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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XC430

Small Takes of Marine Mammals Incidental to Specified Activities; Cape Wind's High Resolution Survey in Nantucket Sound, MA

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

ACTION: Notice; issuance of an incidental harassment authorization.

SUMMARY: In accordance with the Marine Mammal Protection Act (MMPA), notification is hereby given that NMFS has issued an Incidental Harassment Authorization (IHA) to Cape Wind Associates (CWA) to take marine mammals, by harassment, incidental to pre-construction high resolution survey activities in Nantucket Sound.

DATES: Effective April 1, 2013, through March 31, 2014.

ADDRESSES: A copy of the IHA and application are available by writing to Michael Payne, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910.

An electronic copy of the application containing a list of references used in this document may be obtained by visiting the internet at: http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications. NMFS prepared its own Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) in 2011, which are available at the same internet address. Documents cited in this notice may be viewed, by appointment, during regular business hours, at the aforementioned address.

FOR FURTHER INFORMATION CONTACT: Michelle Magliocca, Office of Protected Resources, NMFS, (301) 427-8401.

SUPPLEMENTARY INFORMATION:

Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 et seq.) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specific 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.

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."

Section 101(a)(5)(D) of the MMPA established an expedited process by which citizens of the United States can apply for an authorization to incidentally take small numbers of marine mammals by harassment, provided that there is no potential for serious injury or mortality to result from the activity. Section 101(a)(5)(D) establishes a 45-day time limit for NMFS to review an application followed by a 30-day public notice and comment period on any proposed

authorizations for the incidental harassment of marine mammals. Within 45 days of the close of the comment period, NMFS must either issue or deny the authorization.

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 December 19, 2012, NMFS received an application from CWA for the taking of marine mammals incidental to high resolution survey activities. NMFS determined that the application was adequate and complete on December 31, 2012.

CWA plans to conduct a high resolution geophysical survey in Nantucket Sound, Massachusetts. The survey would occur during daylight hours over an estimated 109-day period beginning in April 2013. The following equipment used during the survey is likely to result in the take of marine mammals: shallow-penetration subbottom profiler and medium-penetration subbottom profiler. Take, by Level B harassment only, of individuals of five species is anticipated to result from the specified activity. This is basically an extension of the authorization issued on January 1, 2012 for survey activities that were not completed under the previous IHA. CWA's survey activities will not change from what they originally proposed in their 2011 IHA application. However, the geotechnical portion of the survey was completed in 2012 and will not be continued during the 2013-2014 season.

Acoustic stimuli (i.e., increased underwater sound) generated during operation of the shallow-penetration and medium-penetration subbottom profilers may have the potential to cause short-term behavioral disturbance for marine mammals in the survey area. This is the principal means of marine mammal taking associated with these activities. NMFS does not expect take to result from collision with survey vessels because they will be moving at relatively slow speeds (3 knots) during seismic acquisition and there is not a high density of marine mammals within Nantucket Sound. It is likely that any marine mammal in the vicinity would be able to avoid the vessel.

Description of the Specified Activity

CWA plans to conduct a high resolution geophysical survey in order to acquire remote-sensing data around Horseshoe Shoal which would be used to characterize resources at or below the seafloor. The purpose of the survey is to identify any submerged cultural resources that may be present and to generate additional data describing the geological environment within the survey area. The survey will satisfy the mitigation and monitoring requirements for "cultural resources and geology" in the environmental stipulations of the Bureau of Ocean Energy Management, Regulation, and Enforcement's lease. The survey is part of the first phase of a larger Cape Wind energy project, which involves the installation of 130 wind turbine generators on Horseshoe Shoal over a 2-year period. The survey will collect data along predetermined track lines using a towed array of instrumentation, which will include a side scan sonar, magnetometer, shallow-penetration subbottom profiler, multibeam depth sounder, and medium-penetration subbottom profiler. Survey activities will not result in any disturbance to the sea floor.

<u>Dates and Duration</u>

Survey activities are necessary prior to construction of the wind turbine array and are scheduled to begin in the spring of 2013, continuing on a daily basis for up to 5 months. Survey vessels will operate during daytime hours only and CWA estimates that one survey vessel will cover about 17 Nautical miles (31 kilometers) of track line per day. Therefore, CWA conservatively estimates that survey activities will take 109 days (28 days less than what was expected under the 2012 IHA). However, if more than one survey vessel is used, the survey duration will be considerably shorter. NMFS is issuing an authorization that extends from April 1, 2013, to March 31, 2014.

Location

Survey vessels are expected to depart from Falmouth Harbor, Massachusetts, or another nearby harbor on Cape Cod. In total, the survey will cover approximately 110 square kilometers (km^2). This area includes the future location of the wind turbine generators – an area about 8.4 km from Point Gammon, 17.7 km from Nantucket Island, and 8.9 km from Martha's Vineyard – and cables connecting the wind park to the mainland. The survey area within the wind park will be transited by survey vessels towing specialized equipment along primary track lines and perpendicular tie lines. Preliminary survey designs include primary track lines with northwest-southeast orientations and assume 30-meter (m) line spacing. Preliminary survey designs also call for tie lines to likely run in a west-east orientation covering targeted areas of the construction footprint where wind turbine generators would be located. The survey area along the interconnecting submarine cable route includes a construction and anchoring corridor, as part of the wind farm's area of potential effect. The total track line distance covered during the survey is estimated to be about 3,432 km (as opposed to the 4,292 km included in the 2012 IHA).

Multiple survey vessels may operate within the survey area and will travel at about 3 knots during data acquisition and approximately 15 knots during transit between the survey area and port. If multiple vessels are used at the same time, they will be far enough apart that sounds from the chirp and boomer will not overlap. The survey vessels will acquire data continuously throughout the survey area during the day and terminate survey activities before dark, prior to returning to port. NMFS believes that the likelihood of a survey vessel striking a marine mammal is low considering the low marine mammal densities within Nantucket Sound, the relatively short distance from port to the survey site, the limited number of vessels, and the small vessel size. Vessel sounds during survey activities will result from propeller cavitation, propeller singing, propulsion, flow noise from water dragging across the hull, and bubbles breaking in the wake. The dominant sound source from vessels will be from propeller cavitation; however, sounds resulting from survey vessel activity are considered to be no louder than the existing ambient sound levels and sound generated from regular shipping and boating activity in Nantucket Sound (MMS, 2009).

NMFS expects that acoustic stimuli resulting from the operation of the survey equipment have the potential to harass marine mammals. Background information on the characteristics and measurement of sound are provided later in this document. The dominant sources of sound during the proposed survey activities will be from the towed equipment used to gather seafloor data. Two of the seismic survey devices used during the high resolution geophysical survey emit sounds within the hearing range of marine mammals in Nantucket Sound: shallow-penetration and medium-penetration subbottom profilers (known as a "chirp" and "boomer," respectively). CWA will use a chirp to provide high resolution data of the upper 15 m of sea bottom. An EdgeTech 216S or similar model will be used. The chirp will be towed near the center of the

survey vessel directly adjacent to the gunwale of the boat, about 1 to 1.5 m beneath the water's surface. Sources such as the chirp are considered non-impulsive, intermittent (as opposed to continuous) sounds. The frequency range for this instrument is generally 2 to 16 kilohertz (kHz) – a range audible by all marine mammal species in Nantucket Sound. The estimated sound pressure level at the source will be 201 dB re 1 μPa at 1 m with a typical pulse length of 32 milliseconds and a pulse repetition rate of 4 per second. NMFS does not consider the chirp to be a continuous sound source (best represented by vibratory pile driving or drilling). CWA will use a boomer to obtain deeper resolution of geologic layering that cannot be imaged by the chirp. An AP3000 (dual plate) boomer, or similar model will be used. The boomer will be towed about 3 to 5 m behind the survey vessel's stern at the water's surface. Unlike the chirp, the boomer emits an impulse sound, characterized by a relatively rapid rise-time to maximum pressure followed by a period of diminishing and oscillating pressures (Southall et al., 2007). The boomer has a broad frequency range of 0.3 to 14 kHz – a range audible by all marine mammal species in Nantucket Sound. CWA performed sound source verification monitoring in 2012 on the type of chirp and boomer that will be used during the 2013-2014 survey season. Underwater sound was recorded with two Autonomous Multichannel Acoustic Recorders, deployed 100 m apart, in the vicinity of the project area. The received 90-percent rms sound pressure levels (SPLs) from the subbottom profilers did not exceed 175 dB re 1uPa. The loudest source, the dual-plate boomer, produced a received 90-percent rms SPL of less than 140 dB re 1 uPa at a 500-m range. The distance to the 160-dB isopleth was 12 m for the dual-plate boomer and 10 m for the chirp.

Comments and Responses

A proposed authorization and request for public comments was published in the Federal Register on February 1, 2013 (78 FR 7042). During the 30-day public comment period, NMFS only received comments from the Marine Mammal Commission (Commission) and Save Our Sound/Alliance to Protect Nantucket Sound (Alliance; in conjunction with the Public Employees for Environmental Responsibility, Lower Laguna Madre Foundation, 3 Bays Preservation, Cetacean Society International, Pegasus Foundation, Californians for Renewable Energy (CARE), Oceans Public Trust Initiative, and a private citizen). All comments have been compiled and posted at http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications. Any application-specific comments that address the statutory and regulatory requirements or findings NMFS must make to issue an IHA are addressed in this section of the Federal Register notice.

Comment 1: The Commission requested that NMFS require CWA to recalculate the buffer zone for the shallow-penetration sub-bottom profiler based on the 120-dB threshold and: (1) consult with experts in the field of sound propagation and marine mammal hearing to revise the acoustic criteria as necessary to specify threshold levels that would be more appropriate for a wider variety of sound sources, including the shallow-penetration sub-bottom profiler; and (2) encourage CWA and others to conduct research on the impacts of such technology on marine mammals.

Response: Recalculating the buffer zone for the shallow-penetration sub-bottom profiler based on a 120-dB threshold is not consistent with NMFS' acoustic threshold criteria, or with previously authorized activities. The shallow-penetration sub-bottom profiler ("chirper") is a non-impulsive, but intermittent (as opposed to continuous), sound source. Continuous sound sources are best represented by vibratory pile driving or drilling and produce sounds that are quite different sound sources compared to sub-bottom profilers. NMFS has previously applied

the 160-dB threshold to non-tactical sonar sources used in conjunction with seismic surveys. The pseudo-random noise stimulus and tactical sonar-like signals that were used in the SOCAL-10 behavioral response study are also considered non-impulsive intermittent sources and were authorized by NMFS using the 160-dB threshold. NMFS believes that the 160-dB threshold is appropriately applied to the shallow-penetration sub-bottom profiler and there is no need for CWA to recalculate their buffer zone.

NMFS is in the process of developing revised acoustic guidelines for assessing the effects of anthropogenic sound on marine mammals. Until these guidelines have been peer reviewed, made available for public review and comment, and finalized, NMFS will continue to rely on the existing criteria.

In response to encouraging CWA to conduct research on the impacts of sub-bottom profilers on marine mammals, CWA's monitoring plan includes monitoring for marine mammal behavioral reactions in response to the sub-bottom profilers.

Comment 2: The Commission requested that CWA re-estimate the number of takes for gray and harbor seals based on both haul-out counts and at-sea sightings data, with appropriate corrections for availability and perception biases.

Response: Density estimates for seals based on haul out counts were not used due to the distance of haul outs from the activity area (12.7 miles to Monomoy Island and 7.4 miles to Muskeget Island). Gray seals and harbor seals congregating in these locations are not expected to hear sounds from the survey equipment at 160 dB or higher. The seals most likely to be exposed to potentially disturbing sounds are the individuals swimming and/or foraging within 444 m of the activated medium-penetration subbottom profiler. CWA calculated seal density estimates based on aerial survey counts for seals observed swimming and/or foraging in open

water within the activity area. CWA included an adjustment factor in these density calculations for seals not seen, but considered present during aerial surveys. Seal density estimates were not based on seal haul-out counts because it is highly improbable that all seals (i.e., those seen swimming and/or foraging, as well as those found at the haul out sites) would be in the activity area simultaneously. Using the haul out counts to estimate take would misrepresent the number of seals potentially exposed to sounds at or above 160 dB.

Comment 3: The Commission requested that NMFS include proposed IHA language at the end of its Federal Register notices and ensure that the language is consistent with that referenced in the main body of the Federal Register notice.

Response: NMFS will include the proposed IHA language at the end of future proposed Federal Register notices.

Comment 4: The Alliance suggested that NMFS cannot issue an IHA for the proposed activity because CWA is attempting to segment their larger wind energy project and avoid the issuance of a Letter of Authorization (LOA) and associated regulations.

Response: CWA requested an IHA for a discrete, specified activity, a high resolution geophysical survey that is required prior to construction of CWA's long-term energy project. The MMPA directs NMFS to allow, upon request, the incidental taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity within a specified geographical region if certain findings are made. All statutory requirements have been met in this instance. The issuance of regulations and an LOA is only required if the proposed activity has the potential to result in incidental takings of marine mammals by serious injury or mortality. Applicants have the option of applying for a 1-year IHA if their specified activity (in this case, the high resolution geophysical survey) would not result in the serious injury or mortality of

marine mammals. Based on factors addressed in the application and proposed IHA (e.g., estimated sound propagation, slow vessel speeds, and monitoring and mitigation measures,) CWA does not anticipate, nor is NMFS authorizing, the incidental taking of marine mammals by serious injury or mortality. Therefore, an IHA is appropriate. NMFS has notified CWA that future activities may also require separate authorization(s) under the MMPA.

Comment 5: The Alliance also suggested that NMFS' authorization must be supported by a full NEPA review that has been subjected to public comment.

Response: In accordance with NEPA, NMFS prepared an EA in 2011 to analyze the environmental effects of authorizing Level B incidental take of marine mammals during CWA's high resolution geophysical survey in Nantucket Sound. During the development of this action, including the EA, several documents were available to the public, all of which provided a detailed description of the action and potential environmental impacts. For example, the analysis of impacts to marine mammals from the proposed high resolution geophysical survey activities was contained in NMFS' proposed issuance of an IHA dated September 1, 2011 (76 FR 56735) and is similar to what is contained in the EA. Additional environmental information was contained in CWA's 2011 IHA application, which was also made available to the public. Other documents used to inform the EA included the Biological Opinion (issued December 30, 2010 by NMFS Northeast Regional Office, and available at http://www.epa.gov/region1/communities/pdf/CapeWind/CapeWindBiologicalOpinion-12-30-10.pdf) and the Final Environmental Impact Statement (published by the Bureau of Ocean Energy Management) on January 21, 2009 [74 FR 3635]) for the long-term Cape Wind energy project. The EA describes potential environmental impacts from the limited action for which an IHA was requested – the take of marine mammals incidental to CWA's high resolution

geophysical survey – which is similar to numerous other survey activities that NMFS has analyzed in the past. NMFS believes that sufficient environmental information was presented to the public and comments on the proposed IHA were taken into consideration during preparation of the EA.

The analysis contained in the 2011 EA is still considered relevant for this authorization because CWA's proposed activity has not changed. The EA is available on the NFMS website listed in the beginning of this document.

Comment 6: The Alliance believes that CWA's survey activities are likely to result in the take of right whales, presumably by ship strike, and refers to right whale sightings around Nantucket Sound.

Response: The presence of right whales in Nantucket Sound is not common and NMFS believes that the possibility of a survey vessel striking a right whale is unlikely. In 2008, NMFS published a final rule in the Federal Register instituting Mid-Atlantic Seasonal Management Areas with a mandatory 10-knot speed restriction to reduce the threat of ship collisions with right whales. The Seasonal Management Areas were established to provide additional protection for right whales and the timing, duration, and geographic extent of the speed restrictions were specifically designed to reflect right whale movement, distribution, and aggregation patterns. Nantucket Sound is not considered a Seasonal Management Area; however, Nantucket Sound is included as part of a Dynamic Management Area (with a voluntary 10-knot speed zone) through March 13, 2013.

The very qualities that make right whales susceptible to being struck by vessels in certain areas also make them highly detectable. NMFS believes that the size of right whales, their slow movements, and the amount of time they spend at the surface would make them extremely likely

to be spotted by PSOs before they are exposed to sounds that constitute harassment. Whenever survey activities are underway, at least one PSO will be monitoring the 500-m exclusion zone – which is larger than both the Level A (30 m) and Level B (444 m) harassment isopleths – and will call for a shutdown if any marine mammal is observed within or moving toward the exclusion zone. Furthermore, right whales are not common in Nantucket Sound and there are no known foraging grounds or other important habitats for right whales in Nantucket Sound. However, as stated in the Biological Opinion for the long-term Cape Wind energy project, CWA will monitor the Right Whale Sighting Advisory System and can modify their survey schedule in the unlikely event that whales are present within Nantucket Sound. CWA did not propose, and NMFS is not authorizing, the take of right whales from survey activities. Although there have been a limited number of right whale sightings in Nantucket Sound over the past 10 years (as seen on NMFS Northeast Fisheries Science Center website: http://www.nefsc.noaa.gov/psb/surveys/), these have not overlapped with Horseshoe Shoal, likely due to the shallower water depths.

Description of Marine Mammals in the Area of the Specified Activity

Marine mammals with known occurrences in Nantucket Sound that could be harassed by high resolution geophysical survey activity in Nantucket Sound are listed in Table 1. These are the species for which take is being authorized. While other marine mammal species are present in the New England region (e.g., humpback, fin, and right whales), they are not common in Nantucket Sound; this is likely due to the shallow depths of Nantucket Sound and its location outside of the coastal migratory corridor. NFMS has presented a more detailed discussion of the status of these stocks and their occurrence in Nantucket Sound in the notice of the proposed IHA (78 FR 7402, February 1, 2013).

Table 1. Marine mammals that could be impacted by survey activities in Nantucket Sound.

Common Name	Scientific Name	MMPA Status[1]	Time of Year in New England
Whales and Dolphins (Cetaceans)			
Minke whale	Balaenoptera actuorostrata	N-D	April through October
Atlantic white-sided dolphin	Lagenorhynchus acutus	N-D	October through December
Harbor porpoise	Phocoena phocoena	N-D	Year-round (peak Sept-Apr)
Seals (Pinnipeds)			
Gray seal	Halichoerus grypis	N-D	Year-round
Harbor seal	Phoca vitulina	N-D	October through April

[1]N-D = non-depleted. None of the species are listed under the Endangered Species Act.

Potential Effects of the Specified Activity on Marine Mammals

Acoustic stimuli generated by the operation of the shallow-penetration and medium-penetration subbottom profilers, which introduce sound into the marine environment, have the potential to cause Level B behavioral harassment of marine mammals in the survey area. The effects of sounds from this type of survey equipment might include one or more of the following: tolerance, masking of natural sounds, behavioral disturbance, temporary or permanent impairment, or non-auditory physical or physiological effects (Richardson et al., 1995; Gordon et al., 2004; Nowacek et al., 2007; Southall et al., 2007). Permanent hearing impairment, in the unlikely event that it occurred, would constitute injury, but temporary threshold shift (TTS) is not an injury (Southall et al., 2007). Although the possibility cannot be entirely excluded, it is unlikely that the project would result in any cases of temporary or permanent hearing impairment, or any significant non-auditory physical or physiological effects. Based on the available data and studies described here and in the proposed IHA notice, some behavioral disturbance is expected, but NMFS expects the disturbance to be localized and short-term.

The notice of the proposed IHA (78 FR 7402, February 1, 2013) included a discussion of the effects of sounds from subbottom profilers on cetaceans and pinnipeds. NMFS refers the reader to CWA's application and NMFS' EA for additional information on the behavioral reactions (or lack thereof) by all types of marine mammals to geophysical surveys.

Anticipated Effects on Marine Mammal Habitat

NMFS does not expect impacts on marine mammal habitat from CWA's survey activities. The high resolution geophysical survey equipment would not come in contact with the seafloor and would not be a source of air or water pollution. Marine mammals may avoid the survey area temporarily due to ensonification, but survey activities are not expected to result in long-term abandonment of marine mammal habitat. Overall, CWA's survey activities are not expected to cause significant impacts on marine mammal habitat or marine mammal prey species in the survey area. Therefore, NMFS has determined impacts to marine mammal habitat are negligible.

Mitigation

In order to issue an incidental take authorization under section 101(a)(5)(D) of the MMPA, NMFS must, where applicable, set forth the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking for subsistence uses where relevant.

To reduce the potential for disturbance from acoustic stimuli associated with the specified activity, CWA will implement the following mitigation measures for marine mammals:

Establishment of an Exclusion Zone

During all survey activities involving the shallow-penetration and medium-penetration subbottom profilers, CWA will maintain a 500-m radius exclusion zone around each survey vessel. This area will be monitored for marine mammals 60 minutes (as stipulated by the BOEM lease) prior to starting or restarting surveys, during surveys, and 60 minutes after survey equipment has been turned off. Typically, the exclusion zone is based on the area in which marine mammals could be exposed to injurious (Level A) levels of sound. CWA's lease specifies a 500-m exclusion zone, which exceeds both the Level A (30 m) and Level B (444 m) isopleths for marine mammal harassment. CWA's exclusion zone will minimize impacts to marine mammals from increased sound exposures. The exclusion zone must not be obscured by fog or poor lighting conditions.

Shut Down and Delay Procedures

If a protected species observer sees a marine mammal within or approaching the exclusion zone prior to the start of surveying, the observer will notify the appropriate individual who will then be required to delay surveying or shut down survey equipment until the marine mammal moves outside of the exclusion zone or if the animal has not been resighted for 60 minutes. If a protected species observer sees a marine mammal within or approaching the exclusion zone during survey activities, the observer will notify the appropriate individual who will then be required to shut down surveying until the marine mammal moves outside of the exclusion zone or if the animal has not been resighted for 60 minutes.

Soft-start Procedures

A "soft-start" technique will be used at the beginning of survey activities each day (or following a shut down) to allow any marine mammal that may be in the immediate area to leave

before the sound sources reach full energy. Surveys shall not commence at nighttime or when the exclusion zone cannot be effectively monitored.

NMFS has carefully evaluated the applicant's proposed mitigation measures and considered a range of other measures in the context of ensuring that NMFS prescribes the means of effecting the least practicable adverse 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, including consideration of personnel safety, and practicality of implementation.

Based on our evaluation of the applicant's proposed measures, as well as other measures considered by NMFS or recommended by the public, NMFS has determined that the mitigation measures provide the means of effecting the least practicable adverse impacts on marine mammal 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 incidental take authorization for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth, where applicable, "requirements pertaining to the monitoring and reporting of such taking." The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for incidental take authorizations must include the

suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the action area.

Visual Monitoring

CWA will designate at least one biologically trained, on-site individual, approved in advance by NMFS, to monitor the area for marine mammals 60 minutes before, during, and 60 minutes after all survey activities and call for delay or shutdown if any marine mammal is observed approaching or within the 500-m exclusion zone. Should a marine mammal not included in an incidental take authorization be observed at any time within the 500-m exclusion zone, shut down and delay procedures would be followed.

CWA will also provide additional monitoring efforts to increase knowledge of marine mammal species in Nantucket Sound. At least one NMFS-approved protected species observer will conduct behavioral monitoring from the survey vessel at least twice a week to estimate take and evaluate the behavioral impacts that survey activities have on marine mammals outside of the 500-m exclusion zone. In addition, CWA will send out a separate vessel with a NMFS-approved protected species observer to collect data on species presence and behavior before surveys begin and once a month during survey activities.

Protected species observers will be provided with the equipment necessary to effectively monitor for marine mammals (e.g., high-quality binoculars, compass, and range-finder) in order to determine if animals have entered into the harassment isopleths and to record marine mammal sighting information. Protected species observers must be able to effectively monitor the 500-m exclusion zone whenever the subbottom profilers are in use. Survey efforts will only take place during daylight hours and visibility must not be obscured by fog, lighting conditions, etc.

Reporting

CWA will submit a report to NMFS within 90 days of expiration of the IHA or completion of surveying, whichever comes first. The report will provide full documentation of methods, results, and interpretation pertaining to all monitoring. More specifically, the report will include the following information when a marine mammal is sighted:

Dates, times, locations, heading, speed, weather, sea conditions (including Beaufort sea state and wind force), and associated activities during all survey operations and marine mammal sighting;

Species, number, location, distance from the vessel, and behavior of any marine mammals, as well as associated survey activity (number of shut-downs or delays), observed throughout all monitoring activities;

An estimate of the number (by species) of marine mammals that are known to have been exposed to the survey activity (based on visual observation) at received levels greater than or equal to 160 dB re 1 μPa (rms) and/or 180 dB re 1 μPa (rms) for cetaceans and 190 dB re 1 μPa (rms) for pinnipeds with a discussion of any specific behaviors those individuals exhibited; and

A description of the implementation and effectiveness of the mitigation measures of the IHA.

In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by the IHA, such as an injury (Level A harassment), serious injury, or mortality (e.g., ship-strike, gear interaction, and/or entanglement), CWA shall immediately cease the specified activities and report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and/or by email

to Michael.Payne@noaa.gov and Michelle.Magliocca@noaa.gov and the Northeast Regional Stranding Coordinator at 978-281-9300 (Mendy.Garron@noaa.gov). The report must include the following information:

- Time, date, and location (latitude/longitude) of the incident;
- Name and type of vessel involved;
- Vessel's speed during and leading up to the incident;
- Description of the incident;
- Status of all sound source use in the 24 hours preceding the incident;
- Water depth;
- Environmental conditions (e.g., wind speed and direction, Beaufort sea state, cloud cover, and visibility);
- Description of all marine mammal observations in the 24 hours preceding the incident;
- Species identification or description of the animal(s) involved;
- Fate of the animal(s); and
- Photographs or video footage of the animal(s) (if equipment is available).

Activities will not resume until NMFS is able to review the circumstances of the prohibited take. NMFS will work with CWA to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. CWA may not resume their activities until notified by NMFS via letter, email, or telephone.

In the event that CWA discovers an injured or dead marine mammal, and the lead PSO determines that the cause of the injury or death is unknown and the death is relatively recent (i.e., in less than a moderate state of decomposition as described in the next paragraph), CWA will immediately report the incident to the Chief of the Permits and Conservation Division, Office of

Protected Resources, NMFS, at 301-427-8401 and/or by email to Michael.Payne@noaa.gov and Michelle.Magliocca@noaa.gov and the Northeast Regional Stranding Coordinator at 978-281-9300 (Mendy.Garron@noaa.gov). The report must include the same information identified in the paragraph above. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with CWA to determine whether modifications in the activities are appropriate.

In the event that CWA discovers an injured or dead marine mammal, and the lead PSO determines that the injury or death is not associated with or related to the activities authorized in the IHA (e.g., previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), CWA will report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and/or by email to Michael.Payne@noaa.gov and ITP.Magliocca@noaa.gov and the Northeast Regional Stranding Coordinator at 978-281-9300 (Mendy.Garron@noaa.gov), within 24 hours of the discovery. CWA will provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS.

Summary of Past Monitoring and Reporting

CWA complied with the requirements under their 2012 IHA. CWA completed 28 days and 459 nautical transect miles of survey activity during 2012 and no living marine mammals were sighted. On July 10, 2012, a deceased harbor seal was seen by two protected species observers and survey equipment was immediately shut down. The observers determined that the seal had been deceased for 24-48 hours, based on signs of scavenger damage and bloating, which suggest moderate decomposition (Pugliares et al., 2007). Both observers concurred that the animal was not injured due to survey activities; however, a 60-minute post watch was performed

to ensure that no other protected species were in the vicinity. A full report was submitted to NMFS on July 11, 2012, within 24 hours of the initial sighting. No marine mammal takes were reported during the 2012 season. CWA's monitoring report is available online at: http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications.

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].

Based on CWA's application and NMFS' subsequent analysis, the impact of the described survey activities may result in, at most, short-term modification of behavior by small numbers of marine mammals within the action area. Marine mammals may avoid the area or change their behavior at time of exposure to elevated sound levels. Take by injury, serious injury, or mortality is neither anticipated nor authorized. NMFS has determined that the required mitigation and monitoring measures will minimize any potential risk for injury or mortality.

A detailed discussion of the methods used to calculate marine mammal densities and take estimates in the survey area was included in notice for the proposed IHA (78 FR 7409, February 1, 2013). In summary, sightings per unit effort (SPUE) data were used to estimate species density within the survey area and take estimates were calculated by multiplying the density values (n) measured in individuals per square kilometers, by the area of the zone of influence in square kilometers, times the total number of survey days (d = 109). The zone of influence was

calculated as a function of the distance a survey vessel with deployed boomer would travel in one survey day and the area around the boomer where sound levels reach or exceed 160 dB.

CWA requested incidental take based on the highest estimated possible species exposures to potentially disturbing levels of sound from the boomer. No marine mammals are expected to be exposed to injurious levels of sound in excess of 180 dB during survey activities. NMFS is authorizing the Level B harassment of 9 minke whales, 185 Atlantic white-sided dolphins, 110 harbor porpoises, 314 gray seals, and 79 harbor seals. These numbers overestimate the number of animals likely to be taken because they are based on the highest density estimates and do not account for mitigation measures (such as the 500-m exclusion zone, marine mammal monitoring, and ramp up procedures). More specifically, CWA's 500-m exclusion zone means that they will be shutting down before an animal ever enters the Level B harassment isopleth (444 m), so take numbers should be notably less. The authorized take numbers indicate the maximum number of animals expected to occur within the largest Level B harassment isopleth (444 m) and take into account the possibility that an animal may not be seen before it enters the 500-m exclusion zone. Estimated and proposed level of take of each species is less than one percent of each affected stock and therefore is considered small in relation to the stock estimates previously set forth.

Negligible Impact and Small Numbers Analysis and Determination

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." In making a negligible impact determination, NMFS considers a number of factors which include, but are not limited to, number of anticipated injuries or mortalities (none of which would be authorized here), number, nature, intensity, and duration of Level B harassment, and

the context in which takes occur (for instance, will the takes occur in an area or time of significance for marine mammals, or are takes occurring to a small, localized population?).

As described above, marine mammals will not be exposed to activities or sound levels which will result in injury (for instance, PTS), serious injury, or mortality. Anticipated impacts of survey activities on marine mammals are temporary behavioral changes due to avoidance of the area. All marine mammals in the vicinity of survey operations will be transient as no known breeding, calving, pupping, nursing, or haul-outs overlap with the survey area. The closest pinniped haul-outs are 23.5 km (12.7 NM) and 13.7 km (7.4 NM) away on Monomoy Island and Muskeget Island, respectively. Marine mammals approaching the survey area will likely be traveling or opportunistically foraging. The amount of take authorized is considered small (less than one percent) relative to the estimated populations of 8,987 minke whales, 63,368 Atlantic white-sided dolphins, 89,504 harbor porpoises, 250,000 gray seals, and 99,340 harbor seals. Furthermore, the amount of take CWA requested and NMFS authorizes likely overestimates the actual take that would occur; no marine mammal takes were observed during 28 days of survey activity in 2012. No affected marine mammals are listed under the ESA or considered strategic under the MMPA. Marine mammals are expected to avoid the survey area, thereby reducing exposure and impacts. No disruption to reproductive behavior is anticipated and there is no anticipated effect on annual rates of recruitment or survival of affected marine mammals.

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 mitigation and monitoring measures, NMFS determines that CWA's survey activities may result in the incidental take of small numbers of marine mammals, by Level B harassment, and that the total taking will have a negligible impact on 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.

Endangered Species Act (ESA)

No marine mammal species listed under the ESA are anticipated to occur within the action area. Therefore, section 7 consultation under the ESA is not required.

National Environmental Policy Act (NEPA)

In compliance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), as implemented by the regulations published by the Council on Environmental Quality (40 CFR parts 1500-1508), and NOAA Administrative Order 216-6, NMFS prepared an Environmental Assessment (EA) to consider the direct, indirect, and cumulative effects to marine mammals and other applicable environmental resources resulting from issuance of a 1-year IHA to and the potential issuance of additional authorization for incidental harassment. This analysis is still considered relevant for the proposed IHA because the applicant's proposed activity has not changed. The EA is available on the NMFS website listed in the beginning of this document concurrently with this notice.

Dated: March 25, 2013

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

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