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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XA972

Taking and Importing Marine Mammals; Taking Marine Mammals Incidental to Space Vehicle and Test Flight Activities from Vandenberg Air Force Base, CA

AGENCY: National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Commerce.

ACTION: Notice of issuance of a Letter of Authorization.

SUMMARY: In accordance with the Marine Mammal Protection Act (MMPA), as amended, and implementing regulations, notification is hereby given that a letter of authorization (LOA) has been issued to the 30th Space Wing, U.S. Air Force (USAF), to take four species of seals and sea lions incidental to rocket and missile launches on Vandenberg Air Force Base (VAFB), California, a military readiness activity.

DATES: Effective February 7, 2012, through February 6, 2013.

ADDRESSES: The LOA and supporting documentation are available for review by writing to P. Michael Payne, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service (NMFS), 1315 East-West Highway, Silver Spring, MD 20910, by telephoning one of the contacts listed here (FOR FURTHER INFORMATION CONTACT) or online at: <http://www.nmfs.noaa.gov/pr/permits/incidental.htm>. Documents cited in this notice may be viewed, by appointment, during regular business hours, at the aforementioned address and at the Southwest Regional Office, NMFS, 501 West Ocean Boulevard, Suite 4200, Long Beach, CA 90802.

FOR FURTHER INFORMATION CONTACT: Candace Nachman, Office of Protected Resources, NMFS, (301) 427-8401, or Monica DeAngelis, NMFS, (562) 980-3232.

SUPPLEMENTARY INFORMATION:

Background

Section 101(a)(5)(A) of the MMPA (16 U.S.C. 1361 et seq.) directs NMFS 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 regulations are issued. The National Defense Authorization Act (Public Law 108-136) removed the “small numbers” and “specified geographical region” limitations for a “military readiness activity.” Under the MMPA, the term "taking" means to harass, hunt, capture, or kill or to attempt to harass, hunt, capture, or kill marine mammals.

Authorization may be granted for periods up to 5 years if NMFS finds, after notification and opportunity for public comment, that the taking will have a negligible impact on the species or stock(s) of marine mammals and will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant). In addition, NMFS must prescribe regulations that include permissible methods of taking and other means effecting the least practicable adverse impact on the species and its habitat and on the availability of the species for subsistence uses, paying particular attention to rookeries, mating grounds, and areas of similar significance. The regulations must include requirements for monitoring and reporting of such taking.

Regulations governing the taking of Pacific harbor seals (*Phoca vitulina richardsi*), northern elephant seals (*Mirounga angustirostris*), California sea lions (*Zalophus californianus*),

and northern fur seals (Callorhinus ursinus), by harassment, incidental to missile and rocket launches, aircraft flight test operations, and helicopter operations at VAFB, were issued on February 6, 2009 (74 FR 6236), and remain in effect until February 6, 2014. In April 2011, the USAF requested a deviation from the precise language contained in the 2009 final rule regarding the annual number of missile and rocket launches. On February 1, 2012 (77 FR 4917), NMFS issued final regulations that revised the number of missile and rocket launches that the USAF could conduct from VAFB on an annual basis. Instead of the 30 missile and 20 rocket launches authorized per year in 2009, the USAF's specified activity now includes 15 missile and 35 rocket launches per year. However, the total number of annual launches remains at 50. This regulatory amendment does not change the analyses of marine mammal impacts conducted in the original final rule. For detailed information on the USAF's activities and potential impacts, please refer to those documents. These regulations include mitigation, monitoring, and reporting requirements for the incidental take of marine mammals during missile and rocket launches at VAFB.

This LOA is effective from February 7, 2012, through February 6, 2013, and authorizes the incidental take, by Level B harassment only, of the four marine mammal species listed here that may result from the launching of up to 15 missiles and up to 35 rockets annually from VAFB, as well as from aircraft and helicopter operations. Harbor seals haul-out on several sites on VAFB, and harbor seals, California sea lions, elephant seals, and northern fur seals are found on various haul-out sites and rookeries on San Miguel Island (SMI). Currently, six space launch vehicle programs use VAFB to launch satellites into polar orbit: Delta II; Taurus; Atlas V; Delta IV; Falcon; and Minotaur. Also a variety of small missiles, several types of interceptor and target vehicles, and fixed-wing aircrafts are launched from VAFB.

The activities under these regulations create two types of noise: continuous (but short-duration) noise, due mostly to combustion effects of aircraft and launch vehicles, and impulsive noise, due to sonic boom effects. Launch operations are the major source of noise on the marine environment from VAFB. The operation of launch vehicle engines produces significant sound levels. The noise generated by VAFB activities may result in the incidental harassment of pinnipeds, both behaviorally and in terms of physiological (auditory) impacts. The noise and visual disturbances from space launch vehicle and missile launches and aircraft and helicopter operations may cause the animals to move towards or enter the water. Take of pinnipeds will be minimized through implementation of the following mitigation measures: (1) all aircraft and helicopter flight paths must maintain a minimum distance of 1,000 ft (305 m) from recognized seal haul-outs and rookeries; (2) missile and rocket launches must, whenever possible, not be conducted during the harbor seal pupping season of March through June; (3) VAFB must avoid, whenever possible, launches which are predicted to produce a sonic boom on the Northern Channel Islands during the primary pinniped pupping seasons of March through June; and (4) monitoring methods will be reviewed by NMFS if post-launch surveys determine that an injurious or lethal take of a marine mammal occurred. VAFB will also use monitoring surveys, audio-recording equipment, and time-lapse video to monitor the animals before, during, and after rocket launches, and to measure sound levels generated by the launches. Reports will be submitted to NMFS after each LOA expires, and a final comprehensive report, which will summarize all previous reports and assess cumulative impacts, will be submitted before the rule expires.

Summary of Request

On December 8, 2011, NMFS received a request for a LOA renewal pursuant to the aforementioned regulations that would authorize, for a period not to exceed 1 year, take of marine mammals, by harassment, incidental to space vehicle and test flight activities at VAFB.

**Summary of Activity and Monitoring Under the 2011 LOA**

In compliance with the 2011 LOA, VAFB submitted an annual report on the activities at VAFB, covering the period of December 1, 2010, through November 30, 2011. In addition to launches that occurred between February 7 and November 30, 2011, the report also contained information on a December 15, 2010, missile launch and information on space vehicle launches on January 20, 2011, and February 6, 2011, that were covered under the 2010 LOA, as these launches were not described in any previous reports. A summary of the 2011 report (MMCG and SAIC, 2011) follows.

During the reporting period covered by the 2011 report, there were a total of 10 launches from VAFB: seven space vehicle launches and three missile launches. The dates, locations, and whether or not monitoring was required for the launches are summarized in Tables 1 and 2 next.

**Table 1.** Summary of space vehicle launches from VAFB in 2011.

<b>Vehicle</b>	<b>Date (2011)</b>	<b>Launch Site</b>	<b>Monitored</b>
Delta IV Heavy NROL-49	20-Jan	SLC-6	Yes
Minotaur IV NROL-66	6-Feb	SLC-8	No
Taurus Glory F-01	4-Mar	LF 576E	Yes
Atlas V NROL-34	14-Apr	SLC-3E	Yes
Delta II Aquarius/SAC-D	10-Jun	SLC-2W	Yes
Minotaur HTV-2B DEMO	11-Aug	SLC-8	No
Delta II NPP	28-Oct	SLC-2W	Yes

Table 2. Summary of all other launches from VAFB in 2010 and 2011.

<b>Launch Vehicle</b>	<b>Date</b>	<b>Launch Site</b>	<b>Monitored</b>
MDA	15-Dec-10	LF-23	No
Minuteman III GT-204GM	22-Jun-11	LF-10	Yes
Minuteman III GT-205GM	27-Jul-11	LF-04	No

Three of the space vehicle launches occurred during the harbor seal pupping season. Therefore, monitoring on VAFB was only required for these three of the seven total space vehicle launches. Additionally, acoustic modeling indicated that no sonic boom of greater than 1 lb/ft<sup>2</sup> (psf) would occur at SMI as a result of two of these launches; therefore, biological and acoustical monitoring was only required to be conducted for the Atlas V launch at SMI. Auditory Brainstem Response (ABR) testing and acoustical monitoring were required for the Delta IV Heavy launch.

None of the five missile launches required monitoring at SMI because the westerly trajectory of these launches. Similarly, two of the missile launches occurred outside of the VAFB harbor seal pupping season; therefore, no biological or acoustical monitoring was required or performed on VAFB for these two launches. Because the June 22, 2011, Minuteman III launch occurred during the harbor seal pupping season, monitoring was required on VAFB.

During the reporting period, approximately 1,694 fixed-wing aircraft and helicopter operations were conducted from the VAFB airfield. Most of these consisted of training exercises involving “touch and goes”. Ten flights involved unmanned aerial vehicles. There were no observed impacts to pinnipeds from these activities.

Delta IV Heavy Launch (January 20, 2011)

Counts of harbor seals done between January 17 and 19, 2011, recorded from 0 to 142 seals of all age classes, with no dependent pups reported. Post-launch counts were lower than

pre-launch counts and ranged from 0 to 55 animals. High tides and swells on the day following the launch may account for the lower numbers. In addition to the harbor seals, one male northern elephant seal was observed on the first day of monitoring.

Time-lapse video monitoring was conducted of this launch. Prior to the launch, the video showed the presence of 48 adult harbor seals at the Flat Iron Rock haul-out site. As the launch began, the seals raised their heads and started for the water. Within slightly more than one minute after the launch, all but two seals had entered the water. The last two had moved to within eight feet of the water. Within 50 minutes after the launch, 57 harbor seals had hauled out, a few at a time, in the same area (ManTech SRS, 2011a).

Acoustic measurements were required during this launch. Noise levels recorded were in a very similar frequency domain compared to noise levels from two Delta II launches in 2006. Most sound energy from the rocket launches was below 1 kHz with the highest levels below 100 Hz. Unweighted peak levels were 131.8 dB re 20  $\mu$ Pa (ManTech SRS, 2011a).

ABR testing was required for this launch as well. Three healthy juvenile harbor seals were captured near Pt. Conception 28 hours before the launch. ABR testing, as described in Section 4.3 of VAFB's annual report (MMCG and SAIC, 2011), was conducted the day before the launch and nearly three hours after the launch. After testing, the animals were tagged and released. The animals showed no change in hearing sensitivity as a result of the tests, although it is possible that a mild temporary hearing threshold shift, from which the seals had already recovered, could have occurred (ManTech SRS, 2011a).

In summary, based on post-launch analysis, there was no evidence of injury, mortality, or abnormal behavior in any of the monitored pinnipeds on VAFB as a result of this launch.

Taurus Glory Launch (March 4, 2011)

Pre-launch surveys conducted from February 20-23, 2011, recorded between 1 and 34 adult harbor seals and 1 to 5 juveniles. The launch was postponed on February 23, 2011, and pre-launch counts were again conducted from March 1-3, 2011. From 4 to 43 adults and 1 to 11 juveniles were seen. Once access to the site was gained a few hours after the launch, the count was from 3 to 44 adults and 1 to 9 juveniles. Post-launch counts on March 5 and 6 ranged from 1 to 24 adults and 1 to 9 juveniles. The follow-up count on March 18 totaled 1 to 17 adults and 1 to 2 juveniles. No pups were observed during any of the counts.

No northern elephant seals were observed. One juvenile California sea lion was observed offshore on March 5. Southern sea otters were noted nearshore on all monitoring days. On two occasions, coastal bottlenose dolphins were observed. Two gray whales were seen offshore on February 21, and a single gray whale was noted on March 1. In summary, there was no evidence of injury, mortality, or abnormal behavior in any of the monitored pinnipeds at VAFB as a result of the Taurus Glory launch.

#### Atlas V Launch (April 14, 2011)

During the pre-launch monitoring period at VAFB from April 12-14 from 128 to 138 adult harbor seals were noted. During this same period, from 11 to 19 juveniles were reported, along with between 35 to 39 pups. Post-launch monitoring was conducted from April 15-17. Total numbers of adults ranged from 137 to 183; juveniles from 33 to 59, and pups from 40 to 48, with a maximum total on any one day of 280. A follow-up count was made on April 28, in which 214 adults were reported, along with 29 juveniles and 46 pups, for a maximum total of 289 animals. One gray whale was seen on April 17 (MMCG and SAIC, 2011).

Northern elephant seals congregated in a small cove within Cuyler Harbor, on San Miguel Island. Pre-launch counts conducted from April 11-13 ranged from 81 to 259 adults and



112 to 212 “weaners” (newly weaned pups). Counts on launch day ranged from 220 to 239 adults and 200 to 219 weaners. Post-launch counts, performed on April 15 and 16, ranged from 240 to 273 adults and from 208 to 288 weaners (MMCG and SAIC, 2011).

Harbor seals were noted in the nearshore waters on two separate days. Numbers varied from one to four. From one to two California sea lions were also seen in the nearshore waters on April 13 and 16. A juvenile gray whale, likely the same animal, was seen between Prince Island and Cuyler Harbor on April 14 and 15 (MMCG and SAIC, 2011b).

Acoustic monitoring was also conducted for this launch. The unweighted peak was 109.4 dB re 20  $\mu$ Pa at 2.66 Hz. The frequency spectrum of the acoustic energy was predominantly low frequency, with unweighted peak levels exceeding 80 dB re 20  $\mu$ Pa below 500 Hz. The highest energy was below 100 Hz.

In summary, there was no evidence of injury, mortality, or abnormal behavior of the monitored pinnipeds on VAFB or SMI as a result of this launch.

#### Delta II Launch (June 10, 2011)

During the pre-launch monitoring period, from June 6-9, counts of harbor seals, near the Spur Road trailhead on VAFB, ranged from zero to six, including one pup on June 8. No seals were seen on launch day, on the post-launch survey days (June 11-12), and during the follow-up survey on June 17. Tides were relatively high during the period June 10-12, submerging the most desirable haul-out sites. Although a remote video camera was set up near the Spur Road trailhead for this launch, no seals were recorded before, during, or after the launch. In summary, there was no evidence of injury, mortality, or abnormal behavior of the monitored pinnipeds on VAFB as a result of this launch.

#### Minuteman III Launch (June 22, 2011)

Because this launch occurred during the harbor seal pupping season on VAFB, biological monitoring at VAFB was required. Pre-launch monitoring was conducted on June 18, 20, and 21, 2011. Between three and seven adult harbor seals were noted. From three to seven animals were noted about two hours after the launch on June 22. A post-launch count, conducted on June 23, revealed from eight to nine animals. A follow-up survey, in which two to four animals were noted, was made on July 7. No harbor seal pups were seen. In summary, there was no evidence of injury, mortality, or abnormal behavior of the monitored pinnipeds on VAFB as a result of this launch.

#### Delta II Launch (October 28, 2011)

Biological monitoring for this launch was required at SMI, since the sonic boom models predicted overpressures in excess of 1 psf there. Monitoring was conducted at a section of east Adam's Cove. California sea lions, northern elephant seals and northern fur seals were present. Numbers of California sea lions ranged from 211 to 1,105 animals. These numbers rose on the day of the launch and during the two days afterwards. Numbers of northern fur seals declined slightly during the same period, probably displaced by the sea lions. Their numbers ranged from 73 to 315. Elephant seal numbers ranged from 56 to 127.

No reactions were noted on the part of the sea lions and elephant seals, either from the launch, which was plainly visible during the predawn hours, or from the sonic boom, which was heard at 0253 hours. Six adult fur seals raised their heads in response to the sonic boom, but settled back down after 2-4 minutes. In summary, there was no evidence of injury, mortality, or abnormal behavior in any monitored seals resulting from this launch.

Authorization

The USAF complied with the requirements of the 2011 LOA, and NMFS has determined that the marine mammal take resulting from the 2011 launches is within that analyzed in and anticipated by the associated regulations. Accordingly, NMFS has issued a LOA to the 30<sup>th</sup> Space Wing, USAF, authorizing the take by harassment of marine mammals incidental to space vehicle and test flight activities at VAFB. Issuance of this LOA is based on findings described in the preamble to the final rule (74 FR 6236, February 6, 2009) and supported by information contained in VAFB's 2011 annual report that the activities described under this LOA will have a negligible impact on marine mammal stocks. The provision requiring that the activity not have an unmitigable adverse impact on the availability of the affected species or stock for subsistence uses does not apply for this action.

Dated: February 1, 2012.

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Helen M. Golde,  
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National Marine Fisheries Service

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