to received levels in the 90 to 120 dB re: 1µPa range and an increasing likelihood of avoidance and other behavioral effects in the 120 to 160 dB range. As mentioned earlier, though, contextual variables play a very important role in the reported responses and the severity of effects do not increase linearly with received levels. Also, few of the laboratory or field datasets had common conditions, behavioral contexts, or sound sources, so it is not surprising that responses differ.

The studies that address responses of mid-frequency cetaceans to non-pulse sounds include data gathered both in the field and the laboratory and related to several different sound sources, including: Pingers, drilling playbacks, ship and ice-breaking noise, vessel noise, Acoustic harassment devices (AHDs), Acoustic Deterrent Devices (ADDs), mid-frequency active sonar, and non-pulse bands and tones. Southall *et al.* (2007) were unable to come to a clear conclusion regarding the results of these studies. In some cases animals in the field showed significant responses to received levels between 90 and 120 dB, while in other cases these responses were not seen in the 120 to 150 dB range. The disparity in results was likely due to contextual variation and the differences between the results in the field and laboratory data (animals typically responded at lower levels in the field).

The studies that address responses of high-frequency cetaceans to non-pulse sounds include data gathered both in

the field and the laboratory and related to several different sound sources, including: Pingers, AHDs, and various laboratory non-pulse sounds. All of these data were collected from harbor porpoises. Southall *et al.* (2007) concluded that the existing data indicate that harbor porpoises are likely sensitive to a wide range of anthropogenic sounds at low received levels (around 90 to 120 dB), at least for initial exposures. All recorded exposures above 140 dB induced profound and sustained avoidance behavior in wild harbor porpoises (Southall *et al.,* 2007). Rapid habituation was noted in some but not all studies.

The studies that address the responses of pinnipeds in water to non-pulse sounds include data gathered both in the field and the laboratory and related to several different sound sources, including: AHDs, various non-pulse sounds used in underwater data communication, underwater drilling, and construction noise. Few studies exist with enough information to include them in the analysis. The limited data suggest that exposures to non-pulse sounds between 90 and 140 dB generally do not result in strong behavioral responses of pinnipeds in water, but no data exist at higher received levels (Southall *et al.,* 2007).

The low source level and relatively short duration of the DP vessel thrusters during cable installation activities would likely result in only brief startling reactions or short-term and temporary avoidance of the area, rather than permanent abandonment, by marine mammals.

Tolerance

Numerous studies have shown that underwater sounds from industrial activities are often readily detectable by marine mammals in the water at distances of many kilometers. However, other studies have shown that marine mammals at distances more than a few kilometers away often show no apparent response to industrial activities of various types (Miller *et al.,* 2005). This is often true even in cases when the sounds must be readily audible to the animals based on measured received levels and the hearing sensitivity of that mammal group. Although various baleen whales, toothed whales, and (less frequently) pinnipeds have been shown to react behaviorally to underwater sound from sources such as airgun pulses or vessels under some conditions, at other times, mammals of all three types have shown no overt reactions (*e.g.,* Malme *et al.,* 1986; Richardson *et al.,* 1995; Madsen and Mohl, 2000; Croll *et al.,* 2001; Jacobs and Terhune, 2002; Madsen *et al.,* 2002; Miller *et al.,* 2005). In general, pinnipeds seem to be more tolerant of exposure to some types of underwater sound than are baleen whales. Richardson *et al.* (1995) found that vessel sound does not seem to strongly affect pinnipeds that are already in the water. Richardson *et al.* (1995) went on to explain that seals on haul-outs sometimes respond strongly to the presence of vessels and at other times appear to show considerable tolerance of vessels, and Brueggeman *et al.* (1992) observed ringed seals (*Pusa hispida*) hauled out on ice pans displaying short-term escape reactions when a ship approached within 0.16–0.31 mi (0.25–0.5 km).

Vessel Strike

Ship strikes of marine mammals can cause major wounds, which may lead to the death of the animal. An animal at the surface could be struck directly by a vessel, a surfacing animal could hit the bottom of a vessel, or a vessel's propeller could injure an animal just below the surface. The severity of injuries typically depends on the size and speed of the vessel (Knowlton and Kraus, 2001; Laist *et al.,* 2001; Vanderlaan and Taggart, 2007).

The most vulnerable marine mammals are those that spend extended periods of time at the surface in order to restore oxygen levels within their tissues after deep dives (*e.g.,* the sperm whale). In addition, some baleen whales, such as the North Atlantic right whale, seem generally unresponsive to vessel sound, making them more susceptible to vessel collisions (Nowacek *et al.,* 2004). These species are primarily large, slow moving whales. Smaller marine mammals (*e.g.,* bottlenose dolphin) move quickly through the water column and are often seen riding the bow wave of large ships. Marine mammal responses to vessels may include avoidance and changes in dive pattern (NRC, 2003).

An examination of all known ship strikes from all shipping sources (civilian and military) indicates vessel speed is a principal factor in whether a vessel strike results in death (Knowlton and Kraus, 2001; Laist *et al.,* 2001; Jensen and Silber, 2003; Vanderlaan and Taggart, 2007). In assessing records with known vessel speeds, Laist *et al.* (2001) found a direct relationship between the occurrence of a whale strike and the speed of the vessel involved in the collision. The authors concluded that most deaths occurred when a vessel was traveling in excess of 24.1 km/h (14.9 mph; 13 kts).

Given the slow vessel speeds and predictable course necessary for jet-plowing and related cable installation activities for the BIWF project, ship strike is unlikely to occur. Marine mammals would be able to easily avoid vessels and are likely already habituated to the presence of numerous vessels in the area. Right whales have been observed in or near Rhode Island during all four seasons; however, they are most common in the spring when they are migrating and in the fall during their southbound migration (Kenney and Vigness-Raposa, 2009). Portions of the BIWF project area are located within the NMFS-designated Mid-Atlantic seasonal management area (SMA) (see 50 CFR 224.105); thus, to minimize the potential for vessel collision with right whales and other marine mammal species all DWBI vessels associated with the BIWF construction will operate at speeds of 10 knots or less from the November 1 to April 30 time period, regardless of whether they are inside or outside of the designated SMA. In addition, all DWBI vessels associated with the BIWF construction will adhere to NMFS guidelines for marine mammal ship striking avoidance (available online at: *http://www.nmfs.noaa.gov/pr/pdfs/education/viewing_northeast.pdf*), including maintaining a distance of at least 1,500 feet from right whales and having dedicated protected species observers who will communicate with the captain to ensure that all measures to avoid whales are taken. NMFS believes that the size of right whales, their slow movements, and the amount of time they spend at the surface will make them extremely likely to be spotted by protected species observers during construction activities within the BIWF project area.

Anticipated Effects on Marine Mammal Habitat

There are no feeding areas, rookeries, or mating grounds known to be biologically important to marine mammals within the proposed project area. There is also no designated critical habitat for any ESA-listed marine mammals. Harbor seals haul out on Block Island and points along Narragansett Bay, the most important haul-out being on the edge of New Harbor, about 2.4 km from the proposed BIWF landfall on Block Island. The only consistent haul-out locations for gray seals within the vicinity of Rhode Island are around Monomoy National Wildlife Refuge and Nantucket Sound in Massachusetts (more than 80 nautical miles from the proposed project area). As discussed above, NMFS' regulations at 50 CFR 224 designated the nearshore

waters of the Mid-Atlantic Bight as the Mid-Atlantic U.S. SMA for right whales in 2008. Mandatory vessel speed restrictions are in place in that SMA from November 1 through April 30 to reduce the threat of collisions between ships and right whales around their migratory route and calving grounds.

The BIWF involves activities that would disturb the seafloor and potentially affect benthic and finfish communities. Installation of the inter-array cable and export cable would result in the temporary disturbance of no more than 3.7 and 11.6 acres of seafloor, respectively. These installation activities would also result in temporary and localized increases in turbidity around the proposed project area. DWBI may also be required to install additional protective armoring in areas where the burial depth achieved is less than 1.2 m. DWBI expects that additional protection would be required at a maximum of 1 percent of the entire submarine cable, resulting in a conversion of up to 0.4 acres of soft substrate to hard substrate along the cable route. During the installation of additional protective armoring at the cable crossings and as necessary along the cable route, anchors and anchor chains would temporarily impact about 1.8 acres of bottom substrate during each anchoring event.

Jet-plowing and impacts from construction vessel anchor placement and/or sweep would cause either the displacement or loss of benthic and finfish resources in the immediate areas of disturbance. This may result in a temporary loss of forage items and a temporary reduction in the amount of benthic habitat available for foraging marine mammals in the immediate proposed project area. However, the amount of habitat affected represents a very small percentage of the available foraging habitat in the proposed project area. It is likely that marine mammals may temporarily shift their foraging efforts to other areas within or around the project area. While this would affect the movements of individual marine mammals, it is likely to be temporary and is not likely to affect marine mammal nourishment or result in any injury or mortality. Increased underwater sound levels may temporarily result in marine mammals avoiding or abandoning the area.

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.

Mitigation

In order to issue an incidental take authorization 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 adverse 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 (where relevant).

Proposed Mitigation Measures

With NMFS' input during the application process, DWBI is proposing the following mitigation measures during cable installation operations using DP vessel thruster use. These mitigation measures were also reviewed and approved by NMFS for the BIWF IHA issued in 2014 and amended in June 2015, and are consistent with the terms and conditions of the amended Incidental Take Statement for the Biological Opinion on the Construction and Operation of the Block Island Wind Farm:

Exclusion and Monitoring Zones: Exclusion zones (defined by NMFS as the Level A harassment zone of influence [ZOI] out to the 180/190 dB isopleth) and monitoring zones (defined by NMFS as the Level B harassment ZOI out to the 120 dB isopleth for continuous noise) are typically established to minimize impacts to marine mammals. However, noise analysis has indicated that DP vessel thruster use will not produce sound levels at 180/190 dB at any appreciable distance (see DWBI's Underwater Acoustic Modeling Report in Appendix A of the application). This is consistent with acoustic modeling results for other Atlantic wind farm projects using DP vessel thrusters (Tetra Tech, 2014; DONG Energy, 2016), as well as subsea cable-laying activities using DP vessel thruster use (Quintillion, 2015 and 2016). Therefore, injury to marine mammals is not expected and no Level A harassment exclusion zone is proposed.

Consultation with NMFS has indicated that the monitoring zones established out to the 120 dB isopleth for continuous noise will result in zones too large to effectively monitor (up to 4.75 km). Therefore, based on precedent set by the U.S. Department of the Navy and recent European legislation regarding compliance thresholds for wind farm construction noise (DoN, 2012; OSPAR, 2008), and consistent with the previous IHA's issued to DWBI and Deepwater Wind Block Island Transmission, L.L.C. (DWBITS), DWBI will establish a monitoring zone equivalent, at a minimum, to the size of the predicted 160 dB isopleth for DP vessel thruster use (5-m radius from the DP vessel) based on DWBI's underwater acoustic modeling. All marine mammal sightings which are visually feasible beyond the 160 dB isopleth will be recorded and potential takes will be noted.

DP Thruster Power Reduction— During cable installation a constant tension must be maintained to ensure the integrity of the cable. Any significant stoppage in vessel maneuverability during jet plow activities has the potential to result in significant damage to the cable. Therefore, during cable lay if marine mammals enter or approach the established 160 dB isopleth monitoring zone, DWBI proposes to 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 Project. Reducing thruster energy will effectively reduce the potential for exposure of marine mammals to sound energy. After decreasing thruster energy, protected species observers (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 would remain at the reduced level. Normal thruster use will resume when PSOs report that marine mammals have moved away from and remained clear of the monitoring zone for a minimum of 30 minutes since last the sighting.

Vessel Speed Restrictions—To minimize the potential for vessel collision with North Atlantic right whales and other marine mammals, all DWBI project vessels shall operate at speeds of 10 knots or less from November 1 through April 30.

Ship Strike Avoidance—DWBI shall adhere to NMFS guidelines for marine mammal ship strike avoidance (*http://www.nmfs.noaa.gov/pr/pdfs/education/viewing_northeast.pdf*).

Mitigation Conclusions

NMFS has carefully evaluated DWBI's mitigation measures in the context of ensuring that we prescribe the means of effecting the least practicable impact on the affected marine mammal species and stocks and their habitat. Our evaluation of potential measures

included consideration of the following factors in relation to one another:

- The manner in which, and the degree to which, the successful implementation of the measure is expected to minimize adverse impacts to marine mammals;
- The proven or likely efficacy of the specific measure to minimize adverse impacts as planned; and
- The practicability of the measure for applicant implementation.

Any mitigation measure(s) prescribed by NMFS should be able to accomplish, have a reasonable likelihood of accomplishing (based on current science), or contribute to the accomplishment of one or more of the general goals listed here:

- Avoidance or minimization of injury or death of marine mammals wherever possible (goals 2, 3, and 4 may contribute to this goal).
- A reduction in the numbers of marine mammals (total number or number at biologically important time or location) exposed to received levels of activities that we expect to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing harassment takes only).
- A reduction in the number of times (total number or number at biologically important time or location) individuals would be exposed to received levels of activities that we expect to result in the take of marine mammals (this goal may contribute to 1, above, or to reducing harassment takes only).
- A reduction in the intensity of exposures (either total number or number at biologically important time or location) to received levels of activities that we expect to result in the take of marine mammals (this goal may contribute to a, above, or to reducing the severity of harassment takes only).
- Avoidance or minimization of adverse effects to marine mammal habitat, paying special attention to the food base, activities that block or limit passage to or from biologically important areas, permanent destruction of habitat, or temporary destruction/disturbance of habitat during a biologically important time.
- For monitoring directly related to mitigation—an increase in the probability of detecting marine mammals, thus allowing for more effective implementation of the mitigation.

Based on our evaluation of the applicant's proposed measures, as well as other measures considered by NMFS, NMFS has preliminarily determined that the proposed mitigation measures provide the means of effecting the least practicable impact on marine mammals 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 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 proposed action area.

Monitoring measures prescribed by NMFS should accomplish one or more of the following general goals:

1. An increase in our understanding of the likely occurrence of marine mammal species in the vicinity of the action, *i.e.,* presence, abundance, distribution, and/or density of species.
2. An increase in our understanding of the nature, scope, or context of the likely exposure of marine mammal species to any of the potential stressor(s) associated with the action (*e.g.* sound or visual stimuli), through better understanding of one or more of the following: The action itself and its environment (*e.g.* sound source characterization, propagation, and ambient noise levels); the affected species (*e.g.* life history or dive pattern); the likely co-occurrence of marine mammal species with the action (in whole or part) associated with specific adverse effects; and/or the likely biological or behavioral context of exposure to the stressor for the marine mammal (*e.g.* age class of exposed animals or known pupping, calving or feeding areas).
3. An increase in our understanding of how individual marine mammals respond (behaviorally or physiologically) to the specific stressors associated with the action (in specific contexts, where possible, *e.g.,* at what distance or received level).
4. An increase in our understanding of how anticipated individual responses, to individual stressors or anticipated combinations of stressors, may impact either: The long-term fitness and survival of an individual; or the population, species, or stock (*e.g.* through effects on annual rates of recruitment or survival).
5. An increase in our understanding of how the activity affects marine mammal habitat, such as through effects on prey sources or acoustic habitat (*e.g.,* through characterization of longer-term contributions of multiple sound sources to rising ambient noise levels and assessment of the potential chronic effects on marine mammals).
6. An increase in understanding of the impacts of the activity on marine mammals in combination with the impacts of other anthropogenic activities or natural factors occurring in the region.
7. An increase in our understanding of the effectiveness of mitigation and monitoring measures.
8. An increase in the probability of detecting marine mammals (through improved technology or methodology), both specifically within the safety zone (thus allowing for more effective implementation of the mitigation) and in general, to better achieve the above goals.

Proposed Monitoring Measures

DWBI submitted a marine mammal monitoring and reporting plan as part of the IHA application. The plan may be modified or supplemented based on comments or new information received from the public during the public comment period.

Visual Monitoring—Visual observation of the 160–dB monitoring zone established for DP vessel operation during cable installation will be performed by qualified and NMFS approved protected species observers (PSOs), the resumes of whom will be provided to NMFS for review and approval prior to the start of construction activities. Observer qualifications will include direct field experience on a marine mammal observation vessel and/or aerial surveys in the Atlantic Ocean/Gulf of Mexico. A minimum of two PSOs will be stationed aboard the cable lay vessel. Each PSO will monitor 360 degrees of the field of vision. PSOs stationed on the DP vessel will begin observation of the monitoring zone as the vessel initially leaves the dock. Observations of the monitoring zone will continue throughout the cable installation and will end after the DP vessel has returned to dock.

Observers would estimate distances to marine mammals visually, using laser range finders, or by using reticle binoculars during daylight hours. During night operations, night vision binoculars will be used. If vantage points higher than 25 ft (7.6 m) are available, distances can be measured using inclinometers. Position data will be recorded using hand-held or vessel global positioning system (GPS) units

for each sighting, vessel position change, and any environmental change.

Each PSO stationed on the cable lay vessel will scan the surrounding area for visual indication of marine mammal presence that may enter the monitoring zone. Observations will take place from the highest available vantage point on the cable lay 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 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; distance from sound source, DP vessel thruster status (*i.e.,* energy level); details of marine mammal sightings (*e.g.,* species, age classification [if known], numbers); details of any observed ''taking'' (behavioral disturbances or injury/mortality); and reaction of the animal(s) to relevant sound source (if any) and observed behavior, including bearing and direction of travel. All marine mammal sightings which are visually feasible beyond the 160 dB isopleth, will also be recorded and potential takes will be noted.

In addition, prior to initiation of construction work, all crew members on barges, tugs and support vessels, 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 construction supervisors and crews, the PSOs, and DWBI. 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. The DWBI Construction Compliance Manager (or other authorized individual) will have the authority to stop or delay construction activities, if deemed necessary. New personnel will be briefed as they join the work in progress.

Acoustic Field Verification—DWBI would perform field verification to confirm the 160-dB isopleth monitoring zone. Field verification during cable installation using DP thrusters will be performed using acoustic measurements from two reference locations at two water depths (a depth at mid-water and a depth at approximately 1 m above the seafloor). As necessary, the monitoring zone will be modified to ensure adequate protection to marine mammals.

Proposed Reporting Measures

Observers would record dates and locations of construction operations; times of observations; location and weather; details of marine mammal sightings (*e.g.,* species, age, numbers, behavior); and details of any observed take.

DWBI proposes to provide the following notifications and reports during construction activities:

- Notification to NMFS and the U.S. Army Corps of Engineers (USACE) within 24-hours of beginning construction activities and again within 24-hours of completion;
- The USACE and NMFS should be notified within 24 hours whenever a monitoring zone is re-established by DWBI. After any re-establishment of the monitoring zone, DWBI will provide a report to the USACE and NMFS detailing the field-verification measurements within 7 days. This includes information, such as: a detailed account of the levels, durations, and spectral characteristics of DP thruster use, and the peak, RMS, and energy levels of the sound pulses and their durations as a function of distance, water depth, and tidal cycle. The USACE and NMFS will be notified within 24 hours if field verification measurements suggest a larger DP thruster power reduction zone.
- Within 120 days after completion of the construction activities, a final technical report will be provided to USACE, and NMFS 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 construction activities, and provides an interpretation of the results and effectiveness of all monitoring tasks
- *Notification of Injured or Dead Marine Mammals*—In the unanticipated event that the specified activities clearly causes the take of a marine mammal in a manner prohibited by the IHA, such as a serious injury, or mortality (*e.g.,* ship-strike, gear interaction, and/or entanglement), DWBI would 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 Greater Atlantic Regional Fisheries Office (GARFO) Stranding Coordinator. The report would 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 would not resume until NMFS is able to review the circumstances of the event. NMFS would work with DWBI to minimize reoccurrence of such an event in the future. DWBI would not resume activities until notified by NMFS.

In the event that DWBI 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), DWBI would immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources and the GARFO Stranding Coordinator. The report would include the same information identified in the paragraph above. Activities would be able to continue while NMFS reviews the circumstances of the incident. NMFS would work with the Applicant to determine if modifications in the activities are appropriate.

In the event that DWBI 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), DWBI would report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and the NMFS Greater Atlantic Regional Fisheries Office Regional Stranding Coordinator, within 24 hours of the discovery. DWBI would provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS. DWBI can continue its operations under such a case.

Estimated Take by Incidental Harassment

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].

Underwater sound associated with the use of DP vessel thrusters during inter-array and export cable installation is the only project activity that has the potential to harass marine mammals, as defined by the MMPA. Harassment could take the form of temporary threshold shift, avoidance, or other changes in marine mammal behavior. NMFS anticipates that impacts to marine mammals would be in the form of Level B behavioral harassment and no take by injury, serious injury, or mortality is proposed. NMFS does not anticipate take resulting from the movement of vessels (i., vessel strike) associated with construction because there will be a limited number of vessels moving at slow speeds over a relatively shallow, nearshore area, and PSOs on the vessels will be monitoring for marine mammals and will be able to alert the vessels to avoid any marine mammals in the area.

NMFS' current acoustic exposure criteria for estimating take are shown in Table 3 below. DWBI's modeled distances to these acoustic exposure criteria are shown in Table 4. Details on the model characteristics and results are provided in the Underwater Acoustic Modeling Report found in Appendix A of the application. As discussed in the application and in Appendix A, acoustic modeling took into consideration sound sources using the loudest potential operational parameters, bathymetry, geoacoustic properties of the project area, time of year, and marine mammal hearing ranges. Results from the acoustic modeling showed that estimated maximum critical distance to the 120 dB re 1 μPa (rms) MMPA threshold was approximately 4,750 m for 10-m water depth, 4,275 m for 20-m water depth, and 3,575 m for 40-m water depth. More information on results including figures displaying critical distance information can be found in Appendix A. DWBI and NMFS believe that these estimates represent the worst-case scenario and that the actual distances to the Level B harassment threshold may be shorter. DP vessel thruster use will not produce sound levels at 180/190 dB at any appreciable distance; therefore, no injurious (Level A harassment) takes have been requested or are being proposed for authorization. To verify the distance to the MMPA thresholds calculated by underwater acoustic modeling, DWBI has committed to conducting real-time underwater acoustic measurements of the DP vessel thrusters. Field verification of actual sound propagation will enable adjustment of the MMPA threshold level distances to fit actual construction conditions, if necessary.

TABLE 3—NMFS' CURRENT ACOUSTIC EXPOSURE CRITERIA

Non-Explosive Sound		
Criterion	Criterion definition	Threshold
Level A Harassment (Injury)	Permanent Threshold Shift (PTS) (Any level above that which is known to cause TTS).	180 dB re 1 μPa-m (cetaceans)/190 dB re 1 μPa-m (pinnipeds) root mean square (rms).
Level B Harassment	Behavioral Disruption (for impulse noises)	160 dB re 1 μPa-m (rms).
Level B Harassment	Behavioral Disruption (for continuous, noise)	120 dB re 1 μoPa-m (rms).

TABLE 4—MAXIMUM DISTANCES TO MMPA THRESHOLDS FROM DP VESSEL THRUSTERS DURING SUBMARINE CABLE INSTALLATION

Source	Marine mammal level A harassment 80/190 dB_{RMS} re 1 μPa (m)	Marine mammal level B harassment 120 dB_{RMS} re 1 μPa (m)
DP Vessel Thrusters—at 10 m	N/A	4,750
DP Vessel Thrusters—at 20 m	N/A	4,275
DP Vessel Thrusters—at 40 m	N/A	3,575

DWBI estimated species densities within the proposed project area in order to estimate the number of marine mammal exposures to sound levels above 120 dB (continuous noise). The data used as the basis for estimating species density for the project area are sightings per unit effort (SPUE) taken from Kenney and Vigness-Raposa (2009). 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). SPUE calculated by Kenney and Vigness-Raposa (2009) was derived from a number of sources including: (1) North Atlantic Right Whale Consortium database; (2) CeTAP (CeTAP, 1982); (3) sightings data from the Coastal Research and Education Society of Long Island, Inc. and Okeanos Ocean Research Foundation; (4) the Northeast Regional Stranding network (marine mammals); and (5) the NOAA Northeast Fisheries Science Center's Fisheries Sampling Branch (Woods Hole, MA).

The Northeast Navy Operations Area (OPAREA) Density Estimates (DoN, 2007) were also used in support for estimating take for seals, which represents the only available comprehensive data for seal abundance. However, abundance estimates for the Southern New England area includes breeding populations on Cape Cod, and therefore using this dataset alone will result in a substantial over-estimate of take in the Project Area. However, based on reports conducted by Kenney and Vigness-Raposa (2009), Schroeder (2000), and Ronald and Gots (2003),

harbor seal abundance off the Southern New England coast in the vicinity of the survey is likely to be approximately 20 percent of the total abundance. In addition, because the seasonality of, and habitat use by, gray seals roughly overlaps with harbor seals, the same abundance assumption of 20 percent of the southern New England population of gray seals can be applied when estimating abundance. Per this data, take due to Level B harassment for harbor seals and gray seals have been calculated based on 20 percent of the Northeast Navy OPAREA abundance estimates and resulting adjusted density values.

The methodology for calculating takes is the same as that described in the **Federal Register** notice for the original 2014 (modified in 2015) BIWF IHA. Estimated takes were calculated by multiplying the maximum species density (per 100 km^2) by the zone of influence (ZOI), multiplied by a correction factor of 1.5 to account for marine mammals underwater, multiplied by the number of days of the specified activity.

A detailed description of the model used to calculate zones of influence is provided in the Underwater Acoustic Modeling Report found in Appendix A of the application. Acoustic modeling was completed with the U.S. Naval Research Laboratory's Range-dependent Acoustic Model (RAM) which is widely used by sound engineers and marine biologists due to its adaptability to describe highly complex acoustic scenarios. This modeling analysis method considers range and depth along with a geo-referenced dataset to automatically retrieve the time of year information, bathymetry, and geoacoustic properties (*e.g.* hard rock, sand, mud) along propagation transects radiating from the sound source. Transects are run along compass points (45°, 90°, 135°, 180°, 225°, 270°, 315°, and 360°) to determine received sound levels at a given location. These values are then summed across frequencies to provide broadband received levels at the MMPA Level A and Level B harassment thresholds as described in Table 3. The representative area ensonified to the MMPA Level B threshold for DP vessel thruster use during cable installation was used to estimate take. The distances to the MMPA thresholds were used to conservatively estimate how many marine mammals would receive a specified amount of sound energy in a given time period and to support the development of monitoring and/or mitigation measures.

DWBI used a ZOI of 9.7 mi^2 (25.1 km^2) and a maximum installation period of 28 days to estimate take from use of the DP vessel thruster during cable installation. The ZOI represents the average ensonified area across the three representative water depths (10 m, 20 m, and 40 m) along a 13.2-km cable route. DWBI expects cable installation to occur between May and October. To be conservative, take calculations were based on the highest seasonal species density when cable installation may occur (see Table 5). The resulting take estimates (rounded to the nearest whole number) based upon these conservative assumptions for North Atlantic right, humpback, fin, and minke whales, as well as, short-beaked common and Atlantic white-sided dolphins, harbor porpoise, and harbor and gray seals are presented in Table 5. These numbers represent less than 1.5 percent of the stock for these species, respectively (Table 5). These percentages are the upper boundary of the animal population that could be affected.

TABLE 5—DWBI'S ESTIMATED TAKE FOR DP THRUSTER USE DURING THE BIWF PROJECT

Species	Maximum seasonal density (number/100 km^2)	Estimated take (number)	Percentage of stock potentially affected
North Atlantic Right Whale	0.07	1	0.22
Humpback Whale	0.11	2	0.24
Fin Whale	2.15	23	1.42
Minke Whale	0.44	5	0.02
Short-beaked Common Dolphin	8.21	28	0.07
Atlantic White-sided Dolphin	7.46	13	0.16
Harbor Porpoise	0.74	8	0.01
Harbor Seal	1.95	21	0.03
Gray Seal	2.83	30	0.01

DWBI's requested take numbers are provided in Table 5 and this is also the number of takes NMFS is proposing to authorize. DWBI's take 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 Table 5 are the maximum number of animals that may be harassed during the cable installation activities (*i.e.,* DWBI assumes that each exposure event is a different animal). These estimates do not account for prescribed mitigation measures that DWBI would implement during the specified activities and the fact that powerdown procedures shall be implemented if an animal enters the Level B harassment zone (160 dB), further reducing the potential for any takes to occur during these activities.

DWBI did not request, and NMFS is not proposing, take from vessel strike. We do not anticipate marine mammals to be impacted by vessel movement because a limited number of vessels would be involved in construction activities and they would mostly move at slow speeds during DP vessel thruster use during cable installation activities. However, DWBI shall implement measures (*e.g.,* vessel speed restrictions and separation distances; see *Proposed Mitigation Measures*) to further minimize potential impacts to marine mammals from vessel strikes during vessel operations and transit in the project area.

Analysis and Determinations

Negligible Impact

Negligible impact is ''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'' (50 CFR 216.103). 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, as the severity of harassment may vary greatly depending on the context and duration of the behavioral response, many of which would not be expected to have deleterious impacts on the fitness of any individuals. In determining whether the expected takes will have a negligible impact, in addition to considering estimates of the number of marine mammals that might be ''taken,'' NMFS must consider other factors, such as the likely nature of any responses (their intensity, duration, etc.), the context of any responses (critical reproductive time or location, migration, etc.), as well as the number and nature of estimated Level A harassment takes, the number of estimated mortalities, and the status of the species.

To avoid repetition, the discussion of our analyses applies to all the species listed in Table 5, given that the anticipated effects of this activity on these different marine mammal stocks are expected to be similar. There is no information about the nature or severity of the impacts, or the size, status, or structure of any of these species or stocks that would lead to a different analysis for this activity.

As discussed in the Potential Effects section, permanent threshold shift, masking, non-auditory physical effects, and vessel strike are not expected to occur. There is some potential for limited TTS; however, animals in the area would likely incur no more than brief hearing impairment (*i.e.,* TTS) due to low source levels and the fact that most marine mammals would more likely avoid a loud sound source rather than swim in such close proximity as to result in TTS. Moreover, as the DP vessel is continually moving along the cable route over a 24-hour period, the area within the 120 dB isopleth is constantly moving (*i.e.,* transient sound field) and shifting within a 24-hour period. Therefore, no single area in Rhode Island Sound will have noise levels above 120 dB for more than a few hours; once an area has been surveyed, it is not likely that it will be surveyed again, therefore reducing the likelihood of repeated impacts within the project area.

Potential impacts to marine mammal habitat were discussed previously in this document (see the Anticipated Effects on 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. Prey species are mobile, and are broadly distributed throughout the project 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. There are no feeding areas known to be biologically important to marine mammals within the proposed project area.

There are no rookeries or mating grounds known to be biologically important to marine mammals within the proposed project area. ESA-listed species for which takes are proposed are North Atlantic right, humpback, and fin whales. Recent estimates of abundance indicate a stable or growing humpback whale population, while examination of the minimum number alive population index calculated from the individual sightings database for the years 1990–2010 suggests a positive and slowly accelerating trend in North Atlantic right whale population size (Waring *et al.,* 2015). There are currently insufficient data to determine population trends for fin whale) (Waring *et al.,* 2015). There is no designated critical habitat for any ESA-listed marine mammals within the project area, and none of the stocks for non-listed species proposed to be taken are considered ''depleted'' or ''strategic'' by NMFS under the MMPA.

The proposed mitigation measures are expected to reduce the potential for exposure of marine mammals by reducing the DP thruster power if a marine mammal is observed within the 160 dB isopleth monitoring zone. Additional vessel strike avoidance requirements will further mitigate potential impacts to marine mammals during vessel transit in the Study Area. DWBI vessels associated with the BIWF construction will adhere to NMFS guidelines for marine mammal ship striking avoidance (available online at: *http://www.nmfs.noaa.gov/pr/pdfs/education/viewing_northeast.pdf*), including maintaining a distance of at least 1,500 feet from right whales and having dedicated protected species observers who will communicate with the captain to ensure that all measures to avoid whales are taken. NMFS believes that the size of right whales, their slow movements, and the amount of time they spend at the surface will make them extremely likely to be spotted by protected species observers during construction activities within the project area.

DWBI did not request, and NMFS is not proposing, take of marine mammals by injury, serious injury, or mortality. NMFS expects that all takes would be in the form of short-term Level B behavioral harassment in the form of brief startling reaction and/or temporary vacating 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 proposed activities and the nature of the DP vessel noise (*i.e.,* low source level, constantly moving resulting in a transient sound field), as well as the required mitigation.

Based on best available science, NMFS preliminarily concludes that exposures to marine mammal species and stocks due to DWBI's DP vessel thruster use during cable installation activities would 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 would be expected to be additive for the very small portion of the stocks and species likely to be exposed. Given the intensity of the activities, and the fact that shipping contributes to the ambient sound levels in the surrounding waters, NMFS does not anticipate the proposed take estimates 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 proposed monitoring and mitigation measures, NMFS preliminarily finds that the total marine mammal take from DWBI's DP vessel thruster use during cable installation activities will have a negligible impact on the affected marine mammal species or stocks.

Small Numbers

The requested takes proposed to be authorized for the cable installation activities utilizing DP vessel thrusters represent 0.22 percent of the Western North Atlantic (WNA) stock of North Atlantic right whale, 0.24 percent of the Gulf of Maine stock of humpback whale, 1.42 percent of the WNA stock of fin whale, 0.02 percent of the Canadian East

Coast stock of minke whale, 0.07 percent of the WNA stock of short-beaked common dolphin, 0.16 percent of the WNA stock of Atlantic white-sided dolphin, 0.01 percent of the Gulf of Maine/Bay of Fundy stock of harbor porpoise, 0.03 percent of the WNA stock of harbor seal, and 0.01 percent of the North Atlantic stock of gray seal. These take estimates represent the percentage of each species or stock that could be taken by Level B behavioral harassment and represent extremely small numbers (less than 1.5 percent) relative to the affected species or stock sizes. Further, the proposed take numbers are the maximum numbers of animals that are expected to be harassed during the project; it is possible that some of these exposures may occur to the same individual. Therefore, NMFS preliminarily finds that small numbers of marine mammals will be taken relative to the populations of the affected species or stocks.

Impact on Availability of Affected Species for Taking for Subsistence Uses

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

Endangered Species Act

There are three marine mammal species that are listed as endangered under the ESA: Fin whale, humpback whale, and North Atlantic right whale. Under section 7 of the ESA, the U.S. Army Corps of Engineers (the federal permitting agency for the actual construction) consulted with NMFS on the proposed BIWF project. NMFS also consulted internally on the issuance of an IHA under section 101(a)(5)(D) of the MMPA for this activity. NMFS' Greater Atlantic Regional Fisheries Office (GARFO) issued a Biological Opinion on January 30, 2014 which was amended on June 5, 2015, concluding that the Block Island Wind Farm project may adversely affect but is not likely to jeopardize the continued existence of fin whale, humpback whale, or North Atlantic right whale.

National Environmental Policy Act

NMFS conducted the required analysis under NEPA and prepared an EA for its issuance of the original BIWF IHA, issuing a Finding of No Significant Impact (FONSI) for the action on August 21, 2014 (reaffirmed on June 9, 2015). The potential environmental impacts of the proposed IHA are within the scope of the environmental impacts analyzed in the NMFS' EA, which was used to support NMFS' FONSI. NMFS has determined that there are no substantial changes to the action and that there are no new direct, indirect, or cumulative effects to the human environment resulting from the IHA modifications. Therefore, NMFS has determined that a new or supplemental EA or Environmental Impact Statement are unnecessary, and reaffirms the existing FONSI for this action.

Proposed Authorization

As a result of these preliminary determinations, NMFS proposes to issue an Incidental Harassment Authorization (IHA) to DWBI for cable installation activities that use DP vessel thrusters from May 2016 through April 2017, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated. The proposed IHA language is provided next.

This section contains a draft of the IHA itself. The wording contained in this section is proposed for inclusion in the IHA (if issued).

Deepwater Wind Block Island, LLC, 56 Exchange Terrace, Suite 101, Providence, RI, 02903–1772, is hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (16 U.S.C. 1371(a)(5)(D)) and 50 CFR 216.107, to harass marine mammals incidental to dynamic positioning vessel thruster use associated with inter-array and export cable installation activities off the southeast coast of Block Island, Rhode Island.

1. This Authorization is valid from May 1, 2016 through April 30, 2017.

2. This Authorization is valid only for DP vessel thruster use associated with cable installation activities, as described in the IHA application.

3. The holder of this authorization (Holder) is hereby authorized to take, by Level B harassment only, 13 Atlantic white-sided dolphins (*Lagenorhynchus acutus*), 28 short-beaked common dolphins (*Delphinus delphis*), 8 harbor porpoises (*Phocoena phocoena*), 2 minke whales (*Balaenoptera acutorostrata*), 23 fin whales (*Balaenoptera physalus*), 2 humpback whales (*Megaptera novaeangliae*), 1 North Atlantic right whales (*Eubalaena glacialis*), 30 gray seals (*Halichoerus grypus*), and 21 harbor seals (*Phoca vitulina*) incidental to the Block Island Wind Farm inter-array and export cable installation activities using dynamic positioning (DP) vessel thrusters.

4. The taking of any marine mammal in a manner prohibited under this IHA must be reported immediately to NMFS' Greater Atlantic Regional Fisheries Office (GARFO), 55 Great Republic Drive, Gloucester, MA 01930–2276; phone 978–281–9300, and NMFS' Office of Protected Resources, 1315 East-West Highway, Silver Spring, MD 20910; phone 301–427–8401.

5. The Holder or designees must notify NMFS' GARFO and Office of Protected Resources (Headquarters) at least 24 hours prior to the seasonal commencement of the specified activity (see contact information in 4 above).

6. The holder of this Authorization must notify the Chief of the Permits and Conservation Division, Office of Protected Resources, or her designee at least 24 hours prior to the start of survey activities (unless constrained by the date of issuance of this Authorization in which case notification shall be made as soon as possible) at 301–427–8401 or to *John.Fiorentino@noaa.gov.*

7. Mitigation Requirements

The Holder is required to abide by the following mitigation conditions listed in 7(a)–(c). Failure to comply with these conditions may result in the modification, suspension, or revocation of this IHA.

(a) *DP Thruster Power Reduction*—During cable installation, if marine mammals enter or approach the established 160 dB isopleth monitoring zone, DWBI 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 Project. After decreasing thruster energy, protected species observers (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 would remain at the reduced level. Normal thruster use will resume when PSOs report that marine mammals have moved away from and remained clear of the monitoring zone for a minimum of 30 minutes since last the sighting.

(b) *Vessel Speed Restrictions:* All project vessels shall operate at speeds of 10 knots or less from November 1 through April 30.

(c) *Ship Strike Avoidance:* The Holder shall adhere to NMFS guidelines for marine mammal ship strike avoidance (*http://www.nmfs.noaa.gov/pr/pdfs/education/viewing_northeast.pdf*).

8. Monitoring Requirements

The Holder is required to abide by the following monitoring conditions listed in 8(a)–(b). Failure to comply with these conditions may result in the

modification, suspension, or revocation of this IHA.

(a) *Visual Monitoring*—Visual observation of the 160–dB monitoring zone will be performed by qualified and NMFS approved protected species observers (PSOs). Observer qualifications will include direct field experience on a marine mammal observation vessel and/or aerial surveys in the Atlantic Ocean/Gulf of Mexico. A minimum of two PSOs will be stationed aboard the DP vessel. Each PSO will monitor 360 degrees of the field of vision. PSOs stationed on the DP vessel will begin observation of the monitoring zone as the vessel initially leaves the dock. Observations of the monitoring zone will continue throughout the cable installation and will end after the DP vessel has returned to dock. Observers would estimate distances to marine mammals visually, using laser range finders, or by using reticle binoculars during daylight hours. During night operations, night vision binoculars will be used. Position data will be recorded using hand-held or vessel global positioning system (GPS) units for each sighting, vessel position change, and any environmental change. Each PSO stationed on the cable lay vessel will scan the surrounding area for visual indication of marine mammal presence that may enter the monitoring zone. Observations will take place from the highest available vantage point on the cable lay 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. Information recorded during each observation shall be used to estimate numbers of animals potentially taken and shall include the following:

- Dates and locations of construction operations;
- Number of observations;
- Time and frequency of observations;
- Location (*i.e.,* distance from sound source);
- DP vessel thruster status (*i.e.,* energy level)
- Weather conditions;
- Details of mammal sightings (species, age classification [if known], numbers)
- Reaction of the animal(s) to relevant sound source (if any) and observed behavior, including bearing and direction of travel; and
- Details of any observed ''taking'' (behavioral disturbances or injury/mortality;

All marine mammal sightings which are visually feasible beyond the 160 dB isopleth, shall also be recorded and potential takes shall be noted.

(b) *Acoustic Field Verification*—DWBI would perform field verification to confirm the 160–dB isopleth monitoring zone. Field verification during cable installation using DP thrusters will be performed using acoustic measurements from two reference locations at two water depths (a depth at mid-water and a depth at approximately 1 m above the seafloor). As necessary, the monitoring zone will be modified to ensure adequate protection to marine mammals.

9. Reporting Requirements

(a) The Holder shall provide the following notifications during construction activities:

- Notification to NMFS and the U.S. Army Corps of Engineers (USACE) within 24-hours of beginning construction activities and again within 24-hours of completion
- The USACE and NMFS shall be notified within 24 hours whenever a monitoring zone is re-established by DWBI. After any re-establishment of the monitoring zone, DWBI will provide a report to the USACE and NMFS detailing the field-verification measurements within 7 days. This shall include the following information: a detailed account of the levels, durations, and spectral characteristics of DP thruster use, and the peak, RMS, and energy levels of the sound pulses and their durations as a function of distance, water depth, and tidal cycle. The USACE and NMFS will be notified within 24 hours if field verification measurements suggest a larger DP thruster power reduction zone. Implementation of a smaller zone shall be contingent on NMFS' review and shall not be used until NMFS approves the change.
- *Notification of Injured or Dead Marine Mammals*—In the unanticipated event that the specified activities clearly causes the take of a marine mammal in a manner prohibited by the IHA, such as a serious injury, or mortality (*e.g.,* ship-strike, gear interaction, and/or entanglement), DWBI would 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 Greater Atlantic Regional Fisheries Office (GARFO) Stranding Coordinator. The report would 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 would not resume until NMFS is able to review the circumstances of the event. NMFS would work with DWBI to minimize reoccurrence of such an event in the future. DWBI would not resume activities until notified by NMFS.

In the event that DWBI 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), DWBI would immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources and the GARFO Stranding Coordinator. The report would include the same information identified in the paragraph above. Activities would be able to continue while NMFS reviews the circumstances of the incident. NMFS would work with the Applicant to determine if modifications in the activities are appropriate.

In the event that DWBI 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), DWBI would report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and the NMFS Greater Atlantic Regional Fisheries Office Regional Stranding Coordinator, within 24 hours of the discovery. DWBI would provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS. DWBI can continue its operations under such a case.

(b) The Holder shall provide a final technical report to USACE and NMFS, within 120 days after completion of the construction activities, that fully documents the methods and monitoring protocols, summarizes the data recorded during monitoring, estimates the number of marine mammals that may

have been taken during construction activities, and provides an interpretation of the results and effectiveness of all monitoring tasks. The report shall contain the following information:

- A summary of the activity and monitoring plan (*i.e.,* dates, times, locations);
- A summary of mitigation implementation;
- Monitoring results and a summary that addresses the goals of the monitoring plan, including the following:
  - Environmental conditions when observations were made:
  - Water conditions (*i.e.,* Beaufort sea-state, tidal state)
  - Weather conditions (*i.e.,* percent cloud cover, visibility, percent glare)
  - Date and time survey initiated and terminated
  - Date, time, number, species, age, and any other relevant data regarding marine mammals observed
  - Description of the observed behaviors (in both the presence and absence of activities):
    - If possible, the correlation to underwater sound level occurring at the time of any observable behavior
- Estimated exposure/take numbers during activities; and
- An assessment of the implementation and effectiveness of prescribed mitigation and monitoring measures.

10. This Authorization may be modified, suspended, or withdrawn if the Holder fails to abide by the conditions prescribed herein or if the authorized taking is having more than a negligible impact on the species or stock of affected marine mammals, or if there is an unmitigable adverse impact on the availability of such species or stocks for subsistence uses.

11. A copy of this Authorization and the Incidental Take Statement must be in the possession of each vessel operator taking marine mammals under the authority of this Incidental Harassment Authorization.

12. The Holder is required to comply with the Terms and Conditions of the Incidental Take Statement corresponding to NMFS' Biological Opinion.

Request for Public Comments

NMFS requests comment on our analysis, the draft authorization, and any other aspect of the Notice of Proposed IHA for DWBI's proposed dynamic positioning vessel thruster use associated with inter-array and export cable installation activities off the southeast coast of Block Island, Rhode Island. Please include with your comments any supporting data or literature citations to help inform our final decision on DWBI's request for an MMPA authorization.

Dated: April 11, 2016.

Donna S. Wieting,

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

[FR Doc. 2016–08729 Filed 4–14–16; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

Notice Requesting Nominations for the Advisory Committee on Commercial Remote Sensing (ACCRES)

ACTION: Notice requesting nominations for the Advisory Committee on Commercial Remote Sensing (ACCRES).

SUMMARY: The Department of Commerce is seeking highly qualified individuals who are knowledgeable about the commercial space-based remote sensing industry and uses of space-based remote sensing data to serve on the Advisory Committee on Commercial Remote Sensing (ACCRES). The Committee is comprised of leaders in the commercial space-based remote sensing industry, space-based remote sensing data users, government, and academia. The **SUPPLEMENTARY INFORMATION** section of this notice provides committee and membership criteria.

SUPPLEMENTARY INFORMATION: ACCRES was established by the Secretary of Commerce on May 21, 2002, to advise the Secretary, through the Under Secretary of Commerce for Oceans and Atmosphere, on matters relating to the U.S. commercial remote sensing industry and NOAA's activities to carry out responsibilities of the Department of Commerce as set forth in Title 51 U.S.C. 60101, et seq, the National and Commercial Space Programs Act of 2010.

Committee members serve in a representative capacity for a term of two years and may serve additional terms, if reappointed. No more than 20 individuals at a time may serve on the Committee. ACCRES will have a fairly balanced membership consisting of approximately 9 to 20 members. Nominations are encouraged from all interested U.S. persons and organizations representing interests affected by the National and Commercial Space Programs Act of 2010 and the U.S. commercial space based remote sensing policy. Nominees must possess demonstrable expertise in a field related to the spaced based commercial remote sensing industry or exploitation of space based commercial remotely sensed data and be able to attend committee meetings that are held usually two times per year. Membership is voluntary, and service is without pay. Each nomination that is submitted should include the proposed committee member's name and organizational affiliation, a brief description of the nominee's qualifications and interest in serving on the Committee, a curriculum vitae or resume of the nominee, and no more than three supporting letters describing the nominee's qualifications and interest in serving on the Committee. Self-nominations are acceptable. The following contact information should accompany each submission: the nominee's name, address, phone number, fax number, and email address.

Nominations should be sent to Tahara Dawkins, Director, Commercial Remote Sensing Regulatory Affairs Office, 1335 East-West Highway, Room 8260, Silver Spring, Maryland 20910. Nominations must be postmarked no later than 30 days from the publication date of this notice. The full text of the Committee Charter and its current membership can be viewed at the Agency's Web page at: *http://www.nesdis.noaa.gov/CRSRA/accresHome.html*.

FOR FURTHER INFORMATION CONTACT: Samira Patel, Commercial Remote Sensing Regulatory Affairs Office, NOAA Satellite and Information Services, 1335 East-West Highway, Room 8247, Silver Spring, Maryland 20910; telephone (301) 713–7077, email *samira.patel@noaa.gov*.

Stephen M. Volz,

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XE546

Fisheries of the South Atlantic, Gulf of Mexico, and Caribbean; Southeast Data, Assessment, and Review (SEDAR); Public Meeting

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

ACTION: Notice of a public meeting.