



# MARINE MAMMAL COMMISSION

21 April 2021

Ms. Jolie Harrison, Chief  
Permits and Conservation Division  
Office of Protected Resources  
National Marine Fisheries Service  
1315 East-West Highway  
Silver Spring, MD 20910-3225

Dear Ms. Harrison:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the request submitted by the U.S. Navy (the Navy) seeking an authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act (the MMPA) to take small numbers of marine mammals by harassment. The taking would be incidental to conducting construction activities in association with modification of a dry dock and berths in Kittery, Maine. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 8 April 2021 notice (86 Fed. Reg. 18244) on its proposal to issue an authorization, subject to certain conditions. This authorization would cover Year 2 activities of a six-year project. The Navy plans to request regulations for the remaining four years of activities.

## Background

The Navy proposed to install and remove piles and conduct confined blasting during modification of a dry dock and various berths at the Portsmouth Naval Shipyard (PNS). The Navy would (1) install up to 217 30-in pipe piles, 28-in Z-sheet piles, or 18-in flat-webbed sheet piles using a vibratory and/or an impact hammer and (2) remove 25 30-in pipe piles using a vibratory hammer. Pile-driving and removal activities would occur on up to 29 days. For confined blasting, operators would drill a 4.5-in diameter hole to place each blast charge. Each blasting event could involve up to 30 individual charges with a maximum net explosive weight of 120 lbs/charge that would be detonated every 8 msec. Up to 150 blasting events would occur on up to 130 days, with no more than two events per day. Pile driving and removal and blast-charge drilling would occur concurrently. All activities would occur during daylight hours<sup>1</sup> only.

NMFS indicated that it had preliminarily determined that, at most, the proposed activities could cause Level A and/or B harassment of small numbers of five marine mammal species. It also anticipates that any impact on the affected species and stocks would be negligible. NMFS does not anticipate any take of marine mammals by death or serious injury and believes that the potential for temporary or permanent hearing impairment would be at the least practicable level because of the

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<sup>1</sup> Except for blast-hole drilling. Drilling would occur no earlier than pre-dawn (from 3:00 am on) and would not occur from sunset to pre-dawn.

proposed mitigation measures. The proposed mitigation, monitoring, and reporting measures include—

- refraining from conducting blasting events until at least one sheet pile face of the west closure wall has been installed;
- conducting empirical sound source and/or sound propagation measurements during installation of 10 Z-sheet piles<sup>2</sup>, 10 flat-webbed sheet piles<sup>2</sup>, 4 30-in piles<sup>3</sup>, 10 blast-charge drilling events, and 10 blasting events<sup>4</sup> and adjusting the Level A and B harassment zones, if necessary;
- using a bubble curtain during nighttime blast-charge drilling and all blasting events and ensuring the various performance standards are met;
- using soft-start, delay, and shut-down procedures;
- using delay and shut-down procedures if a species for which authorization has not been granted or for which the authorized numbers of takes have been met approaches or is observed within the Level A or B harassment zone<sup>5</sup>;
- using qualified protected species observers (PSOs; land-, pier-, and/or vessel-based) to monitor the Level A and B harassment zones for 30 minutes before, during, and for 30 minutes after the various activities;
- ceasing other heavy machinery work if any marine mammal comes within 10 m of the vessel or equipment;
- reporting injured and dead marine mammals to NMFS and the Northeast Stranding Network and suspending activities, if appropriate; and
- submitting a draft and final acoustic and marine mammal monitoring report to NMFS.

## Deny or republish

The Navy has conducted two multi-year projects at PNS since 2016, and the Commission has had extensive comments on all three of the Navy's previous authorizations and its recent authorization renewal for Year 1 activities (see the Commission's [1 March 2021](#)<sup>6</sup>, [6 May 2019](#), [2 January 2018](#), and [30 September 2016](#) letters that are appended to this letter). The Commission is unsure why there continue to be numerous issues for authorizations involving activities at PNS. In

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<sup>2</sup> During vibratory and impact pile driving.

<sup>3</sup> During vibratory pile driving.

<sup>4</sup> NMFS omitted from the *Federal Register* notice that 10 flat-webbed piles would be monitored during vibratory and impact pile driving and 4 30-in steel *pipe* piles would be monitored during vibratory pile driving (86 Fed. Reg. 18266). These were correctly included in condition 5(d)(ii) of the draft authorization.

<sup>5</sup> The *Federal Register* notice only mentions the Level B harassment zones (86 Fed. Reg. 18264), while the draft authorization denotes generic 'harassment zones' (condition 4(j)). Since the Level A harassment zones for high-frequency (HF) cetaceans are larger than the Level B harassment zones during impact pile driving, condition 4(j) should be clear that it applies to the Level A or B harassment zones.

<sup>6</sup> The Commission appreciates that NMFS resolved some of the issues that the Commission noted in its most recent letter regarding an authorization renewal for Year 1 activities, including revising the activity timeframe and the numbers of Level A and B harassment takes of harbor porpoises and harbor and gray seals and Level B harassment takes of harp and hooded seals and ensuring that the authorization renewal included the same mitigation and monitoring measures as the original authorization. NMFS also contacted the Navy and emphasized the importance of following the final authorization requirements regarding its hydroacoustic monitoring reports. In any event, such issues should have been recognized and resolved before the *Federal Register* notice published for public comment.

this case, the proposed activities involve confined blasting events, which are more technically complex and could have far greater consequences than general pile-driving and -removal activities. It also is unclear why NMFS did not have its acoustic expert review the underlying documentation or why it did not include mitigation and monitoring measures consistent with previous authorizations involving confined blasting activities. Regardless, the Navy must improve the quality of the authorization applications and marine mammal and hydroacoustic monitoring plans and reports submitted. At the same time, NMFS must review the documentation submitted, *Federal Register* notices to be published, and proposed authorizations to be issued more thoroughly and ensure that its acoustic expert reviews all applications involving confined blasting activities.

In its 1 March 2021 letter, the Commission indicated that it would recommend denial of the authorization outright if NMFS published a proposed rule<sup>7</sup> with deficiencies similar to those previously identified. Rather than publish a proposed rule, NMFS published another proposed incidental harassment authorization full of errors, omissions, inconsistencies, and ambiguities. As such, the Commission recommends that NMFS either deny the proposed incidental harassment authorization or publish a revised *Federal Register* notice and draft authorization with another 30-day comment period based on resolving the following deficiencies, which include—

- incorrectly referencing the source levels for vibratory and impact installation of 28-in Z-sheet piles<sup>8</sup> as California Department of Transportation (Caltrans; 2015). The source level for vibratory installation originated from Department of the Navy (2015). However, it is unclear where the impact installation source levels originated, as those specified in Table 6 of the *Federal Register* notice and Table 6-4 of the application cannot be located in either referenced document.
- omitting the input parameters used to estimate the Level A harassment zones for pile driving and removal and blast-charge drilling from the *Federal Register* notice and application.
  - This is basic information needed to substantiate the Level A harassment zones<sup>9</sup> and to ensure that the Level A harassment takes are sufficient, and this is standard information included in other construction-related *Federal Register* notices (84 Fed. Reg. 13263) and applications<sup>10</sup>, including those for activities at PNS.
  - This information also is necessary to ensure that the proposed mitigation and monitoring measures are sufficient. For example, the Level A harassment zones for blast-charge drilling appear to be based on only 23 minutes of activities, which is nonsensical for drilling up to 30 holes up to 11 m in depth. Eight hours of drilling activities, which is consistent with other construction activities, would equate to a Level A harassment zone of 53.5 m for HF cetaceans<sup>11</sup> and would explain the seemingly random notation of a 55-m shut-down zone in section 11.2.4 of the Navy's application in which nighttime shut-

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<sup>7</sup> At the time, the Commission thought that the remaining activities were to be covered under a proposed rule, rather than an incidental harassment authorization for Year 2 and a rulemaking for Years 3–6.

<sup>8</sup> In which proxy source levels from 30-in pipe piles were used.

<sup>9</sup> Including whether it was appropriate for NMFS to discount concurrent pile-driving and -removal and blast-charge drilling activities. Discounting such activities directly contradicts NMFS's standard approach that source levels in fact add to one another when vibratory and drilling activities occur concurrently, e.g., see Tables 12 and 13 (86 Fed. Reg. 17471).

<sup>10</sup> See the 2019 PNS application, which also includes results based on NMFS's user spreadsheet in Appendix B [https://media.fisheries.noaa.gov/dam-migration/navy\\_portsmouth\\_2019iha\\_application\\_opr1.pdf](https://media.fisheries.noaa.gov/dam-migration/navy_portsmouth_2019iha_application_opr1.pdf).

<sup>11</sup> And 32.7 m for phocids.

- down procedures for blast-charge drilling are discussed. NMFS specified that it would require the Navy to implement a 10-m shut-down zone for drilling (see Table 12 in the *Federal Register* notice and Table 2 in the draft authorization).
- omitting from the *Federal Register* notice that practical spreading was used to estimate Level A and B harassment zones for pile-driving and -removal and blast-charge drilling activities and that spherical spreading with absorption was used for blasting events.
  - incorrectly specifying the Level B harassment zone as more than 46 km rather than 13.6 km for removal of 30-in steel piles in Table 8 of the *Federal Register* notice and Table 6-7 of the application.
  - omitting any mention of the mortality and slight lung injury thresholds for blasting events in the application, including outdated mortality and slight lung injury thresholds in the *Federal Register* notice, and omitting the ranges to those thresholds in both the *Federal Register* notice and the application<sup>12</sup>.
    - The slight lung injury and mortality thresholds included in Table 5 are incorrect and inconsistent with those currently used by NMFS<sup>13</sup> and the Navy based on Department of the Navy (2017b; see Tables 4-5 and 4-6).
    - Slight lung injury has resulted in the larger of the injury zones (slight lung and GI tract) for HF cetaceans and phocids for both confined blasting (e.g., see Table 6 at 84 Fed. Reg. 11073)<sup>14</sup> and open-water detonations (e.g., Department of the Navy 2017a). For example, the zone for slight lung injury for a harbor porpoise and harbor seal at the surface (1 m in depth) would be approximately 27 and 23 m, respectively, while the Navy estimated the zone for GI tract injury to be only 9 m (see Table 6-9).
  - omitting the ranges to the peak sound pressure level ( $SPL_{peak}$ ) thresholds for permanent and temporary threshold shifts (PTS and TTS, respectively) for blasting events in the *Federal Register* notice and application.
    - Ranges to the  $SPL_{peak}$  thresholds have been greater than ranges to the cumulative sound exposure level ( $SEL_{cum}$ ) thresholds for PTS for HF cetaceans and phocids for confined blasting events (e.g., see Table 6 at 84 Fed. Reg. 11073) and PTS and TTS for open-water detonations (e.g., Department of the Navy 2017a).
  - incorrectly assuming that only one blasting event rather than two would occur on a given day.
    - Ranges to PTS, TTS, and behavioral disturbance for the  $SEL_{cum}$  thresholds were underestimated, while the numbers of Level A and B harassment takes were underestimated for harbor porpoises and the numbers of Level A harassment takes were underestimated for harbor and gray seals<sup>15</sup>.
  - incorrectly specifying the ensonified areas in Tables 8 and 9 of the *Federal Register* notice.

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<sup>12</sup> The Navy also incorrectly noted in the application that 243 dB re 1  $\mu Pa_{peak}$  equated to the distance that resulted in gastrointestinal tract (GI) injury, slight lung injury, and mortality. 243 dB re 1  $\mu Pa_{peak}$  is the threshold the Navy uses to estimate the numbers of takes for GI tract injury, while 237 dB re 1  $\mu Pa_{peak}$  is the threshold the Navy uses to estimate the range to effects (Department of the Navy 2017b). Neither of these are synonymous with, or even similar to, the impulse thresholds used for mortality and slight lung injury, which are based on Pa-sec metrics.

<sup>13</sup> NMFS specified the mortality and slight lung injury thresholds from the Navy's Phase II (Finneran and Jenkins 2012) rather than its Phase III training and testing activities (Department of the Navy 2017b).

<sup>14</sup> The Commission acknowledges that those zones were based on the outdated thresholds from Finneran and Jenkins (2012), but the trend holds for thresholds from both Finneran and Jenkins (2012) and Department of the Navy (2017b).

<sup>15</sup> It is unclear where the 22 Level A harassment takes of harbor seals originated in Table 11 of the *Federal Register* notice, as they do not match the number of takes specified in Table 6-11 in the application.

- All of the ensonified areas are incorrect in the *Federal Register* notice. For example, NMFS indicated that the ensonified area for Level A harassment for harbor porpoises during blasting activities was 335 m<sup>2</sup> in Table 9 of the notice<sup>16</sup>, while the Navy specified the area as 0.335 km<sup>2</sup> in Table 6-9 of the application. As another example, NMFS indicated that the Level A harassment zone for phocids during blasting events was 9.78 m<sup>2</sup> in Table 9 of the notice, while the Navy specified the area as 0.01978 km<sup>2</sup> in Table 6-9 of the application.
- inconsistently specifying the numbers of Level A and/or B harassment takes of harbor porpoises, harbor seals, and gray seals in Table 11 of the *Federal Register* notice and Table 6-11 of the application and unclearly specifying how the Level A harassment takes were estimated and during which activities they were expected to occur in the *Federal Register* notice.
- omitting standard mitigation, monitoring, and reporting measures<sup>17</sup> related to blasting events consistent with previous incidental harassment authorizations<sup>18</sup> including
  - requiring stemming procedures to be implemented (see condition 4(d) in City of Juneau and condition 6(k) in the USACE final authorizations)
  - restricting blasting events to occur at least 30 minutes after sunrise and one hour before sunset<sup>19</sup> (see condition 4(c) in the City of Juneau and condition 6(h) in the USACE final authorizations)
  - requiring monitoring to occur for at least one hour after blasting activities cease (see condition 5(a)(viii) in City of Juneau and condition 6(o) in the USACE final authorization)
  - notifying NMFS and the Greater Atlantic Regional Stranding Coordinator or local stranding network at least 24 hours prior to commencing blasting events and within 24 hours after blasting events cease<sup>20</sup> (see condition 6(a) in the City of Juneau and conditions 6(c) and (d) in the USACE final authorizations).
  - immediately reporting any injured or dead marine mammal to the Greater Atlantic Regional Stranding Coordinator or local stranding network and following any instructions provided by the Stranding Coordinator or stranding network<sup>21</sup> (see condition 7(c) in the USACE final authorization).

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<sup>16</sup> There is a factor of 1,000,000 difference between square meters and square kilometers.

<sup>17</sup> Condition 4(d) in the draft authorization regarding delaying or ceasing activities did not specify that it applied to pile removal, blast-charge drilling, and blasting events. It only specified pile driving. As such, it is unclear what clearance time would be used for blasting events. In some previous authorizations, at least 30 minutes was used, while an indefinite timeframe was included for other authorizations.

<sup>18</sup> e.g., for City of Juneau ([https://media.fisheries.noaa.gov/dam-migration/statter\\_harbor\\_ak\\_2019\\_iha\\_opr1.pdf](https://media.fisheries.noaa.gov/dam-migration/statter_harbor_ak_2019_iha_opr1.pdf)) and U.S. Army Corps of Engineers (USACE; [https://media.fisheries.noaa.gov/dam-migration/usace\\_tampa\\_2018iha\\_issued\\_opr1.pdf](https://media.fisheries.noaa.gov/dam-migration/usace_tampa_2018iha_issued_opr1.pdf)). Similar requirements also were included for multiple authorizations issued to Caltrans ([https://media.fisheries.noaa.gov/dam-migration/caltrans\\_2018\\_iha\\_final.pdf](https://media.fisheries.noaa.gov/dam-migration/caltrans_2018_iha_final.pdf)).

<sup>19</sup> NMFS also specified that pile driving and removal would occur only during daylight hours in the *Federal Register* notice (86 Fed. Reg. 18264) but failed to include the same requirement in the draft authorization.

<sup>20</sup> If occurring on consecutive days, the Navy can inform them how long blasting is scheduled to last and when it has been completed.

<sup>21</sup> For Caltrans, the stranding network was on call and ready to respond to any injured or dead marine mammal, which may not be the case in Maine (see condition 5(h) in the final authorization). As such, it will be important for the Navy to follow any directions provided by the Stranding Coordinator or local stranding network.

- inconsistently specifying how many PSOs would be required to conduct monitoring and where they would be located in the *Federal Register* notice, draft authorization, and application.
  - The *Federal Register* notice indicated that “two (3) PSOs” would be required to monitor during all activities (86 Fed. Reg. 18266), with no specification on where the PSOs would be located.
  - The draft authorization indicated that two PSOs would be required to monitor during pile driving and removal and blast-charge drilling (condition 5b(i)) and four PSOs would be required to monitor activities that can impact the maximum ensonified area<sup>22</sup>, or range of impact (ROI), of 0.418 km<sup>2</sup> (condition 5b(ii)). Based on Table 3 of the draft authorization, that area would include all proposed activities. PSOs would be located at Berth 12, Berth 2 operations barge, Steamship<sup>23</sup>, Prescott Park, Four Tree Island, and/or Pierce Island.
  - The application indicated that a minimum of two PSOs would monitor but that two to three PSOs would be sufficient to observe the maximum ROI. PSOs would be located at Berth 12, Berth 2, Four Tree Island, Pierce Island, and/or Portsmouth Waterfront at Harbor Walk Park and could be land-, pier-, or vessel-based.
- inconsistently specifying reporting measures for injured and dead marine mammals in the *Federal Register* notice and draft authorization.
  - The *Federal Register* notice indicated that NMFS and the Greater Atlantic Regional Stranding Coordinator must be notified of any injured or dead marine mammals within 48 hours of the sighting and did not specify that activities that caused such injuries or mortalities must be halted (86 Fed. Reg. 18266).
  - The draft authorization indicated that NMFS and the Northeast Stranding Hotline must be contacted as soon as feasible and that activities that caused the injury or mortality must cease immediately and not resume until NMFS can review the circumstances of the incident and determine whether additional measures are warranted (condition 6(f)).
- publishing a proposed authorization absent a detailed hydroacoustic monitoring plan. The Navy has struggled with developing sufficient hydroacoustic monitoring plans previously and, more importantly, submitting hydroacoustic monitoring reports that fulfill all reporting requirements under previous PNS authorizations. Based on the information available, shortcomings include—
  - failing to require the Navy to report for each blasting event the total number of charges/delays, maximum net explosive weight (NEW) of a single charge and the total NEW of the event, timeframe between delays and total timeframe of the event, and sound levels in Pa-sec, as well as the total number of blasting events in a given day.
  - omitting whether pressure transducer(s) would be used to monitor blasting events<sup>24</sup> and whether the near-field hydrophone would be located at a distance that does not cause the device to be oversaturated.

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<sup>22</sup> The Commission notes that Table 9 in the *Federal Register* notice denoted that the maximum ensonified area during blasting events would be 355 m<sup>2</sup>, which as stated previously is incorrect and should likely be 0.355 km<sup>2</sup>. Regardless of the incorrect units and the error of a factor of 1,000, the fact that the ensonified area is less than 0.418 km<sup>2</sup> further confounds the monitoring requirements.

<sup>23</sup> Which presumably is the Isles of Shoals Steamship Company.

<sup>24</sup> If a pressure transducer is not used to estimate sound levels based on impulse, the hydrophone must have a very broad frequency response (10 Hz to more than 10 kHz) and an extremely high sampling rate (more than 500 kHz, some contractors have used 650 kHz).

- omitting whether the far-field hydrophone would be located sufficiently in the far field (at least a few hundred meters away from the sound source) for all activities.
- failing to recognize that concurrent pile driving and removal and blast-charge drilling could complicate interpretation of hydroacoustic monitoring results and to require the Navy to report whether concurrent activities occurred and what those activities entailed.
- failing to require that all root-mean-square SPL measurements be based on a time window that consists of 90 percent of the acoustic energy and that Level A<sup>25</sup> and B<sup>26</sup> harassment zones be reported for all activities and mortality zones be reported for blasting events.
- omitting the reporting requirement that the Navy extrapolate the numbers of animals taken to account for the percentages of the Level A or B harassment zones that were not visible *and* the percentage of time that activities occur at night consistent with previous authorizations (see condition 6(a)(ix) in another City of Juneau final authorization<sup>27</sup>).

### **Any future rulemaking or reports**

The Commission will recommend denial outright if NMFS publishes a proposed rule for activities at PNS with similar deficiencies. It should not be left to the Commission or public to determine what the agency intended. All information provided in *Federal Register* notices, proposed incidental harassment authorizations and rules, and final incidental harassment authorizations and rules must be clear, complete, accurate, and substantiated. The incomplete and error-filled state of the current *Federal Register* notice and draft authorization is a poor reflection on the agency that published it.

The poor quality of the Navy's final application, which had been through three revisions, leaves the Commission questioning both the quality of the original application submitted to NMFS and the effectiveness of the NMFS review process. The Commission is disappointed that the Navy was unable to implement its own thresholds appropriately and concerned that NMFS did not recognize the issues and deficiencies in the application. If the Navy continues to submit applications and marine mammal and hydroacoustic monitoring plans with such major deficiencies and marine mammal and hydroacoustic monitoring reports that do not comport with the requirements of the underlying final authorization for activities at PNS, the Commission recommends that NMFS return them to the Navy as incomplete and refrain from processing future authorization applications until the issues are resolved. NMFS should not have to remind the Navy of what is and is not required by an underlying authorization, particularly for ongoing activities and for requirements the Navy has been informed of repeatedly in the past.

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<sup>25</sup> Including slight lung injury and GI tract injury for blasting events.

<sup>26</sup> Including TTS for blasting events.

<sup>27</sup> [https://media.fisheries.noaa.gov/dam-migration/statter\\_year2\\_2020\\_iha.pdf](https://media.fisheries.noaa.gov/dam-migration/statter_year2_2020_iha.pdf).



Ms. Jolie Harrison  
21 April 2021  
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Please contact me if you have any questions regarding the Commission's recommendations.

Sincerely,



Peter O. Thomas, Ph.D.,  
Executive Director

cc: Amy Scholik-Schlomer, National Marine Fisheries Service  
Danielle Kitchen, Chief of Naval Operations  
Jaqueline Bort, Naval Facilities Engineering Command Atlantic  
Benjamin Colbert, Naval Sea Systems Command

## References

- Caltrans. 2015. Technical guidance for assessment and mitigation of the hydroacoustic effects of pile driving on fish. State of California Department of Transportation, Sacramento, California. 532 pages.
- Department of the Navy. 2015. Proxy source sound levels and potential bubble curtain attenuation for acoustic modeling of nearshore marine pile driving at Navy installations in Puget Sound. Naval Facilities Engineering Command Northwest, Silverdale, Washington. 57 pages.
- Department of the Navy. 2017a. Quantifying acoustic impacts on marine mammals and sea turtles: Methods and analytical approach for Phase III Training and Testing. Space and Naval Warfare Systems Center Pacific, San Diego and Naval Undersea Warfare Center, Newport. 91 pages.
- Department of the Navy. 2017b. Technical report: Criteria and thresholds for U.S. Navy acoustic and explosive effects analysis (Phase III). SSC Pacific, San Diego, California. 194 pages.
- Finneran, J.J., and A.K. Jenkins. 2012. Criteria and thresholds for U.S. Navy acoustic and explosive effects analysis. SPAWAR Marine Mammal Program, San Diego, California, 64 pages.





# MARINE MAMMAL COMMISSION

1 March 2021

Ms. Jolie Harrison, Chief  
Permits and Conservation Division  
Office of Protected Resources  
National Marine Fisheries Service  
1315 East-West Highway  
Silver Spring, MD 20910-3225

Dear Ms. Harrison:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the request submitted by the U.S. Navy (the Navy) seeking renewal of an authorization issued under section 101(a)(5)(D) of the Marine Mammal Protection Act (the MMPA) to take small numbers of marine mammals by harassment. The taking would be incidental to conducting construction activities in association with modification of a dry dock and berths in Kittery, Maine. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 22 February 2021 notice (86 Fed. Reg. 10545) on its proposal to issue an authorization renewal, subject to certain conditions.

The authorization renewal is associated with Year 3 of a multi-year project at the Portsmouth Naval Shipyard. The Navy submitted its original application to conduct the various Year 3 pile-driving and -removal activities in 2018. Since that time, NMFS has issued and re-issued the incidental harassment authorization for the proposed activities (86 Fed. Reg. 10546). The Navy's most recent authorization expires on 28 February 2021—the Navy has activities that have yet to be completed, as well as additional activities to conduct. The Commission had extensive comments on all three of the Navy's previous authorizations, see its [6 May 2019](#), [2 January 2018](#), and [30 September 2016](#) letters. In addition to the many concerns noted in previous letters, the Navy requested the authorization renewal to be effective on 1 March (86 Fed. Reg. 10547) and based its analyses on the proposed activities occurring for 29 days in March 2021. The public comment period does not close until 6 March, which would not allow for all activities to be conducted in March. Moreover, NMFS has not met its basic renewal issuance criteria.

## Renewal criteria

For an authorization renewal to be issued, NMFS requires that—

- A request for renewal is received no later than 60 days prior to the needed authorization renewal effective date. The Navy submitted its renewal request on 21 January 2021, 39 days before the effective date of 1 March.
- The request for renewal includes the following:
  - An explanation that the activities to be conducted under the proposed authorization renewal are identical to the activities analyzed under the initial authorization, are a subset of the activities, or include changes so minor (e.g., reduction in pile size) that the changes

do not affect the previous analyses, mitigation and monitoring requirements, or take estimates (with the exception of reducing the type or amount of taking). The Navy is requesting to increase the size of piles that could be installed from 24- to 27-in sheet piles.

- The Level A harassment zones would increase from (1) 13.7 m to 25.4 m for high-frequency (HF) cetaceans and 5.6 m to 10.4 m for phocids during vibratory pile driving and (2) 1,763 m to 2,056 m for HF cetaceans and 792 m to 924 m for phocids during impact pile driving (see Table 6 at 84 Fed. Reg. 24485 and Table 2 at 86 Fed. Reg. 10548).
  - The increase in pile size would nearly double the Level B harassment zone from 7.35 km (Table 6; 84 Fed. Reg. 24485) to 13.59 km (Table 2; 86 Fed. Reg. 10548) during vibratory pile driving and would more than double the Level B harassment zone from 1 km (Table 6; 84 Fed. Reg. 24485) to 2.5 km (Table 3; 86 Fed. Reg. 10548) during impact pile driving.
  - NMFS proposed to authorize only 2 Level A and 29 Level B harassment takes for harbor seals and 3 Level B harassment takes for gray seals. That equates to only one take per day for a species that is routinely observed in the project area and is not sufficient based on previous monitoring efforts for either species. Although the Navy did not conduct monitoring in March or April 2020, a gray seal was observed during only five days of monitoring in March 2018 and 6 to more than 10 individual harbor seals were observed routinely in the immediate project area<sup>1</sup> in April 2018. Both species have been observed well within the Level A harassment zone<sup>2</sup> of 924 m. The numbers of Level A and B harassment takes of harbor and gray seals have been underestimated and are likely to cause unnecessary delays and shutdowns.
  - NMFS did not propose to authorize any takes of harbor porpoises, hooded seals, or harp seals for the authorization renewal, citing that the densities were zero during the proposed construction period of March 2021. The densities are not zero based on those previously used by NMFS for spring, nor has the Navy's monitoring in March been sufficient to estimate revised densities for March (see the Navy's previous three monitoring reports). All three species are expected to be in the area in spring (e.g., 83 Fed. Reg. 3327, 84 Fed. Reg. 13258-13259<sup>3</sup>). The proposed monitoring zones are insufficient to prohibit taking of harbor porpoises (see Table 3 in the draft authorization<sup>4</sup>). Furthermore, NMFS apparently has not adjusted any of the harassment zones even though some are clipped by land.
  - NMFS did not propose to require the Navy to implement the same mitigation and monitoring measures as were included in the current authorization (see the draft<sup>5</sup> and current<sup>6</sup> authorizations). For example, conditions 4(a) and 5(b)(iii) of the current authorization are not included in the draft authorization.
- A preliminary monitoring report showing the results of the required monitoring to date and an explanation showing that the monitoring results do not indicate impacts of a scale

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<sup>1</sup> This does not account for any extrapolation to the extents of the Level B harassment zones.

<sup>2</sup> Particularly since the shut-down zone is only 50 m.

<sup>3</sup> Harp seals were observed by PSOs in May 2020 as well.

<sup>4</sup> The Level A harassment zones stipulated in Table 3 apply only to phocids. The zones are much larger for HF cetaceans.

<sup>5</sup> [https://media.fisheries.noaa.gov/2021-02/Navy\\_draftRenewalIHA\\_OPR1.pdf?null](https://media.fisheries.noaa.gov/2021-02/Navy_draftRenewalIHA_OPR1.pdf?null).

<sup>6</sup> [https://media.fisheries.noaa.gov/dam-migration/navypnsy\\_re-issuediha2020\\_opr1.pdf](https://media.fisheries.noaa.gov/dam-migration/navypnsy_re-issuediha2020_opr1.pdf).

or nature not previously analyzed or authorized. The Navy indicated in its preliminary 2020 monitoring report that the presence of active construction equipment reduced the PSO's ability to monitor fully the harassment zones from Berth 2 and, as a result, the Berth 2 observer location was shifted to a barge (Berth 2/Barge) to allow for complete monitoring. That shift did not occur until 1 September 2020. The extent to which the PSO's ability to monitor effectively from May through August at Berth 2 is unknown. Therefore it is unclear whether the full extents of the harassment zones were monitored effectively and, if they were not, the degree to which extrapolation was both necessary and made. As such, it is unclear whether the numbers of reported takes are accurate and within the authorized limits.

It is clear that NMFS should never have proposed to issue an authorization renewal given that the renewal was not requested sufficiently in advance of when it was needed. This is separate from and in addition to the fact that the other renewal issuance criteria cannot be met and based on the other deficiencies noted. Given the agency's failure to meet its own renewal issuance criteria, the Commission recommends that NMFS deny the Navy's request to renew its incidental harassment authorization.

### **Authorization renewals in general**

The aforementioned issues regarding how NMFS has implemented its renewal process for the Navy's authorization adds to the Commission's ongoing concerns regarding the renewal process in general and in specific circumstances (see the Commission's [16 February 2020 letter](#) on another recent authorization renewal). As such, the Commission again recommends that NMFS refrain from issuing a renewal for any authorization unless it is consistent with the procedural requirements specified in section 101(a)(5)(D)(iii) of the MMPA.

NMFS's efforts to maximize efficiencies and issue authorizations expeditiously are superseding its obligations to ensure that the statutorily-required determinations are based on best available science and that all processes abide by the requirements set forth under the MMPA and by the agency itself. The Navy indicated that it was submitting a letter of authorization application for the next four years of activities. If NMFS publishes a proposed rule that has similar deficiencies to those the Commission has highlighted for the previous three incidental harassment authorizations<sup>7</sup> and this authorization renewal for construction activities at the Portsmouth Naval Shipyard, the Commission will recommend that the proposed rule be denied outright.

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<sup>7</sup> In addition to issues with extents of harassment zones, insufficient take estimates, and inadequate mitigation and monitoring measures, the Commission highlighted deficiencies in the Navy's hydroacoustic monitoring plan (see its [2 January 2018 letter](#)). In the Commission's cursory review of the hydroacoustic monitoring reports (Appendices D and E of the 2020 preliminary monitoring report), the sound pressure level (SPL) measurements were not reported in the appropriate metrics in Appendix D. SPL measurements (in dB re 1  $\mu$ Pa) are to be reported as root-mean-square (rms)—this applies to means, medians, maximums, and minimums. For continuous, non-impulsive sound (e.g., drilling and vibratory pile driving), those SPL<sub>rms</sub> measurements are to be made over given intervals (i.e., 1-second intervals). For impulsive sound (e.g., impact pile driving and percussive hammering of a down-the-hole hammer), those SPL<sub>rms</sub> measurements are to be based on single strikes, same as the sound exposure level and peak SPL measurements, and a 90-percent energy window. Comparing Appendix D to Appendix E underscores these issues. More importantly, neither report contains all the required information.

Ms. Jolie Harrison

1 March 2021

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Please contact me if you have questions regarding the Commission's recommendations.

Sincerely,

A handwritten signature in blue ink that reads "Peter O. Thomas". The signature is written in a cursive style with a large initial "P" and a distinct "O" before the last name.

Peter O. Thomas, Ph.D.,  
Executive Director



# MARINE MAMMAL COMMISSION

6 May 2019

Ms. Jolie Harrison, Chief  
Permits and Conservation Division  
Office of Protected Resources  
National Marine Fisheries Service  
1315 East-West Highway  
Silver Spring, MD 20910-3225

Dear Ms. Harrison:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the U.S. Navy's application seeking authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act to take marine mammals by harassment. The taking would be incidental to construction activities in association with modification of a dry dock and berths in Kittery, Maine. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 4 April 2019 notice (84 Fed. Reg. 13252) announcing receipt of the application and proposing to issue the authorization, subject to certain conditions.

## **Background**

The Navy plans to install and remove piles during modification of a dry dock and various berths at the Portsmouth Naval Shipyard (the Shipyard). This would be the third authorization for similar activities. The Navy could install up to 1,126 14- to 96-in steel piles using a vibratory and/or an impact hammer or by drilling rock sockets. The Navy could remove up to 32 14-in steel piles using a vibratory hammer. The proposed activities could occur for up to 212 days throughout the year. Activities would be limited to daylight hours only.

NMFS indicated that it had preliminarily determined that, at most, the proposed activities could cause Level A and/or B harassment of small numbers of four marine mammal species. It also anticipates that any impact on the affected species and stocks would be negligible. NMFS does not anticipate any take of marine mammals by death or serious injury and believes that the potential for temporary or permanent hearing impairment would be at the least practicable level because of the proposed mitigation measures. The proposed mitigation, monitoring, and reporting measures include—

- conducting empirical sound source and sound propagation measurements during installation activities<sup>1</sup> and adjusting the Level A and B harassment zones, if necessary;
- using soft-start, delay, and shut-down procedures;
- using delay and shut-down procedures if a species for which authorization has not been granted or for which the authorized numbers of takes have been met approaches or is observed within the Level A or B harassment zone;
- using qualified protected species observers (PSOs; land- and/or pier-based) to monitor the Level A and B harassment zones for 15 minutes before, during, and for 30 minutes after pile driving and removal activities;
- ceasing other heavy machinery work if any marine mammal comes within 10 m of the vessel or equipment;
- reporting injured and dead marine mammals to NMFS and the Northeast/Greater Atlantic Regional Stranding Coordinator using NMFS's phased reporting approach and suspending activities, if appropriate; and
- submitting a draft and final acoustic and marine mammal monitoring report to NMFS.

### **General concerns and comments**

The Commission had numerous questions and comments regarding the proposed incidental harassment authorization, application, and previous marine mammal and hydroacoustic monitoring reports. Those comments primarily involved insufficient or incomplete information in all those documents, including—

- omitting the fact that up to three hammers could be used simultaneously during the proposed activities<sup>2</sup>;
- omitting the required information in the two previous marine mammal monitoring reports<sup>3</sup> and not sufficiently justifying the number of harbor seal takes<sup>4</sup>;

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<sup>1</sup> The Commission informally noted that the Navy specified both an excessively high (e.g., 65 AZ sheet piles and 32 flat web sheet piles) and insufficiently low (e.g., 1 16-in pile and 1 96-in pile) number of piles that it planned to monitor this year. The Commission suggested that the Navy reduce the sheet piles it plans to monitor 10 pairs each during both vibratory and impact installation and increase the 16-in and 96-in piles to 4 each during impact, vibratory, and/or drilling installation. The Navy agreed to these suggestions. NMFS indicated the revisions would be included in the final authorization. Measurements also would be taken during 10 percent of concurrent installation activities.

<sup>2</sup> NMFS will have to justify in the preamble of the final authorization whether the Level A and B harassment zones would increase based on the concurrent use of three hammers and if not, why the zones would remain unchanged.

<sup>3</sup> The incidental harassment authorizations issued to the Navy in 2017 and 2018 required that it provide information on the date and time that the monitored activity begins or ends, the species and number observed, a description of observed marine mammal behavior patterns (including bearing and direction of travel and distance from pile driving), distance from pile driving activities to marine mammals, distance from marine mammals to the observation point, locations of all marine mammal observations, Level A and Level B harassment takes of authorized species including extrapolated total take numbers based on observation of the Level B harassment zone on two-thirds of driving days, etc. In addition, the 2018 authorization required that the marine mammal monitoring report include associated marine mammal observation data sheets. None of this information was provided in either monitoring report that were sent to the Commission. The Navy did provide the 2018 data sheets after the Commission drafted this letter.

<sup>4</sup> During the 2018 activities, the Navy requested a mid-authorization increase in both the number of days of authorized activities and the number of authorized harbor seal takes due to drilling activities taking much longer to complete than expected and harbor seals occurring in greater numbers than expected.

- failing to conduct empirical measurements of drilling activities<sup>5</sup> and conducting measurements at inconsistent distances from the pile<sup>6</sup>; and
- omitting the number and location of PSOs that would be monitoring during the various activities<sup>7</sup>.

The Commission agrees that NMFS should include all the aforementioned modifications in the final incidental harassment authorization. Based on these issues, the Commission recommends that NMFS (1) ensure the Navy is aware of the requirements of the final incidental harassment authorization, particularly the reporting requirements for the marine mammal and hydroacoustic monitoring reports, and (2) require that the Navy provide the information that is missing but was required in both the 2017 and 2018 monitoring reports.

In addition, the Commission is not convinced that the number of harbor seal takes is sufficient. During the 2018 activities, more harbor seals were observed than expected such that NMFS had to increase the number of authorized takes mid-season. Moreover, the marine mammal monitoring reports provide no information on how many harbor seals were observed per day, at what distance from the pile(s) the seals were observed, whether individual harbor seals could be tracked such that double counting did not occur, whether the full extent of the Level B harassment zone was monitored during all activities, whether Level B harassment takes were extrapolated when the extent of the zone was not able to be monitored<sup>8</sup>, and whether PSOs or the construction operators were responsible for enumerating takes. The 2018 monitoring report only noted that, during a two-month timeframe, seals were sighted more frequently and in groups of up to five harbor seals at once. It is unclear if multiple groups were observed on a given day. In any case, the Commission maintains that a sufficient number of harbor seal takes should be authorized so that the Navy does not have to request an increase in the number of authorized takes during the project period again this year. As such, the Commission recommends that NMFS authorize at least five harbor seal takes per day partitioned in the same proportions for Level A and B harassment<sup>9</sup> as included in Table 8 of the *Federal Register* notice.

Some of the Commission's comments on the proposed authorization are similar to those from the previous two authorizations. It is unclear why these issues are still present in these authorizations, but it is hoped that they will not recur in future authorizations or rulemakings for activities at the Navy's Shipyard.

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<sup>5</sup> The Navy was required to conduct measurements of drilling activities on at least one day. The 2018 monitoring report indicated that drilling occurred on 185 days during the installation of 35 piles. Measurements during those activities were not included in any of the hydroacoustic monitoring reports provided by the Navy.

<sup>6</sup> The data in the hydroacoustic monitoring reports indicated that the hydrophone was placed from 25 to 132 ft from the pile. The hydrophone should be at 10 m with a far-field hydrophone placed sufficiently in the far field to determine propagation loss and range to effect. In addition, all measurements should be reported in metric not English units.

<sup>7</sup> The Navy has clarified that two to four PSOs would be monitoring based on the various extents of the Level B harassment zone and at multiple potential locations to ensure the entire Level B harassment zone is observed.

<sup>8</sup> This would include the requirement to monitor only during two-thirds of the activities and when monitoring the Level B harassment zone was curtailed due to inclement weather, as stated in the monitoring report.

<sup>9</sup> Level A and B harassment accounted for 42 and 58 percent of the takes, respectively.



## **Mitigation and monitoring measure implementation**

The proposed authorization would require PSOs to implement mitigation measures, validate take estimates, and document marine mammal responses during a portion of the proposed activities. Specifically, the *Federal Register* notice indicated that PSOs would monitor the Level A<sup>10</sup> harassment zones during 100 percent and Level B harassment zones during 67 percent of the proposed activities<sup>11</sup>. The Commission again believes that the proposed level of monitoring is insufficient.

Monitoring and reporting requirements adopted under section 101(a)(5) of the MMPA need to be sufficient to provide a reasonably accurate assessment of the manner of taking and the numbers of animals taken incidental to the specified activity, which includes Level B harassment as well. Since some of the species only rarely occur in the project area, their presence could be missed and any behavioral responses of those species would not be documented if monitoring of the Level B harassment zones was not occurring on that day. Further, accurate enumeration of takes is especially critical when only a small number of Level B harassment takes are authorized for certain species and when a species is known to occur in the area in larger numbers to ensure that the authorized numbers of takes are not exceeded. This is further exacerbated by the scant details provided in the monitoring reports as noted herein.

NMFS has indicated for similar construction authorizations (78 Fed. Reg. 2371, 79 Fed. Reg. 2422) that the extent of proposed work made it infeasible and costly for action proponents to implement marine mammal monitoring for Level B harassment zones at all times. However, the Commission notes that the maximum extent of the Level B harassment zone for vibratory pile driving and removal is about 1.4 km due to the presence of land<sup>12</sup>—a distance that the Commission notes is far smaller than other similar pile-driving authorizations. The Commission also notes that the Navy apparently conducted monitoring during 100 percent of the activities during the two previous authorizations, although the extent of the monitoring and the personnel that actually conducted the monitoring have not been specified<sup>13</sup>.

Monitoring during all pile-driving and -removal activities is necessary for NMFS and the Navy to be confident that mitigation measures are implemented as intended, the numbers of marine mammals taken are within the limits authorized, and the least practicable impact occurs. The Commission therefore again recommends that NMFS require the Navy to implement full-time monitoring of the various Level A and B harassment zones during all proposed activities.

## **Proposed one-year authorization renewals**

NMFS has indicated that it may issue a second one-year<sup>14</sup> incidental harassment

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<sup>10</sup> Including the shut-down zones.

<sup>11</sup> This information is not in the proposed authorization, but must be included. In addition, Level B harassment takes should be extrapolated to the full extent of the zone and/or to the days unobserved.

<sup>12</sup> With a sliver of area extending to approximately 2.4 km.

<sup>13</sup> The Navy informally indicated that the construction contractor conducted monitoring during 100 percent of the activities in 2018. It is unclear if the 'construction contractor' was in fact the PSOs or the operators.

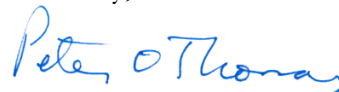
<sup>14</sup> NMFS informed the Commission that the renewal would be issued as a one-time opportunity, after which time a new authorization application would be required. NMFS has yet to specify this in any *Federal Register* notice detailing the new proposed renewal process but should do so.

authorization renewal for this and other future authorizations if various criteria are met and after an expedited public comment period of 15 days (see 84 Fed. Reg. 13268 and the proposed authorization for details). The Commission agrees that NMFS should take appropriate steps to streamline the authorization process under section 101(a)(5)(D) of the MMPA to the extent possible. However, the Commission is concerned that the renewal process proposed in the *Federal Register* notice is inconsistent with the statutory requirements—section 101(a)(5)(D)(iii) clearly states that proposed authorizations are subject to a 30-day comment period<sup>15</sup>.

Another potentially significant issue with the proposed 15-day comment period is the burden that it places on reviewers, who will need to review the original authorization and supporting documentation<sup>16</sup>, the draft monitoring report(s), the renewal application or request<sup>17</sup>, and the proposed authorization and then formulate comments very quickly. Depending on how frequently NMFS invokes the renewal option, how much the proposed renewal or the information on which it is based deviates from the original authorization, and how complicated the activities and the taking authorization is, those who try to comment on all proposed authorizations and renewals, such as the Commission, would be hard pressed to do so within the proposed 15-day comment period. Therefore, the Commission recommends that NMFS refrain from using the proposed renewal process for the Navy's authorization. The renewal process should be used sparingly and selectively, by limiting its use only to those proposed incidental harassment authorizations that are expected to have the lowest levels of impacts to marine mammals and that require the least complex analyses. Notices for other types of activities, such as the Navy's construction activities, should not even include the possibility that a renewal might be issued using the proposed foreshortened 15-day comment period. If NMFS intends to use the renewal process frequently *or* for authorizations that require a more complex review (such as the Navy's authorization) or for which much new information has been generated (e.g., multiple or extensive monitoring reports), the Commission recommends that NMFS provide the Commission and other reviewers the full 30-day comment opportunity set forth in section 101(a)(5)(D)(iii) of the MMPA.

The Commission hopes its comments are useful. Please contact me if you have questions regarding the Commission's recommendations.

Sincerely,



Peter O. Thomas, Ph.D.,  
Executive Director

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<sup>15</sup> See also the legislative history of section 101(a)(5)(D), which states "...in some instances, a request will be made for an authorization identical to one issued the previous year. In such circumstances, the Committee expects the Secretary to act expeditiously in complying with the notice and comment requirements." (H.R. Rep. No. 439, 103d Cong., 2d Sess. 29 (1994)). The referenced "notice and comment requirements" specify a 30-day comment period.

<sup>16</sup> Including the original application, hydroacoustic and marine mammal monitoring plans, take estimation spreadsheets, etc.

<sup>17</sup> Including any proposed changes or any new information.



# MARINE MAMMAL COMMISSION

2 January 2018

Ms. Jolie Harrison, Chief  
Permits and Conservation Division  
Office of Protected Resources  
National Marine Fisheries Service  
1315 East-West Highway  
Silver Spring, MD 20910-3225

Dear Ms. Harrison:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the U.S. Navy's application seeking authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act to take marine mammals by harassment. The taking would be incidental to construction activities in association with a waterfront restoration project in Kittery, Maine, during a one-year period. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 30 November 2017 notice (82 Fed. Reg. 56791) announcing receipt of the application and proposing to issue the authorization, subject to certain conditions.

## Background

The Navy plans to install and remove piles during demolition and repair of various structures at the Portsmouth Naval Shipyard (the Shipyard). This would be the second authorization for the five-year project—Berths 11, 12, and 13 would be repaired during the second year of activities. The Navy could install up to 293 14-in steel H-piles or steel sheet piles using a vibratory and/or an impact hammer or by drilling rock sockets. The Navy could remove up to 174 15-in timber, 14-in steel H-type piles, or 25-in sheet piles using a vibratory hammer. The *Federal Register* notice indicated that the proposed activities could occur for up to 100 days throughout the year. Activities would be limited to daylight hours only.

NMFS indicated in the *Federal Register* notice that it had preliminarily determined that, at most, the proposed activities could cause Level A and/or B harassment of small numbers of four marine mammal species. It also anticipates that any impact on the affected species and stocks would be negligible. NMFS does not anticipate any take of marine mammals by death or serious injury and believes that the potential for temporary or permanent hearing impairment would be at the least practicable level because of the proposed mitigation measures. The proposed mitigation, monitoring, and reporting measures include—

- conducting empirical sound source and sound propagation measurements during installation activities<sup>1</sup> and adjusting the Level A and B harassment zones, if necessary;
- using soft-start, delay, and shut-down procedures;
- using delay and shut-down procedures if a species for which authorization has not been granted or for which the authorized numbers of takes have been met approaches or is observed within the Level A or B harassment zone;
- using two qualified protected species observers (PSOs; land- and/or pier-based) to monitor the Level A and B harassment zones for 15 minutes before, during, and for 30 minutes after pile driving and removal activities;
- ceasing other heavy machinery work if any marine mammal comes within 10 m of the vessel or equipment;
- reporting injured and dead marine mammals to NMFS and the Northeast/Greater Atlantic Regional Stranding Coordinator using NMFS's phased reporting approach and suspending activities, if appropriate; and
- submitting a draft and final acoustic and marine mammal monitoring report to NMFS.

### **General concerns and comments**

The Commission had extensive questions and comments regarding the proposed incidental harassment authorization and application. Those comments primarily involved incorrect information, contradictory information, and inaccurate assessments of species-specific takes based on biological and ecological considerations. Some of the comments were the same or similar to those from the year-1 authorization<sup>2</sup> that were either rectified or were to be rectified in that authorization. It is unclear why those revisions were not included in the proposed authorization for activities in 2018.

After multiple communications with the Commission, NMFS indicated that numerous issues would be resolved prior to issuance of the incidental harassment authorization. Those include—

- increasing the estimated Level A harassment takes for harbor porpoises from one to two to account for group size;
- increasing the estimated Level B harassment takes for harp seals from one to five to account for the potential that harp seals<sup>3</sup> could be present on multiple days during the five months<sup>4</sup> when they are most likely to occur in the project area;
- authorizing Level B harassment takes of five hooded seals<sup>2</sup> to account for the potential that hooded seals could be present on multiple days during the five months<sup>3</sup> when they are most likely to occur in the project area; and

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<sup>1</sup> The Navy did not specify the number or type of pile that would be measured in its application. The Navy has since specified that measurements would be taken during vibratory installation of 20 sheet piles, impact installation of 4 H-piles, drilling activities on one day, and concurrent vibratory installation and drilling on one day. NMFS indicated this information would be contained in the final authorization.

<sup>2</sup> See the Commission's [30 September 2016 letter](#).

<sup>3</sup> Which have been observed at the Shipyard and/or in the Piscataqua River in previous years. These species also have stranded live in Kittery and the surrounding areas.

<sup>4</sup> January–May.

- clarifying or specifying various mitigation and monitoring measure requirements<sup>5</sup>.

The Commission agrees that NMFS should include all the aforementioned modifications in the final incidental harassment authorization.

### **Rounding of take estimates**

The method NMFS used to estimate the numbers of takes during the proposed activities, which summed fractions of takes for each species across project days, does not account for and negates the intent of NMFS's 24-hour reset policy. As the Commission has indicated in previous letters regarding this matter<sup>6</sup>, the issue at hand involves policy rather than mathematical accuracy. The Commission notes that NMFS has yet to share the criteria associated with rounding that it developed and planned to share with the Commission some time ago. Therefore, the Commission again recommends that NMFS share the rounding criteria with the Commission in the near term.

### **Mitigation and monitoring measure implementation**

The proposed authorization would require PSOs to implement mitigation measures, validate take estimates, and document marine mammal responses during a portion of the proposed activities. Specifically, the *Federal Register* notice indicated that PSOs would monitor the Level A<sup>7</sup> and B harassment zones during 67 percent of the proposed activities and project contractors/workers would be responsible for monitoring the shut-down zones and implementing delay and shut-down procedures for the remaining 33 percent of the proposed activities.

The Commission does not believe it is appropriate for project contractors/workers to be responsible for implementing the various mitigation measures, which have become more complex with NMFS's updated Level A thresholds. In this instance, the extent of the Level A harassment zone for harbor porpoises during impact pile driving is much greater than the proposed shut-down zone (140 vs. 75 m). If the project contractors/workers are only monitoring the shut-down zone, the enumeration of possible Level A harassment takes would not be accurate. The Commission also is not convinced that the project contractors/workers could observe cryptic species (e.g., harbor porpoises) at a distance or distinguish among the four seal species to determine which species was taken and whether unauthorized taking<sup>8</sup> had occurred. These concerns were conveyed to NMFS. NMFS has since clarified that the project contractors/workers would not be monitoring either the Level A harassment or shut-down zones and that those zones would be monitored during 100 percent of the activities by a PSO. Those modifications would be included in the final authorization.

However, monitoring and reporting requirements adopted under section 101(a)(5) of the MMPA need to be sufficient to provide a reasonably accurate assessment of the manner of taking and the numbers of animals taken incidental to the specified activity, which includes Level B harassment as well. Since some of the species only rarely occur in the project area, their presence

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<sup>5</sup> Including the number and type of piles for which measurements would be taken, measures associated with working in fog, the type of monitors (PSOs vs. project contractors/workers), etc.

<sup>6</sup> See the Commission's [29 November 2016 letter](#) detailing this issue.

<sup>7</sup> Including the shut-down zones.

<sup>8</sup> Level A harassment takes were not proposed for either harp or hooded seals.

could be missed if monitoring of the Level B harassment zones was not occurring on that day and any behavioral responses of those species would not be documented. Further, accurate enumeration of takes is especially critical when only a small number of Level B harassment takes are authorized for certain species to ensure those takes are not exceeded.

NMFS has indicated for other similar construction authorizations (78 Fed. Reg. 2371, 79 Fed. Reg. 2422) that the extent of proposed work made it infeasible and costly for action proponents to implement marine mammal monitoring for Level B harassment zones at all times. However, the Commission notes that the maximum extent of the Level B harassment zone for vibratory pile driving and removal is only 1.4 km due to the presence of land—a distance that the Commission notes is far smaller than other similar pile-driving authorizations and over which the Navy has confirmed effective monitoring can be conducted from the central location of Berth 11. The Navy had planned to have two PSOs monitoring the Level A harassment and shut-down zones but has since reduced that number to one. The Commission believes the Navy can re-allocate the PSOs in a manner to allow monitoring of Level B harassment zones at all times with no additional expense. The Commission also notes that the Navy conducted monitoring during 100 percent of the activities during the year-1 authorization<sup>9</sup>.

Monitoring during all pile-driving and -removal activities is necessary for NMFS and the Navy to be confident that mitigation measures are implemented as intended, the numbers of marine mammals taken are within the limits authorized, and the least practicable impact occurs. The Commission therefore recommends that NMFS require the Navy to implement full-time monitoring of the full extents of various Level A and B harassment zones using two PSOs during all pile-driving (including drilling rock sockets) and -removal activities.

### **Marine mammal and hydroacoustic monitoring plan**

The Commission reviewed the marine mammal and hydroacoustic monitoring plan<sup>10</sup> and provided extensive comments to NMFS. The Commission understands that NMFS's technical expert had numerous substantive concerns as well. A summary of all the issues raised is provided in the Addendum. Although those issues should have been addressed prior to publication of the proposed incidental harassment authorization in the *Federal Register*, the monitoring plan was not available for review by NMFS or the Commission until well into the public comment period. The Navy has since indicated that some of the issues would be rectified, but it is unclear whether all will be prior to NMFS issuing the authorization.

The Commission notes that NMFS routinely defers to an applicant's monitoring plan for the specific methodological and reporting requirements associated with both marine mammal and hydroacoustic monitoring activities rather than including those details in the authorization itself. Thus, if the revisions are not incorporated, the Navy technically would be bound to a deficient plan that would not fulfill the objectives as intended. The marine mammal and hydroacoustic monitoring

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<sup>9</sup> When reported by the Navy, that was during 73 days of activities. Additional monitoring could have occurred since that time in October.

<sup>10</sup> Numerous details that were clarified by the Navy or NMFS in recent weeks were not specified in the plan that was submitted thereafter.

plan is a necessary component of the authorization, if issued, and therefore should have been submitted in July 2017 with the application.

While the Navy has proposed to conduct in-situ measurements, it is imperative that those measurements be conducted appropriately to inform the extents of the Level A and B harassment zones for implementing the various mitigation and monitoring measures in current and future authorizations at the Shipyard. To ensure that the Navy is effecting the least practicable impact on the species or stock and fulfilling the requirements pertaining to monitoring and reporting taking by harassment as prescribed in the authorization under 101(a)(5) of the MMPA, the Commission recommends that NMFS ensure that all issues summarized in the Addendum are addressed and incorporated either into the final marine mammal and hydroacoustic monitoring plan or the incidental harassment authorization itself.

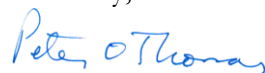
### **Adequate opportunity to consider public comments**

The Commission has repeatedly expressed concern over NMFS's failure to provide an adequate opportunity for public comment. Submittal of the necessary documentation by applicants and processing of applications by NMFS must be timelier, thus avoiding abbreviated timeframes in which NMFS is able to consider the comments received. Although the Navy's application was received on 14 July 2017 and deemed complete on 25 August (82 Fed. Reg. 56791), the proposed incidental harassment authorization was not published until 30 November. The public comment period closes on 2 January 2018, the day after the Navy's activities were originally scheduled to begin. NMFS has informed the Commission that it plans to issue the authorization *immediately* following the close of the comment period. In addition, the Navy did not provide its draft marine mammal and hydroacoustic monitoring plan to NMFS, and thus the Commission, until after business hours on 15 December—more than two weeks after the proposed authorization published in the *Federal Register*.

The opportunity for public comment provided under section 101(a)(5)(D)(iii) of the MMPA should be a meaningful one that allows NMFS sufficient time to not only solicit public comments, but also to analyze, assess, and respond to those comments and revise, as appropriate, its proposed authorization and rationale in light of those comments. Since NMFS intends to issue this authorization immediately after the comment period, the Commission is not convinced that NMFS has sufficient time to review the Commission's or other's comments or to revise the proposed authorization accordingly. Therefore, the Commission recommends that, in the future, NMFS take all steps necessary to ensure that it publishes and finalizes proposed incidental harassment authorizations sufficiently before the planned start date of the proposed activities to ensure full consideration is given to all comments received.

The Commission hopes its comments are useful. Please contact me if you have questions regarding the Commission's recommendations.

Sincerely,



Peter O. Thomas, Ph.D.  
Acting Executive Director



## Addendum

The issues included—

- numerous source levels and Level A and B harassment zones<sup>11</sup> were incorrect and inconsistent with what was in the Navy's application and/or NMFS's *Federal Register* notice—Level A and B harassment zones also were inconsistent between the marine mammal and hydroacoustic portions<sup>12</sup> of the monitoring plan;
- various mitigation and monitoring measures were incorrect (i.e., clearance times<sup>13</sup>) or inconsistent (i.e., Level A harassment zone<sup>14</sup> extends to the shutdown zone) with those in the Navy's application and/or NMFS's *Federal Register* notice;
- specific mitigation and monitoring measures or associated details were absent (i.e., delay procedures, measures specific to fog<sup>15</sup>, numbers of observers, type of observers<sup>16</sup>);
- hydroacoustic measurement methods were questionable or insufficient—the sampling rate of the digitizer/recorder should have been specified to ensure the necessary frequencies are recorded and the appropriate filter (low- or band-pass) is used (if necessary), data must be collected appropriately over a single pile driving event and down to the relevant frequency (i.e., 7 Hz), *weighted* cumulative sound exposure thresholds must be used to estimate the relevant Level A harassment zones, data should be recorded over an entire sequence of impact driving of a given pile rather than only eight successive strikes as was proposed in 2017, cumulative sound exposure levels (SELs) should be calculated using a linear summation of acoustic intensity, the type of hydrophone proposed for use should be appropriate for collecting ambient measurements and that hydrophone must be placed sufficiently in the far field away from shipping lanes to collect the relevant data, ambient data

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<sup>11</sup> Including the origin of those data (i.e., in-situ vs. proxy; in the application and *Federal Register* notice proxy source levels were used for three of the four activities (impact driving of H-piles, vibratory driving of sheet piles, and drilling) and practical spreading was assumed for all of the proposed activities). For the in-situ data, the Navy noted that weighting factors were not used in the calculation of the Level A and B harassment zones and thus, its calculations were conservative. The actual weighting functions or weighting factor adjustments must be used to estimate the extent of the Level A harassment zones per NMFS (2016) and are not intended to be used for calculation of the Level B harassment zones.

<sup>12</sup> Which referenced information from the 2017 authorization and data presumably pooled (the type and size of piles for which those data originated were not specified but multiple pile types and sizes were measured) from the 2017 measurements rather than information specific to the proposed 2018 authorization.

<sup>13</sup> The Navy indicated that the clearance times are based on the type of activity (i.e., 30 minutes for impact driving and apparently 15 minutes for all other activities) rather than the dive time of the specific species (i.e., 15 minutes for pinnipeds and small cetaceans).

<sup>14</sup> As stated previously, the Level A harassment zone for harbor porpoises is much greater than the shut-down zone.

<sup>15</sup> Based on informal correspondence before submittal of the plan, NMFS and the Navy clarified the measure would specify that, in the unlikely event of conditions that prevent the visual detection of marine mammals (such as heavy fog), activities with the potential to result in Level A or Level B harassment will not be initiated. Impact pile driving already underway would be curtailed, but vibratory driving may continue if driving has already been initiated on a given pile. Driving of additional piles by any means will not be allowed until all zones are visible. However, in the event of an unsafe work environment if conditions prevent detection of marine mammals during impact pile driving and the pile currently being driven is not stable enough for activities to cease, impact pile driving would need to continue to get the single pile to stability.

<sup>16</sup> Qualified PSOs vs. project contractors/workers.

- should be collected during both winter and summer<sup>17</sup> based on the Navy conducting year-round activities, as specified in the NMFS (2012) guidance; and
- data to be reported as part of the hydroacoustic monitoring plan were lacking or insufficient—the appropriate metrics (i.e., peak sound pressure levels, single-strike SELs), appropriate statistics (i.e., median, mean, minimum, and maximum), and relevant information (i.e., sediment characteristics/types, number of hammer strikes, pulse duration<sup>18</sup>, PSD) that are to be reported must be specified in the plan.

## References

- NMFS. 2012. Guidance document: Data collection methods to characterize underwater background sound relevant to marine mammals in coastal nearshore waters and rivers of Washington and Oregon. NMFS Northwest Region and Northwest Fisheries Science Center, Seattle, Washington. 5 pages.
- NMFS. 2016. Technical guidance for assessing the effects of anthropogenic sound on marine mammal hearing: Underwater acoustic thresholds for onset of permanent and temporary threshold shifts. Office of Protected Resources, NMFS, Silver Spring, Maryland. NOAA Technical Memorandum NMFS-OPR-55. 178 pages.

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<sup>17</sup> Or whichever seasons the Navy proposes to conduct construction activities.

<sup>18</sup> Based on the 90 percent energy window used to calculate sound pressure level root-mean-square levels.



# MARINE MAMMAL COMMISSION

30 September 2016

Ms. Jolie Harrison, Chief  
Permits and Conservation Division  
Office of Protected Resources  
National Marine Fisheries Service  
1315 East-West Highway  
Silver Spring, MD 20910-3225

Dear Ms. Harrison:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the U.S. Navy's application seeking authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act to take marine mammals by harassment. The taking would be incidental to pile driving and removal in association with a waterfront restoration project in Kittery, Maine, during a one-year period. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 9 August 2016 notice (81 Fed. Reg. 52614) announcing receipt of the application and proposing to issue the authorization, subject to certain conditions.

## Background

The Navy plans to install and remove piles during demolition and repair of various structures at the Portsmouth Naval Shipyard (the Shipyard). This would be the first authorization for the six-year project—Berth 11 would be repaired during the first year of activities. The Navy could install up to 320 14- to 36-in steel H-type or steel sheet piles and 7 15-in timber piles using a vibratory and/or an impact hammer or by drilling rock sockets. The Navy could remove up to 141 15-in timber or 14-in steel H-type piles using a vibratory hammer. The *Federal Register* notice indicated that the proposed activities could occur for up to 72 days throughout the year. Activities would be limited to daylight hours only.

NMFS indicated in the *Federal Register* notice that it had preliminarily determined that, at most, the proposed activities would temporarily modify the behavior of small numbers of harbor porpoises, harbor seals, gray seals, and harp seals. It also anticipates that any impact on the affected species and stocks would be negligible. NMFS does not anticipate any take of marine mammals by death or serious injury and believes that the potential for temporary or permanent hearing impairment would be at the least practicable level because of the proposed mitigation measures. The proposed mitigation, monitoring, and reporting measures include—

- conducting empirical sound source and sound propagation measurements during 10 percent<sup>1</sup> of installation and removal activities and adjusting the Level A and B harassment zones, if necessary;
- using soft-start, delay, and shut-down procedures;
- using delay and shut-down procedures if a species for which authorization has not been granted or for which the authorized numbers of takes have been met approaches or is observed within the Level A or B harassment zone<sup>2</sup>;
- using two qualified protected species observers (PSOs; land-, pier-, and/or vessel-based) to monitor the Level A and B harassment zones for 15 minutes before, during, and for 30 minutes after pile driving and removal activities;
- ceasing other heavy machinery work if any marine mammal comes within 10 m of the vessel or equipment;
- reporting injured and dead marine mammals to NMFS and the Greater Atlantic Regional Stranding Coordinator using NMFS's phased reporting approach and suspending activities, if appropriate; and
- submitting a draft and final acoustic and marine mammal monitoring report to NMFS.

### General concerns and comments

The Commission had extensive questions and comments regarding the proposed incidental harassment authorization. Those comments primarily involved incorrect information, general oversights, and inaccurate assessments of species-specific takes based on biological and ecological considerations. After multiple communications with the Commission, NMFS indicated that numerous issues would be resolved prior to issuance of the incidental harassment authorization. Those include—

- increasing the number of activity days from 72 to 156 based on an incorrect assumption that 10 rather than 1 rock socket would be drilled in a given day and re-estimating the numbers of Level B harassment takes of marine mammals;
- increasing the harbor porpoise average density estimate from 0.9578 to 1.0214 porpoises/km<sup>2</sup> based on harbor porpoises occurring year-round at the project site<sup>3</sup> and re-estimating the number of Level B harassment takes;
- increasing the number of calculated Level B harassment takes from the re-estimated<sup>4</sup> 30 to 312 harbor seal takes and the re-estimated 33 to 156 gray seal takes<sup>5</sup> based on harbor seals being more common than gray seals and a haul-out site occurring less than 2.5 km from the project site;

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<sup>1</sup> 10 percent of each different type of pile and each method of installation and removal.

<sup>2</sup> NMFS informed the Commission that it would require these measures after publication of the notice in the *Federal Register*.

<sup>3</sup> Thus, inclusion of the winter density estimate that was omitted initially from the average density estimate.

<sup>4</sup> Assuming 156 days of activities based on the Navy's simple area x density x number of days of activities method to enumerate takes.

<sup>5</sup> Which were based on 2 harbor seals and 1 gray seal being taken on each of the 156 days of proposed activities.

- increasing the number of calculated Level B harassment takes from the re-estimated two to five harp seal takes to account for the potential that harp seals could occur at the project site on multiple days;
- authorizing Level B harassment takes of five hooded seals based on hooded seals being observed at the project site in previous years; and
- requiring standard mitigation measures that were omitted inadvertently from the *Federal Register* notice.

The Commission agrees that NMFS should include all the aforementioned modifications in the final incidental harassment authorization. However, the Commission cautions, as it had repeatedly in correspondence with NMFS, that the take estimates specifically for harbor and gray seals still may be underestimated. However, NMFS confirmed that the Navy is aware that if the authorized limits for either species are met, the Navy would have to delay or shut down its pile-driving (including drilling rock sockets) and -removal activities when that species either approaches or is observed within the Level A or B harassment zone.

In addition, the Commission was made aware on 23 September that NMFS plans to re-estimate the Level A harassment zones and to authorize Level A harassment takes<sup>6</sup> based on the NMFS's new permanent threshold shift (PTS) thresholds—thresholds that were considered final and published a few days prior<sup>7</sup> to the proposed authorization publishing in the *Federal Register*. The Commission was not afforded sufficient time to review the manner in which the new Level A harassment thresholds would be implemented, nor was the public made aware of any such changes in the proposed authorization. The Commission agrees that the new thresholds should be implemented in all proposed incidental take authorizations but not at the expense of minimizing the public's opportunity to comment. As such, the Commission recommends that NMFS include its new thresholds (for PTS and/or temporary threshold shift) in all relevant proposed incidental take authorizations rather than when the final authorization is issued.

### **Estimation of takes**

The method NMFS used to estimate the numbers of takes during the proposed activities, which summed fractions of takes for each species across days, does not account for and negates the intent of NMFS's 24-hour reset policy. Instead of summing fractions of takes across days and then rounding to estimate total takes, NMFS should have calculated a daily take estimate (determined by multiplying the estimated density of marine mammals in the area by the daily ensonified area) and then rounded that to a whole number *before* multiplying it by the number of days that activities would occur—a method NMFS implemented for the previous Navy authorizations (80 Fed. Reg. 53130, 79 Fed. Reg. 53041, 78 Fed. Reg. 30892). As stated in previous Commission letters, NMFS should use the average group size as a proxy for the estimated number of takes for species in which estimated daily takes would round down to zero, as has been done for other incidental harassment authorizations (80 Fed. Reg. 75380, 81 Fed. Reg. 23144). Furthermore, if NMFS believes any of those species could be taken on multiple days, NMFS should multiply the average group size by the number of days of activities. NMFS ultimately took those approaches for the four pinniped species

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<sup>6</sup> The Level A harassment takes for harbor and gray seals were amended again on 26 September.

<sup>7</sup> On 4 August 2016.

after discussions with the Commission. However, the harbor porpoise takes still were estimated based on NMFS summing fractions of takes across days, resulting in an underestimation<sup>8</sup> of takes.

As the Commission has indicated in previous letters regarding this matter<sup>9</sup>, the issue at hand involves policy rather than mathematical accuracy. Summing fractions of takes<sup>10</sup> across days nullifies the intent of the 24-hour reset, which is a policy decision that NMFS made many years ago and continues to implement<sup>11</sup>. It appears NMFS understands the implications for certain applications of its 24-hour reset but is choosing to inconsistently apply the method across the various metrics, which in this case is the sound pressure level (root-mean-square) metric. Thus, the Commission recommends that NMFS (1) follow its policy of a 24-hour reset for enumerating the number of each species that could be taken during the proposed activities, (2) apply standard rounding rules before summing the numbers of estimated takes across days, and (3) for species that have the potential to be taken but model-estimated or calculated takes round to zero, use group size to inform the take estimates—these methods should be used consistently for all future incidental take authorizations. The Commission has discussed this matter with NMFS and is willing to engage in further discussions to resolve this matter in the near future.

### **Mitigation and monitoring measures**

The proposed authorization would require PSOs to implement mitigation measures, validate take estimates, and document marine mammal responses to a portion of the dismantling activities. Specifically, the authorization would require monitoring of the Level A harassment zones for 100 percent of all pile driving and Level B harassment zones for 67 percent of all impact pile driving and vibratory pile driving and removal. NMFS has indicated for other similar construction authorizations (78 Fed. Reg. 2371, 79 Fed. Reg. 2422) that the extent of proposed work made it infeasible and costly for action proponents to implement marine mammal monitoring for Level B harassment zones at all times. However, the Commission notes that the extent of the Level B harassment zone for vibratory pile driving and removal appears to extend to approximately 1.5 km before intersecting land—a distance that the Commission notes is far smaller than other similar pile-driving authorizations.

In addition, monitoring and reporting requirements adopted under section 101(a)(5) of the MMPA need to be sufficient to provide a reasonably accurate assessment of the manner of taking and the numbers of animals taken incidental to the specified activity. If monitoring occurs only for a portion of the activities, (1) the numbers and species of marine mammals taken during the proposed activities may not be determined accurately, which is especially concerning for harbor and gray seals that may reach their authorized limit and (2) takes would be underestimated for species that rarely occur in the project area (e.g., harp and hooded seals) if those animals were present on any of the days in which monitoring would not occur. Any behavioral responses of those species also would not be documented. Therefore, monitoring during all pile-driving and -removal activities is the only

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<sup>8</sup> The Navy estimated 0.96 porpoises could be taken on 156 days, which resulted in 150 takes rather than assuming 1 harbor porpoise would be taken each day resulting in 156 takes.

<sup>9</sup> See the Commission's 7 September 2016 letter detailing this issue.

<sup>10</sup> Especially those that are much less than 0 (e.g., 0.05 takes).

<sup>11</sup> See the *Federal Register* notice regarding NMFS's technical guidance for assessing the effects of anthropogenic sound on marine mammal hearing—underwater acoustic thresholds for onset of permanent and temporary threshold shifts (PTS and TTS, respectively; 81 Fed. Reg. 51694).

Ms. Jolie Harrison  
30 September 2016  
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way for NMFS and the Navy to be confident that the numbers of marine mammals taken are within the limits authorized and the least practicable impact occurs. Thus, the Commission recommends that NMFS require the Navy to implement full-time monitoring of Level A and B harassment zones during all pile-driving (including drilling rock sockets) and -removal activities.

The Commission hopes its comments are useful. Please contact me if you have questions regarding the Commission's recommendations.

Sincerely,

A handwritten signature in blue ink that reads "Rebecca J. Lent". The signature is fluid and cursive, with a long horizontal stroke at the beginning.

Rebecca J. Lent, Ph.D.  
Executive Director