

response to comment 6, will result in the least practicable adverse impact to the affected species or stocks of seals or sea lions that might be in the area prior to starting pile driving.

Comment 12: CG&S submitted additional documentation on June 18, 2002, regarding the efficacy of a gravel-filled cofferdam for sound attenuation. CG&S concludes that dewatering the cofferdam by filling it with solid material may, at best, provide little to no reduction of noise levels and may actually intensify sound levels in some applications, rendering this technique ineffective for sound attenuation. The CG&S' supporting documentation provides a summary of the finding: "A basic estimate of the sound propagation for the driven pile in the sand-filled cofferdam is made. The first order calculation for the geometry presented indicates about 10 dB loss due to this construction. This loss has reduced significance when considering the potential need for more hammer energy to drive the pile through the sand. The acoustic conditions could potentially be no better and even could become worse."

Response: CALTRANS plans to construct the eastbound and westbound piers E16 through E7 in dewatered cofferdams using a 500-kJ hammer, not a 1,700-kJ hammer unless resistance is met. However, as detailed in CALTRANS (2002b), the cofferdam is not simply dewatered and filled with sand. Instead, the bottom is dredged, a base-rock blanket is placed on the bottom of the cofferdam and a pile cap is placed in the cofferdam. After the cofferdam is dewatered to the extent practicable, the battered piles are driven through sleeves in the pile cap, not through the sand or rock (except for the 1.5 m (4.9 ft) of base rock under the pile cap). Figure 2–3 of CALTRANS (2002b) provides a good illustration of the expected decoupling of the airborne sounds from the pile driver into the water column when pile driving is conducted in the relatively shallow water between piers E16 and E7. Essentially, it does not matter even if there is water between the voids of the rock fill inside the cofferdam during pile driving. This is because the rock fill starts at the mudline and continues down to the bottom of the excavated coffer cell. Therefore, little or no energy is transmitted to the Bay water through the locking fill or the water in the voids of the locking fill. The pile is not surrounded by Bay waters and little or no energy is transmitted to the Bay waters. As a result, NMFS has concluded that the use of cofferdams is an effective method to reduce the sound

pressure level of pile driving into the water environment.

Comment 13: CALTRANS comments that the restriction on start-up of pile driving until marine mammals have moved out of the area should be revised to include an alternative of a time period of 15 minutes. CALTRANS is concerned that costly delays of up to \$38,000/hour could result from a delay.

Response: Both the proposed and final documents make clear that pile driving cannot begin until marine mammals have left the respective safety zone for their appropriate taxa, no matter how long the period. This is appropriate since CALTRANS did not request the taking of marine mammals by Level A harassment, which becomes a potential means of take if animals are still within the safety zone when pile driving commences. However, as noted in the IHA, if an animal dives below the water surface and does not reappear within the safety zone within 15 minutes, then the animal may be presumed to have left the safety zone and pile driving can begin. If the presence of seals or California sea lions within the safety zone seriously compromises CALTRANS' activity, CALTRANS will need to contact the Regional Administrator, NMFS, for appropriate resolution.

Monitoring and Reporting Concerns

Comment 14: CALTRANS proposed that approval of a monitoring plan prior to any construction activity would unnecessarily delay construction of the first project-related activity, a fill surcharge contract on land and in intertidal sand flats at the Oakland Touchdown, which is scheduled to start before the IHA is issued. This contract would be delayed if this requirement were to remain in place. CALTRANS notes that such a plan was not required in advance of the IHA for the PIDP.

Response: The fill contract work is on land and in intertidal sand flats at the Oakland Touchdown and is therefore not expected to have a potential for marine mammal harassment. Since this work does not include any pile-driving and the location of the work is far from the YBI haulout site, it was proper for CALTRANS to proceed with this work prior to issuance of an IHA. Work began in early March, 2002 and included monitoring for herring spawn in the area five times a week for about 6 weeks (late February through March). No seals were observed during monitoring.

CALTRANS submitted a site-specific monitoring plan to NMFS for review in May, 2002. That plan has been reviewed by NMFS and is discussed in more detail in this document. The monitoring

program associated with the PIDP was contained in the CALTRANS application for an IHA; a separate report was not necessary to establish the monitoring requirements contained in the IHA.

Comment 15: CALTRANS notes that the proposed authorization notice proposes safety zone monitoring before the entire East Span Project begins. This is not feasible since the safety zones are located around specific pile sites. CALTRANS proposes baseline monitoring of the general project areas rather than monitoring safety zones for which locations will not have been defined by then. The fill surcharge contract (see previous comment) is scheduled to begin construction before the marine mammal monitoring will take place. The nature of this work and its distance from marine mammal haulouts and foraging areas suggests that this work will not result in the harassment of marine mammals. CALTRANS therefore proposes to begin baseline monitoring 14 days prior to construction of the second project contract, the Skyway contract, which will involve pile driving and other major in-Bay construction activities. CALTRANS believes that this will meet the intent of this requirement to collect background data about marine mammal behavior prior to the beginning of construction work that has the potential to incidentally harass marine mammals.

Response: NMFS concurs. A detailed description of the visual monitoring program recommended by CALTRANS and accepted by NMFS is provided later in this document (see Monitoring).

Comment 16: CALTRANS recommends that in several places in the proposed authorization notice, NMFS substitute "permanent in-Bay pile-driving" in place of "all pile driving" since only in-Bay pile driving will be monitored by marine mammal observers.

Response: While NMFS agrees to the modification, it must point out that in-Bay, land-based, and temporary pile driving activities all have some monitoring associated with it. However, only the in-Bay pile driving has the requirement for monitoring during all pile-driving activities.

Comment 17: CALTRANS recommends that, similar to the PIDP monitoring, monitoring be required for a minimum of 30 minutes prior to the initiation of each pile-driving episode. Also, CALTRANS recommends having one team of observers to observe the safety zone at each in-Bay pile-driving site. Therefore, multiple teams would be required if pile driving is occurring at multiple sites at any one time.