

objective. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. PHMSA participates in the establishment of international standards in order to protect the safety of the American public, and we would assess the effects of any rule to ensure that it does not exclude imports that meet this objective. Accordingly, any proposals would be consistent with PHMSA's obligations under the Trade Agreement Act, as amended.

#### *H. Statutory/Legal Authority for This Rulemaking*

49 U.S.C. 5103(b) authorizes the Secretary of Transportation to prescribe regulations for the safe transportation, including security, of hazardous materials in intrastate, interstate, and foreign commerce.

#### *I. Regulation Identifier Number (RIN)*

A regulation identifier number (RIN) is assigned to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. The RIN contained in the heading of this document can be used to cross-reference this action with the Unified Agenda.

Issued in Washington, DC, on December 17, 2010 under authority delegated in 49 CFR part 106.

**Magdy El-Sibaie,**

*Associate Administrator for Hazardous Materials Safety.*

[FR Doc. 2010-32231 Filed 12-22-10; 8:45 am]

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## DEPARTMENT OF COMMERCE

### National Oceanic and Atmospheric Administration

#### 50 CFR Part 217

[Docket No. 100806326-0374-01]

RIN 0648-AY99

#### **Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Space Vehicle and Missile Launch Operations at Kodiak Launch Complex, Alaska**

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

**ACTION:** Proposed rule; request for comments.

**SUMMARY:** NMFS has received an application, pursuant to the Marine Mammal Protection Act (MMPA), from the Alaska Aerospace Corporation (AAC) for authorization to take small numbers of marine mammals incidental to launching space launch vehicles, long-range ballistic target missiles, and other smaller missile systems at the Kodiak Launch Complex (KLC) for the period of February 2011 through February 2016. Pursuant to the MMPA, NMFS is requesting comments on its proposal to issue regulations and subsequent Letters of Authorization (LOAs) to AAC to incidentally harass Steller sea lions (*Eumetopias jubatus*) and harbor seals (*Phoca vitulina*) during the specified activity.

**DATES:** Comments and information must be received no later than January 24, 2011.

**ADDRESSES:** You may submit comments, identified by 0648-AY99, by any one of the following methods:

- **Electronic Submissions:** Submit all electronic public comments via the Federal eRulemaking Portal: <http://www.regulations.gov>.
- Hand delivery or mailing of paper, disk, or CD-ROM comments should be addressed to P. Michael Payne, Chief, Permits, Conservation and Education Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910-3225.

**Instructions:** All comments received are a part of the public record and will generally be posted to <http://www.regulations.gov> without change. All Personal Identifying Information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information. NMFS will accept anonymous comments (enter N/A in the required fields if you wish to remain anonymous). Attachments to electronic comments will be accepted in Microsoft Word, Excel, WordPerfect, or Adobe PDF file formats only. A copy of the application containing a list of references used in this document and Environmental Assessments (EAs) related to this action may be obtained by writing to the above address, by telephoning the contact listed under **FOR FURTHER INFORMATION CONTACT**, or on the Internet at: <http://www.nmfs.noaa.gov/pr/permits/incidental.htm#applications>. Documents cited in this proposed rule may also be viewed, by appointment, during regular business hours at the above address. To help NMFS process and review comments more efficiently,

please use only one method to submit comments.

**FOR FURTHER INFORMATION CONTACT:** Michelle Magliocca, Office of Protected Resources, NMFS, (301) 713-2289, ext 123.

#### **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.

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the identified 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 in the regulations. NMFS 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 June 4, 2010, NMFS received a complete application for regulations from AAC for the taking of small numbers of marine mammals incidental to launching space launch vehicles, long-range ballistic target missiles, and other smaller missile systems at the KLC. Noise from space vehicles and missile launches may result in the behavioral (Level B) harassment of hauled-out Steller sea lions and harbor seals and injury (Level A harassment) or

mortality of harbor seal pups on Ugak Island. On January 19, 2006, NMFS issued regulations and subsequent LOAs to AAC authorizing the taking of marine mammals incidental to launches at KLC (71 FR 4297; January 26, 2006). Those regulations expire on February 28, 2011; hence, AAC has applied for new regulations. The proposed regulations, if issued, would be effective from March 1, 2011 through February 28, 2016.

#### Description of the Specified Activity

AAC conducts space vehicle and missile launches from the KLC. This facility occupies 3,717 acres of state-owned lands on the Narrow Cape Peninsula on the eastern side of Kodiak Island, Alaska, approximately 22 miles from the city of Kodiak. Ugak Island, which is used by Steller sea lions and harbor seals, lies approximately 3–4 miles to the southeast of the launch pads (see Figure 1 in application). The island is about 2 miles long by about 1 mile wide. The land slopes steeply upward from a spit on the island's northern most point, which is a traditionally used Steller sea lion haulout (see Figures 4 and 5 in application), to the southwest, culminating in cliffs that are approximately 1,000 feet in elevation. These cliffs run the entire length of the island's long axis. Eastward, the narrow Outer Continental Shelf (OCS) ends about 20 miles offshore, where it plunges precipitously to the North Pacific abyss. Near shore water depths to the immediate south and west of the island range to several hundred feet. Harbor seal haulouts are present mainly on Ugak Island's eastern shores.

The area considered to be affected by KLC launch operations was defined in a September 1996 meeting involving AAC and its environmental consultant (University of Alaska Anchorage's Environment and Natural Resources Institute), and government agencies represented by the Federal Aviation Administration (FAA), NMFS, the U.S. Fish and Wildlife Service (FWS), and the Alaska Department of Environmental Conservation (ADEC). Attendees at that meeting reviewed information on the known effects of rocket operations on the environment, and defined the expected impact area to be within a 6-mile radius of the launch pad area, including Ugak Island. There are several marine mammals present in the waters offshore and on haulouts on Ugak Island, which lies about 3.5 miles distance from the launch pad area; however, the only marine mammals anticipated to be affected by the specified activities are pinnipeds hauled-out on nearby Ugak Island.

The KLC primarily supports launches of small to medium space launch vehicles—which by definition are those used to boost satellites to orbit—ranging in size from the small space-launch Castor 120 motor (used in the Athena, Minotaur IV, Minotaur V, and Taurus I systems) to the under-development medium-lift Taurus II. The KLC is also configured to support launch of the Minuteman I-derived Minotaur I Space Launch System, and to support launch of long-range ballistic systems such as the Polaris derived A-3 STARS, the Minuteman-derived Minotaur II and III, and the C-4. Representative target vehicles that might be flown from KLC range in size from modified C-4 Trident I vehicles, which have a range measured in thousands of miles, down to small vehicles built up from modified second or third stage components of larger missile systems, which have much shorter ranges. The Quick Reaction Launch Vehicle (QRLV) family serves as an example of vehicles flown from KLC, being built around second stage motors used in the Minuteman I. Tactical missiles, such as the Patriot and Theater High Altitude Area Defense (THAAD) might also be flown from KLC, as well as very small sounding rockets.

Launches may occur day or night. The number of launches of space launch vehicles and ballistic target vehicles from KLC is variable. Launch planning is a dynamic process, and launch delays, which can last from hours to more than a year, can and do occur. Launch delays occur due to variables ranging from technical issues to adverse weather. The AAC anticipates the KLC can accommodate up to 45 launches, in total, for the effective period of the proposed regulations. Annually, an average of nine but maximum of twelve launches may occur. Most of these vehicles are expected to be of the Minotaur I through V class, including civil versions of the Castor 120 known as the Athena and Taurus I or smaller target vehicles. AAC estimates that of the 45 estimated launches from KLC over the five-year period in consideration, 32 will be of small space-launch and target vehicles of the Castor 120 or smaller size, 10 will be of THAAD or smaller size, and three will be of the medium-lift Taurus II. A description of each class of space launch and smaller launch vehicles are provided in the application and summarized here.

#### Castor 120

The Castor 120 is the largest (and loudest) vehicle motor used to launch systems into space from the KLC. The Castor 120 uses solid fuel and produces

about 371,000 pounds of thrust. The motor mass is about 116,000 pounds and the motor is 347 inches long and 93 inches wide. Modeling shows the rocket is about 8 miles above the earth's surface when it overflies Ugak Island, and that the sonic boom reaches earth between 21 to 35 miles down range, which is past the OCS break and over the North Pacific abyss (US FAA 1996). Sound pressure levels from the Castor 120 measured at the traditional Steller sea lion haulout (located on the northern spit of Ugak Island) were 101.4 dBA (SEL) (Table 1). This location is 3.5 miles away from the launch pad. None of the vehicles expected to be flown from KLC over the five-year period covered by the proposed regulations are anticipated to produce higher sound pressures than the Castor 120.

#### Taurus II

The Taurus II is an under development, medium class launch vehicle similar in size and capability to the Delta II, which is being withdrawn from service. The U.S. Air Force reports that sound pressures of the Delta II were slightly less than those from the Taurus I (Castor 120) as measured from the same point (USAF 2008), thus the anticipated sound pressure from the very similar Taurus II at the traditional Steller sea lion haulout on Ugak Island is likely to be at or somewhat less than the 101.4 dBA (SEL) recorded for the Castor 120.

#### Minotaur I

The Minotaur I is a small lift solid propellant space launch vehicle, the first stage of which is a modified Minuteman II first stage. The first stage motor has a diameter of 4.5 feet. This launch vehicle has not yet been flown from KLC. Sound pressure monitoring of two Minotaur I launches was accomplished at Vandenberg Air Force Base, California (VAFB). The data were collected 1.4 miles away from the launch point and show sound pressure levels of 104.9 to 107.0 dBA (SEL) at that distance. Sound energy at sea level decreases with the square of the distance, and given that the traditional Steller sea lion haulout on Ugak Island is 2 miles farther away (*i.e.* the haulout is 3.5 miles from the launch point), AAC anticipates sound pressure levels from a Minotaur I at the Ugak Island traditional haulout would range in the low 90s dBA (SEL).

#### C-4 Trident

The C-4 Trident I is a solid-fueled vehicle and its first stage has a diameter of 6.1 feet, which is about 1.5 feet less than the Castor 120. The system's range

is around 4,000 miles. It has never been flown from KLC, but given it is significantly smaller in diameter than the Castor 120 and uses a similar fuel, it is anticipated that sound pressure levels at the traditional Steller sea lion haulout would be less than those of the Castor 120. NMFS is not aware of any available data on sound pressure for the C-4 Trident.

**STARS**

The Strategic Target System (STARS) utilizes the first stage of the Polaris A-3, which is solid fueled and measures 4.5 feet in diameter. Several STARS systems have been flown from KLC. Recorded sound pressure levels at Ugak Island have ranged from 90.2 to 91.4 dBA (SEL).

*Smaller Target and Tactical Rocket Systems*

A number of smaller tactical missile systems, such as the Patriot and Theater High Altitude Area Defense (THAAD), might also be flown from KLC, as might very small sounding rockets. Sound pressures from these smaller systems are not available, but will be substantially less than those from the space launch and ballistic vehicles described above and pose no potential for disturbance to marine mammals.

**Launch Noise**

Launch operations are a major source of noise on Kodiak Island, as the operation of launch vehicle engines produce substantial sound pressures. In air, all pressures are referenced to 20 microPascals; therefore all dB levels in this notice are provided re: 20 microPa, unless otherwise noted. Generally, four types of noise occur during a launch: (1) Combustion noise; (2) jet noise from interaction of combustion exhaust gases with the atmosphere; (3) combustion noise proper; and (4) sonic booms. Sonic booms are not a concern for pinnipeds on Ugak Island, as sonic booms created by ascending rockets launched from KLC reach the Earth's surface over deep ocean, well past the edge of the OCS (FAA 1996). Spent first stage motors from space lift missions (i.e. those going to orbit) fall to Earth 11 to more than 300 miles down range (well past the edge of the OCS, depending on launch vehicle (US FAA 1996). In accordance with Federal Aviation Administration (FAA), Office of Associate Administrator for Commercial Space Transportation (AST), and with the facility's Environmental Assessment (EA) and stipulations in the EA's Finding of No Significant Impact (FONSI) (see 61 FR 32884, June 25, 1996), launch noise

from various systems were measured on Ugak Island. In addition, a Natural Resource Management Plan (NRMP) was developed in coordination with NMFS to address monitoring and mitigation activities for protected species in the area and compare anticipated sound pressure levels from KLC launches with documented marine mammal disturbance responses to such noise. Motor diameters and representative sound pressures for various launch vehicles previously launched from KLC are presented in Table 1. A complete description of how and when these measurements were taken is described in NMFS' final rule for AAC's current regulations (71 FR 4297; January 26, 2006). The vehicles listed in Table 1 include various ballistic launch vehicles and the small-lift Castor 120 space launch vehicle, as well as smaller target/interceptor systems and tactical rocket systems. All KLC sound measurements reported in Table 1 were taken on Ugak Island. The Castor 120 would be the loudest space vehicle motor used during launches at the KLC. Copies of the NRMP referred to above may be obtained online at <http://www.nmfs.noaa.gov/pr/permits/incidental.htm> and from the contacts in ADDRESSES, above.

**TABLE 1—RECORDED SOUND PRESSURE LEVELS AT UGAK ROCK HAULOUT DURING PREVIOUSLY LAUNCHED SPACE VEHICLES AND SIZE OF POTENTIALLY LAUNCHED SPACE VEHICLES (FOR COMPARATIVE PURPOSES)**

Launch designator	Launch vehicle	Date	Distance to haulout	Motor diameter (feet) <sup>1</sup>	SEL (dBA)	Lmax (dBA)	LPeak (dCBA)
<b>Previously Launched &amp; Recorded at KLC</b>							
ait-1 .....	QRLV .....	11/5/98	3.5 miles <sup>2</sup> ...	4.3	88.4	78.2	97.0
ait-2 .....	QRLV .....	9/15/99	3.5 miles <sup>2</sup> ...	4.3	92.2	81.5	101.5
QRLV .....	QRLV .....	3/22/01	3.5 miles <sup>2</sup> ...	4.3	80.3	73.3	87.2
Athena .....	Castor 120 .....	9/29/01	3.5 miles <sup>2</sup> ...	7.75	101.4	90.8	115.9
FT-04-1 .....	Polaris A-3 STARS .....	2/23/06	4.1 miles <sup>3</sup> ...	4.5	92.3	86.0	109.0
FTG-02 .....	Polaris A-3 STARS .....	9/01/06	4.1 miles <sup>3</sup> ...	4.5	90.1	83.1	105.6
FTG-03a .....	Polaris A-3 STARS .....	9/28/07	4.5 miles <sup>4</sup> ...	4.5	91.4	84.2	107.3
FTX-03 .....	Polaris A-3 STARS .....	7/18/08	4.5 miles <sup>4</sup> ...	4.5	89.6	83.0	108.3
<b>Potentially Launched in Future</b>							
	Taurus II .....	.....	.....	.....	<sup>5</sup> <101.4	.....	.....
	Minotaur I .....	.....	.....	4.5	<sup>5</sup> 90+	.....	.....
	C-4 Trident I .....	.....	.....	6.1	.....	.....	.....
	Castor I .....	.....	.....	2.6	.....	.....	.....
	SR19/SR773 .....	.....	.....	4.3	.....	.....	.....
	SR19/SR19 .....	.....	.....	4.3	.....	.....	.....
	Castor IVB .....	.....	.....	3.3	.....	.....	.....
	Patriot .....	.....	.....	1.3	.....	.....	.....
	THAAD .....	.....	.....	1.25	.....	.....	.....

<sup>1</sup> Motor sound pressures from solid fueled motors are directly correlated to motor diameter.

<sup>2</sup> Traditionally used Steller sea lion seasonal haulout; use has declined significantly in recent times.

<sup>3</sup> Alternate Steller sea lion haulout, a tidally exposed small rock located midway between the traditional haulout and the northeastern most cape of Ugak Island.

<sup>4</sup> Second alternate Steller sea lion haulout located on the northeastern most cape of Ugak Island.

<sup>5</sup> Estimated.

Another component of the AAC's launches includes security overflights. In the days preceding the launch, these occur approximately 3 times per day based on the long-term average. Flights associated with the launch will not approach occupied pinniped haulouts on Ugak Island by closer than 0.25 mile (0.4 km), and will maintain a vertical distance of 1,000 ft (305 m) from the haulouts when within 0.5 miles (0.8 km), unless indications of human presence or activity warrant closer inspection of the area to assure that national security interests are protected in accordance with law. Over the operational history of these flights, aircraft have been operated within the 0.25 mile limit on two occasions; both involved direct overflight of the Steller sea lion haulout spit, which was unoccupied each time the incursions occurred.

#### Description of Marine Mammals in the Area of the Specified Activity

AAC's current MMPA regulations (71 FR 4297), which are set to expire February 28, 2011, require aerial surveys be conducted before and after each launch to monitor for presence and abundance of marine mammals within the designated 6 mile action area. In compliance with these conditions, the AAC has completed these surveys since 2006. Aerial survey data indicate that Steller sea lions, harbor seals, gray whales (*Eschrichtius robustus*), humpback whales (*Megaptera novaeangliae*), and sea otters (*Enhydra lutris*) occur within the action area. Although potentially present, cetaceans within the action area are not expected to be taken during the specified activities. Airborne noise is generally reflected at the sea surface outside of a 26° cone extending downward from the ascending rocket (Richardson *et al.* 1995); therefore, little sound energy passes into the sea across the air-water boundary. Submerged animals would have to be directly underneath the rocket to hear it, and given the hypersonic velocity of launch vehicles in the atmosphere, the duration of sounds reaching any cetacean would be discountable. In addition, all spent rocket motors will fall into the open ocean over deep water. Given the very short time a cetacean is at the surface, direct impact from spent motors can be discounted as can any noise related impacts. Based on these reasons, NMFS does not anticipate take of cetaceans incidental to the specified activity; hence, they will not be discussed further. Sea otters are managed by the U.S. Fish and Wildlife Service; therefore no take of sea otters is included in the

proposed regulations. As such, this species is not discussed further in this proposed rule.

#### Steller Sea Lion

Steller sea lions are designated into two stocks by NMFS. Those west of 144° longitude, which includes the KLC area, are listed as endangered under the ESA. Historically, mature and sub-adult males have used a spit on the northwestern side of Ugak Island as a post-breeding haulout. This spit is located 3.5 miles from the launch pad complex (see figure 4 and 5 in the application). The historic occupancy period ranges from June to September (post breeding), with peak reported numbers in the hundreds (Sease 1997; ENRI 1995–1998). However, use has declined in recent times in keeping with general declines seen in the species as a whole. The spit is designated a long-term trend count site by NMFS and has been surveyed once yearly, with June as the target, since the 1990s. Counts since 2000 have generally been zero (*e.g.*, NMFS, 2009; Fritz and Stinchcomb, 2005), which is in line with the counts from all other long-term trend count sites in the Kodiak Archipelago over the same time period. All of these other long-term trend sites are far removed from the 6 mile radius anticipated impact area up range from KLC (*i.e.* areas opposite to the flight path), in areas not exposed to launch noise. Hence, Steller sea lion abundance has declined throughout the region, not just the area affected by launches, and the losses are likely not a result of or connected with the launches or use of KLC.

Data from AAC's aerial surveys over the past four years also support low use of the haulout. Since 1999, five launches have occurred during the Steller sea lion season. The spit haulout has not been used by Steller sea lions during launch-monitoring surveys since 1999 (ENRI, 2000, R&M, 2007a,b, 2008); however one to several Stellar sea lions have been observed from time-to-time during recent launch surveys utilizing a supratidal rock on eastern Ugak Island (termed East Ugak Rock) as a haulout. Tables 2 and 4 in the application provide a breakdown of survey results per day. In summary, two to eight sea lions were observed per day on East Ugak Rock during surveys for the FTG–02 launch (R&M, 2006b) and one to five (per day) were observed during the FTX–03 launch (R&M, 2008). In addition, during one aerial survey that was completed outside the June–September timeframe (during the FTG–05 campaign in December 2008), a single Stellar sea lion was observed on

East Ugak Rock. Eastern Ugak Rock is located farther east and to the south of the KLC than Ugak Island; therefore, one can assume launch generated sound levels here are less than those at Ugak Island.

#### Harbor Seals

Harbor seals are the most abundant marine mammal species found within the action area. Harbor seals are not listed as threatened or endangered under the ESA or as depleted under the MMPA. Based on AAC aerial survey counts from launch monitoring reports conducted since January 2006, approximately 97% of all harbor seals are found on the eastern shore of Ugak Island, approximately 5 miles from the launch pad complex. The eastern shore is backed by high steep cliffs that reach up to 1,000 feet above sea level. These cliffs form a visual and acoustic barrier to rocket operations, and limit effects on the species. This conclusion is based on review of sound pressure recordings made at the haulout spit found on the island's northwestern shore, which showed surf and wind-generated sound pressures at sea level were generally in the >70 dBA (SEL) range on the clearest days (Cuccarese *et al.* 1999, 2000). During inclement weather periods ambient sound pressures at sea level can exceed 100 dBA (SEL). The island's eastern shore is windward to prevailing winds and surf noise is routinely high. Harbor seals located on Ugak Island's northern shore are not as protected from launch noise, and therefore may be harassed incidental to AAC's specified activity. However, harbor seal abundance on the northern shores is limited due to the lack of suitable habitat (*i.e.*, few beaches). During 30 aerial surveys conducted by AAC during six rocket launches from 2006–2008, no seals were observed on North Ugak Island on 19 occasions. On surveys when seals were present, average abundance was 25 with a single day count of 125 individuals.

Because physical access to Ugak Island harbor seal haulouts is difficult and dangerous, the only abundance and behavior data of these seals have been derived from aerial surveys conducted by AAC. Harbor seals generally breed and molt where they haulout, so it is assumed that both of these activities take place on Ugak Island, and young seals have routinely been seen there during launch-related aerial surveys. Pupping in Alaska takes place generally in the May–June time frame; molting occurs generally from June to October. Both periods contain peaks in haulout attendance. Total counts on Ugak Island have increased steadily since the 1990s

from several hundred (ENRI 1995–1998) up to a peak of about 1,500 today (R&M 2007a, 2007b, 2008, 2009).

### Potential Effects on Marine Mammals

As discussed above, launch operations are a major source of noise on Kodiak Island and can reach Steller sea lion and harbor seal haulouts and rookeries on Ugak Island. Marine mammals produce sounds in various contexts and use sound for various biological functions including, but not limited to (1) Social interactions; (2) foraging; (3) orientation; and (4) predator detection. Interference with producing or receiving these sounds may result in adverse impacts. Audible distance, or received levels (RLs) will depend on the nature of the sound source, ambient noise conditions, and the sensitivity of the receptor to the sound (Richardson *et al.*, 1995). Type and significance of marine mammal reactions to noise are likely to be dependent on a variety of factors including, but not limited to, the behavioral state (*e.g.*, resting, socializing, *etc.*) of the animal at the time it receives the stimulus, frequency of the sound, distance from the source, and the level of the sound relative to ambient conditions (Southall *et al.*, 2007). In general, marine mammal impacts from loud noise can be characterized as auditory and non-auditory.

### Potential Auditory Impacts

Auditory impacts consist of injurious (*e.g.*, ruptured ear drums, permanent threshold shift [PTS]) or non-injurious (*e.g.*, temporary threshold shift [TTS]) effects. There are no empirical data for onset of PTS in any marine mammal; therefore, PTS-onset must be estimated from TTS-onset measurements and from the rate of TTS growth with increasing exposure levels above the level eliciting TTS-onset. PTS is presumed to be likely if the hearing threshold is reduced by  $\geq 40$  dB (*i.e.*, 40 dB of TTS).

Given the distance from the pad area to Ugak Island and the measured sound levels from the Castor 120 (101.4 dB), for the loudest space vehicle used at the KLC, pinniped auditory injury is not anticipated. To further justify that the potential for PTS does not exist, we examined Auditory Brainstem Response (ABR) testing on 18 seals during rocket launches at Vandenberg Air Force Base. Rocket launches at VAFB create sonic booms over pinniped haulouts; therefore, noise from these launches are much louder than what would be audible at haulouts on Ugak Island (sonic booms are not audible from Ugak Island). These experiments are

described in detail in NMFS' 2009 EA on the *Issuance of Regulations to Take Marine Mammals by Harassment Incidental to Space Vehicle and Test Flight Activities from Vandenberg Air Force Base, California*. In summary, ABR testing on harbor seals was conducted after one Delta IV launch in 2006. During this launch the digital audio tape (DAT) recorder was located at the VAFB Boathouse (near where the harbor seal hearing tests were performed). The DAT measured the unweighted SEL at 131.3 dB, the C-weighted SEL at 127.5 dB, and the A-weighted SEL at 111.3 dB. The Lmax was measured at 102.6 dB (Thorson *et al.*, 2007). Harbor seal ABR results concluded that there was no evidence that the launch noise from the Delta IV launch, which has an associated sonic boom, caused a loss in harbor seal hearing acuity. Therefore, PTS is not a concern for pinnipeds exposed to launch noise from the KLC as noise levels at this location are below those experienced during the Delta IV launch, and sonic booms are not audible on Ugak Island.

Regarding TTS, although hearing sensitivity was not apparently affected during the ABR testing, that is not to say that TTS did not occur, as seals were tested approximately 2 hours after launch, not immediately following the launch. However, if TTS did occur, hearing was fully recovered within 2 hours. In conclusion, NMFS has preliminarily determined PTS would not occur in pinnipeds on Ugak Island and TTS, although unlikely, may occur. If pinnipeds on Ugak Island experience TTS, full-hearing recovery is expected shortly after exposure.

### Potential Behavioral Impacts

To comply with their current regulations, AAC attempted to collect video footage of pinnipeds during launches; however, weather, technical, and accessibility issues prevented video from being obtained. Therefore, no immediate responses of pinnipeds to AAC launch noise have been documented. However, as discussed above, VAFB researchers have been investigating the short and long-term effects of space vehicle launch noise and sonic booms on pinnipeds. As described in NMFS' 2009 EA, the percentage of seals that left the haul-out increased as noise level increased up to approximately 100 decibels (dB) A-weighted SEL, after which almost all seals leave, although recent data have shown that an increasing percentage of seals have remained on shore. Using time-lapse video photography, VAFB discovered that during four launch

events, the seals that reacted but remained on the haulout were all adults. VAFB theorized that adult seals may have habituated to launch stimuli more so than less-experienced younger seals; hence the less-severe reactions.

VAFB researchers also found that the louder the launch noise, the longer it took for seals to begin returning to the haul-out site and for the numbers to return to pre-launch levels. In two past Athena IKONOS launches with A-weighted SELs of 107.3 and 107.8 dB at the closest haul out site, seals began to haul-out again approximately 16 to 55 minutes post-launch (Thorson *et al.*, 1999a; 1999b). During several Titan II launches, where A-weighted sound exposure levels ranged from 86.7 to 95.7 dBA, seals began to return to that haulout site within 2 to 8 minutes post-launch (Thorson and Francine, 1997; Thorson *et al.*, 2000). Based on VAFB observational data and the loudest measured sound pressure level recorded on Ugak Island (approximately 101.4 dBA), NMFS anticipates that if seals and sea lions are disturbed, they may begin to return to haulout sites on Ugak Island within 2 to 55 minutes of the launch disturbance.

The behavioral data record for Steller sea lions is small throughout the North Pacific range and typically is focused on reproductive behaviors. In general, studies have shown that responses of pinnipeds on beaches to acoustic disturbance arising from rocket and target missile launches are highly variable. This variability may be due to many factors, including species, age class, and time of year. Porter (1997) observed Steller sea lions fleeing into the water for a wide variety of reasons such as helicopter overflights, bird flybys, and the presence of nearby humans. He also noted sea lion stampedes into the water that could not be correlated with any observed stimulus. There is also evidence that both time of day and air temperature alter the probability of entry into the water (animals are more likely to enter the water when already overheated) (Bowles, 2000). Steller sea lions have been seen to mill about just offshore with their heads up in a heightened state of watchfulness (Porter, 1997) and remain close to the haulout until they sense it is safe to go back ashore (Lockheed Martin Environmental Services, 1999).

The infrequent (approximately nine times per year) and brief (no more than 1 minute as heard from Ugak Island) nature of these sounds that would result from a rocket launch is not expected to alter the population dynamics of Steller sea lions or harbor seals which utilize

Ugak Island as a haulout site. Current harbor seal numbers on Ugak Island total around 1,500 (R&M 2009), which is an increase of about 1,100 since the 1990s (ENRI 1995–1998); therefore, population dynamics of harbor seals have also not been negatively impacted from past launches originating from KLC. Steller sea lion numbers have decreased on Ugak Island; however, this decline mimics that seen at all other long-term trend sites in the Kodiak Archipelago. AAC has only launched no more than two rockets per year during the Steller sea lion season, annually; and thus, it is highly unlikely that AAC launches are the cause of this phenomenon, which is more likely related to overall population decline or prey resource availability.

If launches occur during the harbor seal pupping period and harbor seals have also chosen to pup on the north beach, it is possible that harbor seal pups could be injured or killed as a result of the adults flushing in response to the rocket noise, or the mother/pup bond could be permanently broken. However, NMFS does not expect harbor seal pup injury and mortality to occur to a great degree. Harbor seal pups are extremely precocious, swimming and diving immediately after birth and throughout the lactation period, unlike most other phocids which normally enter the sea only after weaning (Lawson and Renouff, 1985; Cottrell *et al.*, 2002; Burns *et al.*, 2005). NMFS recognizes the critical bonding time needed between a harbor seal mother and her pup to ensure pup survival and maximize pup health. Harbor seal pups are weaned from their mother within approximately 4 weeks; however, the most critical bonding time is immediately (minutes) after birth. Lawson and Renouf (1987) conducted an in-depth study to investigate harbor seal mother/pup bonds in response to natural and anthropogenic disturbance. In summary, they found that a mutual bond is developed within 5 minutes of birth, and both the mother and pup play a role in maintaining contact with each other. The study showed a bilateral bond, both on land and in the water, and that mothers would often wait for or return to a pup if it did not follow her. Pups would follow or not move away from their mother as she approached. Most notably, mothers demonstrated overt attention to their pups while in the water and during times of disturbance on the nursery. Increased involvement by the mothers in keeping the pairs together during disturbances became obvious as they

would wait for, or return to, their young if the pups fell behind.

In addition to incidental harassment, harbor seal pups have been the subject of numerous research studies resulting in direct, intentional harassment. Research activities often include capture and handling of very young pups and separating pups from their mothers for short periods of time. Scientists report they have disturbed seals during capture, then left the area within approximately 1 hour. Seals return to the haulout site within minutes of the scientists leaving the beach (J. Harvey to M. DeAngelis, pers. comm., Jan. 12), further demonstrating harbor seal pup resilience to disturbance. Given that pups are precocious at birth, bonds between mothers and pups are known to form within minutes of birth, and other characteristics of mother/pup bonding described above, NMFS has preliminarily determined that Level A harassment or mortality may not occur due to the pups precociousness and the early bond formed between mothers and pups; however, it cannot be discounted. Therefore, NMFS is proposing to authorize Level A harassment and mortality for harbor seal pups. Steller sea lion pup injury or mortality is not a concern as no pupping for this species occurs within the action area.

Finally, KLC conducts approximately three security overflights per day in the days preceding a launch. Several studies of both harbor seals and Steller sea lions cited in Richardson *et al.* (2005), suggest that these animals respond significantly less to overflights of both planes and helicopters that occur above 305 m (0.2 mi). NMFS does not anticipate harassment from overflights to occur as they generally would remain at least 0.25 miles from a haulout; however, if pilot or crew notice overt responses from pinnipeds (*e.g.*, flushing) to aircraft, this would be noted and reported to NMFS in the flight report. Observations made of any animals displaced by a security overflight are reported to the environmental monitoring team for inclusion in their report of monitoring results.

#### **Anticipated Effects on Habitat**

Solid fuel rocket boosters would fall into the ocean away from any known or potential haulouts. All sonic booms that reach the earth's surface would be expected to occur over open ocean beyond the outer continental shelf. Airborne launch sounds would mostly reflect or refract from the water surface and, except for sounds within a cone of approximately 26 degrees directly below the launch vehicle, would not penetrate

into the water column. The sounds that would penetrate would not persist in the water for more than a few seconds. Overall, rocket launch activities from KLC would not be expected to cause any impacts to habitats used by marine mammals, including pinniped haulouts, or to their food sources.

#### **Proposed Mitigation**

In order to issue an incidental take authorization (ITA) under section 101(a)(5)(A) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable adverse 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.

To minimize impacts on pinnipeds at haulout sites, the AAC has proposed, as part of their specified activities, the following mitigation measures: (1) Security overflights immediately associated with the launch would not approach occupied pinniped haulouts on Ugak Island by closer than 0.25 mile (0.4 km), and would maintain a vertical distance of 1,000 ft (305 m) from the haulouts when within 0.5 miles (0.8 km), unless indications of human presence or activity warrant closer inspection of the area to assure that national security interests are protected in accordance with law; (2) AAC would avoid launches during the harbor seal pupping season (May 15–June 30), unless constrained by factors including, but not limited to, human safety and national security; and (3) if launch monitoring or quarterly aerial surveys indicate that the distribution, size, or productivity of the potentially affected pinniped populations has been affected due to the specified activity, the launch procedures and the monitoring methods would be reviewed, in cooperation with NMFS, and, if necessary, appropriate changes may be made through modifications to a given LOA, prior to conducting the next launch of the same vehicle under that LOA.

NMFS has carefully evaluated the applicant's proposed mitigation measures and considered a range of other measures in the context of ensuring that NMFS prescribes the means of effecting 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: (1) The manner and the degree to which the successful implementation

of the measure is expected to minimize adverse impacts to marine mammals; (2) the proven or likely efficacy of the specific measure to minimize adverse impacts as planned; and (3) the practicability of the measure for applicant implementation, including consideration of personnel safety, and practicality of implementation. The proposed mitigation measures take scientific studies (Richardson *et al.*, 2005) of overflight effects on pinnipeds into consideration. By avoiding launches during the harbor seal pupping season, AAC would subsequently be avoiding all Level A harassment and mortality. Lastly, the adaptive nature of the proposed mitigation measures allow for adjustments to be made if launch monitoring or quarterly aerial surveys indicate that impacts to the distribution, size, or productivity of pinniped populations are occurring.

Based on our evaluation of the applicant's proposed measures, as well as other measures considered by NMFS or recommended by the public in the prior rulemaking, NMFS has preliminarily determined that the proposed mitigation measures provide the means of effecting the least practicable adverse impacts on marine mammals species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

#### Proposed Monitoring and Reporting

In order to issue an ITA for an activity, Section 101(a)(5)(A) of the MMPA states that NMFS must 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 will 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.

AAC proposes to purchase and place one remote live streaming video system overlooking one of the harbor seal haulouts on the eastern side of Ugak Island for the first five launches conducted under these regulations to verify the assumption that seals on the eastern side of the island are not affected by launches. Although animals on the northern shore are more likely to be affected by the action, this area is predominantly a rocky reef tidal area where seals haulout opportunistically, either singly or in small numbers on exposed rocks. There is more confidence seals will be visible and able

to be monitored on the eastern side of the island. After five launches, AAC and NMFS will reassess the efficiency of the camera system and possibly move it to another location (*e.g.*, the traditional Steller sea lion haulout).

The selected haulout would be viewed either in real time or via "tape" delay for six days using the following schedule where day length permits. The six-day schedule would be roughly centered on the day of launch, with launch day being day three of the monitoring schedule. The video stream would be viewed by professional biologists for 4 hours each day with monitoring centered on the time of launch on launch day, and on low tide on the other days. Detailed information on when monitoring would occur around a launch is provided in AAC's application. Data collected from the live stream video would include number of animals observed, by age and sex class when possible, behavior (*e.g.*, resting), animal response to launches, and re-occupation time if disturbed.

The video system was developed, tested, and first put into service in Alaska, and has proven itself over many years of operation both in Alaska and around the world. The video system is all weather proven and autonomous, drawing energy from a combination of wind and solar generators. It features a camera that includes a lens that can be focused (zoom and pan) on command and provides live-streaming video that can be made available through internet access to interested researchers in real time.

AAC would also carry out quarterly aerial surveys to determine long-term trend counts of the Steller sea lion and harbor seals within the action area. Surveys would be flown midday and centered around low tide for optimal seal counts. The aircraft would survey from a distance appropriate to count seals or sea lions, but far enough away to minimize harassment. Data collected would include number of seals or sea lions per haulout, by age class when possible, and if any disturbance behavior is noted from aircraft presence.

In addition to visual monitoring, whenever a new class of rocket is flown from the KLC, a real time sound pressure record would be obtained for documentation purposes and correlated with the behavioral response record. Two sound pressure monitors would be used: One would be placed at the established sound pressure recording location known as Narrow Cape and the other as close as practical to the remote video system.

#### 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].

As described above, Steller sea lions hauled out on Ugak Island may become alert or flush into the water in response to launch noise. Sound exposure levels from the loudest launch may reach approximately 101.4 dBA at the traditional Steller sea lion haulout. Based on this recorded level and the fact that audible launch noise would be very short in duration, sea lions are not expected to incur PTS, and the chance of TTS is unlikely. No injury or mortality of Steller sea lions is anticipated, nor would any be authorized. Therefore, NMFS proposes to authorize Steller sea lion take, by Level B harassment only, incidental to launches from KLC.

Harbor seals of all age classes hauled out on the northern side of Ugak Island would likely react in a similar manner as Steller sea lions (and may become alert or flush into the water) to launches from KLC. Therefore, harbor seals may be taken by Level B harassment incidental to rocket launch noise. However, during the pupping season (May 15–June 30), pups may also be injured, killed, or separated from their mother during a flushing event. Therefore, AAC has requested, and NMFS proposes, to authorize Level A harassment and mortality of harbor seal pups.

As discussed above, security overflights associated with a launch would not closely approach or circle any sea lion or seal haulout site. Therefore, incidental take from this activity is not anticipated. Should the pilot or crew on the plane observe pinnipeds reacting to their presence, the plane would increase altitude and note the number of animals reacting to the plane. These data would be included in AAC's final marine mammal report.

AAC estimates that up to 45 launches may occur from KLC over the course of the 5-year period covered by the proposed rulemaking. Annually, AAC estimates an average of nine launches would occur. Most of these vehicles are expected to be of the Minotaur I through

V class, including civil versions of the Castor 120 known as the Athena and Taurus I or smaller target vehicles. AAC estimates that no more than one launch would occur over a 4-week period, and it is likely the frequency of launches would be less than this estimate.

Based on aerial survey data, AAC estimates a maximum of ten Steller sea lions could be present during launches occurring during the Steller sea lion season (the maximum number of animals sighted during a survey has been eight). Any sea lions present during the launches would be adult or juvenile males; therefore, no reproductive processes or pupping would be affected by the specified activities. Assuming that all nine launches (the average number of launches predicted by AAC) occur during the Steller sea lion season, that all nine launches involve the Castor 120 (the loudest vehicle expected to be flown from KLC over the period to be covered by the proposed regulations), and that there is no habituation to rocket motor effects with experience, then up to 90 takes by harassment could occur per year (ten animals/launch × nine launches). However, it is more reasonable to assume that a maximum of four launches per year could occur during the 2-month Steller sea lion season, and that no more than eight Stellers would be present at any given time (the maximum number recorded). Therefore, NMFS is proposing to authorize the take, by Level B harassment, of 32 Steller sea lions per year (eight animals × four launches).

The total number of harbor seals present on Ugak Island ranges up to about 1,500, most of which are found on the island's eastern shore where they are sheltered from launch effects by the 1,000-foot tall cliffs that stand between their haulouts and KLC. Relatively few harbor seals use haulouts on the northern side of the island across from KLC due to the lack of suitable beaches. No seals were observed on northern haulouts, which consist primarily of isolated rocks, during 19 of 30 marine mammal surveys flown by AAC from

2006–2008. When present, the majority of counts on northern haulouts were of fewer than 25 individuals; however, a one-time high count of about 125 animals on these rocks has been made. Using the conservative and rare high number of 125 as being a representative figure, AAC estimates that up to 125 individuals might be taken per launch operation. Therefore, AAC has requested, and NMFS proposes to authorize 1,125 harbor seal (125 seals/launch × nine launches/year) takes during launch operations.

The actual number of pups taken by Level A harassment or mortality is difficult to quantify, as age class was not identified during AAC's previous monitoring efforts (age class distinction would occur under the proposed monitoring and reporting requirements). Given that seals do not use the northern haulouts in large numbers (as compared to the protected eastern haulouts), the number of pups on the area of the island exposed to launch noise is likely low. Actual numbers will likely be smaller given the low and variable use of the area by harbor seals. NMFS consulted with Ms. Kate Wynne, a marine mammal specialist with the Alaska Sea Grant Marine Advisory Program, who has previously flown aerial surveys within the action area. Her data, from the early 1990s, indicate that pup counts on the northern side of Ugak Island averaged approximately 17. Although this data is not recent, it is the best available. NMFS does not anticipate that all pups on a haulout would be injured or killed during a launch and, in fact, many may not be taken by Level A harassment or mortality. However, in the unlikely event injury or mortality occurs, NMFS proposes to authorize 17 harbor seal pup takes by Level A harassment or mortality, annually, incidental to AAC's activities.

**Previous Activities and Monitoring**

As discussed above, under AAC's current regulations (valid February 27, 2006 through February 28, 2011) and annual LOAs, AAC has been conducting

marine mammal monitoring within the action area before and after launch events to satisfy the monitoring requirements set forth in MMPA authorizations. The objective of monitoring Steller sea lions and Pacific harbor seals is to detect any indications of pinniped disturbance, injury, or mortality resulting from KLC rocket launches at the Ugak Island haulout site. Monitoring requirements included: (1) Conducting fixed-wing aerial surveys at least one day prior to, immediately after, and three days post any launches taking place from June 15 through September 30, weather permitting; (2) installing a remote custom-designed, closed-circuit, weatherproof, time-lapse video camera system at the base of the traditional Steller sea lion haulout before any launch occurring from June 15 through September 30; and (3) making an attempt to place a video camera with zoom lens on the accessible western end of the north-facing shore to record harbor seal behavior on the middle or eastern end of the shore, or on the rocks offshore (recall that the eastern side of Ugak Island—where the majority of seals are—is completely inaccessible to pedestrian or boat traffic due to the high cliffs and violent surf).

The regulations also contained noise monitoring requirements; however, these data are discussed in the *Specified Activity* section above. AAC complied with the noise monitoring conditions contained within the regulations and annual LOAs.

Since 2006, AAC has conducted five launches from the KLC. AAC did not exceed the number of launches allocated in their regulations during the Steller sea lion or harbor seal pupping season in any given year. The dates and types of launches and types of monitoring conducted are provided in Table 2. Only one launch has occurred during the harbor seal pupping season. No launches occurred in 2009 and none have occurred in 2010 to date. Results of the acoustic monitoring are described in the *Specified Activities* section above and are not reiterated here.

TABLE 2—DATES AND TYPES OF LAUNCHES FROM THE KLC UNDER CURRENT REGULATIONS AND TYPE OF MONITORING CONDUCTED

Date	Launch designator	Aerial monitoring (Number of days)	Video monitoring	Acoustic monitoring
9/1/2006 .....	FTG-02 .....	Yes (6) .....	Yes .....	Yes.
5/25/2007 .....	FTX-03 .....	Yes (3) .....	No <sup>1</sup> .....	Yes. <sup>3</sup>
9/28/2007 .....	FTG-03a .....	Yes (5) .....	Yes .....	Yes.
7/18/2008 .....	FTX-03 .....	Yes (5) .....	Yes <sup>2</sup> .....	Yes.
12/1/2008 .....	FTX-05 .....	Yes (5) .....	No .....	Yes. <sup>3</sup>

<sup>1</sup> Foul weather prevented accessing Ugak Island.

<sup>2</sup> Video camera batteries failed prior to launch so no data during launch is available.

<sup>3</sup> Only one noise monitor was deployed at Narrow Cape (approximately 0.9 mi from the launch site). Ugak Island was inaccessible.

During the September 2006 launch, aerial surveys found that Steller sea lions did not use the traditional haulout site on the spit at the north end of Ugak Island; however, one to four Steller sea lions used a supralittoral rock on the east side of Ugak Island (East Ugak Rock). On pre-launch aerial surveys, two to four sea lions were hauled out in that location. On post-launch aerial surveys, one to two sea lions were hauled out. Daily harbor seals counts within the primary study area ranged from 495 seals on August 28th to 961 seals on September 1st.

The traditional Steller sea lion haulout was not occupied during the pre-launch monitoring period during the 2006 launch. Therefore, an alternative video monitoring site overlooking East Ugak Rock was chosen on the northeast side of Ugak Island. On September 1, the two sea lions on the haulout exhibited no reaction indicating disturbance during the launch. The launch occurred at 09:22. From 07:24 to 09:44, the two sea lions laid resting on the haulout. At 09:44, they sat up and interacted for 1 min 12 seconds, then laid and rested until monitoring ceased at 13:29.

In 2007, AAC launched two vehicles; an FTX-03 launch occurred on May 25, 2007, and an FTX-03a launch occurred on September 28, 2007. For the May launch, foul weather (low ceiling, heavy fog) hampered or completely prevented monitoring efforts except for aerial surveys; three aerial surveys were completed. Steller sea lions were not observed at the traditional haulout or East Ugak Rock during the aerial surveys. Daily harbor seal counts ranged from 136 seals on May 23rd to 402 seals on May 27th. For the September launch, one aerial survey was completed before the launch, and four surveys were completed post-launch. Steller sea lions were not present at the traditional haulout or on East Ugak Rock. Daily harbor seal counts within the primary study area ranged from zero to 748 seals with peak counts two days following the launch. Video monitoring at the harbor seal haulout did not detect any seals. However, glare from the low angle sun in the morning and low magnification made it difficult to see all the detail on the video recording.

In 2008, AAC launched two vehicles; an FTX-03 launch occurred on July 18th and an FTX-05 launch occurred on December 1st. For the July, FTX-03 launch, one aerial survey was completed before the launch and four surveys were completed post-launch. Foul weather hampered or completely prevented all but one of the aerial surveys during the FTX-05 launch in

December; that survey was completed on December 7 after the launch. Steller sea lions did not occupy the traditional haulout on the spit at the north end of Ugak Island during either of the two launches in 2008; however, small numbers (one to five) of sea lions occupied East Ugak Rock during the aerial surveys conducted for both launches. Daily totals within the primary study area during the FTX-03 launch ranged from 610 to 1,534 seals. During the single aerial survey completed for FTX-05, 971 harbor seals were counted in the primary study area. Based on the attendance pattern gathered from the FTX-03 launch (which had complete surveys), seal numbers were at pre-launch levels within 5 hours after the launch.

A video camera recorded sea lions at East Ugak Rock on July 17-18, 2008 during the FTX-03 launch campaign. The video recorder ran for approximately 14 hours before running out of power about 2 hours before the rocket launch. Therefore, the instantaneous response of sea lions to the launch was not recorded. On July 17, the day before the rocket launch, zero to three sea lions were recorded on the rock and the same number were recorded before the launch on July 18. Three sea lions were on the rock when the recorder quit. Three sea lions also were present on the same rock 3 h 17 min later (1 h 25 min after the launch), when the video camera was retrieved. Thus, the attendance of sea lions observed at East Ugak Rock suggests that if there was disturbance, it was short-lived. During the FTX-05 launch in December, video equipment could not be installed at Ugak Island because of heavy fog the day before the launch.

As anticipated, foul weather proved it difficult to access Ugak Island to deploy equipment. However, AAC was able to collect Steller sea lion reactions to one launch; no reactions were observed. Although attempted, AAC was unsuccessful at monitoring harbor seal reactions to the launch. Despite lack of direct monitoring during the launch, pinniped counts acquired during aerial surveys post-launch suggest that, if animals are reacting, it is short-lived and not having an impact on the population. Because AAC fulfilled the mitigation and monitoring requirements to the best of their ability, NMFS has determined that AAC complied with the mitigation and monitoring requirements set forth in regulations and annual LOAs. In addition, NMFS has determined that the impacts on marine mammals from the activity fell within the nature and scope of those anticipated and authorized in the

previous authorization (supporting the analysis in the current authorization).

For the proposed monitoring measures, NMFS has shifted its focus from direct Steller sea lion to harbor seal monitoring. AAC will monitor harbor seal reactions to rocket launches during the launch itself via a type of camera system currently used by the Alaska Sea Life Center to monitor haulouts and rookeries. The camera will be placed at a harbor seal pupping location on Ugak Island to better assess the likelihood that harbor seal pups may be abandoned, injured, or killed as a direct result of a rocket launch disturbance. The camera system will be installed and operating if the AAC conducts a launch during the harbor seal pupping season. Unlike the previous system, this camera system does not need to be retrieved to acquire data and battery power is not problematic. Therefore, AAC can place it at a harbor seal haul-out during good weather no matter the number of days before a launch and does not have to be concerned with retrieving it. These factors will likely eliminate the previous issues with video monitoring designed to detect pinniped reactions at the time of the launch. In addition, the camera system will have a zoom lens for better viewing quality.

#### **Negligible Impact and Small Numbers Analysis and Determination**

NMFS 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." In making a negligible impact determination, NMFS considers (and should explicitly address whenever possible) the following:

- (1) Number of anticipated mortalities;
- (2) number and nature of anticipated injuries;
- (3) number, nature, intensity, and duration of Level B harassment;
- (4) is the nature of the anticipated takes such that we would expect it to actually impact rates of recruitment or survival;
- (5) context in which the takes occur; and
- (6) species or stock status.

In the past few years, AAC has conducted only zero to two launches on an annual basis. Regardless, NMFS has analyzed the specified activity to include disturbance events of up to nine launches per year as they anticipate the capability to carry out more efficient mission turn-around time over the duration of the proposed regulations. Mortalities and injuries are only authorized for harbor seal pups, and these are not expected due to small and

variable harbor seal populations using the northern haul-out sites, as well as the nature of pups and the early bonds formed between pups and mothers. Level B harassment of Steller sea lions is possible due to rocket launch noise, but is considered unlikely based on projected sound levels and the short duration of the noise. Rates of seal or sea lion recruitment or survival are not expected to be impacted due to the limited number of mortalities or injuries to harbor seal pups. Due to the fact that no sonic booms are audible from Ugak Island, NMFS does not anticipate the potential for PTS to occur and TTS is unlikely, but possible. These assumptions are justified from ABR data collected at and around VAFB from similar launch activities. Further, based on aerial survey data, the harbor seal population on this island is increasing. Given harbor seals are considered a species that is easily disturbed, their resilience to launch effects suggests impacts from launches are short-term and negligible. The amount of take the AAC has requested, and NMFS proposes to authorize, is considered small (less than one percent of Stellers and less than three percent of harbor seals) relative to the estimated stock populations of 41,197 Steller sea lions in the Western U.S. and 44,453 harbor seals in the Gulf of Alaska.

Mitigation measures to reduce noise from launches once in the air are virtually impossible; however, the noise generated on the launch pad during ignition moves through a deep trench (called a flame trench or flame bucket) that diverts the noise/exhaust toward the northwest (away from Ugak Island). The primary method of minimizing impacts to pinnipeds from launch noise is to minimize the number of launches when possible during sensitive times.

In addition, improved monitoring would better enable AAC and NMFS to determine if impacts from rocket launches are having short-term and long-term impacts on the present day pinniped populations on Ugak Island. The camera system would be able to detect immediate impacts from launch exposure, including the number of pinnipeds flushing at the haulout site, while quarterly aerial surveys would aid in determining long-term trends of pinniped abundance. Currently, NMFS conservatively anticipates a small number of pups may be injured or killed during a launch. However, there is no empirical data to prove or disprove this as no video monitoring of seals during the launch has been successful (the one time a video system was placed near the haulout, no seals were observed). As discussed previously, the population of

harbor seals on Ugak Island has increased steadily from several hundred in the 1990s (ENRI 1995–1998) to a peak of about 1,500 today (R&M 2007a, 2007b, 2008, 2009). Therefore, NMFS does not believe there would be any long-term impact on the health of the population if pup mortality is occurring from launches. The proposed monitoring measures contained within this notice are specifically designed to, among other things, determine if pup injury or mortality is occurring due to rocket launches from AAC.

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, NMFS preliminarily finds that space vehicle and missile launches at the KLC will result in the incidental take of small numbers of marine mammals, but that the total taking will have a negligible impact on the affected species or stocks.

#### **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, NMFS 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 uses.

#### **Endangered Species Act (ESA)**

There is one marine mammal species under NMFS' jurisdiction that is listed as endangered under the ESA with confirmed or possible occurrence in the action area: The Steller sea lion. In the 2003 Biological Opinion, NMFS determined that the proposed actions would not result in jeopardy to the affected species or result in adverse modification of critical habitat. In 2005, AAC, on behalf of the FAA, consulted with NMFS, under Section 7 of the ESA, on the impacts of space vehicle and rocket launches on Steller sea lions. NMFS also consulted internally under the ESA on its proposed issuance of AAC's 2006 MMPA regulations and subsequent LOAs. NMFS will also consult internally on the issuance of the proposed regulations under section 101(a)(5)(A) of the MMPA for this activity, which would be effective from February 2011 through February 2016. Consultation will be concluded prior to a determination on the issuance of regulations and subsequent LOAs.

#### **National Environmental Policy Act (NEPA)**

In 1996, the FAA prepared an EA, and subsequently issued a Finding of No Significant Impact (FONSI), for AAC's proposal to construct and operate a launch site at Narrow Cape on Kodiak Island, Alaska. Since 1998, AAC has provided monitoring reports related to noise and marine mammal impacts associated with ongoing rocket launches from KLC. After reviewing the new information contained in the monitoring reports, and considering the MMC's comments that impacts to harbor seals should be more comprehensively addressed, NMFS decided that a more current environmental analysis was necessary. In 2005, NMFS prepared an EA and associated FONSI on the Promulgation of Regulations Authorizing Take of Marine Mammals Incidental to Rocket Launches at Kodiak Launch Complex, Alaska, and the Issuance of Subsequent Letters of Authorization. NMFS found that the promulgation of a 5-year rulemaking in 2006, and issuance of subsequent LOAs would not significantly impact the quality of the human environment and therefore issued a FONSI. Accordingly, preparation of an Environmental Impact Statement or Supplemental Environmental Impact Statement for this action was not necessary. NMFS has determined that because the action has not changed significantly from that analyzed in previous NEPA documents, further analysis under NEPA is not necessary for issuance of regulations and subsequent LOAs extending into 2016.

#### **Classification**

OMB has determined that this proposed rule is not significant for purposes of Executive Order 12866.

Pursuant to section 605(b) of the Regulatory Flexibility Act (RFA), the Chief Counsel for Regulation of the Department of Commerce has certified to the Chief Counsel for Advocacy of the Small Business Administration that this proposed rule, if adopted, would not have a significant economic impact on a substantial number of small entities. A description of this rule and its purpose are found in the preamble to this proposed rule, and are not repeated here. The provisions of the rule will apply directly only to AAC. The AAC is a public corporation of the State of Alaska involved in space vehicles and guided missiles, and it employs approximately 45 people. SBA's regulations implementing the RFA have no "small" size standards for public administration entities that administer

and oversee government programs and activities that are not performed by private establishments. Accordingly, no small entity will be affected by these proposed rules.

The AAC may use a small number of contractors to provide services related to the proposed reporting requirements. However, none of the authorizations or requirements imposed by this action will result in any of AAC's contractors expending any resources in order to be in compliance with these proposed regulations. Thus, the rule would have no effect, directly or indirectly, on these small entities.

Because AAC is the only entity that would be directly affected by this proposed regulation and because the effects of this regulation would impose no costs on any of the contractors—whether they are large or small entities—there will be no significant economic impact on a substantial number of small entities. Accordingly, no regulatory flexibility analysis is necessary, and none has been prepared.

Notwithstanding any other provision of law, no person is required to respond to nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act (PRA) unless that collection of information displays a currently valid OMB control number. This proposed rule contains a collection-of-information requirement subject to the provisions of the PRA. This collection has been approved previously by OMB under section 3504(b) of the PRA issued under OMB control number 0648–0151, which includes applications for LOAs and reports.

#### List of Subjects in 50 CFR Part 217

Exports, Fish, Imports, Indians, Labeling, Marine mammals, Penalties, Reporting and record-keeping requirements, Seafood, Transportation.

Dated: December 17, 2010.

**Samuel D. Rauch, III,**  
Deputy Assistant Administrator for  
Regulatory Programs, National Marine  
Fisheries Service.

For reasons set forth in the preamble, 50 CFR part 217 is proposed to be amended as follows:

#### **PART 217—REGULATIONS GOVERNING THE TAKE OF MARINE MAMMALS INCIDENTAL TO SPECIFIED ACTIVITIES**

1. The authority citation for part 217 continues to read as follows:

**Authority:** 16 U.S.C. 1361 *et seq.*

2. Subpart H is added to read as follows:

#### **Subpart H—Taking of Marine Mammals Incidental to Space Vehicle and Missile Launches at Kodiak Launch Complex, Alaska**

Sec.

- 217.70 Specified activity and specified geographical region.
- 217.71 Effective dates.
- 217.72 Permissible methods of taking.
- 217.73 Prohibitions.
- 217.74 Mitigation.
- 217.75 Requirements for monitoring and reporting.
- 217.76 Letter of Authorization.
- 217.77 Renewal of a Letter of Authorization.
- 217.78 Modifications to a Letter of Authorization.

#### **Subpart H—Taking of Marine Mammals Incidental to Space Vehicle and Missile Launches at Kodiak Launch Complex, Alaska**

##### **§ 217.70 Specified activity and specified geographical region.**

(a) Regulations in this subpart apply only to the incidental taking of marine mammals specified in paragraph (b) of this section by U.S. citizens engaged in space vehicle and missile launch activities at the Kodiak Launch Complex on Kodiak Island, Alaska.

(b) The incidental take of marine mammals under the activity identified in paragraph (a) of this section is limited to 32 juvenile and adult Steller sea lions (*Eumetopius jubatus*), 1,125 Pacific harbor seals (*Phoca vitulina*) of all ages, and 17 harbor seal pups.

##### **§ 217.71 Effective dates.**

Regulations in this subpart are effective from March 1, 2011, through February 28, 2016.

##### **§ 217.72 Permissible methods of taking.**

(a) Under a Letter of Authorization issued pursuant to § 216.106 of this chapter, the Alaska Aerospace Corporation and its contractors may incidentally, but not intentionally, take Steller sea lions and Pacific harbor seals by Level B harassment and harbor seal pups by Level A harassment or mortality in the course of conducting space vehicle and missile launch activities within the area described in § 217.70(a), provided all terms, conditions, and requirements of these regulations and such Letter of Authorization are complied with.

(b) The activities identified in § 217.70(a) must be conducted in a manner that minimizes, to the greatest extent practicable, adverse impacts on marine mammals and their habitat.

##### **§ 217.73 Prohibitions.**

The following activities are prohibited:

- (a) The taking of a marine mammal that is other than unintentional.
- (b) The violation of, or failure to comply with, the terms, conditions, and requirements of this subpart or a Letter of Authorization issued under § 216.106 of this chapter.
- (c) The incidental taking of any marine mammal of a species not specified, or in a manner not authorized, in this subpart.

##### **§ 217.74 Mitigation.**

(a) The activity identified in § 217.70(a) must be conducted in a manner that minimizes, to the greatest extent practicable, adverse impacts on marine mammals and their habitats. When conducting operations identified in § 217.70(a), the mitigation measures contained in the Letter of Authorization issued under § 216.106 of this chapter and § 217.76 must be implemented. These mitigation measures include (but are not limited to):

(1) Security overflights associated with a launch will not approach occupied pinniped haulouts on Ugak Island by closer than 0.25 mile (0.4 km), and will maintain a vertical distance of 1000 ft (305 m) from the haulouts when within 0.5 miles (0.8 km), unless indications of human presence or activity warrant closer inspection of the area to assure that national security interests are protected in accordance with law;

(2) For missile and rocket launches, holders of Letters of Authorization must avoid launches during the harbor seal pupping season of May 15 through June 30, except when launches are necessary for the following purposes: human safety, national security, space vehicle launch trajectory necessary to meet mission objectives, or other purposes related to missile or rocket launches.

(3) All flights associated with the marine mammal abundance quarterly surveys must maintain a minimum altitude of 500 ft (152 m) and remain 0.25 miles from recognized seal haulouts.

(4) If launch monitoring or quarterly aerial surveys indicate that the distribution, size, or productivity of the potentially affected pinniped populations has been affected due to the specified activity, the launch procedures and the monitoring methods will be reviewed, in cooperation with NMFS, and, if necessary, appropriate changes may be made through modifications to a given LOA, prior to conducting the next launch of the same vehicle under that LOA.

(5) Additional mitigation measures as contained in a Letter of Authorization.  
 (b) [Reserved]

**§ 217.75 Requirements for monitoring and reporting.**

(a) Holders of Letters of Authorization issued pursuant to § 216.106 of this chapter and § 217.76 for activities described in § 217.70(a) are required to cooperate with NMFS, and any other Federal, state, or local agency with authority to monitor the impacts of the activity on marine mammals. Unless specified otherwise in the Letter of Authorization, the Holder of the Letter of Authorization must notify the Administrator, Alaska Region, NMFS, by letter, email or telephone, prior to each launch. If the authorized activity identified in § 217.70(a) is thought to have resulted in the take of marine mammals not identified in § 217.70(b), then the Holder of the Letter of Authorization must notify the Director, Office of Protected Resources, NMFS, or designee, by telephone (301-713-2289), within 48 hours of the discovery of the take.

(b) Holders of Letters of Authorization must designate qualified protected species observers, approved in advance by NMFS, as specified in the Letter of Authorization, to:

(1) Deploy for AAC a remote camera system designed to detect pinniped responses to rocket launches for at least the first five launches conducted under these regulations. AAC will conduct visual monitoring for at least 2 hours before, during, and after launch;

(2) Ensure a remote camera system will be in place and operating in a location which allows visual monitoring of a rookery during the launch, if a launch during the harbor seal pupping season cannot be avoided.;

(3) Relocate the camera system to another haulout to be chosen in cooperation with NMFS after the first five launches;

(4) Review and log pinniped presence, behavior, and re-occupation time data from the visual footage obtained from the remote camera system and report results to NMFS within 90 days post launch;

(5) Obtain, whenever a new class of rocket is flown from the Kodiak Launch Complex, a real time sound pressure record for documentation purposes and to correlate with the behavioral response record. Two sound pressure monitors shall be used: one shall be placed at the established sound pressure recording location known as Narrow Cape, and the other as close as practical to the remote video system.

(6) Conduct quarterly aerial surveys, ideally during mid-day coinciding with low tide, to obtain data on pinniped presence, abundance, and behavior within the action area to determine long-term trends in pinniped haulout use. Results of these quarterly surveys will be reported once as part of the year-end summary report that will accompany the request for a new LOA.

(c) Holders of Letters of Authorization must conduct additional monitoring as required under an annual Letter of Authorization.

(d) Holders of Letters of Authorization must submit a report to the Alaska Region Administrator, NMFS, within 90 days after each launch. This report must contain the following information:

(1) Date(s) and time(s) of the launch;

(2) Location of camera system and acoustic recorders (if used);

(3) Design of the monitoring program and a description of how data is stored and analyzed; and

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

(i) Numbers of pinnipeds, by species and age class (if possible), present on the haul-out prior to commencement of the launch;

(ii) Numbers of pinnipeds, by species and age class (if possible), that may have been harassed, including the number that entered the water as a result of launch noise;

(iii) The length of time pinnipeds remained off the haulout during post-launch monitoring;

(iv) Number of harbor seal pups that may have been injured or killed as a result of the launch; and

(v) Other behavioral modifications by pinnipeds that were likely the result of launch noise.

(5) Results of sound pressure level monitoring will be reported in flat weighted, A-weighted, and peak measurements.

(e) An annual report must be submitted at the time of request for a renewal of the Letter of Authorization; it will include results of the aerial quarterly trend counts of pinnipeds at Ugak Island.

(f) A final report must be submitted at least 90 days prior to expiration of these regulations if new regulations are sought or 180 days after expiration of regulations. This report will:

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

(2) Assess the impacts of launch activities on pinnipeds within the action area, including potential for pup injury and mortality; and

(3) Assess the cumulative impacts on pinnipeds and other marine mammals from multiple rocket launches.

**§ 217.76 Letter of Authorization.**

(a) A Letter of Authorization, unless suspended or revoked, will be valid for a period of time specified in the Letter of Authorization, but a Letter of Authorization may not be valid beyond the effective period of the regulations.

(b) A Letter of Authorization with a period of validity less than the effective period of the regulations in this subpart may be renewed subject to renewal conditions in this section.

(c) A Letter of Authorization will set forth:

(1) The number of marine mammals, by species and age class, authorized to be taken;

(2) Permissible methods of incidental taking;

(3) Specified geographical region;

(4) Means of effecting the least practicable adverse impact on the species of marine mammals authorized for taking and its habitat; and

(5) Requirements for monitoring and reporting incidental takes.

(d) Issuance of a Letter of Authorization will be based on a determination that the total taking by the activity as a whole will have no more than a negligible impact on the affected species or stocks of marine mammal(s).

(e) Notice of issuance or denial of a Letter of Authorization will be published in the **Federal Register** within 30 days of a determination.

**§ 217.77 Renewal of a Letter of Authorization.**

(a) A Letter of Authorization issued under § 216.106 of this chapter and § 217.76 for the activity identified in § 217.70(a) will be renewed annually upon:

(1) Notification to NMFS that the activity described in the application for a Letter of Authorization submitted under § 217.76 will be undertaken and that there will not be a substantial modification to the described activity, mitigation, or monitoring undertaken during the upcoming season;

(2) Timely receipt of and acceptance by NMFS of the monitoring reports required under § 217.75;

(3) A determination by NMFS that the mitigation, monitoring, and reporting measures required under §§ 217.74 and 217.75 and the Letter of Authorization were undertaken and will be undertaken during the upcoming period of validity of a renewed Letter of Authorization; and

(4) A determination that the number of marine mammals taken by the

activity will have no more than a negligible impact on the affected species or stocks of marine mammal(s), and that the level of taking will be consistent with the findings made for the total taking allowable under these regulations.

(b) If a request for a renewal of a Letter of Authorization issued under §§ 216.106 and 216.128 of this chapter indicates that a substantial modification to the described work, mitigation, or monitoring undertaken during the upcoming season will occur, NMFS will provide the public a period of 30 days to review and comment on the request. Review and comment on renewals of Letters of Authorization are restricted to:

(1) New cited information and data indicating that the determinations made in this document are in need of reconsideration; and

(2) Proposed changes to the mitigation and monitoring requirements contained in these regulations or in the current Letter of Authorization.

(c) A notice of issuance or denial of a renewal of a Letter of Authorization will be published in the **Federal Register** within 30 days of a determination.

**§ 217.78 Modifications to a Letter of Authorization.**

(a) Except as provided in paragraph (b) of this section, no substantive modification (including withdrawal or suspension) to a Letter of Authorization issued pursuant to the provisions of this

subpart shall be made by NMFS until after notification and an opportunity for public comment has been provided. A renewal of a Letter of Authorization under § 217.77 without modification is not considered a substantive modification.

(b) If the Assistant Administrator determines that an emergency exists that poses a significant risk to the well-being of the species or stocks of marine mammals specified in § 217.70(b), a Letter of Authorization may be substantively modified without prior notification and an opportunity for public comment. Notification will be published in the **Federal Register** within 30 days subsequent to the action.

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