

MEMORANDUM



Date: November 1, 2016

To: Laura McCue
Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service

From: Robin Reich

Subject: Kodiak Transient Float Replacement Project
Updates to Incidental Harassment Authorization (IHA) Application

On behalf of the City of Kodiak, Solstice Alaska Consulting, Inc. submitted the final Incidental Harassment Authorization (IHA) Application for the Kodiak Transient Float Replacement Project to National Marine Fisheries Service (NMFS) on October 20, 2016. On October 21, 2016, NMFS considered the application adequate and complete. On October 26, NMFS found some errors in NMFS's user spreadsheet, which resulted in smaller marine mammal injury zones. The smaller zones negate the need for requesting Level A takes of any marine mammals and results in changes to the proposed shutdown zones.

Upon conferring with NMFS, it was determined that a memorandum could be written outlining the changes to the IHA Application as an alternative to revising the IHA application. This memo serves that purpose.

The updated proposed disturbances zones by hearing group are summarized in Table 1 below. (This table would replace Table 7 in the IHA application.) The zone distance reductions are based on changes to the propagation of each of the in-water construction methods and a different method for calculating injury zones for impact driving as summarized below Table 1.



Table 1. Updated Proposed In-water Sound Exposure Levels and Disturbance Zones (m) for Level A Harassment for all Marine Mammals for the Kodiak Transient Float Replacement Project.

Source	PTS Isopleth to threshold (m) Hearing Group				
	Low-Frequency Cetaceans	Mid-Frequency Cetaceans	High-Frequency Cetaceans	Phocid Pinnipeds	Otariid Pinnipeds
Impact	4	1	5	3	1
Vibratory	8	2	10	6	1
Down-hole Drilling	80	8	70	50	6

Injury zones calculated assuming:

- Impact driving=5 strikes per pile (average) and 6 piles per day; duration 0.3 and pulse duration 0.05; weighting factor 2; SL 205.9; TL 20.3log R; distance from the source 1 m
- Vibratory driving=0.69 hours per day; weighting factor 2.5; SL 183.8; TL 21.9logR; distance from the source 1 m
- Down-hole drilling=4 hours per day; weighting factor 2; SL 192.5; TL 18.9logR; distance from the source 1 m
- PTS Isopleth to threshold (m) rounded to the nearest 1 (for distances below 10 m) or 10

Note that the Level B acoustical harassment zone distances have not changed and remain the same as they were presented in Table 8 of the IHA Application and as shown in Table 2 below.

Table 2. Proposed In-water Disturbance Zones (m) for Level B Harassment for all Marine Mammals for the Kodiak Transient Float Replacement Project.

Source	Exposure Threshold Distances (m) ¹	
	Level B Harassment (Impulsive) 160 dB	Level B Harassment (Continuous) 120 dB
Impact Pile driving	200	--
Vibratory Pile driving	--	900
Down-Hole Drilling	--	7,000

¹For monitoring purposes, the distances were rounded to the nearest 10, 100, or 1,000 m, which are more conservative estimates.

With the reduction of the Level A disturbance zone distances, there would be no need for Level A take for this project since shutdown zones would be in place to avoid exposure to injurious sound levels. Therefore, there is now no need for Level A take of harbor porpoise or Steller sea lions. In addition, with a new shutdown area of 50 m for harbor seals, Level A take of harbor seals would not be required. The new Level B and Level A take request for the project are summarized in Table 2 below. (This table would replace Table 12 in the IHA application.)

Table 3. Level B and Level A Acoustical Harassment Take Requests for the Kodiak Transient Float Replacement Project.

Species	Level B Harassment Takes	Level A Harassment Takes
Steller sea lion (in-air) ^a	0	0
Steller sea lion (in-water)	480	0
Harbor seal (in-air) ^a	0	0
Harbor seal (in-water)	48	0
Harbor porpoise	24	0
Dall's porpoise	42	0
Killer whale	14	0
Humpback whale (Hawaii DPS)	5	0
Humpback whale (Mexico DPS)	1	0

^a No known haulouts occur within the disturbance zone of the Transient Float Project. Therefore, pile driving will not exceed in-air disturbance threshold for hauled-out pinnipeds. Additionally, any takes from in-air exposure are included in takes from underwater exposure.

Based on the reduced Level A acoustical harassment zone distances, the shutdown zone distances have changed. The changes are reflected in the language below, which would replace section 11.3 Monitoring and Shutdown of Disturbance Zones

The proposed Level A and Level B disturbance zones will be monitored 30 minutes before, during, and 30 minutes after all in-water construction activity. If marine mammals are observed approaching or within the Level A disturbance zones or injury shut down zones, shutdown procedures will be implemented to prevent exposure. The shutdown zones are as follows:

- **Steller sea lion:** 10 m during all pile driving
- **Harbor seal:** 50 m during all pile driving activities
- **Harbor porpoise:** 100 m during all pile driving activities
- **Dall's porpoise:** 100 m during all pile driving activities
- **Killer whale:** 10 m during all pile driving activities
- **Humpback whale:** 100 m during all pile driving activities

If a Steller sea lion, harbor seal, or harbor porpoise, Dall's porpoise, killer whale, or humpback whale is observed within the Level B zone, the sighting will be documented as a Level B exposure. If the number of Steller sea lions, harbor seals, harbor porpoises, Dall's porpoises,

killer whales, or humpback whales exposed to Level B harassment approaches the number of takes allowed by the IHA, the City will notify NMFS and seek further consultation.

If any marine mammal species is encountered that is not authorized by the IHA and are likely to be exposed to SPLs greater than or equal to the Level B harassment zone, the City will shut down in-water activity to avoid exposure of those species and consult with NMFS.

