



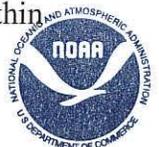
INCIDENTAL HARASSMENT AUTHORIZATION

Jordan Cove Energy Project, LP (JCEP), is hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1371(a)(5)(D)) to harass marine mammals incidental to the Jordan Cove Energy Project in Coos Bay, Oregon, when adhering to the following terms and conditions.

1. This Incidental Harassment Authorization (IHA) is valid from October 1, 2020 to September 30, 2021.
2. This IHA is valid only for pile driving associated with the Jordan Cove Energy Project in Coos Bay, Oregon.
3. General Conditions
 - (a) A copy of this IHA must be in the possession of JCEP, its designees, work crew personnel, and Protected Species Observers (PSOs) operating under the authority of this IHA.
 - (b) The species authorized for taking are provided in Table 1.
 - (c) The taking, by Level B harassment only, is limited to the species listed in condition 3(b). Table 1 provides the authorized number of takes per species and stock.
 - (d) The taking, by Level B harassment, of marine mammal species not identified in condition 3(b) is prohibited.
 - (e) The taking, by Level A harassment, serious injury, or death of any of any marine mammal species is prohibited.
 - (f) JCEP must not conduct in-water impact pile driving from February 16 through September 30.
4. Mitigation Measures

The holder of this IHA is required to implement the following mitigation measures:

 - (a) For in-water construction, heavy machinery activities other than pile driving (e.g., use of barge-mounted excavators, or dredging), if a marine mammal comes within



10 m, JCEP must cease operations and reduce vessel speed to the minimum level required to maintain steerage and safe working conditions.

- (b) JCEP is required to conduct briefings for construction supervisors and crews, the monitoring team, and JCEP staff prior to the start of all pile driving activity, and when new personnel join the work, in order to explain responsibilities, communication procedures, the marine mammal monitoring protocol, and operational procedures.
- (c) JCEP is required to employ PSOs per the Jordan Cove Marine Mammal Monitoring Plan and monitoring measures described in section 5 of this IHA.
- (d) Marine mammal monitoring must take place from 30 minutes prior to initiation of daily pile driving activity through 30 minutes post-completion of daily pile driving activity. Pile driving may commence when observers have declared the shutdown zones (Table 2) are clear of marine mammals. In the event of a delay or shutdown of activity resulting from marine mammals in the shutdown zone (Table 2), their behavior must be monitored and documented until they leave of their own volition, at which point the activity may begin.
- (e) If a marine mammal is entering or is observed within an established shutdown zone (Table 2), pile driving must be halted or delayed. Pile driving may not commence or resume until either the animal has voluntarily left and been visually confirmed beyond the shutdown zone or 15 minutes have passed without subsequent detections. NMFS may adjust the shutdown zones pending review and approval of an acoustic monitoring report (see Monitoring condition 5(d)).
- (f) JCEP must use soft start techniques when in-water impact pile driving. Soft start requires contractors to provide an initial set of strikes at reduced energy, followed by a thirty-second waiting period, then two subsequent reduced energy strike sets. A soft start must be implemented at the start of each day's impact pile driving and at any time following cessation of impact pile driving for a period of thirty minutes or longer.
- (g) JCEP is required to employ a bubble curtain during all open-water impact pile driving and operate it in a manner consistent with the following performance standards:
 - i. The bubble curtain must distribute air bubbles around 100 percent of the piling perimeter for the full depth of the water column.
 - ii. The lowest bubble ring must be in contact with the mudline for the full circumference of the ring, and the weights attached to the bottom ring

must ensure 100 percent mudline contact. No parts of the ring or other objects must prevent full mudline contact.

- iii. Air flow to the bubblers must be balanced around the circumference of the pile.
- (h) For construction activities occurring on-land, all JCEP personnel must abide by NMFS Marine Mammal Viewing Guidelines, maintaining a 50-yard setback from any hauled-out pinniped.
- (i) If a species for which authorization has not been granted, or a species for which authorization has been granted but the authorized takes are met, is observed approaching or within the monitoring zone (Table 3), pile driving and removal activities must shut down immediately using delay and shut-down procedures. Activities must not resume until the animal has been confirmed to have left the area or the observation time period, as indicated in condition 4(d) above, has elapsed.

5. Monitoring Measures

The holder of this IHA is required to abide by the following marine mammal and acoustic monitoring measures:

- (a) Marine mammal monitoring must be conducted in accordance with the Jordan Cove Marine Mammal Monitoring Plan.
- (b) Marine mammal monitoring during pile driving and removal must be conducted by NMFS-approved PSOs in a manner consistent with the following:
 - i. Independent PSOs (*i.e.*, not construction personnel) who have no other assigned tasks during monitoring periods must be used.
 - ii. Other PSOs may substitute education (degree in biological science or related field) or training for experience.
 - iii. Where a team of three or more PSOs are required, a lead observer or monitoring coordinator must be designated. The lead observer must have prior experience working as a marine mammal observer during construction.
 - iv. JCEP must submit PSO CVs for approval by NMFS prior to the onset of pile driving.

(c) PSOs must have the following additional qualifications:

- i. Ability to conduct field observations and collect data according to assigned protocols.
- ii. Experience or training in the field identification of marine mammals, including the identification of behaviors.
- iii. Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations.
- iv. Writing skills sufficient to prepare a report of observations including but not limited to the number and species of marine mammals observed; dates and times when in-water construction activities were conducted; dates, times, and reason for implementation of mitigation (or why mitigation was not implemented when required); and marine mammal behavior.
- v. Ability to communicate orally, by radio or in person, with project personnel to provide real-time information on marine mammals observed in the area as necessary.

(d) Acoustic monitoring must be conducted in accordance with the Jordan Cove Acoustic Monitoring Plan. The following data, at minimum, must be collected during acoustic monitoring and reported:

- i. Hydrophone equipment and methods: recording device, sampling rate, distance from the pile where recordings were made; depth of recording device(s).
- ii. Type of pile being driven, method of driving, and use of bubble curtain or other noise abatement device (e.g., driving behind the cofferdam) during recordings.
- iii. Mean, medium, and maximum sound levels (dB re: 1 μ Pa): cumulative sound exposure level (SEL_{cum}), peak sound pressure level (SPL_{peak}), root mean square sound pressure level (SPL_{rms}), and single-strike sound exposure level (SEL_s).
- iv. Number of strikes per pile measured, one-third octave band spectrum and/or power spectral density.

6. Reporting

The holder of this IHA is required to:

(a) Submit a draft report on all monitoring conducted under the IHA within ninety calendar days of the completion of marine mammal and acoustic monitoring or when applying for any subsequent incidental take authorization, whichever comes first. A final report must be prepared and submitted within thirty days following resolution of comments on the draft report from NMFS. This report must contain the informational elements described in the Jordan Cove Marine Mammal Monitoring Plan, including, but not limited to:

- i. Dates and times (begin and end) of all marine mammal monitoring.
- ii. Construction activities occurring during each daily observation period, including how many and what type of piles were driven or removed and by what method (*i.e.*, impact or vibratory).
- iii. Weather parameters and water conditions during each monitoring period (*e.g.*, wind speed, percent cover, visibility, sea state).
- iv. The number of marine mammals observed, by species, relative to the pile location and if pile driving or removal was occurring at time of sighting.
- v. Age and sex class, if possible, of all marine mammals observed.
- vi. PSO locations during marine mammal monitoring.
- vii. Distances and bearings of each marine mammal observed to the pile being driven or removed for each sighting (if pile driving or removal was occurring at time of sighting).
- viii. Description of any marine mammal behavior patterns during observation, including direction of travel.
- ix. Number of individuals of each species (differentiated by month as appropriate) detected within the monitoring zone, and estimates of number of marine mammals taken, by species (a correction factor may be applied to total take numbers, as appropriate).
- x. Detailed information about any implementation of any mitigation triggered (*e.g.*, shutdowns and delays), a description of specific actions that ensued, and resulting behavior of the animal, if any.
- xi. Description of attempts to distinguish between the number of individual animals taken and the number of incidences of take, such as ability to track groups or individuals.

- xii. An extrapolation of the estimated takes by Level B harassment based on the number of observed exposures within the Level B harassment zone and the percentage of the Level B harassment zone that was not visible
- (b) Submit all PSO datasheets and/or raw sighting data (in a separate file from the Final Report referenced immediately above)
- (c) Reporting injured or dead marine mammals:
 - i. In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by this IHA, such as serious injury, or mortality, JCEP must immediately cease the specified activities and report the incident to the NMFS Office of Protected Resources (301-427-8401) and West Coast Region Stranding Coordinator (206-526-4747). The report must include the following information:
 - 1. Time and date of the incident;
 - 2. Description of the incident;
 - 3. Environmental conditions (e.g., wind speed and direction, Beaufort sea state, cloud cover, and visibility);
 - 4. Description of all marine mammal observations and active sound source use in the 24 hours preceding the incident;
 - 5. Species identification or description of the animal(s) involved;
 - 6. Fate of the animal(s); and
 - 7. Photographs or video footage of the animal(s).

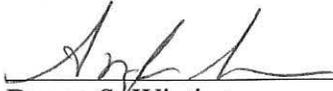
Activities must not resume until NMFS is able to review the circumstances of the prohibited take. NMFS will work with JCEP to determine what measures are necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. JCEP may not resume their activities until notified by NMFS.'

- ii. In the event JCEP discovers an injured or dead marine mammal, and the lead observer determines that the cause of the injury or death is unknown and the death is relatively recent (e.g., in less than a moderate state of decomposition), JCEP must immediately report the incident to the Office of Protected Resources, NMFS, and the West Coast Region Stranding Coordinator, NMFS. The report must include the same information identified in 6(b)(i) of this IHA. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with JCEP to

determine whether additional mitigation measures or modifications to the activities are appropriate.

- iii. In the event that JCEP discovers an injured or dead marine mammal, and the lead observer determines that the injury or death is not associated with or related to the specified activities (*e.g.*, previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), JCEP must report the incident to the Office of Protected Resources, NMFS, and the West Coast Region Stranding Coordinator, NMFS, within 24 hours of the discovery.
7. This Authorization may be modified, suspended or withdrawn if the holder fails to abide by the conditions prescribed herein, or if NMFS determines the authorized taking is having more than a negligible impact on the species or stock of affected marine mammals.
 8. Renewals - On a case-by-case basis, NMFS may issue a one-year IHA renewal with an additional 15 days for public comments when (1) another year of identical or nearly identical activities as described in the Specified Activities section of this notice is planned or (2) the activities as described in the Specified Activities section of this notice would not be completed by the time the IHA expires and a second IHA would allow for completion of the activities beyond that described in the Dates and Duration section of this notice, provided all of the following conditions are met:
 - (a) A request for renewal is received no later than 60 days prior to expiration of the current IHA.
 - (b) The request for renewal must include:
 - i. An explanation that the activities to be conducted under the requested Renewal are identical to the activities analyzed under the initial IHA, are a subset of the activities, or include changes so minor (*e.g.*, reduction in pile size) that the changes do not affect the previous analyses, mitigation and monitoring requirements, or take estimates (with the exception of reducing the type or amount of take because only a subset of the initially analyzed activities remain to be completed under the Renewal).
 - ii. A preliminary monitoring report showing the results of the required monitoring to date and an explanation showing that the monitoring results do not indicate impacts of a scale or nature not previously analyzed or authorized.

- (c) Upon review of the request for Renewal, the status of the affected species or stocks, and any other pertinent information, NMFS determines that there are no more than minor changes in the activities, the mitigation and monitoring measures will remain the same and appropriate, and the findings in the initial IHA remain valid.



for Donna S. Wieting,
Director, Office of Protected Resources
National Marine Fisheries Service

JAN 31 2020

Date

Attachment

Attachment- Jordan Cove IHA (October 1, 2020- September 31, 2021)

Table 1. Authorized Amount of Taking, by Level A harassment and Level B harassment, by species and stock.

Common name	Stock	Authorized Take	
		Level A	Level B
gray whale	Eastern North Pacific	0	2
killer whale	West Coast Transient	0	15
harbor porpoise	Northern CA/Southern OR	0	12
Northern elephant seal	California breeding	0	33
Steller sea lion	Eastern U.S.	0	230
California sea lion	U.S.	0	460
Pacific harbor seal	Oregon/Washington Coast	0	13,984

Table 2. Shut-down Zones by Marine Mammal Hearing Group, Pile Size, and Pile Driving Method.

Species	Impact Pile Driving		Vibratory Pile-Driving	
	Timber Piles at TPP/US-101	Pipe Piles at TPP/US-101 and APCO	Pipe Piles, Timber Piles and Sheet Piles at TPP/US-101	Pipe Piles at APCO
Shutdown Zone				
Harbor Seal	30	70	10	10
Northern Elephant Seal				
California Sea Lion				
Stellar Sea Lion	10	10		
Gray Whale	60	140	25	30
Killer Whale	10	10	10	10
Harbor Porpoise	60	140	25	30

Table 3. Monitoring Zones/Level B harassment Zones.

Hammer Type	Monitoring (Level B harassment) Zone (m)
Sheet Piles at MOF/South West Berth wall and 24-inch TMBB Mooring Piles – Vibratory in-the dry	1,914
24-in Pipe Piles at TPP/US-101 and APCO Sites – Impact with BCA	341
14-in Timber Piles at TPP/US-101 – Impact within cofferdam	46
24-in Pipe Piles at, TPP/US-101 and APCO sites – Vibratory in-water	10,000
14-in Timber Piles at TPP/US-101 – Vibratory within cofferdam	6,310
24-in Sheet Piles at TPP/US-101 – Vibratory in-water	4,642