

# **Dominion Energy Coastal Virginia Offshore Wind Commercial Project**

## **Reduced WTG Foundation Scenario – Up to 183 WTG Foundation Piling Events and Updated Marine Mammal Take Estimates**

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## 1 PROJECT DESCRIPTION UPDATE

This memo provides an update to the Incidental Take Regulation (ITR) Application as provided on August 5, 2022, for Dominion Energy's proposed Coastal Virginia Offshore Wind Commercial Project (Project). The following components have been updated: Project Description in Section 1.2.1, Foundation Installation Activities, schedule as described in Section 2.1.1, Foundation Installation Activities in Section 2.1 Dates and Duration, and revised take estimates based on a reduction in the maximum number of wind turbine generator (WTG) foundations to be installed within the Lease Area. The ITR Application included potential installation of up to 205 WTG Foundations. This memo provides revised take estimates for a reduced installation scenario of up to 183 WTG potential piling events based on Dominion Energy's WTG Preferred Layout of 176, 14.7-MW WTG foundations with seven spare positions. Spare positions will be utilized in the event that originally selected positions are unable to yield successful WTG installations for any reason. This memo reflects Dominion Energy's continued efforts on layout design refinement and evaluation of technical constraints. Dominion Energy has ensured the layout is within the scope of the Proposed Action and alternatives analyzed in the Draft Environmental Impact Statement, parallels Dominion Energy's Construction and Operations Plan submitted to the Bureau of Ocean Energy Management (BOEM) as updated on February 28, 2023, and meets the Project's purpose and need and Virginia state goals. Marine mammal exposure estimates from foundation installations were revised based on the updated installation schedule in Table 8, which reflects refined assumptions for 2025 and 2026. It should be noted that the piling schedule for 2024 maintains 95 foundations as the realistic maximum number that could be installed, which includes the potential piling activity associated with seven spare positions should those events be required to successfully install the 176 total WTGs for the Project. Adjustments to the piling schedule for 2025 are also reflected in Table 8 to ensure the construction schedule is in alignment with the realistic maximum number of foundations needed to be installed in 2025. As indicated below, the piling schedule for 2026 has been removed as Dominion Energy understands that the ITR would allow for flexibility in shifting certain activities within the five-year period of the rule, with the understanding that total takes are not expected to exceed those requested in Table 39 of this memo in any year. The Construction Schedule for Activities Permitted Under LOA has also been updated accordingly (Table 1).

Positions have been removed from consideration for one or more of the following reasons: impracticable due to foundation technical design risk, shallow gas presence, commercial shipping and navigation risk concerns, erosion risk, and presence of a designated fish haven. As its Preferred Layout, Dominion Energy proposes to install a total of 176 WTGs with seven additional positions identified as spare WTG positions, for a total of 183 potential piling events. The analysis within this memo captures the possible scenario that a WTG installation cannot be completed at an initiated location, which would require re-installing that foundation at a spare location constituting additional pile driving effort and noise generation. Three Offshore Substations will be installed within the WTG grid pattern; the total number of offshore substations, as well as the installation schedule of the offshore substations, has not changed.

**Table 1. Construction Schedule for Activities Permitted Under LOA**

Activity	2024				2025				2026				2027				2028				2029a/
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
Monopile Installation (piling between May 1 and October 31) b/		X	X	X		X	X	X													
Offshore Substation Installation (piling between May 1 and October 31)			X	X	X	X	X														
Trenchless Installation (cofferdam and goal post piling between May 1 and October 31, 2024)	X	X	X	X																	
HRG Survey Activities (Surveys to begin March 2024 upon LOA issuance and continue through construction) c/	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Notes:  
a/ 2029 is included due to LOA extending into 2029, but no activities are planned for 2029.  
b/ Dominion Energy anticipates that all Wind Turbine Generator Monopile and Offshore Substation Jacket Foundations will be installed by October 31, 2025. However, Dominion Energy understands that the ITR would allow for flexibility for shifting certain activities within the 5-year period of the rule.  
c/ Activities planned prior to March 2024 that could result in harassment of marine mammals include the UXO identification HRG surveys covered in the authorized UXO Survey IHA (Authorized 27 May 2022 to 26 May 2023) and HRG surveys planned for December 2023 - March 2024 that would be covered under a separate IHA, which would terminate with the start of the LOA authorization. HRG Surveys preceding the start date of the LOA in March 2024 are not included. As per the NOAA August 2021 webinar, the developer may need to cover pre-construction surveys under a separate IHA. Such permits have been authorized for Vineyard Wind and Ocean Wind.

**Table 8. Pile Driving Schedule**

Year	Month	Total Proposed Number Piles	Number Hard to Drive	Number Standard	Days with two monopile per day installation
2024	May	18	5	13	1
	June	25	6	19	6
	Jul	26	7	19	6
	Aug	2 MP a/, 12 PPs b/	1	1	1
	Sept	13	3	10	0
	Oct	11	1	10	0
<b>2024 TOTAL</b>		<b>95 MP, 12 PPs c/</b>	<b>23</b>	<b>72</b>	<b>14</b>
2025	May	16	6	10	1
	June	22	8	14	6
	Jul	24	8	16	6
	Aug	20	6	14	6
	Sept	5	2	3	0
	Oct	1	1	0	0
<b>2025 TOTAL</b>		<b>88 MP</b>	<b>31</b>	<b>57</b>	<b>19</b>
Notes:					
a/ MP refers to monopile.					
b/ PP refers to pin pile.					
c/ If 7 spare positions are utilized.					
In the event piling cannot be completed by the end of 2025 due to unforeseen circumstances, piling would need to continue into 2026. Dominion Energy understands that the ITR allows for flexibility for shifting certain activities within the 5-year period of the rule with the understanding that takes are not expected to exceed those requested in Table 39 of this memo in any year.					

## 2 REVISED TAKE ESTIMATES

The following tables reflect the updated exposure modeling results for up to 183 piling events associated with WTG foundations, rather than the up to 205 piling events in the original ITR Application, and three Offshore Substation foundation installations. A reduction from 205 to 183 potential total WTG piling events corresponds to an overall reduction in take within the Lease Area, as well as an overall reduction in take across the five-year duration of Project activities.

Note that based on the revised installation schedule, only the pile driving effort in years 2025 and 2026 would change. Therefore, requested take associated with foundation installation in 2024 (Table 25b) remains consistent with that of the most recent Addendum, initially submitted September 2022, and revised December 2022 and January 2023. Updated estimated take associated with foundation installation in 2025 is presented in Table 26a, and requested take is presented in Table 26b. Note that group size adjustment methodology remains the same as described in the most recent Addendum and was applied to the estimated take to derive the requested take in the same manner. Take requested in Tables 31b, 33b, and 37b are unchanged; however, these tables are included in this memo for reference. The methodology and schedule for estimating and requesting take remain unchanged for cofferdam installation, goal post installation, and high-resolution geophysical (HRG) survey efforts. The changes above are reflected in the total requested take per year in Table 38 and the total take across the five years of the LOA is presented in Table 39.

The table numbers shown below correspond to the tables within the ITR Application.

**Overview of Tables in this Memo**

ITR Application Table	Updated	Revisions Made
Table 25b. Requested Takes by Level A and B Harassment Resulting from Vibratory and Impact Pile Driving (2024) Assuming 10 dB Sound Attenuation Incorporating Group Size Adjustments	No	No change from Addendum provided January 10, 2023.
Table 26a. Updated Estimates of Potential Takes (Roberts and Halpin 2022) by Level A and B Harassment Resulting from Vibratory and Impact Pile Driving (2025) Assuming 10 dB Sound Attenuation	Yes	Estimated take updated in accordance with revised foundation installation schedule.
Table 26b. Requested Takes by Level A and B Harassment Resulting from Vibratory and Impact Pile Driving (2025) Assuming 10 dB Sound Attenuation Incorporating Group Size Adjustments	Yes	Requested take updated in accordance with revised foundation installation schedule. Group size adjustment methodology remains the same as described in the January 10, 2023 Addendum.
Table 27a. Updated Estimates of Potential Takes (Roberts and Halpin 2022) by Level A and B Harassment Resulting from Vibratory and Impact Pile Driving (2026) Assuming 10 dB Sound Attenuation	Removed	Removed in accordance with revised foundation installation schedule.
Table 27b. Requested Takes by Level A and B Harassment Resulting from Vibratory and Impact Pile Driving (2026) Assuming 10 dB Sound Attenuation Incorporating Group Size Adjustments	Removed	Removed in accordance with revised foundation installation schedule.
Table 31b. Requested Takes by Level B Harassment due to Vibratory Pile Driving	No	No change from Addendum provided January 10, 2023.
Table 33b. Requested Takes by Level B Harassment due to Trenchless Installation – Goal Posts	No	No change from Addendum provided January 10, 2023.
Table 37b. Requested Takes by Level B Harassment due to HRG Surveys Incorporating Group Size Adjustments	No	No change from Addendum provided January 10, 2023.
Table 38. Updated (Roberts and Halpin 2022) Summary of Annual Requested Takes by Level A and B Harassment Incorporating Group Size Adjustments	Yes	Requested take for 2025 and 2026 updated in accordance with revised foundation installation schedule.
Table 39. Updated Summary of 5-Year Requested Take Totals by Level A and Level B Harassment Incorporating Group Size Adjustments	Yes	Summary of requested take updated in accordance with revised foundation installation schedule.

### 3 FOUNDATION INSTALLATION ACTIVITIES

**Table 25b. Requested Takes by Level A and B Harassment Resulting from Vibratory and Impact Pile Driving (2024) Assuming 10 dB Sound Attenuation Incorporating Group Size Adjustments**

Species	Stock	Requested Take	
		Level A	Level B
Atlantic spotted dolphin	Western North Atlantic	0	2,108
Bottlenose dolphin a/	Southern Migratory Coastal	0	0
	Western North Atlantic Offshore	0	4,290
Common dolphin (short-beaked) i/	Western North Atlantic	0	1,720
Atlantic white-sided dolphin f/	Western North Atlantic	0	15
Common minke whale	Canadian East Coast	8	53
Fin whale g/	Western North Atlantic	4	112
Harbor Porpoise	Gulf of Maine/Bay of Fundy	1	23
Humpback whale g/	Gulf of Maine	4	129
North Atlantic right whale e/	Western Atlantic	0	6
Pantropical spotted dolphin b/	Western North Atlantic	0	20
Pilot whale <i>spp.</i> (long- and short-finned pilot whales) c/	Western North Atlantic	0	61
Risso's dolphin	Western North Atlantic	0	25
Gray seal d/	Western North Atlantic	1	62
Harbor seal d/	Western North Atlantic	1	62
Sei whale	Nova Scotia	1	3
Sperm whale h/	North Atlantic	0	3

**Notes:**

a/ Bottlenose dolphin density values from Duke University (Roberts and Halpin 2022) reported as "bottlenose" and not identified to stock. Given the foundation installation sound would be confined to beyond the 20 m isobath, where the offshore stock is anticipated to predominate, estimated Level B take for foundation installation was accrued to the offshore stock.

b/ Pantropical spotted dolphins are expected to be rare in the Project Area but are included in the analysis since their range extends to 40°N latitude (Jefferson et al. 2015). Takes are included to factor for this scenario and are adjusted based on 1 group size / year (20 per Reeves et al. 2002).

c/ Pilot whale density values from Duke University (Roberts and Halpin 2022) reported as "*Globicephala spp*" and not species-specific. As described in Section 4.1.4, both the short-finned and long-finned pilot whale occur in the Mid-Atlantic, though the short-finned pilot whale tends to occur in more southern waters.

d/ Pinniped requested take attributed 50% to harbor seals and 50% to gray seals.

e/ Mitigation measures described in Section 11 of the Request for Rulemaking and Letter of Authorization will be implemented to ensure there is no Level A take of North Atlantic right whales; therefore, no Level A take is requested for this species. Level B take for foundation installation adjusted for group size of 1 individual for months with monthly density < 0.01 when construction may occur (May – October) and 2 individuals for months with monthly density > 0.01 when construction may occur (May – October).

f/ Atlantic white-sided dolphins are not expected in the Project Area, but take has been included as a precautionary measure based on recommendation from NOAA Fisheries to account for potential future shift in habitat use by the species. Adjusted based on 1 group size / year (15 per Reeves et al. 2002).

g/ Adjusted based on PSO data (max daily density x days of activity).

h/ Adjusted based on 1 group size / year (3 per Barkaszi and Kelly 2019).

i/ Adjusted based on 1 group size / day (20 per Dominion Energy 2021).

**Table 26a. Updated Estimates of Potential Takes (Roberts and Halpin 2022) by Level A and B Harassment Resulting from Vibratory and Impact Pile Driving (2025) Assuming 10 dB Sound Attenuation**

Species	Stock	Estimated Take	
		Level A	Level B
Atlantic spotted dolphin	Western North Atlantic	0	1,896
Bottlenose dolphin a/	Southern Migratory Coastal	0	0
	Western North Atlantic Offshore	0	3,602
Common dolphin (short-beaked)	Western North Atlantic	0	559
Atlantic white-sided dolphin e/	Western North Atlantic	NA	NA
Common minke whale	Canadian East Coast	7	48
Fin whale	Western North Atlantic	3	19
Harbor Porpoise	Gulf of Maine/Bay of Fundy	1	20
Humpback whale	Gulf of Maine	4	14
North Atlantic right whale f/	Western Atlantic	1	2
Pantropical spotted dolphin b/	Western North Atlantic	0	4
Pilot whale <i>spp.</i> (long- and short-finned pilot whales) c/	Western North Atlantic	0	50
Risso's dolphin	Western North Atlantic	0	23
Gray seal d/	Western North Atlantic	1	53
Harbor seal d/	Western North Atlantic	1	53
Sei whale	Nova Scotia	1	2
Sperm whale	North Atlantic	0	1

## Notes:

a/ Bottlenose dolphin density values from Duke University (Roberts and Halpin 2022) reported as "bottlenose" and not identified to stock. Given the foundation installation sound would be confined to beyond the 20 m isobath, where the offshore stock is anticipated to predominate, estimated Level B take for foundation installation was accrued to the offshore stock.

b/ Pantropical spotted dolphins are expected to be rare in the Project Area but are included in the analysis since their range extends to 40°N latitude (Jefferson et al. 2015).

c/ Pilot whale density values from Duke University (Roberts and Halpin 2022) reported as "*Globicephala spp*" and not species-specific. As described in Section 4.1.4, both the short-finned and long-finned pilot whale occur in the Mid-Atlantic, though the short-finned pilot whale tends to occur in more southern waters.

d/ Pinniped estimated take attributed 50% to harbor seals and 50% to gray seals.

e/ Atlantic white-sided dolphins are not expected in the Project Area, but consideration of take has been included as a precautionary measure based on recommendation from NOAA Fisheries to account for potential future shift in habitat use by the species. This species was incorporated after the animat analysis was completed; therefore, take was not estimated for this species and is reported as NA, "Not Applicable".

f/ Mitigation measures described in Section 11 of the Request for Rulemaking and Letter of Authorization will be implemented to ensure there is no Level A take of North Atlantic right whales; therefore, no Level A take is requested for this species as presented below in Table 26b.

**Table 26b. Requested Takes by Level A and B Harassment Resulting from Vibratory and Impact Pile Driving (2025) Assuming 10 dB Sound Attenuation Incorporating Group Size Adjustments**

Species	Stock	Requested Take	
		Level A	Level B
Atlantic spotted dolphin	Western North Atlantic	0	1,896
Bottlenose dolphin a/	Southern Migratory Coastal	0	0
	Western North Atlantic Offshore	0	3,602
Common dolphin (short-beaked) i/	Western North Atlantic	0	1,380
Atlantic white-sided dolphin f/	Western North Atlantic	0	15
Common minke whale	Canadian East Coast	7	48
Fin whale g/	Western North Atlantic	3	90
Harbor Porpoise	Gulf of Maine/Bay of Fundy	1	20
Humpback whale g/	Gulf of Maine	4	104
North Atlantic right whale e/	Western Atlantic	0	6
Pantropical spotted dolphin b/	Western North Atlantic	0	20
Pilot whale <i>spp.</i> (long- and short-finned pilot whales) c/	Western North Atlantic	0	50
Risso's dolphin	Western North Atlantic	0	23
Gray seal d/	Western North Atlantic	1	53
Harbor seal d/	Western North Atlantic	1	53
Sei whale	Nova Scotia	1	2
Sperm whale h/	North Atlantic	0	3

## Notes:

a/ Bottlenose dolphin density values from Duke University (Roberts and Halpin 2022) reported as "bottlenose" and not identified to stock. Given the foundation installation sound would be confined to beyond the 20 m isobath, where the offshore stock is anticipated to predominate, estimated Level B take for foundation installation was accrued to the offshore stock.

b/ Pantropical spotted dolphins are expected to be rare in the Project Area but are included in the analysis since their range extends to 40°N latitude (Jefferson et al. 2015). Takes are included to factor for this scenario and are adjusted based on 1 group size / year for all activities (20 per Reeves et al. 2002).

c/ Pilot whale density values from Duke University (Roberts and Halpin 2022) reported as "*Globicephala spp*" and not species-specific. As described in Section 4.1.4, both the short-finned and long-finned pilot whale occur in the Mid-Atlantic, though the short-finned pilot whale tends to occur in more southern waters.

d/ Pinniped requested take attributed 50% to harbor seals and 50% to gray seals.

e/ Mitigation measures described in Section 11 of the Request for Rulemaking and Letter of Authorization will be implemented to ensure there is no Level A take of North Atlantic right whales; therefore, no Level A take is requested for this species. Level B take for foundation installation adjusted for group size of 1 individual for months with monthly density < 0.01 when construction may occur (May – October) and 2 individuals for months with monthly density > 0.01 when construction may occur (May – October).

f/ Atlantic white-sided dolphins are not expected in the Project Area, but consideration of take has been included as a precautionary measure based on recommendation from NOAA Fisheries to account for potential future shift in habitat use by the species. Adjusted based on 1 group size / year (15 per Reeves et al. 2002).

g/ Adjusted based on PSO data (max daily density x days of activity).

h/ Adjusted based on 1 group size / year (3 per Barkaszi and Kelly 2019).

i/ Adjusted based on 1 group size / day (20 per Dominion Energy 2021).



**Table 27a. Updated Estimates of Potential Takes (Roberts and Halpin 2022) by Level A and B Harassment Resulting from Vibratory and Impact Pile Driving (2026) Assuming 10 dB Sound Attenuation**

*[This Table has been removed.]*

**Table 27b. Requested Takes by Level A and B Harassment Resulting from Vibratory and Impact Pile Driving (2026) Assuming 10 dB Sound Attenuation Incorporating Group Size Adjustments**

*[This Table has been removed.]*

## 4 TRENCHLESS INSTALLATION - COFFERDAM INSTALLATION ACTIVITIES

**Table 31b. Requested Takes by Level B Harassment due to Vibratory Pile Driving**

Species	Stock	Requested Take by Level B Harassment
Atlantic spotted dolphin f/	Western North Atlantic	240
Bottlenose dolphin a/	Southern migratory coastal stock	180
Common dolphin (short beaked) g/	Western North Atlantic	240
Atlantic White-sided dolphin e/	Western North Atlantic	5
Common minke whale	Canadian east coast	2
Fin whale	Western North Atlantic	1
Harbor porpoise	Western North Atlantic	7
Humpback whale	Gulf of Maine	1
North Atlantic right whale	Western North Atlantic	0
Pantropical spotted dolphin b/	Western North Atlantic	0
Pilot whale spp. (long- and short-finned pilot whales) c/	Western North Atlantic	1
Risso's dolphin	Western North Atlantic	0
Gray seal d/	Western North Atlantic	14
Harbor seal d/	Western North Atlantic	14
Sei whale	Nova Scotia	0
Sperm whale	North Atlantic	0

**Notes:**

a/ Bottlenose dolphin density values from Duke University (Roberts and Halpin 2022) reported as "bottlenose" and not identified to stock. Given the cofferdam installation sound would be confined to below the 20 m isobath, where the coastal stock is anticipated to predominate, estimated Level B take for cofferdam installation was accrued to the coastal stock. Adjusted based on 1 group size / day (15 per Jefferson et al. 2015).

b/ Pantropical spotted dolphins are expected to be rare in the Project Area but are included in the analysis since their range extends to 40°N latitude (Jefferson et al. 2015).

c/ Pilot whale density values from Duke University (Roberts and Halpin 2022) reported as "*Globicephala spp.*" and not species-specific. As the short-finned pilot whale is the smaller stock, take estimates have been assumed to be of this stock to be conservative. As described in Section 4.1.4, both the short-finned and long-finned pilot whale occur in the Mid-Atlantic, though the short-finned pilot whale tends to occur in more southern waters.

d/ Pinniped density values from Duke University (Roberts and Halpin 2022) reported as "seals" and not species-specific; therefore, for requested takes 50% accrued to harbor seals and 50% accrued to gray seals.

e/ Atlantic white-sided dolphins are not expected in the Project Area, but consideration of take has been included as a precautionary measure based on recommendation from NOAA Fisheries to account for potential future shift in habitat use by the species.

f/ Atlantic spotted dolphin adjusted based on 1 group size / day (20 per Dominion Energy 2020, Jefferson et al. 2015).

g/ Short-beaked common dolphin: Adjusted based on 1 group size / day (20 per Dominion Energy 2021).

## 5 TRENCHLESS INSTALLATION – GOAL POSTS

**Table 33b. Requested Takes by Level B Harassment due to Trenchless Installation – Goal Posts**

Species	Stock	Requested Take (No.)
Atlantic spotted dolphin f/	Western North Atlantic	360
Bottlenose dolphin a/	Southern Migratory Coastal	270
Common dolphin (short beaked) g/	Western North Atlantic	360
Atlantic White-sided dolphin e/	Western North Atlantic	1
Common minke whale	Canadian east coast	0
Fin whale	Western North Atlantic	0
Harbor porpoise	Western North Atlantic	1
Humpback whale	Gulf of Maine	0
North Atlantic right whale	Western North Atlantic	0
Pantropical spotted dolphin b/	Western North Atlantic	0
Pilot whale spp. (long- and short-finned pilot whales) c/	Western North Atlantic	0
Risso's dolphin	Western North Atlantic	0
Gray seal d/	Western North Atlantic	2
Harbor seal d/	Western North Atlantic	2
Sei whale	Nova Scotia	0
Sperm whale	North Atlantic	0
<p>Notes:</p> <p>a/ Bottlenose dolphin density values from Duke University (Roberts and Halpin 2022) reported as “bottlenose” and not identified to stock. Given the cofferdam installation sound would be confined to below the 20 m isobath, where the coastal stock is anticipated to predominate, estimated Level B take for cofferdam installation was accrued to the coastal stock. Adjusted based on 1 group size (15) / day (Jefferson et al. 2015).</p> <p>b/ Pantropical spotted dolphins are expected to be rare in the Project Area but are included in the analysis since their range extends to 40°N latitude (Jefferson et al. 2015).</p> <p>c/ Pilot whale density values from Duke University (Roberts and Halpin 2022) reported as “Globicephala spp.” and not species-specific.</p> <p>d/ Pinniped density values from Duke University (Roberts and Halpin 2022) reported as “seals” and not species-specific; therefore, for requested takes 50% accrued to harbor seals and 50% accrued to gray seals.</p> <p>e/ Atlantic white-sided dolphins are not expected in the Project Area, but consideration of take has been included as a precautionary measure based on recommendation from NOAA Fisheries to account for potential future shift in habitat use by the species.</p> <p>f/ Atlantic spotted dolphin adjusted based on 1 group size / day (20 per Dominion Energy 2020, Jefferson et al. 2015).</p> <p>g/ Short-beaked common dolphin: Adjusted based on 1 group size / day (20 per Dominion Energy 2021).</p>		

## 6 HRG SURVEY ACTIVITIES

**Table 37b. Requested Takes by Level B Harassment due to HRG Surveys Incorporating Group Size Adjustments**

Species	Stock	HRG 2024	HRG 2025	HRG 2026	HRG 2027	HRG 2028	HRG 2029 h/
North Atlantic right whale	Western Atlantic	0	1	0	2	2	0
Humpback whale	Gulf of Maine	0	2	0	3	3	0
Fin whale	Western North Atlantic	0	1	0	2	2	0
Sei whale	Nova Scotia	0	1	0	1	1	0
Sperm whale	North Atlantic	0	0	0	0	0	0
Common minke whale	Canadian East Coast	1	3	1	4	4	0
Pantropical spotted dolphin a/	Western North Atlantic	20	20	20	20	20	0
Pilot whale spp. (long- and short-finned pilot whales) b/	Western North Atlantic	20	20	20	20	20	0
Bottlenose dolphin c/	Southern Migratory Coastal, Western North Atlantic Offshore	975	3,735	870	5,520	5,520	0
Atlantic white-sided dolphin g/	Western North Atlantic	15	15	15	15	15	0
Common dolphin (short-beaked) d/	Western North Atlantic	1,300	4,980	1,160	7,360	7,360	0
Atlantic spotted dolphin d/	Western North Atlantic	1,300	4,980	1,160	7,360	7,360	0
Risso's dolphin e/	Western North Atlantic	25	25	25	25	25	0
Harbor porpoise	Gulf of Maine/Bay of Fundy	5	20	5	30	30	0
Gray seal f/	Western North Atlantic	5	19	5	29	29	0
Harbor seal f/	Western North Atlantic	5	19	5	29	29	0

Notes:

a/ Pantropical spotted dolphins are expected to be rare in the Project Area but are included in the analysis since their range extends to 40°N latitude (Jefferson et al. 2015). Takes are adjusted based on 1 group size / year (20 per Reeves et al. 2002).

b/ Pilot whale density values from Duke University (Roberts and Halpin 2022) reported as "*Globicephala spp*" and not species-specific. As described in Section 4.1.4, both the short-finned and long-finned pilot whale occur in the Mid-Atlantic, though the short-finned pilot whale tends to occur in more southern waters. A group size of 20 animals per year (Jefferson et al. 2015) was used for requested take as a precautionary measure.

c/ Bottlenose dolphin density values from Duke University (Roberts and Halpin 2022) reported as "bottlenose" and not identified to stock. Given the lack of spatial resolution at this state of survey planning, estimates could not be split based on bottlenose dolphin stock preferred water depths and so are presented for the combined stock (Reeves et al. 2002; Hayes et al. 2022). Adjusted to one group size per day (15 individuals per Jefferson et al. 2015).

d/ Short-beaked common dolphins and Atlantic spotted dolphins estimated take numbers adjusted based on 1 group size / day of HRG activity (20 per Dominion Energy 2021, Dominion Energy 2020, and Jefferson et al. 2015).

e/ For Risso's dolphins, when calculated take was less than 1, a group size of 25 animals per year was used for requested take as a precautionary measure (Dominion Energy 2021, Jefferson et al. 2015).

f/ Pinniped density values from Duke University (Roberts and Halpin 2022) reported as "seals" and not species-specific. The final calculated estimated and requested takes were accrued 50% to harbor and 50% to gray seals.

g/ Atlantic white-sided dolphins are not expected in the Project Area, but consideration of take has been included as a precautionary measure based on recommendation from NOAA Fisheries to account for potential future shift in habitat use by the species. Adjusted based on 1 group size / year (15 per Reeves et al. 2002).

h/ Given that the LOA is not anticipated to be begin until March 2024, the 5-year period that it covers will extend into several months of 2029, however no activities are planned during that time and therefore no take is requested for 2029.

## 7 TOTAL REQUESTED HARASSMENT TAKE

**Table 38. Updated (Roberts and Halpin 2022) Summary of Annual Requested Takes by Level A and B Harassment Incorporating Group Size Adjustments**

Species	Stock	2024			2025			2026			2027		2028		2029 e/	
		Requested Take (No.) Behavior	Requested Take (No.) Injury	% Stock	Requested Take (No.) Behavior	Requested Take (No.) Injury	% Stock	Requested Take (No.) Behavior	Requested Take (No.) Injury	% Stock	Requested Take (No.) Behavior	% Stock	Requested Take (No.) Behavior	% Stock	Requested Take (No.) Behavior	% Stock
North Atlantic right whale	Western North Atlantic	6	0	1.63	7	0	1.90	0	0	0.00	2	0.54	2	0.54	0	0
Humpback whale	Gulf of Maine	130	4	9.60	106	4	7.88	0	0	0.00	3	0.22	3	0.22	0	0
Fin whale	Western North Atlantic	113	4	1.72	91	3	1.38	0	0	0.00	2	0.03	2	0.03	0	0
Sei whale	Nova Scotia	3	1	0.06	3	1	0.06	0	0	0.00	1	0.02	1	0.02	0	0
Sperm whale	North Atlantic	3	0	0.07	3	0	0.07	0	0	0.00	0	0.00	0	0.00	0	0
Common minke whale	Canadian east coast	56	8	0.29	51	7	0.26	1	0	0.01	4	0.02	4	0.02	0	0
Pantropical spotted dolphin a/	Western North Atlantic	40	0	0.61	40	0	0.61	20	0	0.30	20	0.30	20	0.30	0	0
Pilot whale spp. (long- and short-finned pilot whales) b/	Western North Atlantic	82	0	0.21	70	0	0.18	20	0	0.05	20	0.05	20	0.05	0	0
Bottlenose dolphin	Western North Atlantic Offshore	4,290	0	6.83	3,602	0	5.73	0	0	0.00	0	0.00	0	0.00	0	0
	Southern Migratory Coastal	450	0	12.00	0	0	0.00	0	0	0.00	0	0.00	0	0.00	0	0

Species	Stock	2024			2025			2026			2027		2028		2029 e/	
		Requested Take (No.) Behavior	Requested Take (No.) Injury	% Stock	Requested Take (No.) Behavior	Requested Take (No.) Injury	% Stock	Requested Take (No.) Behavior	Requested Take (No.) Injury	% Stock	Requested Take (No.) Behavior	% Stock	Requested Take (No.) Behavior	% Stock	Requested Take (No.) Behavior	% Stock
	Southern Migratory Coastal; Western North Atlantic Offshore	975	0	1.46	3,735	0	5.61	870	0	1.31	5,520	8.29	5,520	8.29	0	0
Common dolphin (short beaked)	Western North Atlantic	3,620	0	2.09	6,360	0	3.67	1,160	0	0.67	7,360	4.26	7,360	4.26	0	0
Atlantic spotted dolphin	Western North Atlantic	4,008	0	10.04	6,876	0	17.22	1,160	0	2.91	7,360	18.44	7,360	18.44	0	0
Atlantic white-sided dolphin c/	Western North Atlantic	36	0	0.04	30	0	0.03	15	0	0.02	15	0.02	15	0.02	0	0
Risso's dolphin	Western North Atlantic	50	0	0.14	48	0	0.14	25	0	0.07	25	0.07	25	0.07	0	0
Harbor porpoise	Gulf of Maine/Bay of Fundy	36	1	0.04	40	1	0.04	5	0	0.01	30	0.03	30	0.03	0	0
Harbor seal d/	Western North Atlantic	83	1	0.14	72	1	0.12	5	0	0.01	29	0.05	29	0.05	0	0
Gray seal d/	Western North Atlantic	83	1	0.31	72	1	0.27	5	0	0.02	29	0.11	29	0.11	0	0

Notes:  
a/ Pantropical spotted dolphins are expected to be rare in the Project Area but are included in the analysis since their range extends to 40°N latitude (Jefferson et al. 2015).  
b/ Pilot whale density values from Duke University (Roberts and Halpin 2022) reported as "*Globicephala spp.*" and not species-specific. As the short-finned pilot whale is the smaller stock, take estimates have been assumed to be of this stock to be conservative. As described in Section 4.1.4, both the short-finned and long-finned pilot whale occur in the Mid-Atlantic, though the short-finned pilot whale tends to occur in more southern waters.  
c/ Atlantic white-sided dolphins are not expected in the Project Area, but consideration of take has been included as a precautionary measure based on recommendation from NOAA Fisheries to account for potential future shift in habitat use by the species.  
d/ Pinniped density values from Duke University (Roberts and Halpin 2022) reported as "seals" and not species-specific. The final calculated estimated and requested takes were accrued 50% to harbor seals and 50% to gray seals.  
e/ Given that the LOA is not anticipated to begin until March 2024, the 5-year period that it covers will extend into several months of 2029; however, no activities are planned during that time and therefore no take is requested for 2029.

**Table 39. Updated Summary of 5-Year Requested Take Totals by Level A and Level B Harassment Incorporating Group Size Adjustments**

Species	Stock	5 Year Take Total (No.) Behavior	5 Year Take Total (No.) Injury
North Atlantic right whale	Western North Atlantic	17	0
Humpback whale	Gulf of Maine	242	8
Fin whale	Western North Atlantic	208	7
Sei whale	Nova Scotia	8	2
Sperm whale	North Atlantic	6	0
Common minke whale	Canadian east coast	116	15
Pantropical spotted dolphin	Western North Atlantic	140	0
Pilot whale <i>spp.</i> (long- and short-finned pilot whales)	Western North Atlantic	212	0
Bottlenose dolphin	Western North Atlantic Offshore	7,892	0
	Southern Migratory Coastal	450	0
	Southern Migratory Coastal; Western North Atlantic Offshore	16,620	0
Common dolphin (short beaked)	Western North Atlantic	25,860	0
Atlantic spotted dolphin	Western North Atlantic	26,764	0
Atlantic white-sided dolphin	Western North Atlantic	111	0
Risso's dolphin	Western North Atlantic	173	0
Harbor porpoise	Gulf of Maine/Bay of Fundy	141	2
Harbor seal	Western North Atlantic	218	2
Gray seal	Western North Atlantic	218	2

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