



Letter of Authorization

The 30th Space Wing, U.S. Air Force (the Holder), is hereby authorized to take marine mammals incidental to those activities at Vandenberg Air Force Base (VAFB), California, in accordance with 50 CFR 217, Subpart G--Taking Of Marine Mammals Incidental To U.S. Air Force Launches, Aircraft and Helicopter Operations, and Harbor Activities Related to Launch Vehicles from Vandenberg Air Force Base (VAFB), California subject to the provisions of the Marine Mammal Protection Act (16 U.S.C. 1361 *et seq.*; MMPA) and the following conditions:

1. This Authorization is valid from January 1, 2018, through March 26, 2019.
2. This Authorization is valid only for missile, rocket, and aircraft and helicopter activities at VAFB, California, and *Delta Mariner* (or similar vessel) operations, cargo unloading activities, and harbor maintenance dredging at VAFB harbor.

3. General Conditions

(a) The taking, by Level B harassment only, is limited to the species listed under Paragraph 5 below. The taking by Level A harassment, serious injury (injury that is likely to lead to mortality) or death of these species and the taking by harassment, injury or death of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this Authorization.

(b) The taking of any marine mammal in a manner prohibited under this Authorization must be reported immediately to the Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service (NMFS) at (301) 427-8401 and to the West Coast Regional Office, NMFS at (562) 980-3232.

(c) If a freshly dead or seriously injured pinniped is found during post-launch monitoring, it must be reported within 48 hours to the parties listed in condition 3(b) above. Additionally, the National Stranding Network must be notified immediately (telephone: (526) 980-4017).

4. The Holder of this Authorization must notify the Assistant Regional Administrator, West Coast Region, NMFS, 501 West Ocean Blvd. Suite 4200, Long Beach, California 90802, or the Administrator's representative (telephone: (562) 980-3232), at least two (2) weeks prior to conducting any launch activities that may result in taking marine mammals by harassment.

5. The marine mammal species approved for taking by incidental harassment are: Pacific harbor seals (*Phoca vitulina richardsi*); California sea lions (*Zalophus californianus*); northern elephant seals (*Mirounga angustirostris*); northern fur seals (*Callorhinus ursinus*); and Steller sea lions (*Eumetopias jubatus*). See Table 1 (attached) for numbers of authorized takes.



6. The following activities are authorized to take, by incidental harassment only, those species of marine mammals identified in condition 5 above and will take place at space launch complexes, launch facilities, and test pads on north and south VAFB and the VAFB harbor on South Base:

(a) Launching of no more than 15 missiles annually;

(b) Launching of no more than 35 rockets annually;

(c) Aircraft flight test operations;

(d) Helicopter operations; and

(e) *Delta Mariner* (or a similar vessel) operations, cargo unloading activities, and harbor maintenance dredging.

7. Launch and Aircraft/Helicopter Mitigation. Unless constrained by human safety, national security, or launch trajectories, the Holder of this Authorization must ensure the least practicable adverse impacts on Pacific harbor seals, California sea lions, northern elephant seals, northern fur seals, and Steller sea lions by:

(a) Ensuring that all aircraft and helicopter flight paths maintain a minimum distance of 1,000 ft (305 m) from recognized pinniped haulouts and rookeries (e.g., Point Sal, Purisima Point, Rocky Point), except unmanned aerial systems of Class 0-2 which may be flown within 200 ft (60 m) of recognized pinniped haulouts and rookeries, and except in emergencies or for real-time security incidents (e.g., search-and-rescue, fire-fighting) that require approaching pinniped haul-outs and rookeries closer than 1,000 ft (305 m);

(b) Avoiding, whenever possible, launches during the harbor seal pupping season of March through June;

(c) Avoiding, whenever possible, launches that will produce a sonic boom over the Northern Channel Islands during March through June; and

(d) Reviewing the launch procedure and monitoring methods, in cooperation with NMFS, if any incidents of injury or mortality of a pinniped discovered during post-launch surveys or indications of affects to the distribution, size, or productivity of the affected pinniped populations as a result of the authorized activities are thought to have occurred. If necessary, appropriate changes must be made through modification to this Authorization prior to conducting the next launch of the same vehicle.

8. Delta Mariner and Harbor Activities Mitigation. The Holder of this Authorization must ensure the least practicable adverse impacts on Pacific harbor seals, California sea lions, northern elephant seals, northern fur seals, and Steller sea lions when conducting *Delta Mariner* (or similar vessel) operations, cargo unloading, and harbor maintenance dredging by:

(a) Turning on lighting before dusk and leaving it on the entire night to avoid startling pinnipeds at night, if activities occur during nighttime hours;

(b) Initiating all activities before dusk;

(c) Keeping construction noises constant (i.e., do not interrupt by periods of quiet in excess of 30 minutes) while pinnipeds are present;

(d) Starting-up of activities (either initially or if activities have ceased for more than 30 minutes) will include a gradual increase in noise levels if pinnipeds are in the area;

(f) Entering the harbor, to the extent possible, by the *Delta Mariner* and accompanying vessels only when the tide is too high for pinnipeds to haul-out on the rocks. The vessel will reduce speed to 1.5 to 2 knots (1.5-2.0 nm/hr; 2.8-3.7 km/hr) once the vessel is within 3 mi (4.83 km) of the harbor. The vessel will enter the harbor stern first, approaching the wharf and mooring dolphins at less than 0.75 knots (1.4 km/hr); and

(g) Exploring alternate dredge methods and introducing quieter techniques and equipment as they become available.

9. Launch Monitoring. The Holder of this Authorization must designate at least one qualified, on-site observer, approved in advance by the Regional Administrator, NMFS, and trained in marine mammal science, for each pinniped monitoring location to:

(a) Record the effects of rocket launches on pinniped populations;

(b) Monitor harbor seal, northern elephant seal and other pinniped activity at the nearest occupied haulout(s) and rookery/rookeries in the vicinity of the appropriate launch platform, commencing at least 72 hours prior to any planned rocket launch occurring from January 1 through June 30 and continuing for a period of time not less than 48 hours subsequent to rocket launching;

(c) Supplement monitoring conducted under condition 9(b) above with video recording, during daylight hours, of mother-pup pinniped responses to rocket launches;

(d) Conduct follow-up surveys within two weeks of the rocket launch (if the launch occurred from January through June) to ensure that there were no adverse impacts on any marine mammals;

(e) Conduct acoustic and biological monitoring on new space launch vehicles during at least the first launch, whether it occurs within the pupping season or not;

(f) Monitor haul out sites on the Northern Channel Islands, if it is determined by modeling that a sonic boom of greater than 1 pound per square foot (psf) is predicted to impact one of the Islands between March 1 and June 30, greater than 1.5 psf between July 1 and

September 30, and greater than 2 psf between October 1 and February 28. Monitoring will be conducted at the haul out site closest to the predicted sonic boom impact area;

(g) Investigate the potential for spontaneous abortion, disruption of effective female-neonate bonding, and other reproductive dysfunction; and

(h) Include multiple surveys each day that record, when possible, the species, number of animals, general behavior, presence of pups, age class, gender, and reaction to launch noise, sonic booms or other natural or human-caused disturbances. Environmental conditions such as tide, wind speed, air temperature, and swell must also be recorded.

10. Activities related to the monitoring described in this Authorization do not require a separate scientific research permit issued under Section 104 of the MMPA.

11. Reporting.

(a) The Holder of this Authorization must submit a report to the West Coast Regional Administrator, NMFS, within 90 days after each monitored rocket launch. This report must contain the following information:

(i) Date(s) and time(s) of the launch,

(ii) Design of the monitoring program, and

(iii) Results of the monitoring program, including, but not necessarily limited to:

(A) Numbers of pinnipeds present on the haul-out prior to commencement of the launch,

(B) Numbers of pinnipeds that may have been harassed as noted by the number of pinnipeds estimated to have entered the water as a result of launch noise,

(C) The length of time pinnipeds remained off the haul-out or rookery,

(D) Numbers of pinniped adults, juveniles or pups that may have been injured or killed as a result of the launch, and

(E) Behavioral modifications by pinnipeds that were likely the result of launch noise or the sonic boom.

(b) The Holder of this Authorization must submit a draft annual report to the Permits and Conservation Division, Office of Protected Resources, NMFS at 1315 East-West Highway, Silver Spring, MD 20910 and the Assistant Regional Administrator, West Coast Region, NMFS, on March 1 of each year. This report must contain detailed information on the following:

(i) Date(s) and time(s) of each missile and rocket launch and of any *Delta Mariner* operations, cargo unloading, and harbor maintenance dredging;

(ii) Design of the monitoring program;

(iii) Results of the monitoring programs described under conditions 9(a) through 9(h) and 10(a) through 10(c) above. This report must provide:

(A) dates and times of all monitoring activities;

(B) details of all marine mammal sightings, including the number of pinnipeds, by species and haul-out location, that remained ashore and/or fled from the beach because of authorized activities;

(C) the number of seals and sea lions, by species, returning subsequent to the disruption (including estimates of the time it took for pinnipeds to return to haul-outs), and estimates of the amount and nature of all takes, including those by mortality or serious injury; and

(D) information on the weather, including tidal state and horizontal visibility.

(iv) Date(s) and location(s) of any research activities related to monitoring the effects of launch noise and sonic booms on marine mammal populations; and

(v) A summary of the observed effects of fixed wing and helicopter operations on marine mammals at VAFB.

(c) The draft annual report will be subject to review and comment by the Chief of the Permits and Conservation Division, NMFS, and the Regional Administrator, West Coast Region, NMFS. Prior to acceptance by NMFS, any recommendations made by NMFS within 60 days of its receipt must be addressed in a final report.

(d) The Holder of this Authorization must submit a draft comprehensive report to the Permits and Conservation Division, Office of Protected Resources, NMFS at 1315 East-West Highway, Silver Spring, MD 20910 and the Assistant Regional Administrator, West Coast Region, NMFS, at least 180 days prior to the expiration of the current regulations. This report will:

(i) Summarize the activities undertaken and the results reported in all previous reports;

(ii) Assess the impacts at each of the major rookeries;

(iii) Assess the cumulative impacts on pinnipeds and other marine mammals from Vandenberg activities; and

(iv) State the date(s), location(s), and findings of any research activities related to monitoring the effects of launch noise and sonic booms on marine mammal populations.

(e) The draft comprehensive report will be subject to review and comment by the Chief of the Permits and Conservation Division, NMFS, and the West Coast Regional Administrator, NMFS. Prior to acceptance by NMFS, any recommendations made by NMFS within 60 days of its receipt must be addressed in a final report.

12. A copy of this Authorization must be in the possession of each observer or group operating under the authority of this Authorization at all times.

13. Penalties and Permit Sanctions: Any person who violates any provision of this Authorization is subject to civil and criminal penalties, permit sanctions, and forfeiture as authorized under the MMPA.

14. This Authorization may be modified, suspended or withdrawn if the Holder fails to abide by the conditions prescribed herein or if the authorized taking is having more than a negligible impact on the species or stock of affected marine mammals.



Donna S. Wieting, Director
Office of Protected Resources

DEC 20 2017

Date

Table 1. Authorized species and numbers of takes annually from all authorized activities.

Species	Total number of authorized Level B takes annually
Pacific harbor seal	31,161
California sea lion	465,129
Northern elephant seal	80,024
Steller sea lion	1,824
Northern fur seal	62,500

Table 2. Classes of unmanned aerial systems.

Class	Weight (pounds)	Minimum dimension	Maximum dimension	Typical operating altitude (feet)	Typical airspeed (knots)
0	<1	“large insect”	50 cm		
1	1-20	>50 cm	2 meters	<1200	<100
2	21-55	>2 m	10 meters	<3500	<250
3	<1320	>10 meters	n/a	<18000	<250
4	>1320	>10 meters	n/a	<18000	Any