

tournament) permit holders will be asked to affix a landings tag to all billfish and swordfish prior to removal from the vessel. Tags will be readily available at most fishing locations where billfish and swordfish are landed. In exchange for the tag, HMS recreational permit holders will be asked to fill out a catch card documenting their landing. If the pilot catch card program is successful, NMFS may consider long-term implementation in place of the current reporting system.

DATES: The voluntary HMS catch card pilot program will begin in Puerto Rico in March 2011.

ADDRESSES: Questions or comments can be submitted to Ron Salz, NMFS Office of Science and Technology, 1315 East West Highway, Silver Spring, MD 20910.

FOR FURTHER INFORMATION CONTACT: Ron Salz by phone at (301) 713-2328 or by e-mail at ron.salz@noaa.gov.

SUPPLEMENTARY INFORMATION: Accurate information is vital to NMFS' efforts to manage highly migratory species (HMS). The collection of catch and effort information for Atlantic HMS fulfills U.S. obligations to the International Commission for the Conservation of Atlantic Tunas (ICCAT) and provides the basis for stock assessments and management of these valuable species in U.S. territorial waters and international waters.

In an effort to improve the accuracy of recreational billfish and swordfish landings data as part of the Marine Recreational Information Program, NMFS will pilot test a new catch card program in Puerto Rico in 2011. The program will be implemented by the University of Puerto Rico at Mayaguez Sea Grant Program. Recreational HMS Angling category, HMS Charter Headboat category, and General category (participating in a tournament) permit holders will be asked to affix a landings tag to all billfish and swordfish prior to removal from the vessel. Tags will be readily available at most fishing locations where billfish and swordfish are landed. In exchange for the tag, HMS recreational permit holders will be asked to fill out a catch card documenting their landing. The success of this voluntary pilot program and the value of the information obtained will depend entirely on recreational fishing industry support or "buy-in." Through educational outreach, HMS recreational permit holders will be encouraged to participate and provide their landings information. Marinas, tackle shops and other private businesses will be asked to serve as catch card reporting stations to assist in this effort. If the pilot catch

card program is successful, NMFS may consider long-term implementation in place of the current reporting system.

The current mandatory reporting system and regulatory requirements will remain in effect, and anglers who report their billfish and swordfish landings through the voluntary catch card pilot program must also report their non-tournament landings through the online web-reporting portal at <http://www.hmspermits.gov> or by phone at 1-800-894-5528. Non-tournament landings reports are not considered complete unless a landings-specific confirmation number has been issued by NMFS.

Dated: February 4, 2011.

Margo Schulze-Haugen,

Acting Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XZ83

Taking of Marine Mammals Incidental to Specified Activities; Construction of the East Span of the San Francisco-Oakland Bay Bridge

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

ACTION: Notice of issuance of an incidental harassment authorization.

SUMMARY: In accordance with provisions of the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that an Incidental Harassment Authorization (IHA) has been issued to the California Department of Transportation (CALTRANS) to take small numbers of California sea lions, Pacific harbor seals, harbor porpoises, and gray whales, by harassment, incidental to construction of a replacement bridge for the East Span of the San Francisco-Oakland Bay Bridge (SF-OBB) in California.

DATES: This authorization is effective from February 7, 2011, until February 6, 2012.

ADDRESSES: A copy of the application, IHA, and/or a list of references used in this document may be obtained by writing to P. Michael Payne, Chief, Permits, Conservation and Education Division, Office of Protected Resources, National Marine Fisheries Service, 1315

East-West Highway, Silver Spring, MD 20910.

FOR FURTHER INFORMATION CONTACT: Shane Guan, NMFS, (301) 713-2289, ext 137, or Monica DeAngelis, NMFS, (562) 980-3232.

SUPPLEMENTARY INFORMATION:

Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, the taking is limited to harassment, notice of a proposed authorization is provided to the public for review.

Permission shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for certain subsistence uses and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring, and reporting of such taking are set forth. NMFS has defined "negligible impact" in 50 CFR 216.103 as " * * * an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival."

Section 101(a)(5)(D) of the MMPA established an expedited process by which citizens of the United States can apply for an authorization to incidentally take small numbers of marine mammals by harassment. Except with respect to certain activities not pertinent here, the MMPA defines "harassment" as:

any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering [Level B harassment].

Section 101(a)(5)(D) establishes a 45-day time limit for NMFS review of an application followed by a 30-day public notice and comment period on any proposed authorizations for the incidental harassment of small numbers of marine mammals. Within 45 days of the close of the comment period, NMFS

must either issue or deny issuance of the authorization.

Summary of Request

On July 8, 2010, CALTRANS submitted a request to NOAA requesting renewal of an IHA for the possible harassment of small numbers of California sea lions (*Zalophus californianus*), Pacific harbor seals (*Phoca vitulina richardsii*), harbor porpoises (*Phocoena phocoena*), and gray whales (*Eschrichtius robustus*) incidental to construction of a replacement bridge for the East Span of the SF-OBB, in San Francisco Bay (SFB), California. An IHA was previously issued to CALTRANS for this activity on August 14, 2009 and it expired on August 13, 2010 (74 FR 41684, August 18, 2009). In its renewal request, CALTRANS states that it has not scheduled any in-water pile driving and removal for the 2010–2011 construction year. However, CALTRANS states that due to the possibility of unforeseen construction changes, it is important for CALTRANS to maintain a current IHA during SF-OBB Project construction operations. In addition, CALTRANS stated that should construction schedule changes

necessitate the installation of in-water piles, these would be small diameter temporary piles like the ones used during the 2009–2010 season, ranging from 0.3 m (18 in) to 1.2 m (48 in); and the scale of such events will not exceed the scale of work conducted in the previous season. A detailed description of the SF-OBB 2009–2010 construction work was provided in the August 18, 2009 (74 FR 41684) **Federal Register** notice of issuance of the IHA and is not repeated here. The following is a brief summary of CALTRANS 2009–2010 activities.

CALTRANS 2009–2010 pile driving activities for 2009–2010 construction included driving the 42–48 in (1.1–1.2 m) diameter temporary piles, as opposed to the much larger 5.9–8.2 ft (1.8–2.5 m) diameter permanent piles used in the past. Therefore, the noise from pile driving of these temporary piles is far less than that resulting from previous pile driving activities. CALTRANS indicates that deployment of an air bubble curtain would not be feasible for the driving of these smaller temporary piles due to the complexity of the driving frames. In addition, during the 2009–2010 construction season, certain piles were installed by

using both vibratory and impact hammers, instead of only impact hammers as in the past.

Empirical hydroacoustic measurements of impact and vibratory hammers during CALTRANS testing of pile driving in San Francisco Bay on October 23, December 9, and December 11, 2008, are shown in Table 1. Hydroacoustic monitors used data collected on December 9 and December 11, 2008, to determine the distance of the 120 dB isopleths. At 1,900 m from the vibratory pile driving, sound levels are in the low 120 dB root-mean-squared (rms) range. At this distance pile driving was audible but not measurable due to ambient noise (CALTRANS, 2009).

If in-water pile driving is to be conducted, the previously collected hydroacoustic data showed that the vibration of the bottom segment of each pile took approximately 3 minutes; the vibration of the top segment of each pile took approximately 8 minutes; and the impact driving of the top segment of each pile lasted an average of 15 minutes. On average, it took about 25 minutes of driving time to install each temporary pile (CALTRANS, 2009).

TABLE 1—ROOT-MEAN-SQUARE ISOPLETHS BASED ON HYDROACOUSTIC MONITORING OF PILE DRIVING (48 IN. DIAMETER) IN SAN FRANCISCO BAY BY ILLINGWORTH & RODKIN, INC. (CALTRANS, 2009)

Sound level (dB-rms re 1 μPa)	120*	160**	180**	190**
Radius for Vibratory Pile Driving	1,900 m	250 m ..	15 m	does not exist.
Radius for Impact Pile Driving	NA	1,000 m	235 m ..	95 m.

* Hydroacoustic measurements for received level at 120 dB (rms) re 1 μPa from vibratory pile driving were collected on December 9 and 11, 2008.

** Hydroacoustic measurements for received levels at 160, 180, and 190 dB (rms) re 1 μPa from vibratory pile driving were collected on October 23, 2008.

Since the proposed SF-OBB construction project would be installing smaller temporary piles with no air bubble curtain, and since the pile driving activities would be performed by using both impact and vibratory hammers, NMFS conducted a comparison of isopleths from CALTRANS' large foundation pile driving activities using an air bubble curtain system (Table 2) with the current testing pile driving without an air bubble curtain by both impact and vibratory pile driving (Table 1). The acoustic data used from the foundation pile driving were provided by CALTRANS (CALTRANS, 2005). The

comparison shows that the radius for the zone of influence (ZOI) for Level B behavioral harassment, as defined by marine mammals exposed to received impulse sound pressure level (SPL) of 160 dB (rms) re 1 μPa, for the previous larger pile driving activities using an air bubble curtain was about 2,000 m (see further discussion on potential impacts to marine mammals below). This distance is approximately the same as the radius for the proposed vibratory pile driving for the smaller temporary piles at received SPL of 120 dB (rms) re 1 μPa, a level that may cause Level B behavioral harassment to marine mammals by vibratory pile driving.

Therefore, NMFS concludes that the potential impacts to marine mammals from the proposed SF-OBB construction project involving installation of smaller temporary piles using both impact and vibratory hammers without deployment of an air bubble curtain system are the same as the previous construction activities installing larger foundation piles using impact hammers and an air bubble curtain system as a mitigation measure. If pile driving or removal are to be conducted, they are expected to occur during daylight hours only, as in the previous IHAs.

TABLE 2—SUMMARY OF HYDROACOUSTIC MEASUREMENTS OF PILE DRIVING (8.2 FT DIAMETER) REPORTED AS DB RE 1 μ PA—PIER E3W MARINE MAMMAL HYDROACOUSTIC CHARACTERIZATION, 10/13/2004 (ADOPTED FROM CALTRANS, 2005)

Position	Water depth	South pile Hammer: Menck 1,700		North pile Hammer: Menck 1,700	
		RMS impulse	Peak	RMS impulse	Peak
50m West (made by Caltrans) * .....	.....	177	186	.....	.....
100m West *	~12–14m	175	185	173	182
100m North	~12m	174	183	.....	.....
100m South **	~12m	.....	.....	174	182
500m West	~8m	174	182	.....	.....
500m South	~10m	167	177	177	188
1000m North	14m	.....	.....	169	178
1000m South	~10m	169	176	.....	.....
2000m North	11m	.....	.....	162	169
2000m South	~10m	<140	<150	.....	.....
4400m North	>12m	.....	.....	<130	<150
4400m South	>12m	<130	<150	.....	.....

* Continuous measurement. All others are spot measurements of at least 5 minutes in duration.

** Many obstructions including Pier E3E.

Comments and Responses

A notice of receipt and request for public comment on the application and proposed authorization was published on December 13, 2010 (75 FR 77617). During the 30-day public comment period, the Marine Mammal Commission (Commission) provided the only comment.

Comment: The Commission recommends that NMFS issue the requested IHA subject to a condition requiring CALTRANS to make observations before, during, and after all soft-starts of pile driving activities to gather the data needed to analyze and report on its effectiveness as a mitigation measure.

Response: NMFS agrees that studies are needed to evaluate the effectiveness of soft-start or ramp-up procedures as mitigation measures prescribed in NMFS incidental take authorizations (ITAs). Although soft-start or ramp-up procedures for pile driving have been routinely prescribed as a mitigation measure under NMFS ITAs, its efficacy has not been assessed. It is believed that by increasing the pile driving power incrementally instead of starting with the full power, marine mammals that were missed during the 30-minute pre-pile driving monitoring would leave the area, thus avoiding temporary threshold shift (TTS) or permanent threshold shift (PTS) of hearing sensitivity.

However, given the limited nature of actual pile driving, and overall low marine mammal densities and occurrence within parts of the San Francisco Bay where the CALTRANS project is located, NMFS does not believe that mandating a soft start effectiveness analysis would be meaningful or provide enough verifiable

data to make any sort of reliable, scientific conclusion based on the limited CALTRANS pile driving. Nevertheless, NMFS will require CALTRANS to note any observations during the entire pile driving sequence, including the “soft-start” period, for later analysis. This analysis could provide some insights regarding the effectiveness of prescribing soft-start or ramp up as a mitigation measure for pile driving.

Potential Effects on Marine Mammals and Their Habitat

CALTRANS and NMFS have determined that open-water pile driving, as outlined in the project description, has the potential to result in behavioral harassment of California sea lions, Pacific harbor seals, harbor porpoises, and gray whales that may be swimming, foraging, or resting in the project vicinity while pile driving is being conducted. Pile driving could potentially harass those few pinnipeds that are in the water close to the project site, whether their heads are above or below the surface.

Marine mammals exposed to high intensity sound repeatedly or for prolonged periods can experience hearing threshold shift (TS), which is the loss of hearing sensitivity at certain frequency ranges (Kastak *et al.* 1999; Schlundt *et al.* 2000; Finneran *et al.* 2002; 2005). TS can be permanent (PTS), in which case the loss of hearing sensitivity is unrecoverable, or temporary (TTS), in which case the animal's hearing threshold will recover over time (Southall *et al.* 2007). Since marine mammals depend on acoustic cues for vital biological functions, such as orientation, communication, finding

prey, and avoiding predators, marine mammals that suffer from PTS or TTS will have reduced fitness in survival and reproduction, either permanently or temporarily. Repeated noise exposure that leads to TTS could cause PTS.

Measured source levels from impact pile driving can be as high as 214 dB re 1 μ Pa @ 1 m. Although no marine mammals have been shown to experience TTS or PTS as a result of being exposed to pile driving activities, experiments on a bottlenose dolphin (*Tursiops truncatus*) and beluga whale (*Delphinapterus leucas*) showed that exposure to a single watergun impulse at a received level of 207 kPa (or 30 psi) peak-to-peak (p-p), which is equivalent to 228 dB (p-p) re 1 μ Pa, resulted in a 7 and 6 dB TTS in the beluga whale at 0.4 and 30 kHz, respectively. Thresholds returned to within 2 dB of the pre-exposure level within 4 minutes of the exposure (Finneran *et al.* 2002). No TTS was observed in the bottlenose dolphin. Although the source level of pile driving from one hammer strike is expected to be much lower than the single watergun impulse cited here, animals being exposed for a prolonged period to repeated hammer strikes could receive more noise exposure in terms of SEL than from the single watergun impulse (estimated at 188 dB re 1 μ Pa²-s) in the aforementioned experiment (Finneran *et al.* 2002).

However, in order for marine mammals to experience TTS or PTS, the animals have to be close enough to be exposed to high intensity noise levels for prolonged period of time. Based on the best scientific information available, these sound levels are far below the threshold that could cause TTS or the onset of PTS.

In addition, chronic exposure to excessive, though not high-intensity, noise could cause masking at particular frequencies for marine mammals that utilize sound for vital biological functions. Masking can interfere with detection of acoustic signals such as communication calls, echolocation sounds, and environmental sounds important to marine mammals.

Therefore, under certain circumstances, marine mammals whose acoustical sensors or environment are being severely masked could also be impaired from maximizing their performance fitness in survival and reproduction.

Masking occurs at the frequency band which the animals utilize. Therefore, since noise generated from in-water pile driving during the SF-OBB construction activities is mostly concentrated at low frequency ranges, it may have less effect on high frequency echolocation sounds by harbor porpoises. However, lower frequency man-made noises are more likely to affect detection of communication calls and other potentially important natural sounds such as surf and prey noise. It may also affect communication signals when they occur near the noise band and thus reduce the communication space of animals (e.g., Clark *et al.* 2009) and cause increased stress levels (e.g., Foote *et al.* 2004; Holt *et al.* 2009).

Unlike TS, masking can potentially impact the species at population, community, or even ecosystem levels, as well as individual levels. Masking affects both senders and receivers of the signals and could have long-term chronic effects on marine mammal species and populations. Recent science suggests that low frequency ambient sound levels have increased by as much as 20 dB (more than 3 times in terms of SPL) in the world's ocean from pre-industrial periods, and most of these increases are from distant shipping (Hildebrand 2009). All anthropogenic noise sources, such as those from vessel traffic, pile driving, and dredging activities, contribute to the elevated ambient noise levels, thus intensify masking.

Nevertheless, the sum of noise from the proposed SF-OBB construction activities is confined in an area of inland waters (San Francisco Bay) that is bounded by landmass, therefore, the noise generated is not expected to contribute to increased ocean ambient noise.

Finally, exposure of marine mammals to certain sounds could lead to behavioral disturbance (Richardson *et al.* 1995), such as: Changing durations of surfacing and dives, number of blows per surfacing, or moving direction

and/or speed; reduced/increased vocal activities, changing/cessation of certain behavioral activities (such as socializing or feeding); visible startle response or aggressive behavior (such as tail/fluke slapping or jaw clapping), avoidance of areas where noise sources are located, and/or flight responses (e.g., pinnipeds flushing into water from haulouts or rookeries).

The biological significance of many of these behavioral disturbances is difficult to predict, especially if the detected disturbances appear minor. However, the consequences of behavioral modification could be expected to be biologically significant if the change affects growth, survival, and reproduction. Some of these significant behavioral modifications include:

- Drastic change in diving/surfacing patterns (such as those thought to be causing beaked whale stranding due to exposure to military mid-frequency tactical sonar);
- Habitat abandonment due to loss of desirable acoustic environment; and
- Cease feeding or social interaction.

For example, at the Guerrero Negro Lagoon in Baja California, Mexico, which is one of the important breeding grounds for Pacific gray whales, shipping and dredging associated with a salt works may have induced gray whales to abandon the area through most of the 1960s (Bryant *et al.* 1984). After these activities stopped, the lagoon was reoccupied, first by single whales and later by cow-calf pairs.

The onset of behavioral disturbance from anthropogenic noise depends on both external factors (characteristics of noise sources and their paths) and the receiving animals (hearing, motivation, experience, demography) and is also difficult to predict (Southall *et al.* 2007).

The proposed project area is not believed to be a prime habitat for marine mammals, nor is it considered an area frequented by marine mammals. Therefore, behavioral disturbances that could result from anthropogenic noise associated with SF-OBB construction activities are expected to affect only a small number of marine mammals on an infrequent basis.

Currently NMFS uses 160 dB re 1 μ Pa at received level for impulse noises (such as impact pile driving) as the onset of marine mammal behavioral harassment, and 120 dB re 1 μ Pa for continued noises (vibratory pile driving and dredging).

As far as airborne noise is concerned, based on airborne noise levels measured and on-site monitoring conducted during 2004 under a previous IHA, noise levels from the East Span project did not result in the harassment of

harbor seals hauled out on Yerba Buena Island (YBI). Also, noise levels from the East Span project are not expected to result in harassment of the sea lions hauled out at Pier 39 as airborne and waterborne sound pressure levels (SPLs) would attenuate to levels below where harassment would be expected by the time they reach that haul-out site, 5.7 km (3.5 miles) from the project site. Therefore, no pinniped hauled out would be affected as a result of the proposed pile-driving. A detailed description of the acoustic measurements is provided in the 2004 CALTRANS marine mammal and acoustic monitoring report for the same activity (CALTRANS' 2005).

Short-term impacts to habitat may include minimal disturbance of the sediment where individual bridge piers are constructed. Long-term impacts to marine mammal habitat will be limited to the footprint of the piles and the obstruction they will create following installation. However, this impact is not considered significant as the marine mammals can easily swim around the piles of the new bridge, as they currently swim around the existing bridge piers.

Estimated Take by Incidental Harassment

For reasons provided in greater detail in NMFS' November 14, 2003 (68 FR 64595) Federal Register notice and in CALTRANS' annual monitoring reports (CALTRANS 2007; 2010) and marine mammal observation memoranda under the previous IHAs, the proposed construction would result in harassment of only small numbers of marine mammals and would not result in more than a negligible impact on marine mammal stocks and their habitat. This was achieved by implementing a variety of monitoring and mitigation measures including marine mammal monitoring before and during pile driving, establishing safety zones, and ramping up pile driving.

Marine mammal take estimates are based on marine mammal monitoring reports and marine mammal observations made during pile driving activities associated with the SF-OBB construction work authorized under prior IHAs. For pile driving activities conducted in 2006, 5 harbor seals and no other marine mammals were detected within the isopleths of 160 dB (rms) re 1 microPa during impact pile driving where air bubble curtains were deployed for mitigation measures (radius of ZOI at 500 m) (CALTRANS 2007). For pile driving activities conducted in the 2008 and 2009 seasons, CALTRANS monitored a much

larger ZOI of 120 dB (rms) re 1 microPa as a result of vibratory pile driving. A total of 11 harbor seals and 1 California sea lion were observed entering the 120 dB (rms) re 1 microPa ZOI (CALTRANS). However, despite the monitored ZOI being extended to 1,900 m for the 120 dB isopleths, CALTRANS did not specify which pile driving activities conducted in 2008 and 2009 used impact hammer and which ones used vibratory hammer. Therefore, at least some of these animals were not exposed to received levels above 160 dB (rms) re 1 microPa, and thus should not be considered as "taken" under the MMPA. No harbor porpoise or gray whale were observed during CALTRANS' pile driving activities since 2006 (CALTRANS 2007; 2010).

Based on these results, in addition to CALTRANS' expectation that very limited pile driving activities would be conducted in the next season, NMFS concludes that at a maximum of 10 harbor seals, 2 California sea lions, 5 harbor porpoises, and 1 gray whale could be exposed to noise levels above 120 dB by vibratory pile driving.

Marine Mammal Monitoring Report From Previous IHA

As mentioned above, marine mammal monitoring during CALTRANS' pile driving activities and weekly marine mammal observation memorandums (CALTRANS 2007; 2010) indicate that only a small number of harbor seals (a total of 16 individuals since 2006) and 1 California sea lion (a total of 1 individual in 2009) were observed within ZOIs that could result in behavioral harassment. However, the reports state that none of the animals were observed to have been startled by the exposure, which could be an indication that these animals were habituated to human activities in San Francisco Bay. In addition, no harbor porpoise or gray whales were observed during pile driving activities associated to CALTRANS' SF-OBB construction work.

Mitigation Measures

For the issuance of the IHA for the planned 2011–2012 SF-OBB potential construction activities to reduce adverse impacts to marine mammals to the lowest extent practicable, NMFS requires the following mitigation measures to be implemented.

Establishment of Safety/Buffer Zones

CALTRANS conducted underwater acoustic measures during temporary pile driving using impact hammers conducted under the previous IHA (CALTRANS 2010). The measurements

showed that the distance to the 190 dB (rms) re 1 μ Pa isopleths ranged from 50 m (164 ft) to 150 m (492 ft), and the distance to the 180 dB (rms) re 1 μ Pa isopleths ranged from 375 m (1,230 ft) to 500 m (1,640 ft) at different locations. NMFS required CALTRANS to use the most conservative measurements for the establishment of safety zones at 500 m (1,640 ft) for pinnipeds and at 150 m (492 ft) for cetaceans. These safety zones shall be monitored at all times when impact pile driving is underway.

No safety zone would be established for vibratory pile driving and removal since the measured source levels will not exceed the 180 and 190 dB re 1 μ Pa.

Observers on boats would survey the safety zone to ensure that no marine mammals are seen within the zones before impact pile driving of a pile segment begins. If marine mammals are found within the safety zone, impact pile driving of the segment would be delayed until they move out of the area. If a marine mammal is seen above water and then dives below, the contractor would wait 15 minutes for pinnipeds and harbor porpoise and 30 minutes for gray whale. If no marine mammals are seen by the observer in that time it would be assumed that the animal has moved beyond the safety zone. This 15-minute criterion is based on scientific evidence that harbor seals in San Francisco Bay dive for a mean time of 0.50 minutes to 3.33 minutes (Harvey and Torok, 1994), and the mean diving duration for harbor porpoises ranges from 44 to 103 seconds (Westgate *et al.*, 1995).

Once the pile driving of a segment begins it cannot be stopped until that segment has reached its predetermined depth due to the nature of the sediments underlying the Bay. If pile driving stops and then resumes, it would potentially have to occur for a longer time and at increased energy levels. In sum, this would simply amplify impacts to marine mammals, as they would endure potentially higher SPLs for longer periods of time. Pile segment lengths and wall thickness have been specially designed so that when work is stopped between segments (but not during a single segment), the pile tip is never resting in highly resistant sediment layers. Therefore, because of this operational situation, if seals, sea lions, or harbor porpoises enter the safety zone after pile driving of a segment has begun, pile driving will continue and marine mammal observers will monitor and record marine mammal numbers and behavior. However, if pile driving of a segment ceases for 30 minutes or more and a marine mammal is sighted within the designated safety zone prior

to commencement of pile driving, the observer(s) must notify the Resident Engineer (or other authorized individual) immediately and follow the mitigation requirements as outlined previously in this document.

Soft Start

It should be recognized that although marine mammals will be protected from Level A harassment (*i.e.*, injury) through marine mammal observers monitoring a 190-dB safety zone for pinnipeds and 180-dB safety zone for cetaceans, mitigation may not be 100 percent effective at all times in locating marine mammals. Therefore, in order to provide additional protection to marine mammals near the project area by allowing marine mammals to vacate the area prior to receiving a potential injury, CALTRANS would also "soft start" the hammer prior to operating at full capacity. CALTRANS typically implements a "soft start" with several initial hammer strikes at less than full capacity (*i.e.*, approximately 40–60 percent energy levels) with no less than a 1 minute interval between each strike. Similar levels of noise reduction are expected underwater. Therefore, the contractor would initiate pile driving hammers with this procedure in order to allow pinnipeds or cetaceans in the area to voluntarily move from the area. This should expose fewer animals to loud sounds both underwater and above water. This would also ensure that, although not expected, any pinnipeds and cetaceans that are missed during safety zone monitoring will not be injured.

Compliance With Equipment Noise Standards

To mitigate noise levels and, therefore, impacts to California sea lions, Pacific harbor seals, harbor porpoises, and gray whales, all construction equipment shall comply with applicable equipment noise standards of the U.S. Environmental Protection Agency, and all construction equipment shall have noise control devices no less effective than those provided on the original equipment.

Monitoring Measures

The following monitoring measures are required for the proposed SF-OBB construction activities.

Safety zone monitoring would be conducted during pile driving and removal of all in-water piles. Monitoring of the pinniped and cetacean safety zones shall be conducted by a minimum of three qualified NMFS-approved observers for each safety zone. One three-observer team would be required

for the safety zones around each pile driving site, so that multiple teams would be required if pile driving is occurring at multiple locations at the same time. The observers would begin monitoring at least 30 minutes prior to startup of the pile driving, including the period of "soft start." Most likely observers would conduct the monitoring from small boats, as observations from a higher vantage point (such as the SF-OBB) are not practical. Pile driving should not begin until the safety zones are clear of marine mammals. However, as described in the Mitigation section, once pile driving of a segment begins, operations would continue uninterrupted until the segment has reached its predetermined depth. However, if pile driving of a segment ceases for 30 minutes or more and a marine mammal is sighted within the designated safety zone prior to commencement of pile driving, the observer(s) must notify the Resident Engineer (or other authorized individual) immediately and follow the mitigation requirements as outlined previously (see Mitigation). Monitoring should continue through the pile driving period and would end approximately 30 minutes after pile driving has been completed. Biological observations would be made using binoculars during daylight hours.

In addition to monitoring from boats, during in-water pile driving, monitoring at one control site (*i.e.*, harbor seal haul-out sites and the waters surrounding such sites not impacted by the East Span Project's pile driving activities, *e.g.*, Mowry Slough) would be designated and monitored for comparison. Monitoring would be conducted twice a week at the control site whenever in-water pile driving is being conducted.

Data on all observations would be recorded and should include the following information:

- (1) Location of sighting;
- (2) Species;
- (3) Number of individuals;
- (4) Number of calves present;
- (5) Duration of sighting;
- (6) Behavior of marine animals sighted;
- (7) Direction of travel;
- (8) Environmental information associated with sighting event including Beaufort sea state, wave height, tide state, water currents, wind direction, visibility, glare, percentage of glare, percentage of cloud cover; and
- (9) When in relation to pile driving or removal activities did the sighting occur (before, "soft-start," during, or after the pile driving or removal).

The reactions of marine mammals would be recorded based on the following classifications that are consistent with the Richmond Bridge Harbor Seal survey methodology (for information on the Richmond Bridge authorization, *see* 68 FR 66076, November 25, 2003): (1) No response, (2) head alert (looks toward the source of disturbance), (3) approach water (but not leave), and (4) flush (leaves haul-out site). The number of marine mammals under each disturbance reaction should be recorded, as well as the time when seals re-haul after a flush.

Reporting Measures

Under previous IHAs, CALTRANS submitted weekly marine mammal monitoring reports for the time when in-water pile driving was commenced. In June 2010, CALTRANS submitted the Marine Mammal Monitoring for the Self-anchored Suspension Span Temporary Tower, which also includes hydroacoustic measurements during both impact and vibratory pile driving. The report is available by contacting NMFS (*see* ADDRESSES).

Under the IHA, coordination with NMFS would occur on a weekly basis if pile driving or removal is conducted. During periods with in-water pile driving or removal activities, weekly monitoring reports will be made available to NMFS and the public at <http://biomitigation.org>. These weekly reports would include a summary of the previous week's monitoring activities and an estimate of the number of seals and sea lions that may have been disturbed as a result of pile driving activities.

In addition, CALTRANS would provide NMFS with a draft final report within 90 days after completion of the westbound Skyway contract and 90 days after completion of the Suspension Span foundations contract. This report should detail the monitoring protocol, summarize the data recorded during monitoring, and estimate the number of marine mammals that may have been harassed due to pile driving. If no comments are received from NMFS within 30 days, the draft final report would be considered the final report. If comments are received, a final report must be submitted within 30 days after receipt of comments.

Negligible Impact and Small Numbers Analysis and Determination

Pursuant to NMFS' regulations implementing the MMPA, an applicant is required to estimate the number of animals that will be "taken" by the specified activities (*i.e.*, takes by harassment only, or takes by

harassment, injury, and/or death). This estimate informs the analysis that NMFS must perform to determine whether the activity will have a "negligible impact" on the species or stock. Level B (behavioral) harassment occurs at the level of the individual(s) and does not assume any resulting population-level consequences, though there are known avenues through which behavioral disturbance of individuals can result in population-level effects. A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.*, population-level effects). An estimate of the number of Level B harassment takes alone is not enough information on which to base an impact determination.

In addition to considering estimates of the number of marine mammals that might be "taken" through behavioral harassment, NMFS considers other factors, such as the likely nature of any responses (their intensity, duration, *etc.*), the context of any responses (critical reproductive time or location, migration, *etc.*), as well as the number and nature of estimated Level A takes, the number of estimated mortalities, and effects on habitat.

The CALTRANS' specified activities have been described based on best estimates of the planned SF-OBB construction project within the proposed project area. Some of the noises that would be generated as a result of the proposed bridge construction project, such as impact pile driving, are high intensity. However, the in-water pile driving for the test piles, if conducted, would use small hammers and/or vibratory pile driving methods, therefore the resulting safety zones for potential TS are expected to be small and can be easily monitored to ensure no marine mammals are within the zones when pile driving starts. In addition, the source levels from vibratory pile driving are expected to be below the TS onset threshold. Therefore, NMFS does not expect that any animals would receive Level A (including injury) harassment or Level B harassment in the form of TTS from being exposed to in-water pile driving associated with the SF-OBB construction project.

Based on marine mammal monitoring reports under previous IHAs, only 16 harbor seals and 1 California sea lion were observed within the 120 dB (in 2008 and 2009) or 160 dB (in 2006) ZOIs during in-water pile driving since 2006. NMFS proposes that up to 10 harbor seals, 2 California sea lions, 5 harbor porpoises, and 1 gray whale could be exposed to received levels above 120 dB (rms) during vibratory pile driving or

160 dB (rms) during impact pile driving for the next season of construction activities if pile driving frequency would be kept at 2008–2009 level. These are small numbers, representing 0.03% of the California stock of harbor seal population (estimated at 34,233; Carretta *et al.* 2010), 0.00% of the U.S. stock of California sea lion population (estimated at 238,000; Carretta *et al.* 2010), 0.05% of the San Francisco-Russian River stock of harbor porpoise population (estimated at 9,181; Carretta *et al.* 2010), and 0.01% of the Eastern North Pacific stock of gray whale population (estimated at 18,813; Allen and Angliss 2010).

Animals exposed to construction noise associated with the SF–OBB construction work would be limited to Level B behavioral harassment only, *i.e.*, the exposure of received levels for impulse noise between 160 and 180 dB (rms) re 1 μ Pa (from impact pile driving) and for non-impulse noise between 120 and 180 dB (rms) re 1 μ Pa (from vibratory pile driving). In addition, the potential behavioral responses from exposed animals are expected to be localized and short in duration.

These low intensity, localized, and short-term noise exposures (*i.e.*, 160 dB re 1 μ Pa (rms) from impulse sources and 120 dB re 1 μ Pa (rms) from non-impulse sources), are expected to cause brief startle reactions or short-term behavioral modification by the animals. These brief reactions and behavioral changes are expected to disappear when the exposures cease. Therefore, these levels of received underwater construction noise from the proposed SF–OBB construction project are not expected to affect marine mammal annual rates of recruitment or survival. The average measured 160 dB isopleths from impact pile driving is 1,000 m from the pile, and the estimated 120 dB isopleths from vibratory pile driving is approximately 1,900 m from the pile.

For the reasons discussed in this document, NMFS has determined that the impact of in-water pile driving associated with construction of the SF–OBB would result, at worst, in the Level B harassment of small numbers of California sea lions, Pacific harbor seals, harbor porpoises, and potentially gray whales that inhabit or visit SFB in general and the vicinity of the SF–OBB in particular. While behavioral modifications, including temporarily vacating the area around the construction site, may be made by these species to avoid the resultant visual and acoustic disturbance, the availability of alternate areas within SFB and haul-out sites (including pupping sites) and feeding areas within the Bay has led

NMFS to determine that this action will have a negligible impact on California sea lion, Pacific harbor seal, harbor porpoise, and gray whale populations along the California coast.

In addition, no take by Level A harassment (injury) or death is anticipated and harassment takes should be at the lowest level practicable due to incorporation of the mitigation measures mentioned previously in this document. The activity will not have an unmitigable adverse impact on subsistence uses of marine mammals described in MMPA section 101(a)(5)(D)(i)(II).

Impact on Availability of Affected Species for Taking for Subsistence Uses

There are no relevant subsistence uses of marine mammals implicated by this action.

National Environmental Policy Act (NEPA)

NMFS' prepared an Environmental Assessment (EA) for the take of marine mammals incidental to construction of the East Span of the SF–OBB and made a Finding of No Significant Impact (FONSI) on November 4, 2003. Due to the modification of part of the construction project and the mitigation measures, NMFS reviewed additional information from CALTRANS regarding empirical measurements of pile driving noises for the smaller temporary piles without an air bubble curtain system and the use of vibratory pile driving. NMFS prepared a Supplemental Environmental Assessment (SEA) and analyzed the potential impacts to marine mammals that would result from the modification of the action. A Finding of No Significant Impact (FONSI) was signed on August 5, 2009. A copy of the SEA and FONSI is available upon request (*see ADDRESSES*).

Endangered Species Act (ESA)

On October 30, 2001, NMFS completed consultation under section 7 of the ESA with the Federal Highway Administration (FHWA) on the CALTRANS' construction of a replacement bridge for the East Span of the SF–OBB in California. Anadromous salmonids are the only listed species which may be affected by the project. The finding contained in the Biological Opinion was that the proposed action at the East Span of the SF–OBB is not likely to jeopardize the continued existence of listed anadromous salmonids, or result in the destruction or adverse modification of designated critical habitat for these species. Listed marine mammals are not expected to be

in the area of the action and thus would not be affected.

NMFS' issuance of an IHA to CALTRANS constitutes an agency action that authorizes an activity that may affect ESA-listed species and, therefore, is subject to section 7 of the ESA. There is no ESA-listed marine mammal species in the proposed action area, therefore, NMFS has determined that issuance of an IHA for this activity will have no effect on any listed marine mammal species.

Authorization

NMFS has issued an IHA to CALTRANS for the potential harassment of small numbers of harbor seals, California sea lions, harbor porpoises, and gray whales incidental to construction of a replacement bridge for the East Span of the San Francisco-Oakland Bay Bridge in California, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated: February 2, 2011.

James H. Lecky,

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

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DEPARTMENT OF COMMERCE

Patent and Trademark Office

[Docket No.: PTO–P–2010–0088]

Supplementary Examination Guidelines for Determining Compliance With 35 U.S.C. 112 and for Treatment of Related Issues in Patent Applications

AGENCY: United States Patent and Trademark Office, Commerce.

ACTION: Notice.

SUMMARY: These supplementary guidelines are intended to assist United States Patent and Trademark Office (Office) personnel in the examination of claims in patent applications for compliance with 35 U.S.C. 112, second paragraph, which requires that claims particularly point out and distinctly claim the subject matter that applicant regards as his or her invention. In addition, supplemental information is provided to assist Office personnel in the examination of claims that contain functional language for compliance with 35 U.S.C. 112, especially computer-implemented invention claims. The guidelines also include information to assist Office personnel in the examination of dependent claims for compliance with 35 U.S.C. 112, fourth