



Shawn Lee

HES Manager, Richmond Refinery

January 6, 2020

Ms. Jolie Harrison
National Oceanic and Atmospheric Administration
National Marine Fisheries Service - Office of Protected Resources 1315 East-West Highway
Silver Springs, MD 20910

Dear Ms. Harrison,

Chevron Products Company (Chevron) is currently constructing the Richmond Refinery Long Wharf Maintenance and Efficiency Project (LWMEP) (Project) in San Francisco Bay, California. Pile-driving activities related to the Project are covered under an Incidental Harassment Authorization (IHA) for the 2019/2020 construction period through May 31, 2020, issued on May 31, 2019 by the National Oceanic and Atmospheric Administration - National Marine Fisheries Service, Office of Protected Resources. The purpose of this correspondence is to request a one-year renewal of the IHA, for the period June 1, 2020 to May 31, 2021, per Section 8 of the current IHA.

The covered Project activities to be conducted under this requested renewal are the remaining subset of the activities analyzed in the LWMEP 2019 IHA and are identical to the activities described therein. All mitigation and monitoring requirements and "take" estimates for the remaining piles would be unchanged. Chevron notes that the term "take" is a regulatory term used broadly to refer to the incidental behavioral harassment of marine mammals.

Project Status

The 2019 IHA authorized incidental harassment of marine mammals related to the impact and vibratory driving of steel, concrete, and composite piles and vibratory removal of piles, all of various diameters (12-, 22-, 24-, 36-, and 60-inch). All piles authorized in the current IHA were expected to be installed/removed during the 2019 in-water work window from June 1 to November 30, 2019. However, in 2019, 46 piles were installed, and 10 piles were removed over approximately 18 construction days, leaving 69 piles remaining to be installed and up to 109 piles to be removed in the June 1 to November 30, 2020 construction window. There are no changes to the design plans or pile sizes for piles that remain to be driven. The remaining number of piles by diameter and approximate time for installation/removal is provided in Table 1.

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Table 1. Pile Diameters and Estimated Construction Time for Pile Installations in the 2020 Construction Window.

Pile Type	Pile Driver Type	Number of Piles	Number Installed/Removed per Day	Number of Driving Days
60-inch steel pipe piles	Impact	8	1	8
22-inch concrete pile removal	Vibratory	3	5	1
24-inch square concrete	Impact	9	2	5
12-inch composite piles	Vibratory	52	5	11
Timber pile removal	Vibratory	106	12	9
Total		178	N/A	34

The contractor intends to complete pile installation by the end of the next in-water work window, November 30, 2020. Because the anticipated period of construction extends past the expiration of the current IHA, Chevron is requesting a renewal of the current IHA from NMFS. In accordance with Section 8 of the current IHA, this renewal request is being provided more than 60 days prior to the current IHA expiration. A renewal of the current IHA would allow work to continue into the next in-water work season without undergoing consultation again.

2019 Marine Mammal Monitoring Results

Marine mammal monitoring was conducted in 2019 per the conditions of the IHA. The purpose of the monitoring effort was to document and prevent/minimize Level A and/or Level B take of Pacific harbor seal (*Phoca vitulina*), California sea lion (*Zalophus californianus*), harbor porpoise (*Phocena phocena*), northern elephant seal (*Mirounga ongustirostris*), Gray Whale (*Eschrichtius robustus*), northern fur seal (*Callorhinus ursinus*), and bottlenose dolphin (*Tursiops truncatus*). During pile driving, protected species observers recorded Level B take of marine mammals in accordance with the IHA requirements.

As required by the 2018 IHA, potential takes of marine mammals that occurred outside of the reliably observable portion of the Level B zone have been extrapolated. This is done by taking the daily occupancy of the observable monitoring zone multiplied by the unobservable portion of the Level B zone. The daily occupancy was developed by taking the total number of animals observed on all monitoring days divided by the observable area of the Level B zone and then dividing that value by the total number of monitoring days. The daily occupancy for harbor seals, based on a reliably observable radius of 400 meters (0.4km) is as follows:

$$(48 \text{ total harbor seals observed} / (\pi \times 0.4\text{km}^2)) / 18 \text{ monitoring days} = 5.3 \text{ harbor seals/km}^2 \text{ observed per day}$$

For harbor porpoise, the observed daily occupancy is as follows:

$$(1 \text{ total harbor porpoise observed} / (\pi \times 0.4\text{km}^2)) / 18 \text{ monitoring days} = 0.11 \text{ harbor seals/km}^2 \text{ observed per day}$$

To extrapolate daily take, the observed daily occupancy was multiplied by the unobservable portion of the Level B zone. This value is 3.01 square kilometers for vibratory driving of the 36-inch steel shell piles, as calculated from the distance of threshold exceedance measured during hydroacoustic monitoring; and 2.64 square kilometers for impact proofing of 36-inch steel shell piles, as calculated from the distance of threshold exceedance as provided in the IHA modeling. Note that land areas are excluded from the area of the unobservable Level B zone.

For impact pile driving of the 24-inch concrete piles and vibratory driving of the 20-inch steel pipe piles, the entirety of the measured Level B zone was visually observable, so this extrapolation was only applied to three days of vibratory pile driving and one day of impact proofing of the 36-inch steel pipe piles. In August, one California sea lion sat on the stern of an active tug during construction activities. There was no interaction with the sea lion, and it left the tug on its own after about 20 minutes. No pile driving was occurring at the time the sea lion was in the area and sat on the moving tug; however, this was counted as a Level B take. Extrapolation was only needed for animals that were observed in the water during pile driving, in this case harbor seal and harbor porpoise. Table 2 provides a summary of the observed and extrapolated takes for 2019.

Table 2. IHA Authorized Take and Documented Take by Species in the 2019 Construction Window.

Species	Authorized Level A Take	Documented 2019 Level A Take	Authorized Level B Take	Documented 2019 Level B Take (observed + extrapolated)
Pacific harbor seal	513	0	6,572	94 (48 + 46)
California sea lion	--	0	479	1*
Harbor porpoise	4	0	509	2 (1 + 1)
Northern elephant seal	--	0	23	0
Northern Fur Seal	--	0	10	0
Gray Whale	--	0	2	0
Bottlenose dolphin	--	0	30	0

*No take extrapolated. Only one sea lion was observed sitting on a moving tug when pile driving was not occurring.

The monitoring results presented in Table 2 show that the Project resulted in zero Level A takes and a small number of Level B takes (relative to the authorized take) of Pacific harbor seal, California sea lion, and harbor porpoise in 2019. To date, the Project has operated well below

the allowable take level in the 2019 IHA, and Chevron does not anticipate any changes in construction through the 2020 in-water work window (i.e., June 1 through November 30, 2020) that may increase the rate or likelihood of take to marine mammals.

2019 Hydroacoustic Monitoring Results

The LWMEP is a multi-year project and pile driving began in 2018. Per the requirements of the 2018 and 2019 IHAs issued for the Project, hydroacoustic monitoring has been conducted on representative piles of each pile type to confirm that the measured sound levels are within modeled distances.

During the 2019 construction window, hydroacoustic measurements were made for vibratory driving of two (2) 20-inch steel piles and two (2) 36-inch steel piles, and on impact driving of three (3) 24-inch concrete piles. The monitoring conducted in 2019 completes the hydroacoustic monitoring requirements for each of these pile types. Preliminary hydroacoustic monitoring results of distances to the 160 dB RMS Level B threshold for 2019 are shown in Table 3. Additional calculations for the Level A zones and a full hydroacoustic analysis will be presented in the 2019 final monitoring report for LWMEP construction. The annual report is in preparation.

Table 3. Preliminary Hydroacoustic Monitoring Results for 2019 LWMEP Pile Driving.

Pile Type	Installation Method	Level B Threshold (dB RMS)	Estimated Distance to Level B Threshold in IHA (meters)	Measured Distance to Level B Threshold (range, in meters)
20-inch Steel	Vibratory	120	7,356	170 - 207
36-inch Steel	Vibratory	120	21,454	491 – 1,085
36-inch Steel	Impact proofing	160	1,000	N/A*
24-inch concrete	Impact with bubble curtain	160	45	17 - 21

* Hydroacoustic monitoring not required for this activity

During 2020, hydroacoustic monitoring will be conducted as required for the remaining required piles and results will be reported in the Annual Report in accordance with the IHA.

Request

Due to construction schedule delays, pile driving for the LWMEP will not be completed before the IHA expires on May 31, 2020. Renewal of the IHA for an additional in-water work season (June 1, 2020 through November 30, 2020) would allow for the completion of identically planned construction activities without additional consultation. Marine mammal monitoring results have indicated that Level B takes have been far below the allowable threshold for the previous construction window. No significant changes in construction activities are planned for the Project, and if the IHA is renewed for the 2020 construction window, monitoring measures would remain the same as conducted in 2019. Based on the 2019 take occurrences (Table 2), the remaining Level A and Level B take authorized by the 2019 IHA would be sufficient to cover the

2020 pile installation and removal activities, and no additional take would need to be authorized. Chevron therefore requests a one-year renewal of the current IHA to continue LWMEP construction from June 1, 2020 to May 31, 2021.

We look forward to working with you on the IHA renewal. Please contact Bill Martin (bill.h.martin@aecom.com; 510-874-3020) or Mark Piersante (mpie@chevron.com; 510-242-2501) with any questions regarding this request.

Sincerely,

A handwritten signature in black ink that reads "Shawn Lee". The signature is written in a cursive style with a large initial "S" and a long horizontal stroke.

Shawn Lee

bcc: Mr. Albert Carrillo
Ms. Ashley Demcsak
Mr. Joshua Desmuke
Mr. Carlos Perez
Mr. Mark Piersante
Ms. Leila Zamani
Mr. Bill Martin - AECOM

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