



BILLING CODE 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XE395

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Port of Kalama Expansion Project on the Lower Columbia River

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

ACTION: Notice; issuance of an Incidental Harassment Authorization (IHA).

SUMMARY: In accordance with the Marine Mammal Protection Act (MMPA), notification is hereby given that NMFS has issued an IHA to the Port of Kalama (POK) for an IHA to take small numbers of marine mammals, by Level B harassment, incidental to in-water construction activities associated with the Port of Kalama Expansion Project.

DATES: Effective September 1, 2017, through August 31, 2018

ADDRESSES: An electronic copy of the final Authorization, POK's application and the environmental assessment (EA) may be obtained by writing to the address specified below, telephoning the contact listed below (see **FOR FURTHER INFORMATION**

CONTACT), or visiting the internet at:

http://www.NOAA Fisheries.noaa.gov/pr/permits/incidental.html. Documents cited in this notice may also be requested by writing to Jolie Harrison, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910.

FOR FURTHER INFORMATION CONTACT: Dale Youngkin, Office of Protected Resources, NOAA Fisheries, (301) 427-8401.

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, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

An authorization for incidental takings shall be granted if NOAA Fisheries finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth. NOAA Fisheries 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.”

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].

Summary of Request

On September 28, 2015, NOAA Fisheries received an application from the Port of Kalama (POK) for the taking of marine mammals incidental to the construction of a new pier. On December 10, 2015, a final revised version of the application was submitted and NOAA Fisheries determined that the application was adequate and complete. NMFS published a notice making preliminary determinations and proposing an IHA on March 21, 2016 (81 FR 15064). The notice initiated a 30-day comment period. At the end of the 30-day comment period, POK notified NMFS that work would be postponed until the 2017 season. NMFS reviewed the initial application and EA and has determined that there are no substantial changes to the specified activities that would require reinitiating the process.

The POK proposes to construct the Kalama Marine Manufacturing and Export Facility, including a new marine terminal and dredging of a berth extension, for the export of methanol. The proposed action also includes the installation of engineered log jams, restoration of riparian wetlands, and the removal of existing wood piles in a side channel as mitigation activities. The proposed activity is expected to occur during the 2017-2018 in-water work season for ESA listed fish species (September 1 through January 31). This IHA covers from September 1, 2017 to August 31, 2018, to allow for adjustments to the schedule in-water work based on logistics, weather, and contractor needs. It is possible that the work would require a second season, at which time the applicant will seek another IHA covering the second season. The following specific

aspects of the proposed activities are likely to result in the take of marine mammals: impact pile driving and vibratory pile driving. Take, by Level B Harassment only, of individuals of harbor seals (*Phoca vitulina*), Steller sea lions (*Eumetopias jubatus*), and California sea lions (*Zalophus californianus*) is anticipated to result from the specified activity.

Description of the Specified Activity

A detailed description of the project construction activities is provided in the *Federal Register* notice for the proposed IHA (81 FR 15064, March 21, 2016). Since that time, no changes have been made to the planned activities. Therefore, a detailed description is not provided here. Please refer to the referenced **Federal Register** notice for the description of the specific activity.

Comments and Responses

A notice of preliminary determinations and proposed IHA for POK's in-water construction activities was published in the **Federal Register** on March 21, 2016 (81 FR 15064). During the 30-day public comment period, NMFS received comments from the Marine Mammal Commission (Commission). The comments are posted online at: <http://www.nmfs.noaa.gov/pr/permits/incidental/construction.html>. Following are the substantive comments and NMFS's responses:

Comment 1: The Commission concurs with NMFS's preliminary findings and recommends that NMFS issue the requested IHA, subject to inclusion of the proposed mitigation, monitoring, and reporting measures.

Response: NMFS concurs with the Commission's recommendation and has issued the IHA to the Port of Kalama.

Description of Marine Mammals in the Area of the Specified Activity

Marine mammal species that have been observed within the region of activity consist of the harbor seal, California sea lion, and Steller sea lion. Pinnipeds follow prey species into freshwater up to, primarily, the Bonneville Dam (RM 146) in the Columbia River, but also to Willamette Falls in the Willamette River (RM 26). None of the species of marine mammal that occur in the project area are listed under the ESA or is considered depleted or strategic under the MMPA. See Table 1, below.

Table 1. Marine Mammal Species Addressed in this IHA Request.

Species		ESA Listing	Stock
Common name	Scientific name	Status	
Harbor Seal	<i>Phoca vitulina; ssp. richardsi</i>	Not Listed	OR/WA Coast Stock
California Sea Lion	<i>Zalophus californianus</i>	Not Listed	US Stock
Steller Sea Lion	<i>Eumatopius jubatus</i>	Not Listed	Eastern DPS

The sea lion species use this portion of the river primarily for transiting to and from Bonneville Dam, which concentrates adult salmonids and sturgeon returning to natal streams, providing for increased foraging efficiency. The U.S. Army Corps of Engineers (USACE) has conducted surface observations to evaluate the seasonal presence, abundance, and predation activities of pinnipeds in the Bonneville Dam tailrace each year since 2002. This monitoring program was initiated in response to concerns over the potential impact of pinniped predation on adult salmonids passing Bonneville Dam in

the spring. An active sea lion hazing, trapping, and permanent removal program was in place below the dam from 2008 through 2013.

Pinnipeds remain in upstream locations for a couple of days or longer, feeding heavily on salmon, steelhead, and sturgeon, although the occurrence of harbor seals near Bonneville Dam is much lower than sea lions (Stansell *et al.*, 2013). Sea lions congregate at Bonneville Dam during the peaks of salmon return, from March through May each year, and a few California sea lions have been observed feeding on salmonids in the area below Willamette Falls during the spring adult fish migration.

There are no pinniped haul-out sites in the area of potential effects from the proposed project. The nearest haul-out sites, shared by harbor seals and California sea lions, are near the Cowlitz River/Carroll Slough confluence with the Columbia River, approximately 3.5 miles downriver from the proposed project (Jeffries *et al.*, 2000). The nearest known haul-out for Steller sea lions is a rock formation (Phoca Rock) near RM 132 and the jetty (RM 0) near the mouth of the Columbia River. There are no pinniped rookeries located in or near the region of activity.

A detailed description of the species likely to be affected by the project's in-water construction activities were provided in the **Federal Register** notice for the proposed IHA (81 FR 15064, March 21, 2016). Since that time, we are not aware of any changes in the status of these species/stocks. Therefore, detailed descriptions are not provided here. Please refer to the referenced **Federal Register** notice for these descriptions. Please also refer to NMFS's website (www.nmfs.noaa.gov/species/mammals) for generalized species accounts.

Potential Effects of the Specified Activity on Marine Mammals and Their Habitat

In-water construction activities associated with the POK project such as impact and vibratory pile driving components of the specified activity have the potential to result in impacts to marine mammals and their habitat in the project area. The **Federal Register** notice for the proposed IHA (81 FR 15064, March 21, 2016) included a detailed discussion of the behavioral and acoustic effects on marine mammals. Therefore, that information is not repeated here. Please refer to the referenced **Federal Register** notice for that information. No take by injury, serious injury, or death is anticipated as a result of the construction activities.

Mitigation Measures

In order to issue an Incidental Take Authorization (ITA) under section 101(a)(5)(D) of the MMPA, NMFS must prescribe, where applicable, the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking for certain subsistence uses (where relevant).

On August 4, 2016, NMFS released its Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Guidance). This new guidance established new thresholds for predicting auditory injury, which equates to Level A harassment under the MMPA. In the **Federal Register** Notice (81 FR 51694), NMFS explained the approach it would take during a transition period, wherein we balance the need to consider this new best available science with the fact that some applicants have already committed time and resources to the development of analyses based on our previous guidance and have constraints that preclude the recalculation of

take estimates, as well as where the action is in the agency's decision-making pipeline. In that Notice, we included a non-exhaustive list of factors that would inform the most appropriate approach for considering the new Guidance, including: the scope of effects; how far in the process the applicant has progressed; when the authorization is needed; the cost and complexity of the analysis; and the degree to which the guidance is expected to affect our analysis.

In this case, POK submitted an adequate and complete application in a timely manner and indicated that they would need to receive an IHA (if issued) by September 1, 2016. After the close of the public comment period for the Proposed IHA, POK informed NMFS that they would postpone construction activities until September, 2017. Therefore, although the action had substantially progressed through the decision-making pipeline, there was enough time to allow for re-evaluation under the new Guidance prior to when the IHA was needed. POK's original analysis considered the potential for Level A take (auditory injury (PTS)), but ultimately concluded that no Level A takes would occur due to mitigation monitoring and the implementation of shut down procedures if any marine mammals entered or approached the Level A harassment zone. POK utilized the alternative methodology provided by NMFS in the new Guidance to evaluate how it may affect the analysis. Based on the new Guidance, likely injury zones would increase in size for the two hearing groups that may be present in the project area. POK provided NMFS with an updated Monitoring Plan (available online at: <http://www.nmfs.noaa.gov/pr/permits/incidental/construction.html>), which increased the mitigation monitoring thresholds to avoid Level A harassment. More detail on the previously identified and updated mitigation monitoring zones is provided below.

Mitigation Monitoring

Initial monitoring zones were based on a practical spreading loss model and data found in Illingworth and Rodkin (2007). A minimum distance of 10 m was used for all shutdown zones, even if actual or initial calculated distances are less. A maximum distance of in-water line of sight is used for all disturbance zones for vibratory pile driving, even if actual or calculated values are greater. To provide the best estimate of transmission loss at a specific range, the data were estimated using a practical spreading loss model.

Table 2. Distance to Initial Shutdown and Disturbance Monitoring Zones for In-water Sound in the Columbia River from Proposed Rule.

Pile type	Hammer type	Distance to monitoring zones (m) ¹		
		190 dB ²	160 dB ²	120 dB ²
24in Concrete pile	Impact	10	117	N/A
18in Steel pipe pile	Vibratory	10	N/A	Line of Sight, (max 5.7km)
18in Steel pipe pile	Impact	18	1,848	NA

¹ Monitoring zones based on a practical spreading loss model and data from Illingworth and Rodkin (2007). A minimum distance of 10 m is used for all shutdown zones, even if actual or initial calculated distances are less.

² All values unweighted and relative to 1 µPa.

Among other changes, the new Guidance established a dual metric for analysis: a peak (PK) sound pressure level (SPL) for impulsive sounds (*e.g.*, impact pile driving) and a cumulative sound exposure level (SEL_{cum}) for both impulsive and non-impulsive (*e.g.*, vibratory pile driving). Table 3 provides a summary of the thresholds established in the new Guidance for phocids and otariids (pinnipeds), which are anticipated to be located in the action area. As shown in Table 3, the thresholds established for phocids are lower

than those established for otariids, so the updated analysis was based on the phocid pinniped thresholds.

Table 3. New Acoustic Thresholds (from NMFS 2016).

Hearing Group	Acoustic Thresholds (Received Levels)	
	Impulsive Sounds	Non-Impulsive Sounds
Phocid pinnipeds (underwater)	$L_{pk, flat}$: 218 dB; $LE_{PW, 24hr}$: 185 dB	$LE_{PW, 24hr}$: 201 dB
Otariid pinnipeds (underwater)	$L_{pk, flat}$: 232 dB; $LE_{OW, 24hr}$: 203 dB	$LE_{OW, 24hr}$: 219 dB
<p>Note: Peak sound pressure (L_{pk}) has a reference value of 1 μPa, and cumulative sound exposure level (LE) has a reference value of 1 $\mu Pa^2 s$. In this table, thresholds are abbreviated to reflect American National Standards Institute standards (ANSI 2013). However, peak sound pressure is defined by ANSI as incorporating frequency weighting, which is not the intent for this Technical Guidance. Hence, the subscript “flat” is being included to indicate peak sound pressure should be flat weighted or unweighted within the generalized hearing range. The subscript associated with cumulative sound exposure level thresholds indicates the designated marine mammal auditory weighting function (PW and OW pinnipeds) and that the recommended accumulation period is 24 hours (NMFS 2016).</p>		

The new guidance does not affect the thresholds for behavioral disturbance (Level B harassment), and would not affect the extent of Level B harassment requested by POK. Therefore, the analysis of Level B harassment in the original application and Proposed Rule remains valid and is not discussed further. In addition, the peak sound pressure thresholds (218 dB for phocids and 232 dB for otariids) would not be exceeded during any project activities. The greatest single strike peak sound pressure levels would be generated during impact installation of steel piles and these sound levels would not exceed 207 dB (CALTRANS 2012). As noted in POK’s application and Proposed Rule, it is anticipated that all steel piles will be driven with a vibratory hammer, and that it will

not be necessary to impact drive or impact proof any of the steel piles. However, impact driving of steel piles is analyzed as a precaution in the event that this is required. As peak sound pressure thresholds would not be exceeded for either phocids or otariids, there is no further discussion of peak sound pressure levels.

Distances for which the Level A (PTS) threshold for cumulative sound pressure exposure could be exceeded are provided in Table 4, below.

Table 4. New Level A Isopleths (distances) Using NMFS New Technical Guidance.

Activity	Level A (PTS) Threshold	Isopleth (distance)
Impact-driving concrete piles	185 dB SEL _{cum}	40 m (131 ft)
Impact-driving steel piles	185 dB SEL _{cum}	252 m (828 ft)
Vibratory-driving steel piles	201 dB SEL _{cum}	16.5 m (54 ft)

POK has updated the marine mammal monitoring plan to revise the Level A injury protection zone to fully cover the Level A isopleths for potential injury from cumulative sound pressure exposure, as established under the new Guidance. This modification to the monitoring plan would ensure that Level A takes of marine mammals would be avoided in a similar manner as presented in the Proposed Rule (*i.e.*, shut down procedures would be implemented if any marine mammals approach or enter the Level A harassment zone). Therefore, our analysis remains the same as presented in the Proposed Rule.

In order to accomplish appropriate monitoring for mitigation purposes, POK will have an observer stationed on each active impact pile driving location to closely monitor the shutdown zone as well as the surrounding area. In addition, POK will post two shore-based observers (one upstream of the project, and another downstream of the project area; see application), whose primary responsibility would be to record pinnipeds in the disturbance zone and to alert barge-based observers to the presence of pinnipeds in the disturbance zone, thus creating a redundant alert system for prevention of injurious interaction as well as increasing the probability of detecting pinnipeds in the disturbance zone. POK estimates that shore-based observers would be able to scan approximately 800 m (upstream and downstream) from the available observation posts; therefore, shore-based observers would be capable of monitoring the agreed-upon disturbance zone.

As described, at least three observers will be on duty during pile vibratory driving activity for the first two days, and thereafter on every third day to allow for estimation of Level B takes. The first observer will be positioned on a work platform or barge where the entire 10 m shutdown zone is clearly visible, with the shore-based observers positioned to observe the disturbance zone from the bank of the river. Protocols will be implemented to ensure that coordinated communication of sightings occurs between observers in a timely manner.

In summary:

- POK will implement shutdown zones around all pile driving that encompasses the Level A harassment zones as defined in Table 4, above to avoid Level A take of marine mammals.. These shutdown zones provides a buffer for the Level A

harassment threshold but would also further avoid the risk of direct interaction between marine mammals and the equipment.

- POK will have a redundant monitoring system, in which one observer would be stationed at the area of active pile driving, while two observers would be shore-based, as required to provide complete observational coverage of the reduced disturbance zone for each pile driving site. The former will be capable of providing comprehensive monitoring of the proposed shutdown zones. This observer's first priority will be shutdown zone monitoring in prevention of injurious interaction, with a secondary priority of counting takes by Level B harassment in the disturbance zone. The additional shore-based observers will be able to monitor the same distances, but their primary responsibility will be counting of takes in the disturbance zone and communication with barge-based observers to alert them to pinniped presence in the action area.
- The shutdown and disturbance zones will be monitored throughout the time required to drive a pile. If a marine mammal is observed within the disturbance zone, a take will be recorded and behaviors documented. However, that pile segment will be completed without cessation, unless the animal approaches or enters the shutdown zone, at which point all pile driving activities will be halted.
- Soft start procedures shall 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. Soft start procedures require that the contractor provides

an initial set of three strikes at reduced energy, followed by a thirty-second waiting period, then two subsequent reduced energy strike sets.

- If steel piles require impact installation or proofing, a bubble curtain will be used for sound attenuation

The following measures will apply to visual monitoring:

- If the shutdown zone is obscured by fog or poor lighting conditions, pile driving will not be initiated until the entire shutdown zone is visible. Work that has been initiated appropriately in conditions of good visibility may continue during poor visibility.
- The shutdown zone will be monitored for the presence of pinnipeds before, during, and after any pile driving activity. The shutdown zone will be monitored for 30 minutes prior to initiating the start of pile driving, during the activity, and for 30 minutes after activities have ceased. If pinnipeds are present within the shutdown zone prior to pile driving, the start of pile driving will be delayed until the animals leave the shutdown zone of their own volition, or until 15 minutes elapse without re-sighting the animal(s).
- Monitoring will be conducted using binoculars. When possible, digital video or still cameras will also be used to document the behavior and response of pinnipeds to construction activities or other disturbances.
- Each observer will have a radio or cell phone for contact with other monitors or work crews. Observers will implement shut-down or delay procedures when applicable by calling for the shut-down to the hammer operator.

- A GPS unit or electric range finder will be used for determining the observation location and distance to pinnipeds, boats, and construction equipment.

Monitoring will be conducted by qualified observers. In order to be considered qualified, observers must meet the following criteria:

- Visual acuity in both eyes (correction is permissible) sufficient for discernment of moving targets at the water's surface with ability to estimate target size and distance; use of binoculars may be necessary to correctly identify the target. Advanced education in biological science, wildlife management, mammalogy, or related fields (bachelor's degree or higher is required).
- Experience and ability to conduct field observations and collect data according to assigned protocols (this may include academic experience).
- Experience or training in the field identification of pinnipeds, including the identification of behaviors.
- Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations.
- Writing skills sufficient to prepare a report of observations including but not limited to the number and species of pinnipeds observed; dates and times when in-water construction activities were conducted; dates and times when in-water construction activities were suspended to avoid potential incidental injury from construction sound of pinnipeds observed within a defined shutdown zone; and pinniped behavior.

- Ability to communicate orally, by radio or in person, with project personnel to provide real-time information on pinnipeds observed in the area as necessary.

Other Mitigation and Best Management Practices

In addition, NOAA Fisheries and POK, together with other relevant regulatory agencies, have developed a number of mitigation measures designed to protect fish through prevention or minimization of turbidity and disturbance and introduction of contaminants, among other things. These measures have been prescribed under the authority of statutes other than the MMPA, and are not a part of this proposed rulemaking. However, because these measures minimize impacts to pinniped prey species (either directly or indirectly, by minimizing impacts to prey species' habitat), they are summarized briefly here. Additional detail about these measures may be found in POK's application. Timing restrictions will be used to avoid in-water work when ESA-listed fish are most likely to be present.

POK will work to ensure minimum degradation of water quality in the project area, and requires compliance with Surface Water Quality Standards for Washington. In addition, the contractor will prepare a Spill Prevention, Control, and Countermeasures (SPCC) Plan prior to beginning construction. The SPCC Plan will identify the appropriate spill containment materials; as well as the method of implementation. All equipment to be used for construction activities will be cleaned and inspected prior to arriving at the project site, to ensure no potentially hazardous materials are exposed, no leaks are present, and the equipment is functioning properly. Equipment that will be used below OHW will be identified; daily inspection and cleanup procedures will insure that identified equipment is free of all external petroleum-based products. Should a leak be

detected on heavy equipment used for the project, the equipment must be immediately removed from the area and not used again until adequately repaired.

The contractor will also be required to prepare and implement a Temporary Erosion and Sediment Control (TESC) Plan and a Source Control Plan for project activities requiring clearing, vegetation removal, grading, ditching, filling, embankment compaction, or excavation. The BMPs in the plans would be used to control sediments from all vegetation removal or ground-disturbing activities.

Conclusions for Effectiveness of Mitigation

NOAA Fisheries has carefully evaluated the applicant's proposed mitigation measures and considered a range of other measures in the context of ensuring that NOAA Fisheries prescribes the means of affecting the least practicable adverse impact on the affected marine mammal species and stocks and their habitat. Our evaluation of potential measures included consideration of the following factors in relation to one another:

- The manner in which, and the degree to which, the successful implementation of the measure is expected to minimize adverse impacts to marine mammals;
- The proven or likely efficacy of the specific measure to minimize adverse impacts as planned; and
- The practicability of the measure for applicant implementation.

While the Level A harassment zone for impact hammering of steel piers would be fairly large (252 m), we feel confident that all Level A zones would be able to be monitored to effectively implement shut down procedures to avoid Level A takes for the following reasons:

- The applicant has past experience with monitoring much larger areas from previous projects in other areas on the same river;
- The largest Level A harassment zone (252 m) is associated with impact hammering of steel piers; however, steel piers are anticipated to be driven with a vibratory hammer and impact hammering is only included as a precaution in the event that vibratory hammering is unable to be completed. Therefore, if impact hammering of steel piers were to be conducted, it would be for a very short duration and on a very few occasions. Additionally, if impact hammering of steel piers were to be conducted, bubble curtains would be utilized to attenuate sound and reduce the Level A harassment zone;
- Level A harassment zones associated with impact hammering of concrete piers and vibratory hammering of steel piers (40 m and 16.5 m, respectively) would be easily monitored for shut down procedures/avoidance of Level A takes;
- Even without the use of bubble curtains, the Level A harassment zone for impact hammering of steel piers would encompass approximately half of the width of the river in the action area, which allows for approximately half of the width of the river in the action area for marine mammals to avoid the Level A harassment zone, which we would expect them to do;
- Other mitigation measures (*e.g.*, monitoring prior to starting, or restarting, construction activities and the use of soft-start procedures for impact pile driving) would ensure that marine mammals are able to avoid injury; therefore, only temporary short-term Level B harassment of marine mammals is anticipated.

Based on our evaluation, NOAA Fisheries has determined that the mitigation measures proposed from both NOAA Fisheries and POK provide the means of effecting the least practicable adverse impact on marine mammal species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Reporting

Discussion of reporting requirements were unintentionally omitted from the *Federal Register* notice for the proposed IHA. Therefore, the following sections on reporting requirements include language that was not part of the proposed IHA notification, but represents standard reporting requirements for NMFS IHAs.

In order to issue an incidental take authorization (ITA) for an activity, section 101(a)(5)(A) of the MMPA states that NOAA Fisheries must, where applicable, set forth “requirements pertaining to the monitoring and reporting of such taking”. The MMPA implementing regulations at 50 CFR 216.104 (a)(13) indicate that requests for ITAs must include the suggested means of accomplishing the necessary monitoring and reporting that would result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the proposed action area.

POK will submit a draft summary report of marine mammal observations and construction activities to the NMFS West Coast Regional Office and the Headquarters Office of Protected Resources 90 days after expiration of the current Authorization. A final report must be submitted to NMFS within 30 days after receiving comments from NMFS on the draft report. If no comments are received from NMFS within 30 days after

submittal of the draft report, the draft report would be considered the final report. This report will summarize the information gathered pursuant to the monitoring requirements set forth in the IHA, including dates and times of operations and all marine mammal sightings (dates, times, locations, species, behavior observations [activity, and any changes in activity observed including causes if known], associated construction activities, and weather conditions.

While the IHA does not authorize injury (*i.e.*, Level A harassment), serious injury, or mortality, should anyone associated with the project observe an injured or dead marine mammal, the incident (regardless of cause) will be reported to NMFS as soon as practicable. The report should include species or description of the animal, condition of the animal, location, time first found, observed behaviors (if alive) and photo or video footage, if available.

Reporting Prohibited Take

In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited in this IHA, such as an injury (Level A harassment), serious injury, or mortality, POK shall immediately cease the specified activity and immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401 and/or by email to *Jolie.Harrison@noaa.gov*. The report must contain the following information: (i) Time, date, and location (latitude/longitude) of the incident; (ii) The type of activity involved; (iii) Description of the circumstances during and leading up to the incident; (iv) Description of marine mammal observations (including species identification/descriptions of animal(s) involved) and construction activities/ status of all

sound sources used in the 24 hours preceding the incident; (v) The fate of the animal(s), and photographic or video footage of the animal, if available.

Activities shall not resume until NMFS is able to review the circumstances of the prohibited take. NMFS shall work with POK to determine the action necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. POK may not resume its activities until notified by NMFS via letter, email, or telephone.

Reporting an Injured or Dead Marine Mammal with an Unknown Cause of Injury/Death

In the event that POK discovers an injured or dead marine mammal during its in-water construction activities in this IHA, and the cause of the injury or death is unknown and/or the death is relatively recent (*i.e.*, in less than a moderate state of decomposition as described below), POK will immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, at 301-427-8401, and/or by e-mail to *Jolie.Harrison@noaa.gov*, and the NMFS West Coast Regional Office and/or the West Coast Regional Stranding Coordinator at (206) 526-6550. The report must include the same information identified above. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with POK to determine whether modification of the construction activities is appropriate.

Reporting an Injured or Dead Marine Mammal Not Related to Construction Activities

In the event that POK discovers an injured or dead marine mammal and it is determined that the injury or death is not associated with or related to the activities authorized in this IHA (*e.g.*, previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), POK shall report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS,

at 301-427-8401, and/or by e-mail to *Jolie.Harrison@noaa.gov*, and the NMFS West Coast Regional Office and/or the West Coast Regional Stranding Coordinator at (206) 526-6550 within 24 hours of the discovery. POK shall provide photographs or video footage, if available, or other documentation of the stranded animal sighting to NMFS. Activities may continue while NMFS reviews the circumstances of the incident.

Estimated Take by Incidental 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]. Take by Level B harassment only is anticipated as a result of POK’s proposed project. Take of marine mammals is anticipated to be associated with the installation of piles via impact and vibratory methods (including installation and removal of temporary piles). The following activities are not anticipated to result in takes of marine mammals: Dredging; Removal of 157 wood piles from a former trestle in the freshwater intertidal backwater area; and ELJ construction. No take by injury, serious injury, or death is anticipated, nor is any such take authorized.

Table 5. Current Acoustic Exposure Criteria.

<u>Non-Explosive Sound</u>		
Criterion	Criterion Definition	Threshold

Level A Harassment (Injury)	Permanent Threshold Shift (PTS)	see Table 3 above
Level B Harassment	Behavioral Disruption (for impulse noises)	160 dB re 1 microPa-m (rms)
Level B Harassment	Behavioral Disruption (for continuous, noise)	120 dB re 1 microPa-m (rms)

The area of potential Level B harassment varies with the activity being conducted. For impact pile driving that will be used for the concrete piles, the area of potential harassment extends 117m from the pile driving activity. For vibratory pile driving associated with the installation of steel pipe piles, the zone of potential harassment extends in a line of sight from the pile driving activities to the nearest shoreline, covering an area of approximately 1800 acres of riverine habitat (Figure 1). Because there are no haul outs, feeding areas, or other important habitat areas for marine mammals in the action area, it is anticipated that take exposures will result primarily from animals transiting from downstream areas to upstream feeding areas.

Assumptions regarding numbers of pinnipeds and number of round trips per individual per year in the Region of Activity are based on information from ongoing pinniped research and management activities conducted in response to concern over California sea lion predation on fish populations concentrated below Bonneville Dam. An intensive monitoring program has been conducted in the Bonneville Dam tailrace since 2002, using surface observations to evaluate seasonal presence, abundance, and predation activities of pinnipeds. Minimum estimates of the number of pinnipeds present in the tailrace from 2002 through 2014 are presented in Table 4.

Table 3. Minimum Estimated Total Numbers of Pinnipeds Present at Bonneville Dam on an Annual Basis from 2002 through 2013 (Stansell *et al.*, 2013).

Species	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Harbor seals	1	2	2	1	3	2	2	2	2	1	0	0
California sea lions	30	104	99	81	72	71	82	54	89	54	39	56
Steller sea lions	0	3	3	4	11	9	39	26	75	89	73	80

Harbor Seals

There is no documented breeding or pupping activity in the action area (Jeffries 1985), and only adult males and females are anticipated to be present in the action area. There is no current data estimating abundance of harbor seals either locally or for the Oregon-Washington coastal stock (Carretta *et al.*, 2014). In this case, we must rely on estimates provided in the application that are believed to provide a conservative estimate of the number of harbor seals potentially affected by the proposed action. The conservative estimate of harbor seals likely to be present in the action area when construction activities are occurring is up to 10 animals per day based on local anecdotal reports (lacking local observational data), with the animals primarily transiting between the mouth of the Columbia River and the Cowlitz or Kalama Rivers. Because harbor seals occur in the action area throughout the year, and in-water construction activities are expected to take up to 153 days, it is possible that harbor seals could be exposed above the Level B harassment threshold up to 1,530 times, although some of these exposures would likely be exposures of the same individual across multiple days so the number of individual harbor seals taken is likely lower. We believe that this estimate is doubly conservative, because the majority of pile driving work will be impact pile driving of

concrete piles. Impact pile driving of concrete piles has a much smaller area of potential harassment (a radius of 117m from pile driving) than vibratory pile driving, and this area covers only approximately 1/6th of the channel width of the Columbia River, indicating a large portion of the river will be passable by pinnipeds without experiencing take in the form of harassment during most pile driving activities.

California Sea Lions

California sea lions are the most frequently observed pinnipeds upstream of the project site. California sea lions do not breed or bear their young near the Columbia River watershed, with the nearest breeding grounds off the coast of southern California (Caretta *et al.*, 2014). There are no documented haulouts within the action area, so the only California sea lions expected to be present in the action area are adult males and females traveling to and from dams upstream of the project location.

Historically (prior to 2008), California sea lions were the most frequently observed pinniped species at Bonneville Dam (Stansell *et al.*, 2013). However, between 2008 and 2014, the number of California sea lions observed at the dam declined. Then, in 2015, an estimated 190 individually branded California sea lions were recorded, which was in contrast to the 56 unique individuals identified in 2013. Typically the run time for California sea lions has begun later in the year than the run for Steller sea lions. The first California sea lion observed at the dam in 2015 was observed on February 9. For this reason, the bulk of the California sea lion run would be expected to occur outside of the pile driving window. However, a number of factors could cause the run to appear earlier or later. In addition, any estimate of anticipated run size must take into account the increased California sea lion presence at the dam in 2015. For this reason, to make a

conservative assessment, the anticipated take estimate is based on the average daily abundance of up to 12 pinnipeds per day reported at the dam in 2015. Using this number, it is estimated that up to 372 California sea lions could be exposed to Level B harassment in the 2016-2017 work window. However, this is a very conservative estimate and the actual number could be less. Additionally, the majority of pile driving work will be impact pile driving of concrete piles. Impact pile driving of concrete piles has a much smaller area of potential harassment (a radius of 117m from pile driving) than vibratory pile driving, and this area covers only approximately 1/6th of the channel width of the Columbia River, indicating a large portion of the river will be passable by pinnipeds without experiencing take in the form of harassment during most pile driving activities. Thus we would expect that less than 1/3 of the transits would occur during the project's in-water work window based on avoiding peak transit periods, and that some proportion of those transits would occur in unaffected areas of the Columbia River during impact pile driving activities.

Steller Sea Lions

Steller sea lions do not breed or bear their young near the Columbia River watershed, with the nearest breeding grounds on the marine coast of Oregon (Stansell *et al.*, 2013). There are no documented haulouts within the action area, so the only Steller sea lions expected to be present in the action area are adult males and females traveling to and from dams upstream of the project location.

Prior to 2002, Steller sea lions were sighted infrequently at Bonneville Dam, with fewer than 10 individuals recorded in most years. However, since 2008, the number of Steller sea lions documented at the dam has increased steadily. In 2010, 75 individual

Steller sea lions were identified, at an average rate of less than 12.6 individuals per day (between January 1 and May 31). In 2015 an average of 12 pinnipeds were observed at the dam per day in January (van der Leeuw, 2015). While no specific data exists regarding the number of trips up and down the river each individual sea lion makes, it is assumed that on average each individual makes one round trip during the spring migration. All pile driving will occur between September 1, 2016 and January 31, 2017, which will avoid the April and May peak of the run. Steller sea lion presence at the dam in January and February represents approximately one third of the total run in a given year (Stansell *et al.*, 2013). Using these numbers, it has been estimated that up to 12 individual Steller sea lions per day could be exposed to Level B harassment. This represents up to 372 individual takes of Steller sea lions in the 2016-2017 work window. However, this is a conservative estimate, and the actual number of takes could be less. Additionally, the majority of pile driving work will be impact pile driving of concrete piles. Impact pile driving of concrete piles has a much smaller area of potential harassment (a radius of 117m from pile driving) than vibratory pile driving, and this area covers only approximately 1/6th of the channel width of the Columbia River, indicating a large portion of the river will be passable by pinnipeds without experiencing take in the form of harassment during most pile driving activities. Thus we would expect that less than 1/3 of the transits would occur during the project's in-water work window based on avoiding peak transit periods, and that some proportion of those transits would occur in unaffected areas of the Columbia River during impact pile driving activities.

Analysis and Determinations

Negligible Impact

Negligible impact is “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” (50 CFR 216.103). 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 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”, NOAA Fisheries must consider 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 harassment takes, the number of estimated mortalities, and the status of the species. To avoid repetition, the discussion of our analyses applies to all three species of pinnipeds (harbor seals, California sea lions, and Steller sea lions), given that the anticipated effects of this project on these species are expected to be relatively similar in nature. There is no information about the nature or severity of the impacts, or the size, status, or structure of any species or stock that would lead to a different analysis for any species, else species-specific factors would be identified and analyzed.

Incidental take, in the form of Level B harassment only, is likely to occur primarily as a result of pinniped exposure to elevated levels of sound caused by impact and vibratory installation and removal of pipe and sheet pile and steel casings. No take by injury, serious injury, or death is anticipated and is not authorized. By incorporating the proposed mitigation measures, including pinniped monitoring and shut-down procedures described previously, harassment to individual pinnipeds from the proposed activities is

expected to be limited to temporary behavioral impacts. POK assumes that all individuals travelling past the project area would be exposed each time they pass the area and that all exposures would cause disturbance. NOAA Fisheries agrees that this represents a worst-case scenario and is therefore sufficiently precautionary. There are no pinniped haul-outs or rookeries located within or near the Region of Activity.

The shutdown zone monitoring proposed as mitigation, and the small size of the zones in which injury may occur, makes any potential injury of pinnipeds extremely unlikely, and therefore discountable. Because pinniped exposures would be limited to the period they are transiting the disturbance zone, with potential repeat exposures (on return to the mouth of the Columbia River) separated by days to weeks, the probability of experiencing TTS is also considered unlikely.

In addition, it is unlikely that pinnipeds exposed to elevated sound levels would temporarily avoid traveling through the affected area, as they are highly motivated to travel through the action area in pursuit of foraging opportunities upriver. Sea lions have shown increasing habituation in recent years to various hazing techniques used to deter the animals from foraging in the Bonneville tailrace area, including acoustic deterrent devices, boat chasing, and above-water pyrotechnics (Stansell *et al.*, 2013). Many of the individuals that travel to the tailrace area return in subsequent years (Stansell *et al.*, 2013). Therefore, it is likely that pinnipeds would continue to pass through the action area even when sound levels are above disturbance thresholds.

Although pinnipeds are unlikely to be deterred from passing through the area, even temporarily, they may respond to the underwater sound by passing through the area more quickly, or they may experience stress as they pass through the area. Sea lions

already move quickly through the lower river on their way to foraging grounds below Bonneville Dam (transit speeds of 4.6 km/hr in the upstream direction and 8.8 km/hr in the downstream direction (Brown *et al.*, 2010). Any increase in transit speed is therefore likely to be slight. Another possible effect is that the underwater sound would evoke a stress response in the exposed individuals, regardless of transit speed. However, the period of time during which an individual would be exposed to sound levels that might cause stress is short given their likely speed of travel through the affected areas. In addition, there would be few repeat exposures for individual animals. Thus, it is unlikely that the potential increased stress would have a significant effect on individuals or any effect on the population as a whole.

Therefore, NOAA Fisheries finds it unlikely that the amount of anticipated disturbance would significantly change pinnipeds' use of the lower Columbia River or significantly change the amount of time they would otherwise spend in the foraging areas below Bonneville Dam. Pinniped usage of the Bonneville Dam foraging area, which results in transit of the action area, is a relatively recent learned behavior resulting from human modification (*i.e.* fish accumulation at the base of the dam). Even in the unanticipated event that either change was significant and animals were displaced from foraging areas in the lower Columbia River, there are alternative foraging areas available to the affected individuals. NOAA Fisheries does not anticipate any effects on haul-out behavior because there are no proximate haul-outs within the areas affected by elevated sound levels. All other effects of the proposed action are at most expected to have a discountable or insignificant effect on pinnipeds, including an insignificant reduction in the quantity and quality of prey otherwise available.

Any adverse effects to prey species would occur on a temporary basis during project construction. Given the large numbers of fish in the Columbia River, the short-term nature of effects to fish populations, and extensive BMPs and minimization measures to protect fish during construction, as well as conservation and habitat mitigation measures that would continue into the future, the project is not expected to have significant effects on the distribution or abundance of potential prey species in the long term. Therefore, these temporary impacts are expected to have a negligible impact on habitat for pinniped prey species.

A detailed description of potential impacts to individual pinnipeds was provided previously in the *Federal Register* notice for the proposed IHA (81 FR 15064, March 21, 2016). The following sections put into context what those effects mean to the respective populations or stocks of each of the pinniped species potentially affected.

Harbor Seal

The Oregon/Washington coastal stock of harbor seals consisted of about 24,732 animals in 1999 (Carretta *et al.*, 2014). As described previously, both the Washington and Oregon portions of this stock have reached carrying capacity and are no longer increasing, and the stock is believed to be within its optimum sustained population level (Jeffries *et al.*, 2003; Brown *et al.*, 2005). The estimated take of up to 1,530 individuals (though likely somewhat fewer, as the estimate really indicates instances of take and some individuals are likely taken more than once across the 153-day period) by Level B harassment is small relative to a stable population of approximately 24,732 (6.2 percent), and is not expected to impact annual rates of recruitment or survival of the stock.

California Sea Lion

The U.S. stock of California sea lions had a minimum estimated population of 153,337 in the 2013 Stock Assessment Report (Carretta *et al.*, 2014). The estimated take of 372 individuals by Level B harassment is small relative to a population of approximately 153,337 (0.2 percent), and is not expected to impact annual rates of recruitment or survival of the stock.

Steller Sea Lion

The total population of the eastern DPS of Steller sea lions had a minimum estimated population of 59,968 animals with an overall annual rate of increase of 4 percent throughout most of the range (Oregon to southeastern Alaska) since the 1970s (Allen and Angliss, 2015). In 2006, the NOAA Fisheries Steller sea lion recovery team proposed removal of the eastern stock from listing under the ESA based on its annual rate of increase, and the population was delisted in 2013 (though still considered depleted under the MMPA). The total estimated take of 372 individuals per year is small compared to a population of approximately 59,968 (0.6 percent) and is not expected to impact annual rates of recruitment or survival of the stock.

Summary

The anticipated behavioral harassment is not expected to impact recruitment or survival of the any affected pinniped species. The Level B harassment experienced is expected to be of short duration, with 1-2 exposures per individual separated by days to weeks, with each exposure resulting in minimal behavioral effects (increased transit speed or avoidance). For all species, because the type of incidental harassment is not expected to actually remove individuals from the population or decrease significantly

their ability to feed or breed, this amount of incidental harassment is anticipated to have a negligible impact on the stock.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the mitigation and monitoring measures, NOAA Fisheries finds that POK’s proposed activities would have a negligible impact on the affected species or stocks.

Small Numbers

Using the estimated take described previously, the species with the greatest proportion of affected population is harbor seals (Table 5), with an estimated 6.2% of the population potentially experiencing take from the proposed action. California sea lions population will experience 0.2 % exposure, and Steller sea lions an approximate exposure rate of 0.6%. Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the mitigation and monitoring measures, NOAA Fisheries finds that small numbers of marine mammals will be taken relative to the populations of the affected species or stocks.

Table 4. Estimated Take to be Authorized and Proportion of Population Potentially Affected.

	Estimated Take by Level B Harassment	Abundance of Stock	Percentage of Stock Potentially Affected	Population Trend
Harbor Seal	1,530	24,732	6.2%	Stable/Carrying Capacity
California Sea Lion	372	153,337	0.2%	Stable
Steller Sea Lion	372	59,968	0.6%	Increasing

Impact on Availability of Affected Species for Taking for Subsistence Uses

There are no relevant subsistence uses of marine mammals implicated by this action. Therefore, NOAA Fisheries has determined that the total taking of affected species or stocks would not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

Endangered Species Act (ESA)

No species of marine mammal listed under the ESA are expected to be affected by these activities. Therefore, NOAA Fisheries has determined that a section 7 consultation under the ESA is not required.

National Environmental Policy Act (NEPA)

NOAA Fisheries prepared an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) considered comments submitted in response to this notice as part of that process. NMFS prepared and signed a Finding of No Significant Impact (FONSI) determining that preparation of an Environmental Impact Statement was not required. The FONSI was signed on October 24, 2016, prior to the issuance of the IHA for POK's construction activities. The EA and Finding of No Significant Impact (FONSI) have been posted at the foregoing internet site.

Authorization

NOAA Fisheries has issued an IHA to Port of Kalama for constructing the Kalama Marine Manufacturing and Export Facility on the Columbia River during the 2016-2017 in-water work season, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated: December 7, 2016.

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

Figure 1. Project Region.



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