



MARINE MAMMAL COMMISSION

21 May 2020

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 application submitted by Chevron Products Company (Chevron) seeking renewal of an incidental harassment authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act. Chevron would take small numbers of marine mammals by harassment incidental to conducting construction activities at Chevron's Richmond Refinery Long Wharf in Richmond, California. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 6 May 2020 notice (85 Fed. Reg. 26962) requesting comments on its proposal to issue an authorization renewal, subject to certain conditions.

Chevron proposes to conduct essentially the same activities, take a reduced number of marine mammals¹, and implement the same mitigation, monitoring, and reporting measures as were specified in Chevron's 2019 authorization. Chevron's 2019 annual monitoring report indicated that all observed takes from last year's activities were within the authorized limits². The Commission had numerous concerns with the two previous authorizations issued to Chevron, as such the Commission's [14 May 2019](#) and [15 May 2018](#) letters should be reviewed in concert with this letter.

Locations of PSOs

As the Commission noted in its May 2019 letter, the PSOs again did not observe the far-field extents of the monitoring zones as effectively as they should have. Most of the harbor seals observed during the 2019 activities were within 200 m of the wharf³ (see Table 6 in Chevron's 2019 annual monitoring report). Similar to 2018, Chevron did not appear to conduct far-field observations, particularly for harbor seals. Based on the Commission's recommendation that one PSO should be located on the north end of the wharf to monitor harbor seals in the far field, focusing on the area between the wharf and Castro Rocks, NMFS included monitoring requirement 5(a)(iii) in the 2019 final authorization. However, in review of Chevron's 2019 annual monitoring report, that requirement appears to have been fulfilled on only approximately 17 percent of the days

¹ Chevron has 34 days of activities remaining and estimated the number of marine mammals based on the remaining activities to be conducted in 2020.

² This issue is discussed further herein.

³ All were observed within 305 m of the wharf. These distances are the exact same as those reported in the 2018 monitoring report.

that activities occurred. It also appears that only one of the five PSOs made observations of animals hauled out at Castro Rocks.

On 29 August 2019, the PSO documented that one of the hauled-out harbor seals alerted at the first strike of the impact hammer and flushed into the water⁴. Chevron will be conducting impact installation of larger piles and on more days in 2020 than 2019. It is imperative that Chevron ensure that the far-field PSO is positioned to the north rather than the south to document seals entering the area from the haul-out site and to document their reactions at that site. As such, the Commission recommends that NMFS ensure that Chevron (1) is aware that it must abide by requirement 5(a)(iii) in the final authorization and (2) ensures that the far-field observer is stationed at the north, not the south end of the wharf, focuses on the area between Castro Rocks and the wharf, and documents any reactions and takes⁵ of the seals hauled out at Castro Rocks.

Monitoring reports

Hydroacoustic monitoring report—The Commission understands that NMFS’s acoustic expert has yet to review the hydroacoustic monitoring report (see Appendix B in Chevron’s 2019 annual monitoring report⁶). In the Commission’s cursory review of the report, it notes the following issues—

- The hydroacoustic monitoring report omitted any mention of the substrate at the project site. The annual monitoring report noted that only soft sediments were encountered, with the pile tip penetrating stiff clay or sand towards the end of driving. It is unclear if this was for all piles driven or a subset. The reported sound levels and resulting harassment zones are much less than have been reported for other projects.
- The manner in which cumulative sound exposure levels (SEL_{cum}) and the distances to the respective SEL_{cum} thresholds were calculated is questionable or lacking altogether.
 - Generally, SEL_{cum} is obtained from summing all sound intensities throughout the day. The report indicated that SEL_{cum} and the total number of strikes were summed over the 24-hour period. Based on the values presented in Table 1 of the hydroacoustic monitoring report, it is unclear which, if either, method was used, particularly since SEL_{cum} values were presented for two separate piles on a given day, when the report indicated they were summed together.
 - For estimating the distances to the various SEL_{cum} thresholds, the hydroacoustic monitoring plan indicated that the transmission loss, the median single-strike SEL, and measurement distances of the single-strike SEL for each pile were averaged for all piles driven within a 24-hour period. However, the annual monitoring report indicated that the distances for the various Level A harassment thresholds were calculated based on the highest daily mean SEL value and spherical spreading, $20\log R$ (see Table 4 in the annual monitoring report). That method does not comport with the method noted in the hydroacoustic monitoring report or the in-situ transmission loss values reported in Table 4 in the hydroacoustic monitoring

⁴ It does not appear that this animal was reported as taken but it should have been, as will be discussed further herein.

⁵ If a hauled-out harbor seal either moves two body lengths or more or changes direction (Level 2 response) or flushes into the water, it is considered taken by NMFS.

⁶ The hydroacoustic monitoring report is a stand-alone report, while the annual monitoring report contains all of the marine mammal monitoring data, as well as a summarization of the hydroacoustic monitoring report.

- report. Specifically, transmission loss during impact pile driving of 24-in piles was on average $11.7 \log R$, which would result in much larger zones. It also is unclear if, and how, the number of strikes were included. Chevron, and in turn, NMFS assumed that only 300 strikes would be needed to install each of two 24-in concrete piles on a given day. Table 4 in the annual monitoring report notes that it took 439 and 437 strikes to install two 24-in concrete piles, respectively, on 3 October 2019.
- Rather than include all sound level data associated with impact pile driving, the contractors removed all strikes below 150 dB, because the calculation of the SEL_{cum} for impacts on fish assumes that strikes below 150-dB SEL are ‘effective quiet’. That assumption does not apply to marine mammals and should not have been incorporated.
 - SEL_{cum} values were omitted for vibratory pile driving in Table 2 of the hydroacoustic monitoring report. The Level A harassment thresholds for vibratory pile driving are only based on SEL_{cum} and must be reported as well.
 - The ambient cumulative distribution functions (CDFs) were provided at the 10-m distance, which is not considered ambient. The CDFs also included both vessel and drilling sounds at the wharf, which artificially inflated the ambient sound level data. Only far-field data should have been used and only those that were not contaminated by sound emitted at the wharf.

Before NMFS accepts the report as final and any of the revised Level A or B harassment zones are accepted, it must be reviewed by NMFS’s internal acoustics expert⁷. As such, the Commission recommends that NMFS ensure that its internal acoustics expert reviews the hydroacoustic monitoring report and underlying data before the report is accepted as final and before any revised Level A or B harassment zones are used, including for enumerating takes in the annual monitoring report.

Marine mammal monitoring aspects of the annual monitoring report—In addition to the questions surrounding the Level A and B harassment zones reported in both Chevron’s annual and hydroacoustic monitoring reports, it is unclear whether the PSOs enumerated takes appropriately. In multiple instances, such as a single harbor porpoise and numerous seals on 21 June, Level B harassment takes appear to have been reported for animals that were observed either before pile driving had begun or after pile driving had ceased and/or at distances beyond the Level B harassment zones. It is difficult to reconcile all of the distances specified since some PSOs reported them in feet rather than meters, the metric used to describe the Level A and B harassment zones.

Furthermore, it appears that Chevron did not extrapolate the numbers of animals taken appropriately. To extrapolate the observed takes to the unobserved portion of the Level B harassment zones, Chevron calculated a daily occupancy of the observable monitoring zone⁸

⁷ Dr. Shane Guan.

⁸ Based on dividing the total number of each species observed during all 19 days of activities by the effective sighting area (400-m radius) and the 19 days of activities. For example, 48 harbor seals observed / $[(\pi \times (0.4 \text{ km})^2) \times 19 \text{ monitoring days}] = 5.03 \text{ harbor seals/km}^2 \text{ observed per day}$.

multiplied by the unobservable portion of the Level B harassment zone⁹. Chevron did not state as much, but it appears that it also multiplied those daily extrapolated takes by the number of days of activities (two days for vibratory and one day for impact installation of the 36-in steel piles). It is unclear why Chevron would combine sightings across all days and then extrapolate rather than use a given day's sightings to extrapolate the number unobserved, and presumably taken, on that day. In this simple three-day instance, Chevron very likely overestimated the number of seals taken¹⁰. That may not be the case this year, when observations are made farther into the far field and animals at Castro Rocks are observed, the Level B harassment zones are larger, and there are more days of impact pile driving of larger piles. As such, the Commission recommends that NMFS ensure that Chevron (1) uses the appropriate extents of the various Level B harassment zones for extrapolation, (2) reports those animals that were observed and considered taken based on when pile driving and removal is occurring and where the animals are located, (3) reports the distances only in meters, and (4) extrapolates the number(s) of each species taken based on the number(s) observed and the extent of the unobserved portion of the Level B harassment zone on each day and sums the daily extrapolated takes across the authorization period.

Monitoring reports in general—It seems that neither the hydroacoustic nor the marine mammal monitoring reports are being reviewed thoroughly by NMFS. The Commission raised this issue regarding the previous Chevron authorization, in which Chevron also failed to extrapolate takes as required and NMFS did not realize it. In this instance, the hydroacoustic monitoring report was not reviewed, and based on the comments herein, it appears the annual monitoring report¹¹ was not either. The Commission has made similar comments regarding inadequacy of monitoring reports for other authorizations in previous letters¹².

NMFS's review is particularly important when renewals are being issued based on results from those monitoring reports, those reports inform other authorizations in the area, and the Level A and B harassment zones are being revised based on the reports. Congress thought it important enough to include the monitoring and reporting requirements under sections 101(a)(5)(A)(i)(II)(bb) and 101(a)(5)(D)(ii)(III) of the MMPA. Implicit in those requirements is NMFS's timely review and consideration of the related monitoring reports. The Commission recommends that NMFS review all monitoring reports, including having its acoustic expert review all hydroacoustic monitoring reports, before accepting them as final to ensure that the action proponent has abided by the

⁹ Which were based on the hydroacoustic monitoring results and were 3.01 km² for vibratory installation of 36-in steel piles and 2.64 km² for impact installation of the same piles. As noted herein, NMFS's internal acoustics expert did not review the hydroacoustic monitoring report to verify that the revised Level B harassment zones were estimated accurately. Thus, it is unclear whether the ensounded areas are correct. Further complicating this issue is the fact that NMFS plans to issue the renewal authorization based on the Level A and B harassment zones from the 2019 final authorization that were not revised based on measurements obtained in 2019. The Level B harassment zones from the 2019 final authorization, and that will be included in the renewal authorization, are much larger than the revised zones from the hydroacoustic monitoring report, which would yield much larger ensounded areas and many more extrapolated Level B harassment takes.

¹⁰ The same issue occurred for harbor porpoises, in which a single porpoise was observed on a day when vibratory installation of 20-in steel piles was occurring. Extrapolation did not need to occur for 20-in steel piles. But, based on Chevron's method, a porpoise was presumed to be taken on another day when vibratory and impact installation of 36-in piles occurred. Coincidentally, the porpoise was observed before pile driving started and beyond the Level B harassment zone.

¹¹ The version provided on NMFS's website is from January 2020, when it was originally submitted.

¹² e.g., see its [29 April 2020](#), [1 July 2019](#), and [6 May 2019](#) letters.

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monitoring and reporting requirements under each incidental take authorization. Furthermore, the 15-day comment period afforded for each renewal is not commensurate with the time needed to review the reports in a sufficient manner.

One-year authorization renewals

The Commission has ongoing concerns regarding NMFS's renewal process, which can be reviewed in its [10 February 2020](#) letter. Based on those concerns, the Commission again recommends that NMFS refrain from issuing renewals for any authorization and instead use its abbreviated *Federal Register* notice process, which is similarly expeditious and fulfills NMFS's intent to maximize efficiencies. If NMFS continues to propose to issue renewals, the Commission recommends that it (1) stipulate that a renewal is a *one-time opportunity* (a) in all *Federal Register* notices requesting comments on the possibility of a renewal, (b) on its webpage detailing the renewal process, and (c) in all draft and final authorizations that include a term and condition for a renewal and, (2) if NMFS declines to adopt this recommendation, explain fully its rationale for not doing so. The second set of recommendations has been included in numerous Commission letters since December 2019, but the recommendations have yet to be followed. Further, NMFS has not responded to those recommendations in a detailed or accurate manner, despite the directive in section 202(d) of the MMPA that NMFS provide a detailed explanation for not following any of the Commission's recommendations. This issue can be reviewed in its [28 April 2020 letter](#).

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

Sincerely,



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