Notification to Interested Parties

This notice is issued and published in accordance with sections 751(a)(1) and 777(i)(1) of the Act, and 19 CFR 351.213(d)(4).

Dated: August 31, 2020.

James Maeder,

Deputy Assistant Secretary for Antidumping and Countervailing Duty Operations.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648–XA395]

Takes of Marine Mammals Incidental To Specified Activities; Taking Marine Mammals Incidental to Marine Site Characterization Surveys Off of Coastal Virginia

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

ACTION: Notice; issuance of an incidental harassment authorization.

SUMMARY: In accordance with the regulations implementing the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that NMFS has issued an Incidental Harassment Authorization (IHA) to Dominion Energy Virginia (Dominion) to incidentally harass, by Level B harassment only, marine mammals during marine site characterization surveys in the areas of the Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf (OCS) Offshore Virginia (Lease No. OCS–A–0483) as well as in coastal waters where an export cable corridor will be established in support of the Coastal Virginia Offshore Wind Commercial (CVOW Commercial) Project.

DATES: This Authorization is effective from August 28, 2020 to August 27, 2021.

FOR FURTHER INFORMATION CONTACT: Rob Pauline, Office of Protected Resources, NMFS, (301) 427–8401. Electronic copies of the application and supporting documents, as well as a list of the references cited in this document, may be obtained online at: *https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act.* In case of problems accessing these documents, please call the contact listed above.

SUPPLEMENTARY INFORMATION:

Background

The MMPA prohibits the ''take'' of marine mammals, with certain exceptions. Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce (as delegated to NMFS) 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 incidental take authorization may be provided to the public for review.

Authorization for incidental takings of shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). Further, NMFS must prescribe the permissible methods of taking and other ''means of effecting the least practicable adverse impact'' on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for taking for certain subsistence uses (referred to in shorthand as ''mitigation''); and requirements pertaining to the mitigation, monitoring and reporting of the takings are set forth.

The definitions of all applicable MMPA statutory terms cited above are included in the relevant sections below.

Summary of Request

On February 7, 2020, NMFS received a request from Dominion for an IHA to take marine mammals incidental to marine site characterization surveys in the areas of the Commercial Lease of Submerged Lands for Renewable Energy Development on the OCS Offshore Virginia (Lease No. OCS–A–0483) as well as in coastal waters where an export cable corridor will be established in support of the offshore wind project. Dominion's planned marine site characterization surveys include HRG and geotechnical survey activities. For the purpose of this IHA the Lease Area and export cable corridors are collectively referred to as the Survey Area. Geophysical and shallow geotechnical survey activities are anticipated to be supported by up to four vessels. The vessels will transit a combined estimated total of 121.54 km of survey lines per day. The application was deemed adequate and complete on May 12, 2020. Dominion's request is for take of a small number of 9 species by Level B harassment only. Neither Dominion nor NMFS expects serious injury or mortality to result from this activity and, therefore, an IHA is appropriate.

Description of Specified Activity

Overview

Dominion plans to conduct high-resolution geophysical (HRG) and geotechnical surveys in support of offshore wind development projects in the areas of Commercial Lease of Submerged Lands for Renewable Energy Development on the OCS offshore Virginia (#OCS–A 0483) and along potential submarine cable routes to landfall locations in Virginia.

The purpose of the marine site characterization surveys is to support the site characterization, facilities siting, and engineering design of offshore Project facilities including wind turbine generators, offshore substation(s), and submarine cables within the Lease Area and export cable corridor. The estimated duration of HRG survey activities is estimated to last approximately 161 days and will commence as soon as possible. Of those days, surveys will be conducted for 149 days in the Lease Area and 12 days in the export cable corridor. This schedule is based on 24-hour operations and includes potential down time due to inclement weather. There will be up to four survey vessels operating concurrently and the total distance covered by both actively operating HRG equipment is approximately 121.5 km (75.5 mi) per day.

The HRG survey activities planned by Dominion are described in detail in the notice of proposed IHA (85 FR 36537; June 17, 2020). The HRG equipment planned for use is shown in Table 1.

TABLE 1—SUMMARY OF GEOPHYSICAL SURVEY EQUIPMENT PLANNED FOR USE BY DOMINION

HRG system	Representative HRG equipment	Operating frequencies (kHz)	RMS source level [1]	Peak source level [1]	Primary beam width (degrees)	Pulse duration (millisecond)
Subsea Positioning/USBL	Sonardyne Ranger 2 USBL	35–55	194	191	90	1
	EvoLogics S2CR	48–78	178	186	Omnidirectional	500–600
	ixBlue Gaps	20–30	191	194	200	9–11
Multibeam Echosounder	R2Sonics 2026	170–450	191	221	0.45 × 0.45–1 × 1.	0.015–1.115
Synthetic Aperture Sonar (SAS), combined bathymetry/Sidescan [2].	Kraken Aquapix	337	210	213	>135 vertical, 1 horizontal.	1–10
Side Scan Sonar [2]	Edgetech 4200 dual frequency	300 and 600	[3] 206	[3] 212	140	5–10
Parametric SBP	Innomar SES–2000 medium 100	85–115	[4] 241	247	2	0.07–1
Non-Parametric SBP	Edgetech 216 Chirp	2–16	179	196	15–25	5–40
	Edgetech 512 Chirp	0.5–12	179	[5] 191	16–41	20
Medium Penetration Seismic	GeoMarine Dual 400 Sparker 800J	0.25–4	200	[6] 210	Omnidirectional	0.5–0.8
	Applied Acoustics S-Boom (Triple Plate Boomer 1000J).	0.5–3.5	[7] 203	[7] 213	[8] 60	10

[1] Source levels reported by manufacturer unless otherwise noted.
[2] Operating frequencies are above all relevant marine mammal hearing thresholds, so are not assessed in this IHA.
[3] The source levels are based on data from Crocker and Fratantonio (2016) for the EdgeTech 4200 for 100 percent power and 100 kHz.
[4] The equipment specification sheets indicates a peak source level of 247 dB re 1 μPA m. The average difference between the peak and SPL_{RMS} source levels for sub-bottom profilers measured by Crocker and Fratantonio (2016) was 6 dB. Therefore, the estimated SPL_{RMS} sound level is 241 dB re 1 μPA m.
[5] The source level are based on data from Crocker and Fratantonio (2016) for the EdgeTech 512i for 100 percent power.
[6] The source levels were provided by the manufacturer within the document titled ''Noise Level Stacked 400—tuned''.
[7] The source levels are based on data from Crocker and Fratantonio (2016) for the Applied Acoustics S-Boom with CSP–N Energy Source set at 1000 Joules.
[8] The beam width was based on data from Crocker and Fratantonio (2016) for the Applied Acoustics S-Boom. dB re 1 μPa m—decibels referenced to 1 micro-Pascal at 1 meter.

As described above, detailed description of Vineyard Wind's planned surveys is provided in the notice of proposed IHA (85 FR 36537; June 17, 2020). Since that time, no changes have been made to the activities. Therefore, a detailed description is not provided here. Please refer to that notice for the detailed description of the specified activity. Mitigation, monitoring, and reporting measures are described in detail later in this document (please see Mitigation and Monitoring and Reporting below).

Comments and Responses

A notice of proposed IHA was published in the **Federal Register** on June 17, 2020 (85 FR 365372). During the 30-day public comment period, NMFS received comment letters from the Marine Mammal Commission (Commission) and the Southern Environmental Law Center (SELC) who submitted comments on behalf of Natural Resources Defense Council, National Wildlife Federation, Conservation Law Foundation, Defenders of Wildlife, Whale and Dolphin Conservation, Surfrider Foundation, the Nature Conservancy, Sierra Club Virginia Chapter, Assateague Coastal Trust, Mass Audubon, NY4WHALES, the International Marine Mammal Project of Earth Island Institute, and Inland Ocean Coalition. NMFS has posted the comments online at: *www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-other-energy-activities-renewable.* A summary of the public comments received from the Commission and SELC as well as NMFS' responses to those comments are below.

Comment 1: The Commission recommended that NMFS (1) specify the references for all source levels and use consistent source levels for the same equipment that operates under the same parameters amongst the various action proponents, (2) use appropriate pulse durations and repetition rates, (3) pair source levels with the appropriate operating frequencies, and (4) consistently discount sources both within the same **Federal Register** notice and among the notices

Response: NMFS concurs with the Commission's recommendations and will work to ensure that the measures listed above are followed.

Comment 2: The Commission indicated that NMFS recently used a source level of 179 decibels (dB) re 1micropascals root-mean-square (μPa rms) at 1 meter (m) from Crocker and Fratantonio (2016) for the EdgeTech 216 Chirp. In this instance, NMFS used a source level of 193 dB re 1 μPa rms at 1 m for the EdgeTech 216 Chirp based on manufacturer's specifications.

Response: NMFS recommends using data from Crocker and Fratantonio (2016). The source level for the EdgeTech 216 Chirp has been changed in the final notice of issuance to 179 dB to match Crocker and Fratantonio (2016).

Comment 3: The Commission noted that Crocker and Fratantonio (2016) determined that the source level for the EdgeTech 512i Chirp operating at 100-percent power at 0.7–12 kiloHertz (kHz) with a 20-millisecond (msec) pulse duration was 179 dB re 1 μPa rms at 1 m, not 177 dB re 1 μPa rms at 1 m as indicated by NMFS.

Response: The source level has been changed to 179 dB in the final notice of issuance to match Crocker and Fratantonio (2016).

Comment 4: The Commission noted that the source level for the Sonardyne Ranger 2 (Sonardyne) USBL was 194 dB re 1 μPa rms at 1 m based on manufacturer's specifications, while 188 dB re 1 μPa rms at 1 m was used for the proposed authorization, which also was apparently based on manufacturer's specifications.

Response: The source level of 194 dB re 1 μPa rms is correct and is based on manufacturer's specifications.

Comment 5: The Commission noted that NMFS incorrectly paired the 241 dB re 1 μPa rms at 1 m source level at the primary frequencies of 85–115 kHz with the secondary low frequencies of 2–22 kHz for the Innomar SES–2000 medium 100 parametric (Innomar) SBP.

Response: NMFS acknowledges this error and has made a correction in this **Federal Register** notice. Due to the narrow beamwidth of the Innomar, (2°) any potential impacts to marine mammals the device of the device it can be discounted.

Comment 6: The Commission asserted that for the Innomar SBP NMFS assumed that the Innomar SBP operates at a repetition rate of 0.5 Hz, or every 2 sec, rather than at 40 Hz and every 0.025 sec, which is consistent with all previous incidental harassment authorizations involving the Innomar SBP (*e.g.,* Table 2 in 85 FR 31858). The pulse duration for the Innomar SBP also

ranges from 0.7 to 2 msec rather than 0.7 to 1 msec as described by Dominion.

Response: The pulse duration discrepancy comes from the two possible operation modes for the Innomar. However, the repetition rate and pulse duration used were based on the expected settings from the manufacturer. No revision is required.

Comment 7: The Commission noted that NMFS included various subsea positioning systems (Sonardyne USBL, Evologics 82CR (Evologics), and ixBlue Gaps) in Tables 1 and 5 of the **Federal Register** notice for the proposed IHA, but did not provide the relevant Level A and B harassment zones in Table 6 and 7, respectively.

Response: NMFS has included this information in Table 5 and Table 6 of this **Federal Register** final notice of issuance, which correspond to Table 6 and Table 7 of the proposed IHA.

Comment 8: The Commission indicated that NMFS inconsistently described the frequency range of the EdgeTech 4200 dual frequency (EdgeTech) side-scan sonar

Response: The EdgeTech 4200 side-scan sonar system can operate between 100 kHz and 900 kHz. NMFS inadvertently indicated that the operating frequency was 100 kHz. However, for the purposes of the Dominion survey, the device will operate at 300 kHz and 600 kHz. This information has been updated in the final notice of issuance.

Comment 9: The Commission noted that neither Dominion nor NMFS used NMFS's user spreadsheet for Level B harassment in the proposed IHA, which resulted in overestimated Level B harassment zones for the subsea positioning systems and the EdgeTech 216. The Commission states that NMFS should be using the spreadsheet to estimate the Level B harassment zones.

Response: Revisions have been made using the spreadsheet to items described and are included in Table 6 in this **Federal Register** notice of issuance. Note that the revisions differed by less than 1 m for the subsea positioning systems and less than 2 m for the Edgetech 216 when compared to the values in the proposed IHA.

Comment 10: The Commission recommended that NMFS use its revised user spreadsheet, in-beam source levels, the actual beamwidth, and the maximum water depth in the Survey Area to estimate the Level B harassment zones for all future proposed authorizations involving HRG sources.

Response: NMFS' interim guidance for determining Level B harassment zones from HRG sources includes all of the parameters listed above. We strongly recommend that applicants employ these tools, as we believe they are generally the best methodologies that are currently available.

Comment 11: The Commission recommended that NMFS consult with its acoustic experts to determine how to estimate Level A harassment zones accurately, what Level A harassment zones are actually expected, and whether it is necessary to estimate Level A harassment zones for HRG surveys in general.

Response: NMFS agrees with the Commission's recommendation and is working with our acoustic experts to evaluate the appropriate methods for determining the potential for Level A harassment from HRG surveys.

Comment 12: To ensure that *in-situ* data are collected and analyzed appropriately, the Commission recommended that NMFS and the Bureau of Ocean Energy Management (BOEM) expedite efforts to develop and finalize methodological and signal processing standards for HRG sources.

Response: NMFS agrees with the Commission that methodological and signal processing standards for HRG sources is warranted and is working on developing such standards. However, the effort is resource-dependent and NMFS cannot ensure such standards will be developed within the Commission's preferred time frame.

Comment 13: The Commission recommended that NMFS follow a consistent approach and discount Level B harassment takes for those species in which the shutdown zones are equal to or greater than the Level B harassment zones for draft and final authorizations involving HRG surveys.

Response: NMFS generally concurs with the Commission's position as it pertains to daylight operations. However, during night operations it is possible that some unseen number of marine mammals, other than large whales, could enter into the Level B harassment zone. Additionally, since shutdown is waived for certain dolphin genera, it is also possible these species could enter into the Level B harassment zone during both day and night operations.

Comment 14: If BOEM's lease conditions remain in effect or modified conditions are implemented such that the shutdown zones are equal to or greater than the Level B harassment zones, the Commission recommended that NMFS implement the same approach that it proposed for mysticetes and sperm whales by discounting the Level B harassment takes for the relevant species and, if this approach applies to all species for which NMFS planned to issue an incidental taking authorization, inform Dominion that an incidental taking authorization is not required.

Response: As noted above in the response to *Comment #13,* depending on the circumstances, take of marine mammals may be possible in some circumstances.

Comment 15: The Commission recommended that NMFS evaluate the impacts of sound sources consistently across all applications and provide notice in its guidance to applicants and to the public regarding those sources that it has determined to be de minimis. The Commission also recommended that NMFS consider whether, in situations involving HRG surveys, IHAs are necessary given the small size of the Level B harassment zones, the various proposed shutdown requirements, and BOEM's lease-stipulated requirements. The Commission felt that NMFS should evaluate whether taking needs to be authorized for those sources that are not considered de minimis, including sparkers, and for which implementation of the various mitigation measures should be sufficient to avoid Level B harassment takes.

Response: NMFS concurs with the Commission's recommendations and is currently working together with BOEM to develop a tool to assist applicants and NMFS in more quickly and efficiently identifying activities and mitigation approaches that are unlikely to result in take of marine mammals.

Comment 16: The Commission recommended that NMFS require Dominion to report as soon as possible and cease project activities immediately in the event of an unauthorized injury or mortality of a marine mammal, including from a vessel strike, until NMFS's Office of Protected Resources (OPR) and the New England/Mid-Atlantic Regional Stranding Coordinator determine whether additional measures are necessary to minimize the potential for additional unauthorized takes.

Response: NMFS has imposed a suite of measures in this IHA to reduce the risk of vessel strikes and does not anticipate, and has not authorized, any takes associated with vessel strikes. Further, in the event of a ship strike Dominion is required both to collect and report an extensive suite of information that NMFS has identified in order to evaluate the ship strike, and to notify OPR and the New England/Mid-Atlantic Regional Stranding Coordinator as soon as feasible. At that point, as the Commission suggests, NMFS would work with the applicant to determine whether there are additional mitigation measures or modifications that could

further reduce the likelihood of vessel strike for the activities. However, given the existing requirements and the very low likelihood of a vessel strike occurring, the protective value of ceasing operations while NMFS and Dominion discuss potential additional mitigations in order to avoid a second highly unlikely event during that limited period is unclear, while a requirement for project activities to cease would not be practicable for a vessel that is operating on the open water. Therefore, NMFS does not concur that the measure is warranted and we have not included this requirement in the authorization. NMFS retains authority to modify the IHA and cease all activities immediately based on a vessel strike and will exercise that authority if warranted.

Comment 17: The Commission and SELC consider the renewal process to be inconsistent the statutory requirements under section 101(a)(5)(D) of the MMPA and recommended that NMFS refrain from issuing renewals for any authorization and instead use its abbreviated **Federal Register** notice process.

Response: In prior responses to comments about IHA Renewals (*e.g.,* 84 FR 52464; October 2, 2019), NMFS has explained how the Renewal process, as implemented, is consistent with the statutory requirements contained in section 101(a)(5)(D) of the MMPA and, therefore, we plan to continue to issue qualifying Renewals when the requirements outlined on our website are met. Thus, NMFS agrees with the Commission's recommendation that we should not issue a Renewal for any authorization unless it is consistent with the procedural requirements specified in section 101(a)(5)(D)(iii) of the MMPA.

Additionally, regarding the recommendation to use abbreviated notices, we agree that they are a useful tool by which to increase efficiency in conjunction with the use of Renewals, but we disagree that their use alone would equally fulfill NMFS' goal to maximize efficiency and provide regulatory certainty for applicants, with no reduction in protections for marine mammals. The Renewal process, with its narrowly described qualifying actions, specific issuance criteria, and additional 15-day comment period, allows for NMFS to broadly commit to a 60-day processing time. This commitment, which would not be possible in the absence of this narrow definition and the 15-day additional comment period, provides both a meaningfully shortened processing time and regulatory certainty for planning purposes. Increasing the comment period for Renewals to 30 days would increase processing time by 25% and is unnecessary, given the legal sufficiency of the process as it stands, as described above, and no additional protections for marine mammals that would result. NMFS uses abbreviated notices when proposed actions do not qualify for Renewals, but still allow for reliance upon previous documentation and analyses. These abbreviated notice projects, which deviate from the narrow qualifications of a Renewal, require some additional time for the analyst to appropriately review the small changes from the initial IHA and further necessitate the 30-day public review required for a new IHA. NMFS has evaluated the use of both the Renewal and abbreviated notice processes, as well as the associated workload for each, and determined that using both of these processes provides maximum efficiency for the agency and applicants, regulatory certainty, and appropriate protections for marine mammals consistent with the statutory standards. Using the abbreviated notice process, however, is unnecessary and unwarranted for projects that meet the narrow qualifications for a Renewal IHA.

As previously noted, we have found that the Renewal process is consistent with the statutory requirements of the MMPA and, further, promotes NMFS' goals of improving conservation of marine mammals and increasing efficiency in the MMPA compliance process. Therefore, we intend to continue implementing the Renewal process.

Comment 18: SELC asserted that NMFS relied on incomplete estimates of marine mammal abundance, distribution, and density for the U.S. East Coast. SELC also recommended that NMFS analyze all data sources when calculating marine mammal densities and use the best available science.

Response: NMFS has used the best available scientific information—in this case the marine mammal density models developed by the Duke University Marine Geospatial Ecology Lab (MGEL) (Roberts et al., 2016, 2017, 2018, 2020)—to inform our determinations. The commenters cite four alternate sources and recommend that NMFS incorporate information from these sources in modeling marine mammal exposure estimates, stating that the density maps produced by the Roberts et al. model do not fully reflect the abundance, distribution, and density of marine mammals for the U.S. East Coast. The first source cited by the commenters is a report by the Virginia Aquarium & Marine Science Center that summarizes aerial survey data in the Virginia Wind Energy Area from 2001–2017 (Mallette et al. 2018). However, a review of the most recent report on updates to the Duke MGEL density models (Roberts et al. 2020) shows that the aerial sightings data from the Virginia Aquarium & Marine Science Center report up through 2017 have been incorporated into the Duke MGEL density models used to model exposures in this IHA. In fact, the Mallette et al. (2018) and Roberts et al. (2020) reports share many of the same references. The second and third sources cited by the commenters summarize North Atlantic right whale passive acoustic monitoring (PAM) data in Virginia and elsewhere along the Atlantic coast (Salisbury et al., 2015; Davis et al. 2017). While NMFS agrees that these papers provide valuable information on right whale presence and habitat use in and near the project area, only the paper by Mallette et al. (2018) includes density information. As noted above, much of the source data for deriving densities was also incorporated into the most recent Roberts et al. (2020) model. However, the density for ESA-listed baleen whales (*i.e.,* right and fin whales) during winter was 0.082 animals/100 km^2 according to Mallette et al. (2018) while Roberts et al. (2020) determined the density for right whales only was between 0.25–0.50 animals/100 km^2. The other papers do not provide density data that can readily be incorporated into exposure models and the commenters do not provide any recommendations as to how this PAM data would be incorporated into exposure estimates. The fourth source cited by the commenters is an article in the popular press about fishermen disentangling a North Atlantic right whale 50 miles offshore Virginia in 2013; the commenters do not provide a recommendation as to how an anecdotal report of a single right whale off Virginia in 2013 would be incorporated into marine mammal exposure estimates.

NMFS considered the most recent Roberts et al. (2020) data, which became available in August 2020, in the context of the specified activities, analysis, and take estimates included in the proposed IHA. While the latest density estimates are greater than the densities listed in the proposed IHA and the modeled right whale take by Level B harassment without mitigation would increase by a few animals, given the small area in which disturbance of right whales would be likely to occur and the much

larger required 500-m shutdown zone, this mitigation is still expected to effectively reduce take of animals to zero.

We welcome future input from interested parties on data sources that may be of use in analyzing the potential presence and movement patterns of marine mammals in Mid-Atlantic waters. NMFS will review any recommended data sources and will continue to use the best available information. NMFS has used the best available scientific information—in this case the marine mammal density models developed by the Duke Marine Geospatial Ecology Lab (MGEL) (Roberts *et al.* 2016, 2017, 2018, 2020)—to inform our determinations.

Comment 19: SELC advised NMFS to fund surveys and analyze collected data for the Mid-Atlantic region. They advised NMFS to develop a dataset that accurately reflects marine mammal presence and associated densities in the area.

Response: NMFS agrees with SELC that continued surveys are warranted as is the analysis of collected data. We welcome the opportunity to participate in fora where implications of such data and development of a dataset would be discussed. Note, however, that NMFS will fund pertinent surveys based on agency priorities and budgetary considerations. Note that NOAA Fisheries just published *Technical Memorandum NMFS–OPR–64: North Atlantic Right Whale Monitoring and Surveillance: Report and Recommendations of the National Marine Fisheries Service's Expert Working Group* (*https://www.fisheries.noaa.gov/resource/document/north-atlantic-right-whale-monitoring-and-surveillance-report-and-recommendations*). This report includes recommendations for a comprehensive monitoring strategy to guide future analyses and data collection. NOAA Fisheries will consider the Expert Working Group's recommendations, as well as other relevant information, in its decision-making about right whale research and population monitoring.

Comment 20: SELC recommended that NMFS take a precautionary approach with regard to siting and mitigation when permitting offshore wind activities in areas for which species distribution data are limited in Mid-Atlantic waters.

Response: Neither the MMPA or NMFS's implementing regulations include references to, or requirements for, the precautionary approach, nor is there a clear, agreed-upon description of what the precautionary approach is or would entail in the context of the MMPA or any specific activity. Nevertheless, the MMPA by nature is inherently protective, including the requirement to mitigate to the least practicable adverse impacts (LPAI) on species or stocks and their habitat. This requires that NMFS assess measures in light of the LPAI standard. To ensure that we fulfill that requirement, NMFS considers all potential applicable measures (*e.g.,* from recommendations or review of available data) that have the potential to reduce impacts on marine mammal species or stocks, their habitat, or subsistence uses of those stocks, regardless of whether those measures are characterized as ''precautionary.''

NMFS is responsible for evaluating the impacts on marine mammals of the activities described by applicants in their request for an incidental harassment authorization in the context of the statutory requirements of section 101(a)(5)(D) of the MMPA.

Comment 21: SELC asserted that the agency's assumptions regarding mitigation effectiveness are unfounded and cannot be used to justify any reduction in the number of takes authorized as was done for North Atlantic right whales. The reasons cited include: (i) The agency's reliance on a 160 dB threshold for behavioral harassment that is not supported by the best available scientific information, which indicates that Level B takes occur with near certainty at exposure levels well below the 160 dB; (ii) the agency relies on the assumption that marine mammals will take measures to avoid the sound even though studies have not found avoidance behavior to be generalizable among species and contexts and even though avoidance may itself constitute take under the MMPA; and (iii) the mitigation and monitoring protocols prescribed by the agency are inadequate at protecting marine mammals and do not comply with the MMPA.

Response: The three comments provided by SELC are addressed individually below.

(i) NMFS acknowledges that the 160-dB rms step-function approach is simplistic, and that an approach reflecting a more complex probabilistic function may more effectively represent the known variation in responses at different levels due to differences in the receivers, the context of the exposure, and other factors. The commenters suggested that our use of the 160-dB threshold implies that we do not recognize the science indicating that animals may react in ways constituting behavioral harassment when exposed to lower received levels (RL). However, we do recognize the potential for Level B harassment at exposures to RLs below 160 dB rms, in addition to the potential that animals exposed to RLs above 160 dB rms will not respond in ways constituting behavioral harassment (*e.g.,* Malme et al., 1983, 1984, 1985, 1988; McCauley et al., 1998, 2000a, 2000b; Barkaszi et al., 2012; Stone, 2015a; Gailey et al., 2016; Barkaszi and Kelly, 2018). These comments appear to evidence a misconception regarding the concept of the 160-dB threshold. While it is correct that in practice it works as a step-function, *i.e.,* animals exposed to RLs above the threshold are considered to be ''taken'' and those exposed to levels below the threshold are not, it is in fact intended as a sort of mid-point of likely behavioral responses (which are extremely complex depending on many factors including species, noise source, individual experience, and behavioral context). What this means is that, conceptually, the function recognizes that some animals exposed to levels below the threshold will in fact react in ways that are appropriately considered take, while others that are exposed to levels above the threshold will not. Use of the 160-dB threshold allows for a simplistic quantitative estimate of take, while we can qualitatively address the variation in responses across different RLs in our discussion and analysis.

As behavioral responses to sound depend on the context in which an animal receives the sound, including the animal's behavioral mode when it hears sounds, prior experience, additional biological factors, and other contextual factors, defining sound levels that disrupt behavioral patterns is extremely difficult. Even experts have not previously been able to suggest specific new criteria due to these difficulties (*e.g.,* Southall et al. 2007; Gomez et al., 2016).

(ii) SELC disagreed with NMFS' assumption that marine mammals move away from sound sources. The SELC claimed that studies have not found avoidance behavior to be generalizable among species and contexts, and even though avoidance may itself constitute take under the MMPA. Importantly, the commenters mistakenly seem to believe that the NMFS' does not consider avoidance as a take, and that the concept of avoidance is used as a mechanism to reduce overall take—this is not the case. Avoidance of loud sounds is a well-documented behavioral response, and NMFS often accordingly accounts for this avoidance by reducing the number of injurious exposures, which would occur in very close proximity to the source and necessitate a longer duration of exposure. However,

when Level A harassment takes are reduced in this manner, they are changed to Level B harassment takes, in recognition of the fact that this avoidance or other behavioral responses occurring as a result of these exposures are still take. NMFS does not reduce the overall amount of take as a result of avoidance.

(iii) SELC questioned the effectiveness of the mitigation and monitoring measures proposed to be authorized. They specifically recommended that seasonal restrictions should be established and consideration should be given to species for which an unusual mortality event (UME) has been declared. Note that NMFS is requiring Dominion to comply with restrictions associated with identified seasonal management areas (SMA) and they must comply with dynamic management area restrictions (DMAs), if any DMAs are established near the Project Area. Furthermore, we have established a 500-m shutdown zone for North Atlantic right whales which is five times as large as the greatest Level B harassment isopleth calculated for the specified activities for this IHA. The largest behavioral isopleth is 100 m associated with the Geo Marine Dual 400 Sparker 800J while isopleths for remaining HRG devices planned for use by Dominion are considerably less.

Comment 22: SELC recommended that NMFS should acknowledge the potential for the use of HRG equipment to result in take by Level A harassment, especially for animals with high-frequency hearing ranges, including harbor porpoises. They noted that in previous authorizations for HRG surveys, NMFS has authorized Level A take for this species and other high-frequency cetaceans. SELC advised that it is arbitrary for the agency to impose less precautionary measures for this area that is home to a number of mid- and high-frequency hearing specialists which may be vulnerable to Level A take.

Response: The calculated Level A harassment zone for high-frequency cetaceans, including harbor porpoises are extremely small measuring at a maximum of 54.2 m when the Geo Marine Dual 400 Sparker is in use. The shutdown zone in the final IHA for harbor porpoise and most other marine mammal species is 100 m when the sparker is the largest source in use and 25 m when the boomer is the largest source in use.

SELC erroneously noted that NMFS had authorized Level A take for harbor porpoises and other high-frequency cetaceans in a previous IHA (83 FR 22443, May 15, 2018). NMFS acknowledges that the potential for auditory injury (Level A harassment) for high frequency species was discussed in that notice. Take by Level A harassment was requested by the applicant out of an abundance of caution and NMFS did propose limited take. However, the **Federal Register** notice referenced by SELC was a proposed IHA (83 FR 22443, May 15, 2018). In that notice, the Level A harassment isopleth for a single device (Innomar SES–2000 Medium Sub-Bottom Profiler) had been incorrectly categorized as an impulsive source and resulted in a 75-m injury zone. In the **Federal Register** final notice of issuance (83 FR 36560; July 30, 2018) NMFS correctly described the device as being a non-impulsive sound which resulted in an injury zone of less than 5 m for the sub-bottom profiler and a maximum Level A harassment isopleth of less than 10 m for all other equipment. NMFS declined to authorize Level A take due to the small Level A harassment zone size and determined that take by Level A harassment was so unlikely as to be discountable.

SELC also asserted that mid-frequency cetaceans could be exposed to sound levels that could result in take by Level A harassment. However, Level A harassment isopleths for mid-frequency cetaceans are usually smaller than those for high-frequency cetaceans. This is because high-frequency cetaceans have a lower overall permanent threshold shift (PTS) onset threshold while both high-frequency and mid-frequency cetaceans, in terms of weighting, are susceptible to similar frequencies.

Comment 23: SELC recommended that the potential for vessel strikes should be included in NMFS' take analysis since they can result in Level A harassment in the form injury or mortality.

Response: NMFS does not anticipate or authorize takes associated with vessel strike. NMFS has imposed a suite of measures in this IHA to reduce the risk of vessel strikes. The occurrence of vessel strike during surveys is extremely unlikely based on the typical vessel speed of 4 knots (7.4 km/hour) while transiting survey lines. Furthermore, no documented vessel strikes have occurred for any HRG surveys which were issued IHAs from NMFS. Given the existing requirements and the lack of previous documented strikes from these activities, the likelihood of a vessel strike occurring is considered so low as to be discountable.

Comment 24: SELC recommended that NMFS require the implementation of seasonal and temporal restrictions on site characterization activities that have the potential to injure or harass the North Atlantic right whale from November 1 through April 30.

Response: NMFS is concerned about the status of the North Atlantic right whale population given that a UME has been in effect for this species since June of 2017 and that there have been a number of recent mortalities. NMFS appreciates the value of seasonal restrictions under certain circumstances. However, in this case, we have determined seasonal restrictions are not warranted. Given the density of right whales in this area, the nature of the proposed activities, and the required mitigation, zero takes of North Atlantic right whales are predicted or authorized and, therefore, additional mitigation is not warranted especially given the impracticability for the applicant of significantly shortening their work season. Additionally, Dominion is required to comply with restrictions associated with identified SMAs and they must comply with DMA restrictions, if any DMAs are established near the Project Area.

Comment 25: SELC recommended that robust and effective real-time monitoring and mitigation systems should be utilized to protect right whales throughout the year.

Response: NMFS is generally supportive of this concept. A network of near real-time baleen whale monitoring devices are active or have been tested in portions of New England and Canadian waters. These systems employ various digital acoustic monitoring instruments which have been placed on autonomous platforms including slocum gliders, wave gliders, profiling floats and moored buoys. Systems that have proven to be successful will likely see increased use as operational tools for many whale monitoring and mitigation applications. Responses to specific recommendations related to this project are included below.

Comment 26: SELC recommended that HRG surveys should commence, with ramp-up, during daylight hours only, to maximize the probability that marine mammals are detected and confirmed clear of the exclusion zone (EZ).

Response: We acknowledge the limitations inherent in detection of marine mammals at night. However, no injury is expected to result even in the absence of mitigation, given the very small estimated Level A harassment zones. Any potential impacts to marine mammals authorized for take would be limited to short-term behavioral responses. Restricting surveys in the manner suggested by the commenters may reduce marine mammal exposures by some degree in the short term, but

would not result in any significant reduction in either intensity or duration of noise exposure. The restrictions recommended by the commenters could result in the surveys spending increased time on the water, which may result in greater overall exposure to sound for marine mammals and increase the risk of a vessel strike; thus the commenters have not demonstrated that such a requirement would result in a net benefit. Furthermore, restricting the applicant to ramp-up only during daylight hours would have the potential to result in lengthy shutdowns of the survey equipment, which could result in the applicant failing to collect the data they have determined is necessary and, subsequently, the need to conduct additional surveys the following year. This would result in significantly increased costs incurred by the applicant. Thus, the restriction suggested by the commenters would not be practicable for the applicant to implement. In consideration of potential effectiveness of the recommended measure and its practicability for the applicant, NMFS has determined that restricting survey start-ups to daylight hours when visibility is unimpeded is not warranted or practicable in this case.

Comment 27: SELC recommended NMFS should establish a standard 500-m EZ for all marine mammal species around surveys with noise levels that could result in injury or harassment of marine mammals, and, to the extent feasible, an extended 1,000-m EZ for North Atlantic right whales.

Response: Regarding the recommendation for 500-m EZ for all marine mammals and 1,000-m EZ specifically for North Atlantic right whales, we have determined that the 500-m EZ, as required in the IHA, is sufficiently protective. We note that the 500-m EZ for right whales exceeds the modeled distance to the largest Level B harassment isopleth distance (100 m) by a factor of five. Additionally, the largest calculated Level B harassment distance for other marine mammals is calculated to be 100 m. Thus, we are not requiring shutdown if a North Atlantic right whale is sighted beyond 500-m or marine mammal is observed beyond 100 m.

Comment 28: SELC questioned the efficacy of only using protected species observers (PSOs) to monitor exclusion zones during night operations. They suggested that a combination of visual monitoring and passive acoustic monitoring (PAM) should be used at all times that survey work is underway. Additionally, SELC felt that night vision or infrared technology should be used for efforts that continue into the nighttime.

Response 29: There are several reasons why we do not agree that use of PAM is warranted for 24-hour HRG surveys such as the one planned by Dominion. While NMFS agrees that PAM can be an important tool for augmenting detection capabilities in certain circumstances, its utility in further reducing impact for Dominion's planned HRG survey activities is limited. First, for this activity, the area expected to be ensonified above the Level B harassment threshold is relatively small (a maximum of 100 m as described in the Estimated Take section)—this reflects the fact that, to start with, the source level is comparatively low and the intensity of any resulting impacts would also be low and, further, it means that inasmuch as PAM will only detect a portion of any animals exposed within a zone (see below), the overall probability of PAM detecting an animal in the harassment zone is low—together these factors support the limited value of PAM for use in reducing take with smaller zones. PAM is only capable of detecting animals that are actively vocalizing, while many marine mammal species vocalize infrequently or during certain activities, which means that only a subset of the animals within the range of the PAM would be detected (and potentially have reduced impacts). Additionally, localization and range detection can be challenging under certain scenarios. For example, odontocetes are fast moving and often travel in large or dispersed groups which makes localization difficult. In addition, the ability of PAM to detect baleen whale vocalizations is further limited due to being deployed from the stern of a vessel, which puts the PAM hydrophones in proximity to propeller noise and low frequency engine noise which can mask the low frequency sounds emitted by baleen whales, including North Atlantic right whales.

We also note that the effects to North Atlantic right whales, and all marine mammals, from the types of surveys authorized in this IHA are expected to be limited to low level behavioral harassment even in the absence of mitigation; no injury is expected or authorized. In consideration of the limited additional benefit anticipated by adding this detection method (especially for North Atlantic right whales and other low frequency cetaceans, species for which PAM has limited efficacy) and the cost and impracticability of implementing a full-time PAM program, we have determined the current requirements for visual monitoring are sufficient to ensure the least practicable adverse impact on the affected species or stocks and their habitat. Note that the draft IHA contained a requirement that night-vision equipment (*i.e.,* night-vision goggles and infrared technology) must be available for use for PSOs.

Comment 30: SELC recommended that a minimum of four PSOs, following a two-on/two-off schedule, are needed to provide full 360° coverage of the exclusion zone at any given time.

Response: NMFS does not agree with the commenters that a minimum of four PSOs should be required, following a two-on/two-off rotation, to meet the MMPA requirement that mitigation must effect the least practicable adverse impact upon the affected species or stocks and their habitat. The relatively small size of the exclusion means that that a single PSO stationed at the highest vantage point and engaged in general 360-degree scanning during daylight hours is able to effectively observe the necessary area. Additionally, PSOs must be on duty 30 minutes prior to and during nighttime ramp-ups for HRG surveys. The monitoring reports submitted to NMFS have indicated that the PSOs are able to detect marine mammals and implement appropriate mitigation measures, and project proponents have not exceeded take limits or reported unauthorized taking. In addition to the single PSO on duty during daylight operations, Dominion has also committed to employing a minimum of two NMFS-approved PSOs when HRG equipment is in use at night.

Comment 31: SELC believes that shutdown requirements should not be waived for bottlenose dolphins belonging to any stock, but especially to protect the strategic and depleted stock of Western North Atlantic Southern Migratory Coastal bottlenose dolphin.

Response: NMFS includes the small delphinoid waiver because shutdown requirements for small delphinoids under all circumstances represent practicability concerns without likely commensurate benefits for the animals in question. Small delphinoids, which would include the Southern Migratory Coastal stock, are commonly observed during surveys and would typically be the only marine mammals likely to intentionally approach the vessel. Auditory injury is extremely unlikely to occur for mid-frequency cetaceans (*e.g.,* delphinids), as this group is relatively insensitive to sound produced at the predominant frequencies of HRG equipment while also having a relatively high threshold for the onset of auditory injury.

A large body of anecdotal evidence indicates that small delphinoids commonly approach vessels during active sound production for purposes of bow riding, with no apparent effect observed in those delphinoids *(e.g.,* Barkaszi *et al.,* 2012). The potential for increased shutdowns resulting from such a measure would require Dominion to revisit any missed track lines to reacquire data, resulting in an overall increase in the total sound energy input to the marine environment and an increase in the total duration over which the survey is active in a given area. Although other mid-frequency hearing specialists (*e.g.,* large delphinoids) are no more likely to incur auditory injury than are small delphinoids, they are much less likely to approach vessels.

Comment 32: In order to avoid vessel strike, SELC recommended that all vessels operating within the Project Area should maintain a speed of 10 knots or less outside the period of November 1 and April 30, during which this speed limit should be extended to all vessels traveling to and from the Project Area.

Response: NMFS does not concur with these measures. NMFS has analyzed the potential for ship strike resulting from Dominion's activity and has determined that the mitigation measures specific to ship strike avoidance are sufficient to avoid the potential for ship strike. These include: A requirement that all vessel operators comply with 10 knot (18.5 km/hour) or less speed restrictions in any established DMA or SMA; a requirement that all vessel operators reduce vessel speed to 10 knots (18.5 km/hour) or less when any large whale, any mother/calf pairs, pods, or large assemblages of non-delphinoid cetaceans are observed within 100 m of an underway vessel; a requirement that all survey vessels maintain a separation distance of 500-m or greater from any sighted North Atlantic right whale; a requirement that, if underway, vessels must steer a course away from any sighted North Atlantic right whale at 10 knots or less until the 500-m minimum separation distance has been established; and a requirement that, if a North Atlantic right whale is sighted in a vessel's path, or within 500 m of an underway vessel, the underway vessel must reduce speed and shift the engine to neutral. We have determined that the ship strike avoidance measures are sufficient to ensure the least practicable adverse impact on species or stocks and their habitat. Furthermore, no documented vessel strikes have occurred for any HRG surveys which were issued IHAs from NMFS.

Comment 33: SELC suggested that NMFS should consider requiring that a DMA become active anytime a single North Atlantic right whale is sighted or acoustically detected, not just an aggregation of three or more whales.

Response: DMAs are a component of the 2008 NOAA Ship Strike Rule to minimize lethal ship strikes of North Atlantic right whales. Note that the trigger of three or more whales is taken from a NOAA Northeast Fisheries Science Center (NEFSC) analysis of sightings data from Cape Cod Bay and Stellwagen Bank from 1980 to 1996 (Clapham & Pace 2001). This analysis found that an initial sighting of three or more North Atlantic right whales was a reasonably good indicator that whales would persist in the area, and the average duration of the whale's presence based on these sightings data was two weeks.

Changes From the Proposed IHA to Final IHA

NMFS made several minor technical edits that that did not alter the number of estimated takes or the size of harassment zones. The take estimates and zone sizes contained in the proposed IHA are identical to those included in the issued IHA. NMFS made the following changes from the proposed IHA:

- Revised the source level for the EdgeTech 216 Chirp to 179 dB re 1 µPa rms down from 193 dB re 1 µPa rms based on data from Crocker and Fratantonio (2016);
- Revised the source level for the EdgeTech 512i Chirp to 179 dB re 1 µPa rms up from 177 dB re 1 µPa rms based on data from Crocker and Fratantonio (2016);
- Revised the source level of the Sonardyne Ranger 2 to 194 dB re 1 µPa rms up from 188 dB re 1 µPa rms based on manufacturers data;
- Changed the primary operating frequency of the Innomar SBP from 2–22 kHz to 85–115kHz;
- Employed the User Spreadsheet to correct Level A harassment isopleths for high-frequency cetaceans in Table 5 for the Edgetech 216 and Edgetech 512i;
- Revised the Level B harassment isopleths for the Sonardyne Ranger 2, EdgeTech 216, and Edgetech512i which are included in Table 6;
- NMFS revised the EdgeTech 4200 side-scan sonar system operating frequencies to 300 kHz and 600 kHz; and
- Added information regarding the harassment isopleths of subsea positioning systems to (Sonardyne USBL, Evologics 82CR, and ixBlue Gaps) to Table 5 and Table 6.

The number of Dominion survey vessels operating concurrently has been revised from two in the proposed IHA to four in the final IHA. However, the number of vessel days (161) and trackline distance per day (121.54 km) remains unchanged. There are no differences between the effects analysis NMFS conducted in the proposed and final IH. The number of authorized takes by Level B harassment in the issued IHA is the same as estimated for the propsed IHA.

Description of Marine Mammals in the Area of Specified Activities

Sections 3 and 4 of the application summarize available information regarding status and trends, distribution and habitat preferences, and behavior and life history, of the potentially affected species. Additional information regarding population trends and threats may be found in NMFS's Stock Assessment Reports (SARs; *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments*) and more general information about these species (*e.g.,* physical and behavioral descriptions) may be found on NMFS's website (*https://www.fisheries.noaa.gov/find-species*).

Table 2 lists all species or stocks for which take is expected and authorized for this action, and summarizes information related to the population or stock, including regulatory status under the MMPA and ESA and potential biological removal (PBR), where known. For taxonomy, we follow Committee on Taxonomy (2019). PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (as described in NMFS's SARs). While no mortality is anticipated or authorized here, PBR and annual serious injury and mortality from anthropogenic sources are included here as gross indicators of the status of the species and other threats.

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS's stock abundance estimates for most species represent the total estimate of individuals within the geographic area, if known, that comprises that stock. For some species, this geographic area may extend beyond U.S. waters. All managed stocks in this region are assessed in NMFS's U.S. Atlantic SARs (Hayes *et al.*

2020). All values presented in Table 2 are the most recent available at the time of publication and are available in the 2019 Atlantic and Gulf of Mexico Marine Mammal Stock Assessments available online at: *www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-region.*

TABLE 2—MARINE MAMMALS KNOWN TO OCCUR IN THE SURVEY AREA THAT MAY BE AFFECTED BY DOMINION'S ACTIVITY

Common name	Scientific name	Stock	ESA/ MMPA status; strategic (Y/N) [1]	Stock abundance (CV, N_{min}, most recent abundance survey) [2]	Predicted abundance (CV) [3]	PBR	Annual M/SI [4]
Order Cetartiodactyla—Cetacea—Superfamily Mysticeti (baleen whales)							
Family Balaenidae:							
North Atlantic Right whale.	*Eubalaena glacialis*	Western North Atlantic (WNA).	E/D; Y	428 (0; 418; n/a)	*535 (0.45)	0.8	5.55
Family Balaenopteridae (rorquals):							
Humpback whale	*Megaptera novaeangliae*	Gulf of Maine	-/-; N	1396 (0; 1380; n/a)	*1,637 (0.07)	22	12.5
Fin whale	*Balaenoptera physalus*	WNA	E/D; Y	7,418 (0.25; 6,025; n/a)	4,633 (0.08)	12	2.35
Sei whale	*Balaenoptera borealis*	Nova Scotia	E/D; Y	6,292 (1.015; 3,098; n/a)	*717 (0.30)	6.2	1
Minke whale	*Balaenoptera acutorostrata.*	Canadian East Coast	-/-; N	24,202 (0.3; 18,902; n/a)	*2,112 (0.05)	1,189	8
Superfamily Odontoceti (toothed whales, dolphins, and porpoises)							
Family Physeteridae:							
Sperm whale	*Physeter macrocephalus*	NA	E, D,Y	4,349 (0.28, 3,451; n/a)	5,353 (0.12)	6.9	0
Family Delphinidae:							
Short-finned pilot whale.	*Globicephala macrorhynchus.*	WNA	-/-; Y	28,924 (0.24; 23,637; 2011).	18,977 (0.11) [5]	236	160
Long-finned pilot whale	*Globicephala melas*	WNA	-/-; Y	39,215 (0.3; 30,627; n/a)		306	21
Bottlenose dolphin	*Tursiops truncatus*	WNA Offshore	-/-; N	62,851 (0.23; 15,914; 2011).	97,476 (0.06) [5]	519	28
		WNA Southern Migratory Coastal.	-/-; Y	3,751 (0.06; 2,353; n/a)		23	0–14.3
Common dolphin	*Delphinus delphis*	WNA	-/-; N	172,825 (0.21; 145,216;2011).	86,098 (0.12)	1,452	419
Atlantic white-sided dolphin.	*Lagenorhynchus acutus*	WNA	-/-; N	92,233 (0.71; 54,443; n/a)	37,180 (0.07)	544	26
Atlantic spotted dolphin	*Stenella frontalis*	WNA	-/-: N	39,921 (0.27; 32,032; 2012).	55,436 (0.32)	303	54.3
Risso's dolphin	*Grampus griseus*	WNA	-/-; N	35,493 (0.19; 30,289; 2011).	7,732 (0.09)	126	49.7
Family Phocoenidae (porpoises):							
Harbor porpoise	*Phocoena phocoena*	Gulf of Maine/Bay of Fundy.	-/-; N	95,543 (0.31; 74,034; 2011).	45,089 (0.12)	851	2175
Order Carnivora—Superfamily Pinnipedia							
Family Phocidae:							
Harbor seal	*Phoca vitulina*	WNA	-/-; N	75,834 (0.15, 66,884; 2012).		2,006	350
Gray seal [6]	*Halichoerus grypus*	WNA	-/-; N	27,131 (0.19, 23,158, n/a)		1,389	5,410

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

2 NMFS marine mammal stock assessment reports online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-region/*. CV is coefficient of variation; N_{min} is the minimum estimate of stock abundance. In some cases, CV is not applicable.

3 This information represents species- or guild-specific abundance predicted by recent habitat-based cetacean density models (Roberts *et al.* 2016, 2017, 2018). These models provide the best available scientific information regarding predicted density patterns of cetaceans in the U.S. Atlantic Ocean, and we provide the corresponding abundance predictions as a point of reference. Total abundance estimates were produced by computing the mean density of all pixels in the modeled area and multiplying by its area. For those species marked with an asterisk, the available information supported development of either two or four seasonal models; each model has an associated abundance prediction. Here, we report the maximum predicted abundance.

4 These values, found in NMFS's SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (*e.g.,* commercial fisheries, ship strike). Annual M/SI often cannot be determined precisely and is in some cases presented as a minimum value or range.

5 Abundance estimates are in some cases reported for a guild or group of species when those species are difficult to differentiate at sea. Similarly, the habitat-based cetacean density models produced by Roberts *et al.* (2016, 2017, 2018, 2020) are based in part on available observational data which, in some cases, is limited to genus or guild in terms of taxonomic definition. Roberts *et al.* (2016, 2017, 2018) produced density models to genus level for *Globicephala* spp. and produced a density model for bottlenose dolphins that does not differentiate between offshore and coastal stocks.

6 NMFS stock abundance estimate applies to U.S. population only, actual stock abundance including Canada is approximately 505,000. The referenced PBR value applies only to the U.S. population and is therefore an underestimate for the stock as a whole.

As indicated above, all 16 species (with 17 managed stocks) in Table 2 temporally and spatially co-occur with the activity to the degree that take is reasonably likely to occur in the absence of mitigation measures. A detailed description of the species for which take has been authorized, including brief introductions to the relevant stocks as well as available information regarding population trends and threats, and information regarding local occurrence, were provided in the **Federal Register** notice for the proposed IHA (85 FR 36537; June 17, 2020); since that time, we are not aware of any changes in the status of these species and stocks; therefore, detailed descriptions are not

provided here. Please refer to that **Federal Register** notice for these descriptions. Please also refer to NMFS' website (*https://www.fisheries.noaa.gov/find-species*) for generalized species accounts.

Potential Effects of Specified Activities on Marine Mammals and Their Habitat

The effects of underwater noise from Dominion's survey activities have the potential to result in take of marine mammals by harassment in the vicinity of the Survey Area. The **Federal Register** notice for the proposed IHA (85 FR 36537; June 17, 2020) included a discussion of the effects of anthropogenic noise on marine mammals and their habitat. That information and analysis is incorporated by reference into this final IHA determination and is not repeated here; please refer to the notice of proposed IHA (85 FR 36537; June 17, 2020).

Estimated Take

This section provides an estimate of the number of incidental takes authorized through this IHA, which will inform both NMFS' consideration of ''small numbers'' and the negligible impact determination.

Harassment is the only type of take expected to result from these activities. Except with respect to certain activities not pertinent here, section 3(18) of the MMPA defines ''harassment'' as any act of pursuit, torment, or annoyance, which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Authorized takes would be by Level B harassment only in the form of disruption of behavioral patterns for individual marine mammals resulting from exposure to HRG sources. Based on the nature of the activity and the anticipated effectiveness of the mitigation measures (*i.e.,* EZs and shutdown measures), discussed in detail below in the Mitigation section, Level A harassment is neither anticipated nor authorized.

As described previously, no mortality is anticipated or authorized for this activity. Below we describe how the take is estimated.

Generally speaking, we estimate take by considering: (1) Acoustic thresholds above which NMFS believes the best available science indicates marine mammals will be behaviorally harassed or incur some degree of permanent hearing impairment; (2) the area or volume of water that will be ensonified above these levels in a day; (3) the density or occurrence of marine mammals within these ensonified areas; and, (4) and the number of days of activities. We note that while these basic factors can contribute to a basic calculation to provide an initial prediction of takes, additional information that can qualitatively inform take estimates is also sometimes available (*e.g.,* previous monitoring results or average group size). Below, we describe the factors considered here in more detail and present the authorized take.

Acoustic Thresholds

Using the best available science, NMFS has developed acoustic thresholds that identify the RL of underwater sound above which exposed marine mammals would be reasonably expected to be behaviorally harassed (equated to Level B harassment) or to incur permanent threshold shift (PTS) of some degree (equated to Level A harassment).

Level B Harassment for non-explosive sources—Though significantly driven by RL, the onset of behavioral disturbance from anthropogenic noise exposure is also informed to varying degrees by other factors related to the source (*e.g.,* frequency, predictability, duty cycle), the environment (*e.g.,* bathymetry), and the receiving animals (hearing, motivation, experience, demography, behavioral context) and can be difficult to predict (Southall *et al.,* 2007, Ellison *et al.,* 2012). Based on what the available science indicates and the practical need to use a threshold based on a factor that is both predictable and measurable for most activities, NMFS uses a generalized acoustic threshold based on RL to estimate the onset of behavioral harassment. NMFS predicts that marine mammals are likely to be behaviorally harassed in a manner we consider Level B harassment when exposed to underwater anthropogenic noise above RLs of 120 dB re 1 µPa (rms) for continuous (*e.g.,* vibratory pile-driving, drilling) and above 160 dB re 1 µPa (rms) for non-explosive impulsive (*e.g.,* seismic airguns) or intermittent (*e.g.,* scientific sonar) sources.

Dominion's planned activity includes the use of intermittent (geophysical survey equipment) sources, and therefore the 160 dB re 1 µPa (rms) threshold is applicable.

Level A harassment for non-explosive sources—NMFS' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0) (NMFS, 2018) identifies dual criteria to assess auditory injury (Level A harassment) to five different marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive). The components of Dominion's planned activity that may result in the take of marine mammals include the use of both impulsive and non-impulsive sources (geophysical survey equipment).

These thresholds are provided in Table 3 below. The references, analysis, and methodology used in the development of the thresholds are described in NMFS 2018 Technical Guidance, which may be accessed at *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance.*

TABLE 3—THRESHOLDS IDENTIFYING THE ONSET OF PERMANENT THRESHOLD SHIFT

Hearing group	PTS onset acoustic thresholds * (received level)	
	Impulsive	Non-impulsive
Low-Frequency (LF) Cetaceans	*Cell 1:* $L_{pk,flat}$: 219 dB; $L_{E,LF,24h}$: 183 dB	*Cell 2:* $L_{E,LF,24h}$: 199 dB.
Mid-Frequency (MF) Cetaceans	*Cell 3:* $L_{pk,flat}$: 230 dB; $L_{E,MF,24h}$: 185 dB	*Cell 4:* $L_{E,MF,24h}$: 198 dB.
High-Frequency (HF) Cetaceans	*Cell 5:* $L_{pk,flat}$: 202 dB; $L_{E,HF,24h}$: 155 dB	*Cell 6:* $L_{E,HF,24h}$: 173 dB.
Phocid Pinnipeds (PW) (Underwater)	*Cell 7:* $L_{pk,flat}$: 218 dB; $L_{E,PW,24h}$: 185 dB	*Cell 8:* $L_{E,PW,24h}$: 201 dB.
Otariid Pinnipeds (OW) (Underwater)	*Cell 9:* $L_{pk,flat}$: 232 dB; $L_{E,OW,24h}$: 203 dB	*Cell 10:* $L_{E,OW,24h}$: 219 dB.

* Dual metric acoustic thresholds for impulsive sounds: Use whichever results in the largest isopleth for calculating PTS onset. If a non-impulsive sound has the potential of exceeding the peak sound pressure level thresholds associated with impulsive sounds, these thresholds should also be considered.

Note: Peak sound pressure (L_{pk}) has a reference value of 1 µPa, and cumulative sound exposure level (L_E) has a reference value of 1µPa²s. In this Table, thresholds are abbreviated to reflect American National Standards Institute standards (ANSI 2013). However, peak sound pressure is defined by ANSI as incorporating frequency weighting, which is not the intent for this Technical Guidance. Hence, the subscript "flat" is being included to indicate peak sound pressure should be flat weighted or unweighted within the generalized hearing range. The subscript associated with cumulative sound exposure level thresholds indicates the designated marine mammal auditory weighting function (LF, MF, and HF cetaceans, and PW and OW pinnipeds) and that the recommended accumulation period is 24 hours. The cumulative sound exposure level thresholds could be exceeded in a multitude of ways (*i.e.,* varying exposure levels and durations, duty cycle). When possible, it is valuable for action proponents to indicate the conditions under which these acoustic thresholds will be exceeded.

Ensonified Area

Here, we describe operational and environmental parameters of the activity that will feed into identifying the area ensonified above the acoustic thresholds, which include source levels and transmission loss coefficient.

When the NMFS Technical Guidance (2016) was published, in recognition of the fact that ensonified area/volume could be more technically challenging to predict because of the duration component in the new thresholds, we developed a User Spreadsheet that includes tools to help predict a simple isopleth that can be used in conjunction with marine mammal density or occurrence to help predict takes. We note that because of some of the assumptions included in the methods used for these tools, we anticipate that isopleths produced are typically going to be overestimates of some degree, which may result in some degree of overestimate of Level A harassment take. However, these tools offer the best way to predict appropriate isopleths when more sophisticated 3D modeling methods are not available, and NMFS continues to develop ways to quantitatively refine these tools, and will qualitatively address the output where appropriate. For mobile sources such as survey vessels operating HRG equipment, the User Spreadsheet predicts the closest distance at which a stationary animal would not incur PTS if the sound source traveled by the animal in a straight line at a constant speed. Inputs used in the User Spreadsheet are shown in Table 4 and the resulting Level A harassment isopleths are reported below in Table 5.

Note that NMFS considers the data provided by Crocker and Fratantonio (2016) to represent the best available information on source levels associated with HRG equipment and therefore recommends that source levels provided by Crocker and Fratantonio (2016) be incorporated in the method described above to estimate isopleth distances to the Level B harassment threshold. In cases when the source level for a specific type of HRG equipment is not provided in Crocker and Fratantonio (2016), NMFS recommends that either the source levels provided by the manufacturer be used, or, in instances where source levels provided by the manufacturer are unavailable or unreliable, a proxy from Crocker and Fratantonio (2016) be used instead. Table 1 shows the HRG equipment types that may be used during the planned surveys, the sound levels associated with those HRG equipment types, and the literature sources for the sound source levels contained in Table 4.

TABLE 4—USER SPREADSHEET INPUTS

HRG system	Subsea positioning/USBL			Multibeam echosounder	Side scan sonar	Parametric SBP	Non-parametric SBP		Medium-penetration seismic	
HRG equipment	Sonardyne Ranger 2	Evologics 82CR	IxBlue Gaps	R2 Sonics 2026	Edgetech 4200 dual frequency	Innomar SES-2000	Edgetech 216 Chirp	Edgetech 512 Chirp	Geo Marine Dual 400 GeoSource Sparker 800j	Applied Acoustics S-Boom (Triple Plate Boomer)
Spreadsheet Tab Used.	D.1: MOBILE SOURCE: Non-Impulsive, Intermittent								F.1: MOBILE SOURCE: Impulsive, Intermittent	
Source Level	194 RMS	178 RMS	191 RMS	191 RMS	206 RMS	241 RMS	179 RMS	179 RMS	200 RMS/210 PK.	203 RMS/213 PK
Weighting Factor Adjustment (kHz).	35/55	48/78	20/30	170	300,600	2/22	2/16	0.5/12	0.25/4	0.5
Source Velocity (m/sec).	2.045	2.045	2.045	2.045	2.045	2.045	2.045	2.045	2.045	2.045
Pulse Duration (seconds).	0.001	0.6	0.011	0.01115	0.01	0.001	0.001	0.02	0.0008	0.01
1/repetition rate–(seconds).	0.33	1	1	0.016667	0.125	2	0.25	0.25	0.55	0.25
Propagation (xLogR)	20	20	20	20	20	20	20	20	20	20

TABLE 5—DISTANCES (METERS) TO LEVEL A HARASSMENT REGULATORY THRESHOLDS BY EQUIPMENT CATEGORY [1]

HRG system	Representative HRG equipment	Marine mammal group PTS onset				
		LF cetaceans	MF cetaceans	HF cetaceans	Phocid pinnipeds	Otariid pinnipeds
		199 dB SEL_{cum}	198 dB SEL_{cum}	173 dB SEL_{cum}	201 dB SEL_{cum}	219 dB SEL_{cum}
Subsea positioning/USBL	Sonardyne Ranger 2 USBL	0	0	0.1	0	0
	EvoLogics S2CR	0	0	2.9	0	0
	IxBlue Gaps	0	0	1.0	0	0
Multibeam Echosounder	R2Sonics 2026	0	0	14.4	0	0
Synthetic Aperture Sonar, combined bathymetry/sidescan.	Kraken Aquapix [2]	N/A	N/A	N/A	N/A	N/A
Sidescan Sonar	Edgetech 4200 dual Frequency [2]	N/A	N/A	N/A	N/A	N/A
Parametric SBP	Innomar SES–2000 Medium 100	12.1	14.7	3,950	4.8	0.1

TABLE 5—DISTANCES (METERS) TO LEVEL A HARASSMENT REGULATORY THRESHOLDS BY EQUIPMENT CATEGORY [1]—Continued

HRG system	Representative HRG equipment	Marine mammal group PTS onset				
		LF cetaceans	MF cetaceans	HF cetaceans	Phocid pinnipeds	Otariid pinnipeds
		199 dB SEL_{cum}	198 dB SEL_{cum}	173 dB SEL_{cum}	201 dB SEL_{cum}	219 dB SEL_{cum}
Non-Parametric SBP	Edgetech 216 Chirp	0	0	0.0	0	0
	Edgetech 512 Chirp	0	0	0.	0	0
Medium Penetration Seismic	Geo Marine Dual 400 Sparker 800J.	0.1	0	1.5	0.1	0
	Applied Acoustics S-Boom (Triple Plate Boomer 1000J).	5.9	0.2	54.2	3.5	0.1

[1] Distances to the Level A harassment threshold based on the larger of the dual criteria (peak SPL and SEL_{cum}) are shown.
[2] Operating frequency above 180 kHz exceeding upper range of marine mammal hearing.

Note that take of marine mammals through use of the non-impulsive, intermittent sources shown in Table 4, such as the Innomar SES–2000 Medium 100 device, is highly unlikely. See estimated Level B harassment isopleth distances in Table 6. The estimated Level A harassment isopleths (Table 5) are based on the best currently available tools and information, but given aspects of these sources' output (*e.g.* beam width) that cannot readily be accounted for in the user guidance spreadsheet, zones calculated utilizing the spreadsheet are likely significant overestimates and should not be interpreted literally. Isopleths calculated using the User Spreadsheet are provided only as a reference, and in fact the area ensonified by narrower-beamed directional sources would be proportionally much smaller than that of a omni-directional or near-omnidirectional source with an isopleth of the same size as calculated by the User spreadsheet. As explained, NMFS includes qualitative consideration of beam-width and to assess the likely risk posed through use of these sources when evaluating potential for Level A harassment. HRG devices that feature low source levels, narrow beams, downward-directed transmission, short pulse lengths, frequencies outside known marine mammal hearing ranges, or some combination of those factors are generally considered at low risk of causing PTS. In consideration of the foregoing, and in consideration of the required mitigation measures (see the Mitigation section for more detail), the likelihood of the planned survey resulting in take in the form of Level A harassment is considered so low as to be discountable; therefore, NMFS did not authorize take of any marine mammals by Level A harassment.

NMFS has developed an interim methodology for determining the rms sound pressure level (SPL_{rms}) at the 160-dB isopleth for the purposes of estimating take by Level B harassment resulting from exposure to HRG survey equipment that takes into account source level, beamwidth, water depth, absorption, and operating frequency (NMFS 2019). Distances to the behavioral threshold are shown in Table 6.

TABLE 6—HRG EQUIPMENT—DISTANCES TO REGULATORY LEVEL B HARASSMENT THRESHOLDS

HRG survey equipment	Source level (SL_{RMS}) (dB re 1µPa)	Lateral distance (m) to Level B thresholds used in take analysis
Sonardyne Ranger 2 USBL	194	30
EvoLogics S2CR	178	8.0
IxBlue Gaps	191	34.4
R2Sonics 2026	191	0.3
Kraken Aquapix [1]	N/A	N/A
Edgetech 4200 dual frequency [1]	N/A	N/A
Innomar SES–2000 Medium 100	241	0.7
Edgetech 216 Chirp	179	1.9
Edgetech 512 Chirp	179	3.1
Geo Marine Dual 400 Sparker 800J	200	100.0
Triple Plate Boomer 1000J	203	21.9

[1] Operating frequency above 180 kHz, above upper range of marine mammal hearing

Take Calculation and Estimation

Here we describe how the information provided above is brought together to produce a quantitative take estimate.

In order to estimate the number of marine mammals predicted to be exposed to sound levels that would result in harassment, radial distances to predicted isopleths corresponding to harassment thresholds are calculated, as described above. Those distances are then used to calculate the area(s) around the HRG survey equipment predicted to be ensonified to sound levels that exceed harassment thresholds. The area estimated to be ensonified to relevant thresholds in a single day is then calculated, based on areas predicted to be ensonified around the HRG survey equipment and the estimated trackline distance traveled per day by the survey vessel.

The predominant source is the Geo Marine Dual 400 Sparker 800J (see Table 6), which results in the furthest distance to the Level B harassment criteria (160 dB rms 90% re 1 µPa) at 100.0 m (328 ft). This source will be employed on an estimated 152 vessel days. During an

additional 9 vessel days, the Triple Plate Boomer 1000J would be the predominant source used, with an estimated Level B harassment threshold of 22 m (72 ft) as the basis for determining potential take.

The basis for the take estimate is the number of times that marine mammals are predicted to be exposed to sound levels in excess of Level B harassment criteria. Typically, this is determined by multiplying the zone of influence (ZOI) out to the Level B harassment criteria isopleth by local marine mammal density estimates and then correcting for seasonal use by marine mammals, seasonal duration of project-specific noise-generating activities, and estimated duration of individual activities when the maximum noise-generating activities are intermittent or occasional. In the absence of any part of this information, it becomes prudent to take a conservative approach to ensure the potential number of takes is not greatly underestimated. The estimated distance of the daily vessel trackline was determined using the estimated average speed of the vessel and the 24-hour operational period within each of the corresponding survey segments. Using the distance of 100.0 m (328 ft) and 22 m (72 ft) to the 160 dB Level B harassment isopleths for when HRG equipment is in use, the estimated daily vessel track of approximately 121.54 km (75.5 mi) for 24-hour operations, inclusive of an additional circular area to account for radial distance at the start and end of a 24-hour cycle, gives estimates of incidental take by HRG survey equipment based on the ensonified area around the survey equipment as depicted in Table 6.

Based on the maximum estimated distance to the Level B harassment threshold of 100 m (Table 6) and the maximum estimated daily track line distance of 121.54 km, an area of 24.34 km^2 would be ensonified to the Level B harassment threshold per day during the 152 vessel days that the Geo Marine Dual 400 Sparker 800J is in use. The estimated Level B harassment threshold of 22 m (72 ft) associated with the Triple Plate Boomer 1000J would ensonify 5.35 km^2 for 9 vessel days as shown in Table 7.

TABLE 7—SURVEY SEGMENT DISTANCES AND ZOIS AT LEVEL B HARASSMENT DISTANCES

Survey segment	Number of active survey vessel days	Estimated distances per day (km)	Calculated ZOI per day (km^2)
Lease Area Survey (Sparker In Use)	149	121.54	24.34
Export Cable Corridor Survey (Sparker In Use)	3		
Export Cable Corridor Survey (No Sparker In Use)	9		5.35

The number of marine mammals expected to be incidentally taken per day is then calculated by estimating the number of each species predicted to occur within the daily ensonified area (animals/km^2) by incorporating the estimated marine mammal densities. A summary of this method is illustrated in the following formula:

Estimated Take = D × ZOI × # of days

Where:

D = average species density (per km^2) and ZOI = maximum daily ensonified area to relevant thresholds.

The habitat-based density models produced by the Duke University Marine Geospatial Ecology Laboratory (Roberts *et al.* 2016, 2017, 2018, 2020) represent the best available information regarding marine mammal densities in the Survey Area. The density data presented by Roberts *et al.* (2016, 2017, 2018, 2020) incorporates aerial and shipboard line-transect survey data from NMFS and other organizations and incorporates data from 8 physiographic and 16 dynamic oceanographic and biological covariates, and controls for the influence of sea state, group size, availability bias, and perception bias on the probability of making a sighting. These density models were originally developed for all cetacean taxa in the U.S. Atlantic (Roberts *et al.* 2016). In subsequent years, certain models have been updated on the basis of additional data as well as certain methodological improvements. More information is available online at *seamap.env.duke.edu/models/Duke-EC-GOM-2015/.* Marine mammal density estimates in the Survey Area (animals/km^2) were obtained using these model results (Roberts *et al.* 2016, 2017, 2018, 2020).

For the purposes of exposure analysis density data from Roberts *et al.* (2016, 2017, 2018) were mapped within the boundary of the Survey Area for each segment using geographic information systems. For each survey segment, the maximum densities as reported by Roberts *et al.* (2016, 2017, and 2018), were averaged by season over the survey duration (for spring, summer, fall and winter) for the entire HRG Survey Area based on the planned HRG survey schedule. The maximum average seasonal density within the HRG survey schedule was then selected for inclusion in the take calculations. Note that recently, these data have been updated with new modeling results and have included density estimates for pinnipeds (Roberts *et al.* 2016; 2017; 2018). For pinnipeds, because the seasonality of, and habitat use by, gray seals roughly overlaps with harbor seals, the same estimated abundance has been applied to both gray and harbor seals.

TABLE 8—TOTAL NUMBER OF AUTHORIZED INCIDENTAL TAKES AS A PERCENTAGE OF POPULATION

	Lease area		Cable route corridor (sparker in use)		Cable route corridor (no sparker in use)		Adjusted totals	
	Average seasonal density [1] (No./100 km^2)	Calc. take (No.)	Average seasonal density [1] (No./100 km^2)	Calc. take (No.)	Average seasonal density [1] (No./100 km^2)	Calc. take (No.)	Take authorization (No.)	Instances of take as percentage of population[6]
North Atlantic right whale ..	[2] 0.078	2.816	[2] 0.049	0.036	[2] 0.049	0.023	[2] 0	0
Humpback whale	0.085	3.087	0.066	0.048	0.066	0.032	[4] 0	0
Fin whale	0.261	9.448	0.122	0.089	0.122	0.059	[4] 0	0
Sei whale	0.002	0.089	0.001	0.000	0.001	0.000	[4] 0	0
Sperm whale	0.007	0.238	0.002	0.002	0.002	0.001	[4] 0	0

TABLE 8—TOTAL NUMBER OF AUTHORIZED INCIDENTAL TAKES AS A PERCENTAGE OF POPULATION—Continued

	Lease area		Cable route corridor (sparker in use)		Cable route corridor (no sparker in use)		Adjusted totals	
	Average seasonal density [1] (No./100 km²)	Calc. take (No.)	Average seasonal density [1] (No./100 km²)	Calc. take (No.)	Average seasonal density [1] (No./100 km²)	Calc. take (No.)	Take authorization (No.)	Instances of take as percentage of population[6]
Minke whale	0.114	4.151	0.041	0.030	0.041	0.020	[4] 0	0
Long-finned pilot whale [8]	0.029	1.038	0.010	0.007	0.010	0.005	[7] 12	0.06
Short-finned pilot whale [8].								
Bottlenose dolphin (Offshore)	18.53	[3] 504.234	50.93	[3] 3.719	50.932	[3] 2.452	511	0.81
Bottlenose dolphin (Southern Migratory Coastal)	18.53	[3] 168.078	50.93	[3] 33.470	50.932	[3] 22.068	224	6.5
Common dolphin	1.84	66.797	0.613	0.447	0.613	0.295	68	0.08
Atlantic white-sided dolphin	1.18	42.992	0.386	0.282	0.386	0.186	44	0.12
Spotted dolphin	0.729	26.425	0.219	0.160	0.219	0.106	27	0.05
Risso's dolphin	0.017	0.605	0.004	0.003	0.004	0.002	[7] 6	0.08
Harbor porpoise	1.059	38.396	0.375	0.274	0.375	0.181	39	0.09
Harbor seal [5]	0.916	33.210	0.806	0.588	0.806	0.388	35	0.02
Gray Seal [5]								0.06

Notes:

[1] Cetacean density values from Duke University (Roberts *et al.* 2016, 2017, 2018).

[2] New density estimate for North Atlantic right whales just became available (Roberts *et al.* 2020) that would make the calculated take closer to 6, but as indicated, given the small size of the Level B harassment zone and the much larger shutdown zone, we expect the mitigation to be effective in ensuring that no take of North Atlantic right whales occurs.

[3] Density model for bottlenose dolphins (Roberts *et al.* 2016, 2017, 2018) does not differentiate between offshore and coastal stocks. Take estimates split based on bottlenose dolphin stock preferred water depths (Reeves *et al.* 2002; Hayes *et al.* 2018).

[4] Take adjusted to 0 given expected effectiveness of mitigation to prevent take (shutdown zone encompasses Level B harassment zone). Calculated take for humpback whale=3; fin whale=10; sei whale=1; sperm whale=1; and minke whale=4.

[5] Pinniped density values reported as ''seals'' and not species-specific.

[6] Calculations of percentage of stock taken are based on the best available abundance estimate as shown in Table 2. In most cases the best available abundance estimate is provided by Roberts *et al.* (2016, 2017, 2018), when available, to maintain consistency with density estimates derived from Roberts *et al.* (2016, 2017, 2018). For North Atlantic right whales the best available abundance estimate is derived from the North Atlantic Right Whale Consortium 2019 Annual Report Card (Pettis *et al.* 2019). For bottlenose dolphins, Roberts *et al.* (2016, 2017, 2018) provides only a single abundance estimate and does not provide abundance estimates at the stock or species level (respectively), so abundance estimates used to estimate percentage of stock taken for bottlenose dolphins are derived from NMFS SARs (Hayes *et al.* 2019).

[7] The number of authorized takes (Level B harassment only) for these species has been increased from the estimated take number to mean group size. Sources for mean group size estimates are as follows: Risso's dolphin, pilot whales (NOAA Fisheries Northeast and Southeast Fisheries Science Centers, 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011).

[8] Density values reported as a guild for pilot whales at the genus level.

Take is not authorized for six marine mammal species for which potential takes by Level B harassment were estimated based on the modeling approach described above: North Atlantic right, humpback, fin, sei, sperm, and minke whale. Though the modeling resulted in estimates of take for these species as shown in Table 8, take of these species are expected to be avoided due to mitigation.

Note that the number of authorized takes (Level B harassment only) for Risso's dolphin and pilot whales has been increased from the estimated take number to mean group size. (NOAA Fisheries Northeast and Southeast Fisheries Science Centers, 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011).

For bottlenose dolphin densities, Roberts *et al.* (2016, 2017, and 2018) does not differentiate by individual stock. Given the southern coastal migratory stock propensity to be found shallower than the 25-m (82-ft) depth isobath north of Cape Hatteras (Reeves *et al.* 2002; Hayes *et al.* 2018) and only during the summer, the export cable corridor segment was roughly divided along the 25-m (82-ft) depth isobath. Roughly 90 percent of the cable corridor is 25 m (82 ft) or less in depth. The Lease Area is mostly located within depths exceeding 25 m (82 ft), where the southern coastal migratory stock would be unlikely. Roughly 25 percent of the Lease Area survey segment is 25 m (82 ft) or less in depth. Therefore, to account for the potential for mixed stocks within the export cable corridor, 90 percent of the estimated take calculation is applied to the southern coastal migratory stock and the remaining applied to the offshore migratory stock within the export cable corridor Survey Area. Within the Lease Area, 25 percent of the estimated take calculation is applied to the southern coastal migratory stock and the remaining applied to the offshore migratory stock.

Roberts *et al.* (2018) produced density models for all seals and did not differentiate by seal species. The take calculation methodology as described above resulted in an estimate of 35 total seal takes. An even split of takes between harbor and gray seals (*i.e.,* 18 harbor seal takes and 17 gray seal takes) is authorized, based on an assumption that the likelihood of take of either species is equal.

In the instance of the North Atlantic right whale, Dominion will implement and monitor and implement a 500-m (1,640-ft) EZ that exceeds the distance to the Level B harassment isopleth. Given that the mitigation effectively prevents Level B harassment, take has been adjusted to zero individuals. In addition, Dominion will implement and monitor and implement a 100-m (328-ft) EZ to be implemented for all non-delphinid large cetaceans, which is expected to preclude potential interactions with humpback, fin, sei, sperm, and minke whales. Therefore, the low calculated take estimates for these large whales was adjusted to zero individuals for these species and NMFS is not authorizing take of these whale species. Although survey activities will occur at night, two PSO will be on duty during night-time surveys and large whales are generally more easy to detect (including at night) than other smaller marine mammals with less pronounced blows.

Mitigation

In order to issue an IHA under Section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to the activity, and other means of effecting the least practicable impact on the species or stock and its habitat, paying particular attention to rookeries, mating

grounds, and areas of similar significance, and on the availability of the species or stock for taking for certain subsistence uses (latter not applicable for this action). NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting the activity or other means of effecting the least practicable adverse impact upon the affected species or stocks and their habitat (50 CFR 216.104(a)(11)).

In evaluating how mitigation may or may not be appropriate to ensure the least practicable adverse impact on species or stocks and their habitat, as well as subsistence uses where applicable, we carefully consider two primary factors:

(1) The manner in which, and the degree to which, the successful implementation of the measure(s) is expected to reduce impacts to marine mammals, marine mammal species or stocks, and their habitat. This considers the nature of the potential adverse impact being mitigated (likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (probability of accomplishing the mitigating result if implemented as planned), the likelihood of effective implementation (probability implemented as planned), and;

(2) the practicability of the measures for applicant implementation, which may consider such things as cost, impact on operations, and, in the case of a military readiness activity, personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.

Marine mammal EZs must be established around the HRG survey equipment and monitored by PSOs during HRG surveys as follows:

- 500-m EZ is required for North Atlantic right whales;
- During use of the GeoMarine Dual 400 Sparker 800J, a 100-m EZ is required for all other marine mammals except delphinid(s) from the genera *Delphinus, Lagenorhynchus, Stenella* or *Tursiops* and seals;
- When only the Triple Plate Boomer 1000J is in use, a 25-m EZ is required for all other marine mammals except delphinid(s) from the genera *Delphinus, Lagenorhynchus, Stenella* or *Tursiops* and seals;200-m buffer zone is required for all marine mammals except those species otherwise excluded (*i.e.,* North Atlantic right whale).

If a marine mammal is detected approaching or entering the EZs during the survey, the vessel operator must adhere to the shutdown procedures described below. In addition to the EZs described above, PSOs must visually monitor a 200-m buffer zone for the purposes of pre-clearance. During use of acoustic sources with the potential to result in marine mammal harassment (*i.e.,* anytime the acoustic source is active, including ramp-up), occurrences of marine mammals within the monitoring zone (but outside the EZs) must be communicated to the vessel operator to prepare for potential shutdown of the acoustic source. The buffer zone is not applicable when the EZ is greater than 100 m. PSOs are also required to observe a 500-m monitoring zone and record the presence of all marine mammals within this zone. The zones described above are based upon the radial distance from the active equipment (rather than being based on distance from the vessel itself).

Visual Monitoring

NMFS only requires a single PSO to be on duty during daylight hours. Dominion must have one PSO on duty during the day and has committed that a minimum of two NMFS-approved PSOs must be on duty and conducting visual observations when HRG equipment is in use at night. Visual monitoring must begin no less than 30 minutes prior to ramp-up of HRG equipment and continue until 30 minutes after use of the acoustic source. PSOs must establish and monitor the applicable EZs, Buffer Zone and Monitoring Zone as described above. Visual PSOs must coordinate to ensure 360° visual coverage around the vessel from the most appropriate observation posts, and must conduct visual observations using binoculars and the naked eye while free from distractions and in a consistent, systematic, and diligent manner. PSOs are required to estimate distances to observed marine mammals. It is the responsibility of the Lead PSO on duty to communicate the presence of marine mammals as well as to communicate action(s) that are necessary to ensure mitigation and monitoring requirements are implemented as appropriate. Position data must be recorded using hand-held or vessel global positioning system (GPS) units for each confirmed marine mammal sighting.

Pre-Clearance of the Exclusion Zones

Prior to initiating HRG survey activities, Dominion must implement a 30-minute pre-clearance period. During pre-clearance monitoring (*i.e.,* before ramp-up of HRG equipment begins), the Buffer Zone also acts as an extension of the 100-m EZ in that observations of marine mammals within the 200-m Buffer Zone would also preclude HRG operations from beginning. During this period, PSOs must ensure that no marine mammals are observed within 200 m of the survey equipment (500 m in the case of North Atlantic right whales). HRG equipment must not start up until this 200-m zone (or, 500-m zone in the case of North Atlantic right whales) is clear of marine mammals for at least 30 minutes. The vessel operator must notify a designated PSO of the proposed start of HRG survey equipment as agreed upon with the lead PSO; the notification time must not be less than 30 minutes prior to the planned initiation of HRG equipment in order to allow the PSOs time to monitor the EZs and Buffer Zone for the 30 minutes of pre-clearance. A PSO conducting pre-clearance observations must be notified again immediately prior to initiating active HRG sources.

If a marine mammal is observed within the relevant EZs or Buffer Zone during the pre-clearance period, initiation of HRG survey equipment must not begin until the animal(s) has been observed exiting the respective EZ or Buffer Zone, or, until an additional time period has elapsed with no further sighting (*i.e.,* minimum 15 minutes for porpoises, and 30 minutes for all other species). The pre-clearance requirement includes small delphinoids. PSOs must also continue to monitor the zone for 30 minutes after survey equipment is shut down or survey activity has concluded.

Ramp-Up of Survey Equipment

When technically feasible, a ramp-up procedure must be used for geophysical survey equipment capable of adjusting energy levels at the start or re-start of survey activities. The ramp-up procedure must be used at the beginning of HRG survey activities in order to provide additional protection to marine mammals near the Survey Area by allowing them to detect the presence of the survey and vacate the area prior to the commencement of survey equipment operation at full power. Ramp-up of the survey equipment must not begin until the relevant EZs and Buffer Zone has been cleared by the PSOs, as described above. HRG equipment must be initiated at their lowest power output and would be incrementally increased to full power. If any marine mammals are detected within the EZs or Buffer Zone prior to or during ramp-up, the HRG equipment must be shut down (as described below).

Shutdown Procedures

If an HRG source is active and a marine mammal is observed within or entering a relevant EZ (as described above) an immediate shutdown of the HRG survey equipment is required. When shutdown is called for by a PSO, the acoustic source must be immediately deactivated and any dispute resolved only following deactivation. Any PSO on duty has the authority to delay the start of survey operations or to call for shutdown of the acoustic source if a marine mammal is detected within the applicable EZ. The vessel operator must establish and maintain clear lines of communication directly between PSOs on duty and crew controlling the HRG source(s) to ensure that shutdown commands are conveyed swiftly while allowing PSOs to maintain watch. Subsequent restart of the HRG equipment must only occur after the marine mammal has either been observed exiting the relevant EZ, or, until an additional time period has elapsed with no further sighting of the animal within the relevant EZ (*i.e.,* 15 minutes for small odontocetes and seals, and 30 minutes for large whales).

Upon implementation of shutdown, the HRG source may be reactivated after the marine mammal that triggered the shutdown has been observed exiting the applicable EZ (*i.e.,* the animal is not required to fully exit the Buffer Zone where applicable) or, following a clearance period of 15 minutes for small odontocetes and seals and 30 minutes for all other species with no further observation of the marine mammal(s) within the relevant EZ. If the HRG equipment shuts down for brief periods (*i.e.,* less than 30 minutes) for reasons other than mitigation (*e.g.,* mechanical or electronic failure) the equipment may be re-activated as soon as is practicable at full operational level, without 30 minutes of pre-clearance, only if PSOs have maintained constant visual observation during the shutdown and no visual detections of marine mammals occurred within the applicable EZs and Buffer Zone during that time. For a shutdown of 30 minutes or longer, or if visual observation was not continued diligently during the pause, pre-clearance observation is required, as described above.

The shutdown requirement is waived for certain genera of small delphinids (*i.e., Delphinus, Lagenorhynchus, Stenella,* or *Tursiops*) under certain circumstances. If a delphinid(s) from these genera is visually detected within the EZ shutdown would not be required. If there is uncertainty regarding identification of a marine mammal species (*i.e.,* whether the observed marine mammal(s) belongs to one of the delphinid genera for which shutdown is waived), PSOs must use best professional judgment in making the decision to call for a shutdown.

If a species for which authorization has not been granted, or, a species for which authorization has been granted but the authorized number of takes have been met, approaches or is observed within the area encompassing the Level B harassment isopleth (100 m or 25 m), shutdown must occur.

Vessel Strike Avoidance

Vessel strike avoidance measures include, but are not limited to, the following, except under circumstances when complying with these requirements puts the safety of the vessel or crew at risk:

- Vessel operators and crews must maintain a vigilant watch for all protected species and slow down, stop their vessel, or alter course, as appropriate and regardless of vessel size, to avoid striking any protected species. A visual observer aboard the vessel must monitor a vessel strike avoidance zone around the vessel (distances stated below). Visual observers monitoring the vessel strike avoidance zone may be third-party observers (*i.e.,* PSOs) or crew members, but crew members responsible for these duties must be provided sufficient training to (1) distinguish protected species from other phenomena and (2) broadly to identify a marine mammal as a North Atlantic right whale, other whale (defined in this context as sperm whales or baleen whales other than North Atlantic right whales), or other marine mammal.
- All vessels, regardless of size, must observe a 10-knot speed restriction in specific areas designated by NMFS for the protection of North Atlantic right whales from vessel strikes: Any DMAs when in effect, the Norfolk SMA (from November 1 through April 30). See *www.fisheries.noaa.gov/national/endangered-species-conservation/reducing-ship-strikes-north-atlantic-right-whales* for specific detail regarding these areas.
- Vessel speeds must also be reduced to 10 knots or less when mother/calf pairs, pods, or large assemblages of cetaceans are observed near a vessel.
- All vessels must maintain a minimum separation distance of 500 m from North Atlantic right whales. If a whale is observed but cannot be confirmed as a species other than a North Atlantic right whale, the vessel operator must assume that it is a North Atlantic right whale and take appropriate action.
- All vessels must maintain a minimum separation distance of 100 m from sperm whales and all other baleen whales.
- All vessels must, to the maximum extent practicable, attempt to maintain a minimum separation distance of 50 m from all other protected species, with an understanding that at times this may not be possible (*e.g.,* for animals that approach the vessel).
- When protected species are sighted while a vessel is underway, the vessel must take action as necessary to avoid violating the relevant separation distance (*e.g.,* attempt to remain parallel to the animal's course, avoid excessive speed or abrupt changes in direction until the animal has left the area). If protected species are sighted within the relevant separation distance, the vessel must reduce speed and shift the engine to neutral, not engaging the engines until animals are clear of the area. This does not apply to any vessel towing gear or any vessel that is navigationally constrained.
- These requirements do not apply in any case where compliance would create an imminent and serious threat to a person or vessel or to the extent that a vessel is restricted in its ability to maneuver and, because of the restriction, cannot comply.

Project-specific training is required for all vessel crew prior to the start of survey activities. Confirmation of the training and understanding of the requirements must be documented on a training course log sheet. Signing the log sheet will certify that the crew members understand and will comply with the necessary requirements throughout the survey activities.

Seasonal Operating Requirements

Dominion will conduct HRG survey activities in the vicinity of the North Atlantic right whale Mid-Atlantic SMA near Norfolk and the mouth of the Chesapeake Bay. Activities conducted prior to May 1 must comply with the seasonal mandatory speed restriction period for this SMA (November 1 through April 30) for any survey work or transit within this area.

Throughout all phases of the survey activities, Dominion must monitor NOAA Fisheries North Atlantic right whale reporting systems for the establishment of a DMA. If NOAA Fisheries should establish a DMA in the Lease Area or cable route corridor being surveyed, within 24 hours of the establishment of the DMA Dominion is required to work with NOAA Fisheries

to shut down and/or alter activities to avoid the DMA.

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

Monitoring and Reporting

In order to issue an IHA for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth requirements pertaining to the monitoring and reporting of such taking. The MMPA implementing regulations at 50 CFR 216.104(a)(13) indicate that requests for 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. Effective reporting is critical both to compliance as well as ensuring that the most value is obtained from the required monitoring.

Monitoring and reporting requirements prescribed by NMFS should contribute to improved understanding of one or more of the following:

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

Monitoring Measures

As described above, visual monitoring must be performed by qualified and NMFS-approved PSOs. Dominion is required to use independent, dedicated, trained PSOs, meaning that the PSOs must be employed by a third-party observer provider, must have no tasks other than to conduct observational effort, collect data, and communicate with and instruct relevant vessel crew with regard to the presence of marine mammals and mitigation requirements (including brief alerts regarding maritime hazards), and must have successfully completed an approved PSO training course appropriate for their designated task. Dominion must provide resumes of all proposed PSOs (including alternates) to NMFS for review and approval prior to the start of survey operations.

During survey operations (*e.g.,* any day on which use of an HRG source is planned to occur), a single PSO must be on duty and conducting visual observations during the day on all active survey vessels when HRG equipment is operating. Additionally, Dominion has stated their intention to deploy two PSOs on duty during night operations. Visual monitoring must begin no less than 30 minutes prior to initiation of HRG survey equipment and must continue until one hour after use of the acoustic source ceases. PSOs would coordinate to ensure 360° visual coverage around the vessel from the most appropriate observation posts, and must conduct visual observations using binoculars and the naked eye while free from distractions and in a consistent, systematic, and diligent manner. PSOs may be on watch for a maximum of four consecutive hours followed by a break of at least two hours between watches and may conduct a maximum of 12 hours of observation per 24-hour period. In cases where multiple vessels are surveying concurrently, any observations of marine mammals must would be communicated to PSOs on all survey vessels.

PSOs must be equipped with binoculars and have the ability to estimate distances to marine mammals located in proximity to the vessel and/or EZ. Reticulated binoculars must be made available to PSOs for use as appropriate based on conditions and visibility to support the monitoring of marine mammals. Position data must be recorded using hand-held or vessel GPS units for each sighting. Observations must take place from the highest available vantage point on the survey vessel. General 360-degree scanning must occur during the monitoring periods, and target scanning by the PSO must occur when alerted of a marine mammal presence.

During good conditions (*e.g.,* daylight hours; Beaufort sea state (BSS) 3 or less), to the maximum extent practicable, PSOs must conduct observations when the acoustic source is not operating for comparison of sighting rates and behavior with and without use of the acoustic source and between acquisition periods. Any observations of marine mammals by crew members aboard any vessel associated with the survey must be relayed to the PSO team.

Data on all PSO observations must be recorded based on standard PSO collection requirements. This includes dates, times, and locations of survey operations; dates and times of observations, location and weather; details of marine mammal sightings (*e.g.,* species, numbers, behavior); and details of any observed marine mammal take that occurs (*e.g.,* noted behavioral disturbances).

Reporting Measures

Within 90 days after completion of survey activities, a final technical report must be provided to NMFS that fully documents the methods and monitoring protocols, summarizes the data recorded during monitoring, summarizes the number of marine mammals observed during survey activities (by species, when known), summarizes the mitigation actions taken during surveys (including what type of mitigation and the species and number of animals that prompted the mitigation action, when known), and provides an interpretation of the results and effectiveness of all mitigation and monitoring. Any recommendations made by NMFS must be addressed in the final report prior to acceptance by NMFS.

In the event that Dominion personnel discover an injured or dead marine mammal, Dominion must report the incident to the OPR, NMFS and to the New England/Mid-Atlantic Regional Stranding Coordinator as soon as feasible. The report must include the following information:

- Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
- Species identification (if known) or description of the animal(s) involved;
- Condition of the animal(s) (including carcass condition if the animal is dead);

- Observed behaviors of the animal(s), if alive;
- If available, photographs or video footage of the animal(s); and
- General circumstances under which the animal was discovered.

In the event of a ship strike of a marine mammal by any vessel involved in the activities covered by the authorization, the IHA-holder must report the incident to OPR, NMFS and to the New England/Mid-Atlantic Regional Stranding Coordinator as soon as feasible. The report must include the following information:

- Time, date, and location (latitude/longitude) of the incident;
- Species identification (if known) or description of the animal(s) involved;
- Vessel's speed during and leading up to the incident;
- Vessel's course/heading and what operations were being conducted (if applicable);
- Status of all sound sources in use;
- Description of avoidance measures/requirements that were in place at the time of the strike and what additional measures were taken, if any, to avoid strike;
- Environmental conditions (*e.g.,* wind speed and direction, Beaufort sea state, cloud cover, visibility) immediately preceding the strike;
- Estimated size and length of animal that was struck;
- Description of the behavior of the marine mammal immediately preceding and following the strike;
- If available, description of the presence and behavior of any other marine mammals immediately preceding the strike;
- Estimated fate of the animal (*e.g.,* dead, injured but alive, injured and moving, blood or tissue observed in the water, status unknown, disappeared); and
- To the extent practicable, photographs or video footage of the animal(s).

Negligible Impact Analysis and Determination

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (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. In addition to considering estimates of the number of marine mammals that might be ''taken'' through harassment, NMFS considers other factors, such as the likely nature of any responses (*e.g.,* intensity, duration), the context of any responses (*e.g.,* critical reproductive time or location, migration), as well as effects on habitat, and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS's implementing regulations (54 FR 40338; September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the environmental baseline (*e.g.,* as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

To avoid repetition, our analysis applies to all the species listed in Table 9, given that NMFS expects the anticipated effects of the planned survey to be similar in nature. As discussed in the Potential Effects of Specified Activities on Marine Mammals and Their Habitat section, PTS, masking, non-auditory physical effects, and vessel strike are not expected to occur.

The majority of impacts to marine mammals are expected to be short-term disruption of behavioral patterns, primarily in the form of avoidance or potential interruption of foraging. Marine mammal feeding behavior is not likely to be significantly impacted.

Regarding impacts to marine mammal habitat, prey species are mobile, and are broadly distributed throughout the Survey Area and the footprint of the activity is small; 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 availability of similar habitat and resources in the surrounding area 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. The HRG survey equipment itself will not result in physical habitat disturbance. Avoidance of the area around the HRG survey activities by marine mammal prey species is possible. However, any avoidance by prey species would be expected to be short term and temporary.

The status of the North Atlantic right whale population is of heightened concern and, therefore, merits additional analysis. The Survey Area includes a biologically important migratory area for North Atlantic right whales (effective March-April and November-December) that extends from Massachusetts to Florida (LaBrecque, *et al.* 2015). As previously noted, no take of North Atlantic right whales has been authorized, and HRG survey operations will be required to shut down at 500 m to further minimize any potential effects to this species. This is highly precautionary considering the Level B harassment isopleth for the largest source utilized (*i.e.*, Geo Marine Dual 400 Sparker 800J is estimated to be 100 m). The fact that the spatial acoustic footprint of the survey is very small relative to the spatial extent of the available migratory habitat leads us to expect that North Atlantic right whale migration will not be impacted by the survey. Additionally, a UME for North Atlantic right whales was declared in June 2017, primarily due to mortality events in the Gulf of St. Lawrence region of Canada and around the Cape Cod area of Massachusetts. Overall, preliminary findings support human interactions, specifically vessel strikes or rope entanglements, as the cause of death for the majority of the North Atlantic right whales. Furthermore, these locations are found far to the north of the Survey Area.

No take has been authorized for ESA-listed species including right, fin, sei, and sperm whales and NMFS does not anticipate that serious injury or mortality would occur to any species, even in the absence of mitigation. The planned survey is not anticipated to affect the fitness or reproductive success of individual animals. Since impacts to individual survivorship and fecundity are unlikely, the planned survey is not expected to result in population-level effects for any ESA-listed species or alter current population trends of any ESA-listed species.

As noted previously, elevated humpback whale mortalities have occurred along the Atlantic coast from Maine through Florida since January 2016. Of the cases examined, approximately half had evidence of human interaction (ship strike or entanglement). The UME does not yet provide cause for concern regarding population-level impacts. Despite the UME, the relevant population of humpback whales (the West Indies breeding population, or distinct population segment) remains healthy.

Beginning in January 2017, elevated minke whale strandings have occurred

along the Atlantic coast from Maine through South Carolina, with highest numbers in Massachusetts, Maine, and New York. This event does not provide cause for concern regarding population level impacts, as the likely population abundance is greater than 20,000 whales. Additionally, elevated numbers of harbor seal and gray seal mortalities were first observed in July 2018 and have occurred across Maine, New Hampshire and Massachusetts. Based on tests conducted so far, the main pathogen found in the seals is phocine distemper virus although additional testing to identify other factors that may be involved in this UME are underway. The UME does not yet provide cause for concern regarding population-level impacts to any of these stocks. For harbor seals, the population abundance is over 75,000 and annual M/SI (350) is well below PBR (2,006) (Hayes *et al.* 2018). The population abundance of gray seals in the United States is in excess of 27,000 and likely increasing (Wood *et al.* 2019). The estimated abundance increases to 505,000 when seals from Canada are included. Given that any Level B harassment of gray and harbor seals will be minor, short term, and temporary the authorized takes of gray and harbor seals would not exacerbate or compound the ongoing UMEs in any way.

Direct physical interactions (ship strikes and entanglements) appear to be responsible for many of the UME humpback and North Atlantic right whale mortalities recorded. The HRG survey will require ship strike avoidance measures which would minimize the risk of ship strikes while fishing gear and in-water lines will not be employed as part of the survey. Furthermore, the planned activities are not expected to promote the transmission of infectious disease among marine mammals. The survey is not expected to result in the deaths of any marine mammals or combine with the effects of the ongoing UMEs to result in any additional impacts not analyzed here. NMFS is not authorizing take of large whales and is not authorizing take of any marine mammal species by serious injury, or mortality.

The required mitigation measures are expected to reduce the number and/or severity of takes by giving animals the opportunity to move away from the sound source before HRG survey equipment reaches full energy and preventing animals from being exposed to sound levels that have the potential to result in more severe Level B harassment during HRG survey activities. Due to the small size of PTS zones no Level A harassment is anticipated or authorized.

NMFS expects that most takes would primarily 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 (at the scale and intensity anticipated here) are considered to be of low severity and with no lasting biological consequences. Since both the source and the marine mammals are mobile, only a smaller area would be ensonified by sound levels that could result in take for only a short period.

In summary and as described above, the following factors primarily support our determination that the impacts resulting from this activity are not expected to adversely affect the species or stock through effects on annual rates of recruitment or survival:

- No mortality is anticipated or authorized;
- No Level A harassment (PTS) is anticipated or authorized;
- Any foraging interruptions are expected to be short term and unlikely to be cause significantly impacts;
- Impacts on marine mammal habitat and species that serve as prey species for marine mammals are expected to be minimal and the alternate areas of similar habitat value for marine mammals are readily available;
- Take is anticipated to be by Level B behavioral harassment only consisting of brief startling reactions and/or temporary avoidance of the Survey Area;
- Mitigation measures, including visual monitoring and shutdowns, are expected to minimize the intensity of potential impacts to 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 required monitoring and mitigation measures, NMFS finds that the total marine mammal take from the planned activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted above, only small numbers of incidental take may be authorized under sections 101(a)(5)(A) and (D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, where estimated numbers are available, NMFS compares the number of individuals taken to the most appropriate estimation of abundance of the relevant species or stock in our determination of whether an authorization is limited to small numbers of marine mammals. When the predicted number of individuals to be taken is fewer than one third of the species or stock abundance, the take is considered to be of small numbers. For this IHA, take of all species or stocks is below one third of the estimated stock abundance (in fact, take of individuals is less than 7 percent of the abundance for all affected stocks). Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

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

Unmitigable Adverse Impact Analysis and Determination

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

Endangered Species Act

Section 7(a)(2) of the Endangered Species Act of 1973 (ESA: 16 U.S.C. 1531 *et seq.*) requires that each Federal agency insure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA compliance for the issuance of IHAs, NMFS consults internally whenever we propose to authorize take of endangered or threatened marine mammal species within NMFS jurisdiction. In the absence of mitigation measures, effects to North Atlantic right whale, fin whale, sei whale, and sperm whale could potentially occur. Accordingly, we requested initiation of consultation under section 7 of the ESA with NMFS Greater Atlantic Region (GARFO) on June 23, 2020, for the issuance of this IHA. NMFS GARFO has determined that issuance of the IHA to Dominion is not likely to adversely affect the North Atlantic right, fin, sei, or sperm whale or the critical habitat of any ESA-listed species or result in the

take of any marine mammals in violation of the ESA.

National Environmental Policy Act

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

This action is consistent with categories of activities identified in Categorical Exclusion B4 of the Companion Manual for NAO 216–6A, which do not individually or cumulatively have the potential for significant impacts on the quality of the human environment and for which we have not identified any extraordinary circumstances that would preclude this categorical exclusion. Accordingly, NMFS has determined that the planned action qualifies to be categorically excluded from further NEPA review.

Authorization

NMFS has issued an IHA to Dominion for the potential harassment of small numbers of 10 marine mammal species incidental to the conducting marine site characterization surveys offshore of Virginia in the area of the Commercial Lease of Submerged Lands for Renewable Energy Development on the Outer Continental Shelf Offshore Virginia (Lease No. OCS–A–0483) and along a potential submarine cable route to landfall locations, provided the previously mentioned mitigation, monitoring and reporting requirements are followed.

Dated: September 1, 2020.

Donna S. Wieting,

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

[FR Doc. 2020–19688 Filed 9–4–20; 8:45 am]

BILLING CODE 3510–22–P

COMMODITY FUTURES TRADING COMMISSION

Agricultural Advisory Committee

AGENCY: Commodity Futures Trading Commission.

ACTION: Notice of meeting.

SUMMARY: The Commodity Futures Trading Commission (CFTC) announces that on September 24, 2020, from 2:00 p.m. to 5:00 p.m. (Eastern Daylight Time), the Agricultural Advisory Committee (AAC) will hold a public meeting via teleconference. At this meeting, the AAC will receive updates from the Livestock Task Force, the second quarter National Farm Loan data and the impending launch of a Brazil-based Soybean futures contract. The meeting will also include a discussion regarding the Division of Enforcement's Self-Reporting Program and the role of intermediaries and the National Futures Association in protecting market participants from fraud.

DATES: The meeting will be held on September 24, 2020, from 2:00 p.m. to 5:00 p.m. (Eastern Daylight Time). Please note that the teleconference may end early if the AAC has completed its business. Members of the public who wish to submit written statements in connection with the meeting should submit them by October 8, 2020.

ADDRESSES: The meeting will be held via teleconference. You may submit public comments on the CFTC website: *https://comments.cftc.gov.* Follow the instructions for submitting comments through the Comments Online process on the website.

If you are unable to submit comments online, please contact Summer Mersinger, Designated Federal Officer, via the contact information listed below to discuss alternate means of submitting your comments. Any statements submitted in connection with the committee meeting will be made available to the public, including publication on the CFTC website, *https://www.cftc.gov.*

FOR FURTHER INFORMATION CONTACT: Summer Mersinger, AAC Designated Federal Officer, Commodity Futures Trading Commission, Three Lafayette Centre, 1155 21st Street NW, Washington, DC 20581; *SMersinger@cftc.gov;* (202) 418–6074.

SUPPLEMENTARY INFORMATION: The meeting will be open to the public. Members of the public may listen to the meeting by telephone by calling a domestic toll-free telephone or international toll or toll-free number to connect to a live, listen-only audio feed. Call-in participants should be prepared to provide their first name, last name, and affiliation.

Domestic Toll Free: 877–951–7311.

International Toll and Toll Free: Will be posted on the CFTC's website, *http://www.cftc.gov,* on the page for the meeting, under Related Links.

Pass Code/Pin Code: 8481119.

The meeting agenda may change to accommodate other AAC priorities. For agenda updates, please visit the AAC committee site at: *https://www.cftc.gov/About/CFTCCommittees/AgriculturalAdvisory/index.htm.*

All written submissions provided to the CFTC in any form will also be published on the CFTC's website. Persons requiring special accommodations to attend the meeting because of a disability should notify the contact person above.

(Authority: 5 U.S.C. app. 2 section 10(a)(2)).

Dated: September 2, 2020.

Robert Sidman,

Deputy Secretary of the Commission.

[FR Doc. 2020–19775 Filed 9–4–20; 8:45 am]

BILLING CODE 6351–01–P

BUREAU OF CONSUMER FINANCIAL PROTECTION

Credit Union Advisory Council Meeting

AGENCY: Bureau of Consumer Financial Protection.

ACTION: Notice of public meeting.

SUMMARY: Under the Federal Advisory Committee Act (FACA), this notice sets forth the announcement of a public meeting of the Credit Union Advisory Council (CUAC or Council) of the Bureau of Consumer Financial Protection (Bureau). The notice also describes the functions of the Council.

DATES: The meeting date is Wednesday, September 23, 2020, from approximately 1:00 p.m. to 4:45 p.m. eastern daylight time. This meeting will be held via conference call and is open to the general public. Members of the public will receive the agenda and dial-in information when they RSVP.

FOR FURTHER INFORMATION CONTACT: Kim George, Outreach and Engagement Associate, Consumer Advisory Board and Councils Office, External Affairs, at 202–450–8617, *CFPB_CABandCouncilsEvents@cfpb.gov.* If you require this document in an alternative electronic format, please contact *CFPB_Accessibility@cfpb.gov.*

SUPPLEMENTARY INFORMATION:

I. Background

Section 2 of the CUAC Charter provides that pursuant to the executive and administrative powers conferred on the Bureau by section 1012 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act), the Director established the Credit Union Advisory Council under agency authority.

Section 3 of the CUAC Charter states: ''The purpose of the Advisory Council is to advise the Bureau in the exercise of its functions under the Federal consumer financial laws as they pertain to credit unions with total assets of $10 billion or less.''