American public, and we have assessed the effects of this ANPRM to ensure that it does not cause unnecessary obstacles to foreign trade. Accordingly, this rulemaking is consistent with Executive Order 13609 and PHMSA's obligations under the Trade Agreement Act, as amended.

I. Statutory/Legal Authority for This Rulemaking

Federal hazardous materials transportation law, 49 U.S.C. 5101 *et seq.,* authorizes the Secretary of Transportation to prescribe regulations for the safe transportation, including security, of hazardous materials in intrastate, interstate, and foreign commerce. The Secretary has delegated this authorization to the Administrator for PHMSA. *See* 49 CFR 1.97. PHMSA is issuing this ANPRM to gather necessary information in development of the regulatory impact analysis in support of this rulemaking.

J. 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 January 13, 2017, under authority delegated in 49 CFR part 1.97.

William Schoonover,

Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Materials Safety Administration.

[FR Doc. 2017–01240 Filed 1–18–17; 8:45 am]

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 217

[Docket No. 160809705–6705–01]

RIN 0648–BG25

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Space Vehicle and Missile Launch Operations at Pacific Spaceport Complex Alaska, Kodiak Island, 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 and other smaller missile systems at the Pacific Spaceport Complex Alaska (PSCA) for the period of March 15, 2017, through March 14, 2022. NMFS is proposing regulations to govern that take, and requests comments on the proposed regulations.

DATES: Comments and information must be received no later than February 21, 2017.

ADDRESSES: You may submit comments on this document by any of the following methods:

- *Electronic submission:* Submit all electronic public comments via the Federal e-Rulemaking Portal. Go to *www.regulations.gov,* enter 2017–0002 in the ''Search'' box, click the ''Comment Now!'' icon, complete the required fields, and enter or attach your comments.
- *Mail:* Comments should be addressed to Jolie Harrison, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East West Highway, Silver Spring, MD 20910.

Instructions: NMFS may not consider comments if they are sent by any other method, to any other address or individual, or received after the end of the comment period. Attachments to electronic comments will be accepted in Microsoft Word or Excel or Adobe PDF file formats only. To help NMFS process and review comments more efficiently, please use only one method to submit comments. All comments received are a part of the public record and will generally be posted on *www.regulations.gov* without change. All personal identifying information (*e.g.,* name, address) 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).

FOR FURTHER INFORMATION CONTACT: Stephanie Egger, Office of Protected Resources, NMFS, (301) 427–8401.

SUPPLEMENTARY INFORMATION:

Availability

A copy of AAC's application and any supporting documents, as well as a list of the references cited in this document, may be obtained online at: *www.nmfs.noaa.gov/pr/permits/incidental/research.htm.* In case of problems accessing these documents, please call the contact listed above (see **FOR FURTHER INFORMATION CONTACT**).

Purpose and Need for Regulatory Action

This proposed rule, to be issued under the authority of the MMPA, would establish a framework for authorizing the take of marine mammals incidental to launching space vehicles, target missiles, and other smaller missile systems at the PSCA. We received an application from AAC requesting 5-year regulations and authorization to take one species of marine mammals. Take would occur by Level B harassment only, incidental to the space vehicle launches (also referred to as rocket launches). The regulations would be valid from March 15, 2017, to March 14, 2022. Please see *Background* below for definitions of harassment.

Legal Authority for the Proposed Action

Section 101(a)(5)(A) of the MMPA directs 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 for up to five years if, after notice and public comment, the agency makes certain findings and issues regulations that set forth permissible methods of taking pursuant to that activity, as well as monitoring and reporting requirements. Section 101(a)(5)(A) of the MMPA and the implementing regulations at 50 CFR part 216, subpart I provide the legal basis for issuing this proposed rule containing 5-year regulations, and for any subsequent Letters of Authorization (LOA). As directed by this legal authority, this proposed rule contains mitigation, monitoring, and reporting requirements.

Summary of Major Provisions Within the Proposed Rule

The following provides a summary of some of the major provisions within the proposed rulemaking for AAC's rocket launch activities. We have preliminarily determined that AAC's adherence to the proposed mitigation, monitoring, and reporting measures listed below would achieve the least adverse impact practicable on the affected marine mammals. They include:

• Required monitoring of Ugak Island to detect the presence and abundance of marine mammals before and after deployment of rocket launch operations.
• Required monitoring of Ugak Island to survey the presence and abundance of marine mammals once per year (outside of rocket launch operations).
• Required mitigation of using time-lapsed photography to determine the immediate response impacts to marine mammals during rocket launches, particularly during the pupping season (should rocket launches occur during that time).

Background

An authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth. 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 April 25, 2016, NMFS received a request for regulations from AAC for the taking of small numbers of marine mammals incidental to launching space launch vehicles long-range and other smaller missile systems at the PSCA. We received revised drafts on June 20, 2016, and September 19, 2016. On September 27, 2016, we published a notice of receipt of AAC's application in the **Federal Register** (81 FR 66264), requesting comments and information for thirty days related to AAC's request. On November 10, 2016, we received an adequate and complete application. We received comments from the Marine Mammal Commission (MMC) which we considered in the development of this proposed rule.

AAC proposes taking of small numbers of marine mammals incidental to rocket launch operations specifically noise from space vehicles and missile launches that may result in the Level B harassment of harbor seals (*Phoca vitulina richardii*). NMFS has previously issued regulations and subsequent LOAs to AAC authorizing the taking of marine mammals incidental to launches at PSCA (76 FR 16311, March 23, 2011; and 71 FR 4297, January 26, 2006). The current regulations recently expired on March 22, 2016; hence, AAC has applied for new regulations. The proposed regulations, if issued, would be effective from March 15, 2017, through March 14, 2022.

Description of the Specified Activity

Overview

PCSA is located on the Narrow Cape Peninsula, on Kodiak Island in the Gulf of Alaska. Kodiak Island is approximately 99 miles (mi) long and 10 to 60 mi wide. PSCA is approximately 22 air mi from the City of Kodiak, which is the largest settlement on the Kodiak Island. The land area occupied by PSCA is owned by the State of Alaska and is administered by AAC under terms of an Interagency Land Management Assignment (ILMA) issued by AAC's sister agency, the Alaska Department of Natural Resources. AAC conducts space vehicle and missile launches from the PSCA. Launch operations are authorized under license from the Federal Aviation Administration (FAA), Office of the Associate Administrator for Space Transportation, in accordance with the facility's Environmental Assessment (EA) and stipulations in the EA's Finding of No Significant Impact (FONSI) (FAA 1996) and subsequent licenses (FAA 1998, 2003, 2005, and 2013). The area considered to be affected by PSCA 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 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-mi radius of the launch pad area, inclusive of Ugak Island. A more recent EA was completed in April 2016 that addresses the potential environmental impacts of the proposed action where the FAA would modify the AAC launch site operator license for the PSCA. The EA evaluates the potential environmental impacts of modifying the launch site operator license to include medium-lift launch capability at PSCA with the addition of new infrastructure necessary to support these types of launches, including the construction of a launch pad and associated facilities.

There are several marine mammals present in the waters offshore, however, the only marine mammals anticipated to be affected by the specified activities are pinnipeds hauled out on Ugak Island.

Dates and Duration

The specified activity may occur at any time during the 5-year period of validity of the proposed regulations. Dates and duration of individual rocket launches are inherently uncertain. Launch timing is not determined by AAC, but is driven by customer needs that include variables ranging from: (1) Availability of down range assets necessary to support launch, (2) orbital parameters, and (3) exigencies requiring rapid response to requests for replacement of lost assets, or to augment existing ones to support vital defense, humanitarian, or commercial needs. Launches can, and do, occur year round. Typical launches will be spread out in time; however, some of these launches may occur in clusters to meet a customer's need.

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. These factors have controlling influence over the numbers of vehicles by class that are actually launched in any given year from PSCA. Launches take place year round when all variables affecting launch decisions are in correct alignment.

AAC estimates the total number of vehicles that might be launched from PSCA over the course of the 5-year period covered by the requested rulemaking is 45, with an average of nine launches per year. However, in previous years, AAC did not launch the authorized number, but fewer or none in some years. Few launches are on contract at this time, so a specific distribution cannot be given. The first anticipated launch is estimated to occur in May 2017. Generally, the frequency will be separated by months or years; however, there may be limited instances of a rapid succession of launches in the course of hours, or days. Launches can, and do, occur year-round. The duration

of the possible disturbance will be at levels that may cause disturbances for only a few seconds tapering off to inaudible in a few minutes.

Specified Geographical Region

The PSCA facility occupies 3,717 acres of state-owned lands on the eastern side of Kodiak Island. Ugak Island lies approximately three to four mi to the south/southeast of the launch pads on Kodiak Island (see Figure 2 in AAC's application). Ugak Island is about two mi long by about one mi wide. The land slopes steeply upward from a spit on the island's northern most point, which has previously been (although not in consistently in recent years) used as a Steller sea lion (*Eumetopias jubatus*) haulout (see Figures 3 in AAC's application), to the southwest, culminating in cliffs that are approximately 1,000 feet (ft) in elevation. These cliffs run the entire length of the island's long axis. Eastward, the narrow Outer Continental Shelf (OCS) ends about 20 mi 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, but also in smaller numbers at the northern end of the island (see Figure 3 in AAC's application).

Detailed Description of Activities

Orbital and suborbital launch vehicles (*i.e.,* rockets, missiles) are launched from PSCA as part of the aerospace industry. A rocket launch operation takes years to plan and execute, as well as a large preparation effort weeks before the launch. In preparation for the launch, launch vehicles are checked, integrated, and erected. At this time, PSCA has two launch pads, designated as Launch Pad 1 (LP1) and Launch Pad 2 (LP2). LP1 is capable of launching small lift class vehicles and is 3.5 mi from the nearest point on Ugak Island. Small lift vehicles are generically categorized as being capable of carrying payloads of up to 4,400 pounds (lb). LP1 has a flame trench that directs exhaust (and much of the sound) horizontally eastward during liftoff, while LP2 is a flat pad. LP1 is larger and better suited for the larger vehicles within AAC's capabilities. The vehicles that produce the most sound are likely to be launched from LP1.

PSCA launch azimuths range from 110 degrees to 220 degrees. The eastern most launch azimuth of 110 degrees is within a few degrees of most orbital launches, and crosses the extreme eastern edge of Ugak Island where several pinniped haulouts are found. Modeling done of Castor 120 space launches indicates the vehicle is passing through 45,000 ft altitude by the time it reaches the island about 70 seconds post launch (FAA 1996).

A typical launch vehicle is deployed by igniting the vehicle through a controlled means to send it on a very specific flight path. The ignition starts a burn on the ground that usually lasts less than several seconds after which the vehicle accelerates upward rapidly. During launch, burning fuel from the launch vehicle creates noise and light in the surrounding area. The components of a launch that may result in take are a source of noise and light on Kodiak Island created by the first stage vehicle motor, as the operation of launch vehicle engines produce sound pressures that may be high enough to cause a disturbance. Combustion noise and jet noise are the two main sources of sound pressures and are projected in all directions. The sound produced subsides to inaudible within a few minutes.

Another component of the AAC's launches includes security overflights. In the days preceding the launch, these occur approximately three 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 mi (0.4 kilometer (km)), and will maintain a vertical distance of 1,000 ft (305 meter (m)) from the haulouts when within 0.5 mi (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 mi limit on two occasions; both involved direct overflight of the Steller sea lion northwestern haulout spit, which was unoccupied each time the incursions occurred.

Description of the Sound Sources

This section contains a brief technical background on sound, the characteristics of certain sound types and the proposed sound sources relevant to AAC's specified activity.

Pulsed sound sources (*e.g.,* sonic booms, explosions, gunshots, impact pile driving) produce signals that are brief (typically considered to be less than one second), broadband, atonal transients (ANSI 1986; Harris 1998; NIOSH 1998; ISO 2003; ANSI 2005) and occur either as isolated events or repeated in some succession. Pulsed sounds are all characterized by a relatively rapid rise from ambient pressure to a maximal pressure value followed by a rapid decay period that may include a period of diminishing, oscillating maximal and minimal pressures, and generally have an increased capacity to induce physical injury as compared with sounds that lack these features.

Non-pulsed sounds can be tonal, narrowband, or broadband, brief or prolonged, and may be either continuous or non-continuous (ANSI 1995; NIOSH 1998). Some of these non-pulsed sounds can be transient signals of short duration but without the essential properties of pulses (*e.g.,* rapid rise time). Examples of non-pulsed sounds include those produced by rocket launches and landings, vessels, aircraft, machinery operations such as drilling or dredging, and vibratory pile driving. The duration of such sounds, as received at a distance, can be greatly extended in a highly reverberant environment.

Sound travels in waves, the basic components of which are frequency, wavelength, velocity, and amplitude. Frequency is the number of pressure waves that pass by a reference point per unit of time and is measured in hertz (Hz) or cycles per second. Wavelength is the distance between two peaks of a sound wave; lower frequency sounds have longer wavelengths than higher frequency sounds and attenuate (decrease) more rapidly in shallower water. Amplitude is the height of the sound pressure wave or the 'loudness' of a sound and is typically measured using the decibel (dB) scale. A dB is the ratio between a measured pressure (with sound) and a reference pressure (sound at a constant pressure, established by scientific standards). It is a logarithmic unit that accounts for large variations in amplitude; therefore, relatively small changes in dB ratings correspond to large changes in sound pressure. When referring to sound pressure levels (SPLs; the sound force per unit area), sound is referenced in the context of underwater sound pressure to 1 microPascal (μPa). One pascal is the pressure resulting from a force of one newton exerted over an area of one square meter. The source level (SL) represents the sound level at a distance of 1 m from the source (referenced to 1 μPa). The received level is the sound level at the listener's position. Note that all underwater sound levels in this document are referenced to a pressure of 1 μPa and all airborne sound levels in this document are referenced to a pressure of 20 μPa.

Root mean square (rms) is the quadratic mean sound pressure over the duration of an impulse, and is calculated by squaring all of the sound

amplitudes, averaging the squares, and then taking the square root of the average (Urick 1983). Rms accounts for both positive and negative values; squaring the pressures makes all values positive so that they may be accounted for in the summation of pressure levels (Hastings and Popper 2005). This measurement is often used in the context of discussing behavioral effects, in part because behavioral effects, which often result from auditory cues, may be better expressed through averaged units than by peak pressures.

Sound exposure level (SEL; represented as dB re 1 μPa^2-s) represents the total energy contained within a pulse, and considers both intensity and duration of exposure. For a single pulse, the numerical value of the SEL measurement is usually 5–15 dB lower than the rms sound pressure in dB re 1 µPa, with the comparative difference between measurements of rms and SEL measurements often tending to decrease with increasing range (Greene 1997; McCauley *et al.,* 1998). Peak sound pressure is the maximum instantaneous sound pressure measurable in the water at a specified distance from the source, and is represented in the same units as the rms sound pressure. Another common metric is peak-to-peak sound pressure (p-p), which is the algebraic difference between the peak positive and peak negative sound pressures. Peak-to-peak pressure is typically approximately 6 dB higher than peak pressure (Southall *et al.,* 2007).

Proposed Sound Sources for AAC

We now describe specific airborne acoustic sources for AAC. Sounds levels are different for each type of vehicle and further discussed below. Orbital and suborbital vehicles may be launched from several locations on site; however, no launch pads are closer to the haulouts on Ugak Island than LP1, from which the largest and, therefore, loudest vehicles will be launched. A description of each class of space launch and smaller launch vehicles are provided in the application and summarized here.

Peacekeeper Derivatives—Castor 120, Athena, Minotaur IV and V, and Taurus I

The Castor 120 was the base vehicle analyzed in the EA conducted by the FAA (US FAA 1996) in support of the decision to issue a launch license to AAC. The Castor 120 uses solid fuel and produces about 371,000 lbs of thrust. The motor mass is about 116,000 lbs and the motor is 347 inches (in) long and 93 in wide. Modeling shows the rocket is about eight mi above the earth's surface when it overflies Ugak Island, and that the sonic boom reaches earth between 21 to 35 mi down range, which is past the OCS and over the North Pacific abyss (US FAA 1996). Sound pressure from the Castor 120 at the spit on Ugak Island's northern most point was measured to be 101.4 dBA (dBA can be defined as dB with A-weighting designed to match the average frequency response of human hearing and enables comparison of the intensity of noise with different frequency characteristics) SEL. None of the vehicles expected to be flown from PSCA over the five-year period covered by this proposed rule is known to be louder than the Castor 120.

Minuteman Derivative—Minotaur I

The Minotaur I is a small lift solid propellant space launch vehicle, the first stage of which is a modified Minuteman II. The first stage motor has a diameter of 4.5 ft. This launch vehicle has not yet been flown from PSCA. Sound pressure monitoring of two Minotaur I launches was accomplished at Vandenberg Air Force Base, California (VAFB). The data were collected 1.4 mi 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 spit on Ugak Island's northern most point is two mi further (*i.e.,* spit is 3.5 mi from the launch point), the anticipated sound pressure levels from a Minotaur I at the spit on Ugak Island's northern most point would be less than that of the Castor 120.

Trident Derivatives—C–4 Trident I

The C–4 is a solid fueled vehicle and its first stage has a diameter of 6.1 ft, which is about 1.5 ft less than the Castor 120. Because it is significantly smaller in diameter than the Castor 120 and uses a similar fuel, it is anticipated that sound pressure levels at the spit on Ugak Island's northern most point would be less than those of the Castor 120.

Polaris Derivatives—A–3 STARS

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

Smaller Vehicles and Tactical Rocket Systems

A number of smaller missile systems, such as tactical or target vehicles, have the possibility of being flown from PSCA. Representative smaller systems range from about a foot in diameter up to about four foot in diameter. Sound pressures from these smaller systems are not available, but will be substantially less than those from the space launch and ballistic vehicles described and pose little potential for disturbance to marine mammals.

Even smaller systems ranging down in size to several inches in diameter will conceivably be flown as well. Small sounding and research rockets (defined as less than 5,000 lbs in weight) will be excluded from this request, including its mitigations and reporting, as the rockets' small shape and energy are too small to transmit an appreciable sound pressure on Ugak Island, and are expected to be well below the threshold for an active response.

Summary of Launch Vehicles

Table 1 provides motor diameters and representative sound pressures for various launch vehicles, some of which have been launched previously from PSCA. The listed vehicles 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 PSCA sound measurements reported in Table 1 were taken at a distance of 3.5 mi from the launch pad at the nearest point of Ugak Island. It is important to note that the Castor 120 (previously launched from PSCA) is the loudest launch vehicle motor expected to be launched from PSCA over the 5-year period covered by the proposed regulations.

TABLE 1—PAST AND ANTICIPATED LAUNCH VEHICLES

Previously Launched & Recorded at PSCA (also Potentially Launched in Future)							
Launch designator	Launch vehicle	Date	Distance to haulout	Motor diameter (ft) [1]	SEL (dBA)	Lmax (dBA)	LPeak (dBA)
QRLV		11/5/98	3.5 mi [2]	4.3	88.4	78.2	97.0

TABLE 1—PAST AND ANTICIPATED LAUNCH VEHICLES—Continued

Previously Launched & Recorded at PSCA (also Potentially Launched in Future)							
Launch designator	Launch vehicle	Date	Distance to haulout	Motor diameter (ft) [1]	SEL (dBA)	Lmax (dBA)	LPeak (dBA)
QRLV		9/15/99	3.5 mi [2]	4.3	92.2	81.5	101.5
QRLV		3/22/01	3.5 mi [2]	4.3	80.3	73.3	87.2
Athena	Castor 120	9/29/01	3.5 mi [2]	7.75	101.4	90.8	115.9
FT–04–1	Polaris A–3 STARS.	2/23/06	4.1 mi	4.5	92.3	86.0	109.0
FTG–02	Polaris A–3 STARS.	9/01/06	4.1 mi	4.5	90.1	83.1	105.6
FTG–03a	Polaris A–3 STARS.	9/28/07	4.1 mi	4.5	91.4	84.2	107.3
FTX–03	Polaris A–3 STARS.	7/18/08	4.1 mi	4.5	89.6	83.0	108.3
	Minotaur I			4.5	[2] 90+		
	C–4 Trident I			6.1			
	Castor I			2.6			
	SR19/SR773			4.3			
	SR19/SR19			4.3			
	Castor IVB			3.3			
Tactical Vehicles				<1.5			

Notes:
[1] Motor sound pressures from solid fueled motors, roughly, correlate to motor diameter.
[2] Estimated.

Spent first stage rocket motors impact the ocean from 11 to more than 300 mi down range, depending on launch vehicle. Sonic booms reach the earth's surface beyond the OCS (US FAA 1996). Both falling first stage rocket motors and sonic booms are too far from land to take pinnipeds and are not expected to affect whales.

Description of Marine Mammals in the Area of the Specified Activity

Sections 4 and 5 of AAC's application and the monitoring reports contain detailed information on the abundance, status, and distribution of the species on Ugak Island from surveys that they have conducted over the last decade. This information is summarized below and may be viewed in detail at *http://www.nmfs.noaa.gov/pr/permits/incidental/research.htm.* Additional information is available in the NMFS SARs for Alaska at *http://www.nmfs.noaa.gov/pr/sars/region.htm.*

Marine mammals under NMFS' jurisdiction that occur in the vicinity of PSCA include the harbor seal, Steller sea lion, gray whale (*Eschrichtius robustus*), humpback whale (*Megaptera novaeangliae*) (Table 2). All are protected under the MMPA and the Steller sea lion and humpback whale are listed as threatened or endangered under the Endangered Species Act (ESA). Sea otters (*Enhydra lutris*) also occur in the area, but are managed by FWS; therefore, sea otters are not discussed further in this application.

TABLE 2—SUMMARY OF MMPA SPECIES

Common name	Scientific name	Status	Occurrence	Seasonality	Daily counts
Harbor seal	*Phoca vitulina*	MMPA	Common	Year-round, Trends toward Summer	32–1,500
Steller sea lion	*Eumetopias jubatus*	Endangered	Rare	Trends toward Summer	0–19
Gray whale	*Eschrichtius robustus*	MMPA	Seasonal	Spring and fall	0–32
Humpback whale	*Megaptera novaeangliae.*	Endangered	Seasonal	Summer and fall	0–4

Airborne noise is generally reflected at the sea surface outside of a 26 degrees 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.

Steller Sea Lions

After discussions with AAC and NOAA's Alaska Regional Office (AKR), it was determined there would be no take of Steller sea lions for the proposed activities. In the most recent National Marine Mammal Laboratory (NMML) survey (NOAA's Alaska Fisheries Science Center) of a location within the action area (July 2015) and of Ugak Island, no sea lions were observed (Fritz *et al.,* 2015). Personal communication between AKR and L. Fritz (Research Fishery Biologist, NMML's Alaska Ecosystem Program) (September 28, 2016) indicate that sea lions have rarely been seen on Ugak Island in recent times. Under those surveys, sea lions were last seen at Ugak Island during the summer of 1994, when one sea lion was observed, and in December 1994, when

20 sea lions were documented (L. Fritz pers. comm. 2016). Sea lions were last seen in large numbers during the 1985–1986 surveys when more than 300 sea lions were observed. It was concluded that the habitat on Ugak Island is not highly suitable for sea lions (L. Fritz pers. comm. 2016).

In addition, AAC has been conducting regular aerial marine mammal surveys since 2006 as a requirement of their previous regulations and LOAs and has also documented Steller sea lion presence as rare. During their previous regulations (2011–2016), 17 aerial surveys were flown. During those surveys, Steller sea lions were only seen in one year with 19 observed in September 2011 at East Ugak Rock away from the Ugak spit haulout. This was the last sighting of Steller sea lions by AAC. Prior to 2011, sea lions were seen in small numbers on occasion during the 2006–2008 surveys. In 2006, 6 out of 14 surveys found sea lions, ranging from one to eight animals. In 2007, 1 out of 8 surveys revealed two sea lions. In 2008, 8 out of 8 surveys found one to five sea lions. AAC also noted that the Ugak spit haulout looks smaller than it has in the past (AAC 2016). The spit is under the influence of longshore currents and its geomorphology shifts over time (AAC 2016). This may now make it unsuitable as a haulout and it may have thus been abandoned by sea lions.

It was determined that take will not occur for Steller sea lions based on the historic and recent survey data available. Sea lions are likely absent from the area (except a rare visitor) and the likelihood of an animal being present during the nine times a year a launch may be planned is highly unlikely. Therefore, Steller sea lions are not discussed further in these proposed regulations.

The only marine mammals anticipated to be affected by the specified activities and proposed as take for Level B harassment are harbor seals hauled out on Ugak Island and therefore they are the only marine mammal discussed further in these proposed regulations.

Harbor Seals

Harbor seals range from Baja California north along the west coasts of Washington, Oregon, California, British Columbia, and Southeast Alaska; west through the Gulf of Alaska, Prince William Sound, and the Aleutian Islands; and north in the Bering Sea to Cape Newenham and the Pribilof Islands. The current statewide abundance estimate for Alaskan harbor seals is 205,090 (Boveng *et al.* in press as cited in Muto *et al.,* 2015), based on aerial survey data collected during 1998–2011. In 2010, harbor seals in Alaska were partitioned into 12 separate stocks based largely on genetic structure (Allen and Angliss 2010). Harbor seals have declined dramatically in some parts of their range over the past few decades, while in other parts their numbers have increased or remained stable over similar time periods.

Seals on Ugak Island are considered part of the South Kodiak stock (Table 3)—ranging from Middle Cape on the west coast of Kodiak Island southwest to Chirikof Island and east along the south coast of Kodiak Island to Spruce Island, including the Trinity Islands, Tugidak Island, Sitkinak Island, Sundstrom Island, Aiaktalik Island, Geese Islands, Two Headed Island, Sitkalidak Island, Ugak Island, and Long Island (Muto *et al.,* 2015). A significant portion of the harbor seal population within the South Kodiak stock is located at and around Tugidak Island off the southwest coast of Kodiak Island. Sharp declines in the number of seals present on Tugidak were observed between 1976 and 1998. The highest rate of decline was 21 percent per year between 1976 and 1979 (Pitcher 1990 as cited by Muto *et al.,* 2015). While the number of seals on Tugidak has stabilized and shown some evidence of increase since the decline, the population in 2000 remained reduced by 80 perent compared to the levels in the 1970s (Jemison *et al.,* 2006 as cited by Muto *et al.,* 2015). The current (2007–2011) estimate of the South Kodiak population trend is −461 seals per year, with a probability that the stock is decreasing of 0.72 (Muto *et al.,* 2015). Only the South Kodiak stock is considered in this application because other stocks occur outside the geographic area under consideration.

TABLE 3—HARBOR SEAL STATUS INFORMATION

Species	Stock	ES)/MMPA status; Strategic (Y/N) [1]	Stock abundance (N_{min}, most recent abundance survey) [2]	PBR [3]	Annual M/SI [4]	Relative occurrence/season of occurrence
Harbor seal	South Kodiak (Alaska).	—; N	19,199 (17,479; 2011)	314	128	Harbor seals are year-round inhabitants of Ugak Island, Alaska.

[1] Endangered Species Act (ESA) status: Endangered (E), Threatened (T)/MMPA status: Depleted (D). A dash (—) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR (see footnote 3) or which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.

[2] N_{min} is the minimum estimate of stock abundance. The most recent abundance survey that is reflected in the abundance estimate is presented; there may be more recent surveys that have not yet been incorporated into the estimate.

[3] Potential biological removal, defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population size (OSP).

[4] These values, found in NMFS' SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (*e.g.,* commercial fisheries, subsistence hunting, ship strike). Annual M/SI often cannot be determined precisely and is in some cases presented as a minimum value. All values presented here are from the final 2015 Harbor Seal, Alaska SAR. (*http://www.nmfs.noaa.gov/pr/sars/pdf/stocks/alaska/2015/ak2015_sehr.pdf*).

Harbor seals are the most abundant marine mammal species found within the action area and present year-round. Based on AAC aerial survey counts from launch monitoring reports conducted since January 2006, approximately 97 percent of all harbor seals are found on the eastern shore of Ugak Island, approximately 5 mi from LP1. The eastern shore is backed by high steep cliffs that reach up to 1,000 ft above sea level. These cliffs form a visual and acoustic barrier to rocket operations, and limit effects on the species. Additionally, sound pressure recordings that showed surf and wind-generated sound pressures at sea level were generally in the greater than >70 dBA (SEL) range on the best weather and surf days (Cuccarese *et al.,* 1999; 2000); while sound pressures at sea level can

exceed 100 dBA (SEL) during inclement weather. Ugak's eastern shore is windward to prevailing winds and surf noise is routinely high. The remaining three percent of the harbor seals identified during surveys are found at the northern shore of Ugak Island. Harbor seals located on the northern shore are not as protected from launch noise, and therefore may be harassed (Level B) incidentally to AAC's rocket launch activities. However, harbor seal abundance on the northern shore 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. During surveys when seals were present, the average abundance was 25 seals with a single day count of 125 individuals (Figure 1 below).

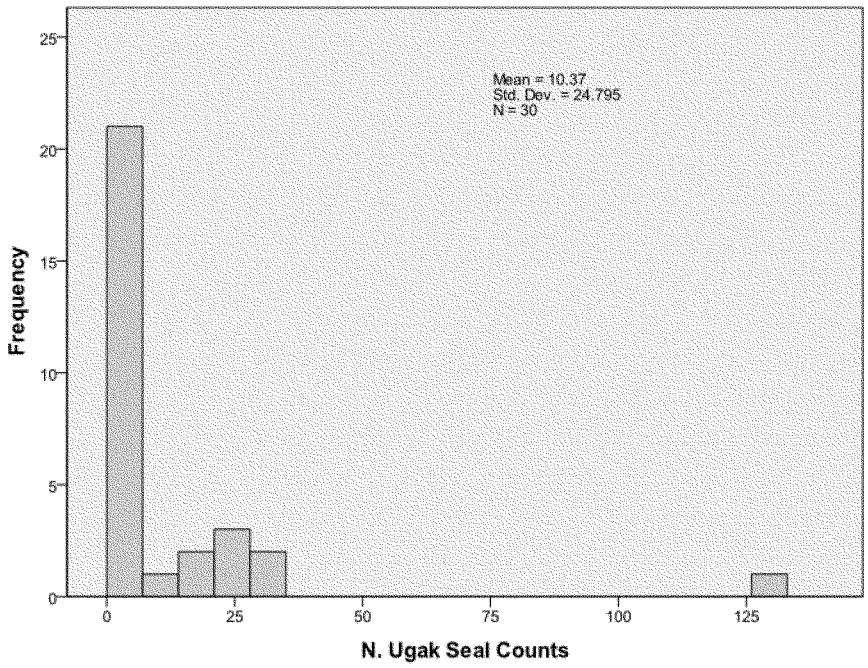

Figure 1. Harbor Seal Count Frequency at the Northwest Spit[1]. [1]Frequency of harbor seal counts at the northwest spit during 30 aerial surveys conducted during pre- and post-launch aerial surveys, Kodiak Island, 2006–2008. Unpublished data collected by ABR, Inc. in association with R&M Consultants, Inc. Note: no seals were seen at the northwest spit during 19 of 30 surveys.

Because access to Ugak Island harbor seal haulouts is difficult, little is known of how seals use these habitats. Harbor seals generally breed and molt where they haulout, so it is assumed that both of these activities take place on Ugak Island. This assumption is supported by the fact that young seals have routinely been seen there during aerial surveys. These haulouts are the only haulouts used by harbor seals within the 6-mi radius area designated as being affected by launch operations.

Harbor seals haul out on rocks, reefs, beaches, and drifting glacial ice (Allen and Angliss 2014). They are non-migratory; their local movements are associated with tides, weather, season, food availability, and reproduction, as well as sex and age class (Allen and Angliss 2014; Boveng *et al.,* 2012; Lowry *et al.,* 2001; Swain *et al.,* 1996). Pupping in Alaska generally takes place in May and June; while molting generally occurs from June to October.

Potential Effects of the Specified Activity on Marine Mammals

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. The generic thresholds described below (Table 4) are used to estimate when harassment may occur (*i.e.,* when an animal is exposed to levels equal to or exceeding the relevant criterion) in specific contexts. However, useful contextual information that may inform our assessment of effects is typically lacking and we consider these thresholds as step functions.

TABLE 4—CURRENT ACOUSTIC EXPOSURE CRITERIA FOR PINNIPEDS

Criterion	Definition	Threshold
Level B harassment (underwater) ...	Behavioral disruption	120 dB (non-impulse, continuous source, *i.e.,* combustion effects of launch vehicles) (rms).
Level B harassment (airborne)	Behavioral disruption	90 dB (harbor seals).

While low-frequency cetaceans and pinnipeds have been observed to respond behaviorally to low- and mid-frequency sounds (*e.g.,* Frankel, 2005), there is little evidence of behavioral responses in these species to high-frequency sound exposure (*e.g.,* Jacobs and Terhune 2002; Kastelein *et al.,* 2006). If a marine mammal does perceive a signal from an AAC acoustic source, it is likely that the response would be, at most, behavioral in nature.

As discussed above, launch operations are a major source of acoustic stimuli on Kodiak Island and can reach pinniped haulouts on Ugak Island. The activities proposed for taking of marine mammals under these regulations have the potential to cause harassment through acoustic stimuli. The PSCA launch activities create two types of noise: continuous (but short-duration) noise, due mostly to combustion effects of launch vehicles; and impulsive noise, due to sonic boom effects. Generally, noise is generated from four sources during launches: (1) Combustion noise from launch vehicle chambers; (2) jet noise generated by the interaction of the exhaust jet and the atmosphere; (3) combustion noise from the post-burning of combustion products; and (4) sonic booms. Launch noise levels are highly dependent on the type of first-stage booster and the fuel used to propel the vehicle. Therefore, there is a great similarity in launch noise production within each class size of launch vehicles. For the proposed activity, sonic booms will reach the earth's surface beyond the OCS (US FAA 1996) and are not anticipated to impact marine mammals and are therefore not discussed further.

Noise from rocket launches may cause the pinnipeds to lift their heads, move towards the water, or enter the water. It is unlikely there would be significant visual disturbance as space vehicles would be too far away to cause significant stimuli. Modeling done of Castor 120 space launches indicates the vehicle is passing through 45,000 ft altitude by the time it reaches Ugak Island about 70 seconds following launch (US FAA 1996). Therefore, we have determined that the possibility of marine mammal harassment from visual stimuli associated with the proposed activities is so low as to be considered discountable and it is therefore not considered further.

Disturbance of pinnipeds caused by AAC's rocket launches would be expected to last for only short periods of time, separated by significant amounts of time in which no disturbance occurs. Because such disturbance is sporadic, rather than chronic, and of low intensity, individual marine mammals are unlikely to incur any detrimental impacts to vital rates or ability to forage and, thus, loss of fitness. Correspondingly, even local populations, are extremely unlikely to accrue any significantly detrimental impacts, much less the overall stocks of animals To comply with their previous 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. AAC will attempt another method of documenting pinniped response to launch noise by using time-lapsed photography methods. Time lapse photography has already been implemented by NOAA for other pinnipeds (Steller sea lions) in harsh conditions of the western Aleutians of the U.S. with great success.

The infrequent (approximately nine times per year) and brief (approximately one 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 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 PSCA.

Harbor seal pups could be present at times during AAC's rocket launches, but 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 Renouf 1985; Cottrell *et al.,* 2002; Burns *et al.,* 2005). In summary, they found that the most critical bonding time is within minutes after birth. As such, it is unlikely that infrequent disturbance resulting from AAC's rocket launches would interrupt the brief mother-pup bonding period within which disturbance could result in separation. NMFS recognizes the critical bonding time needed between a harbor seal mother and her pup to ensure pup survival and maximize pup health. Harbor seals pups are weaned from their mother within approximately four 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 five 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.

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 is unlikely to occur and can therefore be discounted.

Finally, PSCA has conducted up to 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 mi 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.

The following information provides background on marine mammal responses to launch noise that has been gathered under previous LOAs and Incidental Harassment Authorizations for similar rocket launch activities, including at VAFB in California, and been used to inform our analysis for AAC's proposed rocket launch activities.

Marine Mammal Response to Launch Noise at VAFB

Seals may leave a haulout site and enter the water due to the noise created by launch vehicles during launch operations. The percentage of seals leaving a haulout increases with noise level up to approximately 100 dB ASEL (A-weighted SEL), after which almost all seals leave, although data have shown that some percentage of seals have remained on shore during launches. Time-lapse video photography during four launch events at VAFB revealed that the seals that reacted to the launch noise, but did not leave the haulout were all adults. Because adult seals reacted less strongly than younger seals, this suggests that adults had possibly experienced other launch disturbances and had habituated to them.

The louder the launch noise, the longer it took for seals to begin returning to the haulout site and for the numbers to return to pre-launch levels. Seals may begin to return to the haulout site within 2–55 min of the launch disturbance, and the haulout site usually returned to pre-launch levels within 45–120 min. In two past Athena IKONOS launches with ASELs of 107.3 and 107.8 dB at the closest haulout site, seals began to haulout again approximately 16–55 min post-launch (Thorson *et al.,* 1999a; 1999b). In contrast, noise levels from an Atlas launch and several Titan II launches had ASELs ranging from 86.7 to 95.7 dB at the closest haulout, and seals began to return to the haulout site within 2–8 min post-launch (Thorson and Francine 1997; Thorson *et al.,* 2000).

Auditory Brainstem Response Tests at VAFB

To justify that the potential for permanent threshold shift (PTS) is unlikely, Auditory Brainstem Response (ABR) testing on 21 seals during rocket launches at VAFB was conducted. VAFB launches 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). To determine if harbor seals experience changes in their hearing sensitivity as a result of launch noise at VAFB, ABR testing was conducted on harbor seals for four Titan IV launches, one Taurus launch, and two Delta IV launches by the USAF in accordance with issued scientific research permits. Following standard ABR testing protocol, the ABR was measured from one ear of each seal using sterile, sub-dermal, stainless steel electrodes. A conventional electrode array was used, and low-level white noise was presented to the non-tested ear to reduce any electrical potentials generated by the non-tested ear. A computer was used to produce the click and an 8 kilohertz (kHz) tone burst stimuli, through standard audiometric headphones. Over 1,000 ABR waveforms were collected and averaged per trial. Initially the stimuli were presented at SPLs loud enough to obtain a clean reliable waveform, and then decreased in 10 dB steps until the response was no longer reliably observed. Once response was no longer reliably observed, the stimuli were then increased in 10 dB steps to the original SPL. By obtaining two ABR waveforms at each SPL, it was possible to quantify the variability in the measurements.

Good replicable responses were measured from most of the seals, with waveforms following the expected pattern of an increase in latency and decrease in amplitude of the peaks, as the stimulus level was lowered. One seal had substantial decreased acuity to the 8 kHz tone-burst stimuli prior to the launch. The cause of this hearing loss was unknown, but was most likely congenital or from infection. Another seal had a great deal of variability in waveform latencies in response to identical stimuli. This animal moved repeatedly during testing, which may have reduced the sensitivity of the ABR testing on this animal for both the click and 8 kHz tone burst stimuli. Two of the seals were released after pre-launch testing but prior to the launch of the Titan IV B–34, as the launch was delayed for many days, and five days is the maximum duration permitted to hold the seals for testing.

Detailed analysis of the changes in waveform latency and waveform replication of the ABR measurements for the 14 seals showed no detectable changes in the seals' hearing sensitivity as a result of exposure to the launch noise. The delayed start (1.75 to 3.5 hrs after the launches) for ABR testing allows for the possibility that the seals may have recovered from a temporary threshold shift (TTS) before testing began. However, it can be said with confidence that the post-launch tested animals did not have permanent hearing changes due to exposure to the launch noise from the Titan IV, Taurus, or Delta IV SLVs. These results are consistent with previous NMFS conclusions for such activities in its prior rulemakings (63 FR 39055, July 21, 1998; 69 FR 5720, February 6, 2004; 74 FR 6236, February 6, 2009). 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 PSCA, pinniped auditory injury is not anticipated. Therefore, PTS is not a concern for pinnipeds exposed to launch noise from the PSCA as noise levels at this location are below those experienced during the VAFB launches, and sonic booms are not audible on Ugak Island.

Summary of Marine Mammal Impacts from Launches

NMFS does not anticipate a significant impact on any of the species or stocks of marine mammals from launches from PSCA. The effects of the activities are expected to be limited to short-term startle responses and localized behavioral changes. In general, if the received level of the noise stimulus exceeds both the background (ambient) noise level and the auditory threshold of the animals, and especially if the stimulus is novel to them, there may be a behavioral response. The probability and degree of response will also depend on the season, the group composition of the pinnipeds, and the type of activity in which they are engaged. Minor and brief responses, such as short-duration startle or alert reactions, are not likely to constitute disruption of behavioral patterns, such as migration, nursing, breeding, feeding, or sheltering and would not cause injury or mortality to marine mammals. On the other hand, startle and alert reactions accompanied by large-scale movements, such as stampedes into the water of hundreds of animals, may rise to the degree of Level A harassment because they could result in injury of individuals. In addition, such large-scale movements by dense aggregations of marine mammals or at pupping sites could potentially lead to takes by injury or death. However, there is no potential for large-scale movements leading to serious injury or mortality near for the harbor seals at the northern end of Ugak Island because, historically, the number of harbor seals hauled out near the site

is less than 30 individuals, and these animals do not stampede, but flush into the water. Based on similar observational data (at VAFB) and for the largest launch vehicle, the Castor 120 (approximately 101.4 dBA), NMFS anticipates that if seals are disturbed there may be a startle response and flush into the water. Harbor seals would likely return to haulout sites on Ugak Island within 2 to 55 minutes of the launch disturbance. No PTS is anticipated, and the likelihood of TTS is low. In addition, because aircraft will fly at altitudes greater than 305 m (1,000 ft) around pinniped haulouts and rookeries, animals are not anticipated to react to security overflights.

The potential effects to marine mammals described in this section of the document do not take into consideration the proposed monitoring and mitigation measures described later in this document (see the ''Proposed Mitigation'' and ''Proposed Monitoring and Reporting'' sections) which, as noted, should affect the least adverse impact practicable on affected marine mammal species and stocks.

Anticipated Effects on Marine Mammal 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 OCS. 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 PSCA 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 affecting the least adverse impact practicable 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 mi (0.4 km), and would maintain a vertical distance of 1,000 ft (305 m) from the haulouts when within 0.5 mi (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) 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; (3) AAC will purchase and install time-lapsed photography systems in order to survey each of the three pinniped haulout locations around Ugak Island to confirm the abundance of pinnipeds at the haulouts and allow for the more complete surveying efforts. The number of camera systems, equipment capabilities, placement of the systems to be used, and the daily photo frequency will be determined through a cooperative effort between AAC, NMFS, and field experts; (4) AAC will conduct a correlation study in coordination with NMFS. The purpose of the study is to evaluate the effectiveness of the time-lapsed photography systems (specifically, the accuracy of the photography systems compared with aerial count surveys). The results of this study will determine the need to continue aerial surveys. The study will be conducted through a minimum of five launches; and (5) All Castor 120 equivalent launches will be conducted at LP1 which is equipped with a concrete and water-filled flame trench. The purpose of the flame trench is to direct smoke away from the launch pad and to absorb light and noise at their respective peaks (*i.e.* lift-off) to reduce the noise created during each launch.

NMFS has carefully evaluated AAC's proposed mitigation measures and considered a range of other measures in the context of ensuring that NMFS prescribes the means of affecting the least adverse impact practicable 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. 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 affecting the least adverse impacts practicable 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 the following for monitoring and reporting: (1) Deploy time-lapsed photography systems designed to monitor pinniped abundance and detect pinniped responses to rocket launches conducted under these regulations. AAC will monitor the effectiveness of these systems, comparing the results to aerial surveys from at least five launches; (2) Ensure the time-lapsed photography systems will be in place and operating in locations that allow for visual monitoring of all three pinniped haulouts during launches; (3) Relocate the time-lapsed photography systems in cooperation with NMFS after five launches if the system is not accurately capturing all three pinniped haulouts and total pinniped abundance during

the launches; (4) Review and log pinniped presence, abundance, behavior, and re-occupation time from the data obtained from the time-lapsed photography systems and report results to NMFS within 90 days of the first five launches under this system; (5) Conduct one pre-launch aerial survey and one post-launch aerial survey for each launch similar to previous years. AAC will conduct a minimum of one aerial survey annually (in the event no launch occurs during a calendar year); and (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. Data collected would include number of seals per haulout, by age class when possible, and if any disturbance behavior is noted from aircraft presence.

Estimated Take by Incidental Harassment

The following text describes the potential range of takes possible of harbor seals on PSCA during launches. AAC estimates that up to 45 launches may occur from PSCA over the course of the 5-year period covered by the proposed rulemaking. Annually, AAC requests nine launches to be authorized. 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.

Harbor seals of all age classes hauled out on the northern shores of Ugak Island may become alert or flush into the water in response to rocket to launches from PSCA. The total number of harbor seals present on Ugak Island ranges up to a maximum of approximately 1,500 seals in the last ten years, and 1,150 seals in the last five years. However, approximately 97 percent of harbor seals are found at the eastern shore haulout where they are sheltered from launch effects by the 1,000 ft cliffs that stand between this haulout and PSCA. Only about three percent of harbor seals use the northern haulout across from PSCA because of the lack of suitable beaches. When present, the majority of counts at the northern haulout were of less than 25 individuals (Figure 1). An exceptional one-time high count of about 125 seals occurred within the last 10 years. The mean number of harbor seals present at the northern haulout is 10 seals with a standard deviation of 25 seals. Therefore, a representative harbor seal population at the northern haulout of 35 seals (the mean plus one standard deviation) is used for the following take estimate.

Assuming that all 35 harbor seals at the northern haulout are expected to be present and taken by Level B Harassment during a launch, and that all 9 launches are of the Castor 120 (loudest space vehicle), a maximum of 315 harbor seals annually could be taken by Level B harassment with 1,575 harbor seals taken over the 5-year effective period of the regulations. Depending on the type of rocket being launched, the time of day, time of the year, weather conditions, tide and swell conditions, the number of seals that may be taken will range between 0 and 35 per launch. Launches may occur at any time of the year, so any age classes and gender may be taken.

SELs from the loudest launch may reach approximately 101.4 dBA at the traditional Steller sea lion haulout (approximately 3.5 mi from the launch site) which is similar distance to the northern beaches where harbor seal haulout (approximately 4 mi from the launch site). Based on this recorded level and the fact that audible launch noise would be very short in duration, harbor seals are not expected to incur PTS, and the chance of TTS is low to unlikely. No injury or mortality of harbor seals is anticipated, nor would any be authorized. Therefore, NMFS proposes to authorize harbor seal take, by Level B harassment only, incidental to launches from PSCA.

As discussed above, security overflights associated with a launch would not closely approach or circle any pinniped. 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 marine mammal reports.

Previous Monitoring

The primary monitoring method has involved conducting aerial surveys along set transect lines to observe and count harbor seals and Steller sea lions. Marine mammals other than harbor seals and Steller sea lions, although observed and recorded, were not specifically targeted by the launch-related aerial surveys. Marine mammal abundance and distribution were recorded during aerial surveys flown in a single-engine fixed-wing airplane with floats. The aerial survey route was designed for harbor seals and Steller sea lions and was flown using a Global Positioning System (GPS) for navigation. All surveys were intended to be flown within two hours of the daytime low tide and during mid-day, when haulout attendance peaks for harbor seals.

The aerial survey schedule during the formal monitoring period consisted of daily surveys one day prior to the launch, immediately following the launch (on the launch day), and each day of the three days following the launch date, weather conditions permitting (NMFS 2008). Two additional surveys were often conducted prior to the formal monitoring period at AAC's discretion. The two additional surveys were conducted to balance the pre-launch sample size with the three post-launch surveys to allow calculation of the variance in pre-launch counts for subsequent statistical analysis. The aerial surveys were flown 1,000 ft above sea level at 80–90 nautical mph and the flight line was kept ≥0.25 mi from known haulouts. Digital photographs of groups of pinnipeds (generally greater than 10 pinnipeds) were taken with a Nikon D70 camera (equipped with a 70 to 300 millimeter zoom lens) or a Canon Powershot S5 camera with image stabilized zoom. Images were reviewed on a personal computer and counts of pinnipeds were summarized from sets of overlapping images. All counts greater than 15 pinnipeds were made from digital images taken from the aircraft, unless the images were blurred or underexposed, in which cases the visual estimates were used.

Foul weather, daylight considerations, launch timing, and timing of tidal flux have all contributed to the difficulty in collecting the data. Foul weather precludes aerial surveys primarily due to visibility, excessive turbulence, and other dangerous conditions. In addition, rockets can often be launched during periods of weather that are not conducive to operation of small aircraft.

Total counts on Ugak Island (both the northern and eastern haulouts combined) have increased steadily and remained stable since the 1990s from several hundred (ENRI 1995–1998) up to a peak of about 1,500 in the last 10 years (R&M 2008). The number of harbor seals tallied at Ugak Island during the July 2008 FTX–03 surveys reached a record for monitoring surveys at 1,534 seals (R&M 2008). Table 5 presents daily counts, by species, of the marine mammals that have been observed during launch-related environmental monitoring activities from 2006–2008. Seal numbers in Table 5 are highest during August and September because they were conducted during the annual molt, when maximal

numbers of harbor seals tend to haulout (Calambokidis *et al.,* 1987).

TABLE 5—MARINE MAMMAL OBSERVATIONS (2006–2008) DURING LAUNCH-RELATED ENVIRONMENTAL MONITORING WITHIN SIX-MI RADIUS STUDY AREA AND ON HAULOUTS ON UGAK ISLAND

Date	Steller sea lion [1]	Harbor seal [2]	Gray whale	Humpback whale	Pre-launch survey (number days pre-launch)	Post-Launch survey (number days post-launch)
2/18/2006		684			Yes (5).	
2/19/2006		519	2		Yes (4).	
2/20/2006		201			Yes (3).	
2/21/2006		405	8		Yes (2).	
2/22/2006		350			Yes (1).	
2/23/2006		211	1			Yes (Same Day).
2/24/2006		270	1			Yes (1).
2/25/2006		58				Yes (2).
8/28/2006	3	495			Yes (3).	
8/29/2006	4	652			Yes (2).	
8/31/2006	[3] 8	901			Yes (1).	
9/1/2006	2	961				Yes (Same Day).
9/2/2006	1	954	2	1		Yes (1).
9/3/2006	1	789		1		Yes (2).
5/23/2007		136	2		Yes (2).	
5/27/2007		402	3			Yes (2).
5/28/2007		224	1			Yes (3).
9/25/2007		381	4		Yes (3).	
9/26/2007	2	265			Yes (2).	
9/27/2007		461	8		Yes (1).	
9/30/2007		686	6			Yes (2).
10/1/2007		748				Yes (3).
7/15/2008	4	700	9		Yes (3).	
7/16/2008	5	611	32		Yes (2).	
7/17/2008	1	853	9		Yes (1).	
7/18/2008	4	840	12			Yes (Same Day).
7/19/2008	4	744	1			Yes (1).
7/20/2008	5	610	5			Yes (2).
7/21/2008	3	1534				Yes (3).
12/7/2008	1	971	5			Yes (2).

Notes:
1. Steller sea lions pup mid-May to mid-July and breed late-May to late-July at rookeries. Molt is late July to early December (Hoover 1988). Haulouts are used for resting. Ugak Island is a haulout not a rookery. The Ugak Haulout has been used in the past between July and October.
2. Harbor seals pup from mid-May to late-June (Jemison and Kelly 2001) and molt from June to October. Both periods contain peaks in haulout attendance.
3. Five individuals observed by aerial survey, eight captured on unmanned video.

During the most effective period of the recent regulations (2011–2016), there were 17 quarterly surveys flown (Table 6). An average of 644 harbor seals was observed with a range of 32 to 1133 seals and standard deviation of 307 seals. From the first quarter of the calendar year through the fourth, the average number of seals was as follows: 441, 698, 608, and 810, respectively (AAC 2016).

TABLE 6—MARINE MAMMAL OBSERVATIONS (2011–2016) DURING LAUNCH-RELATED ENVIRONMENTAL MONITORING WITHIN SIX-MI RADIUS STUDY AREA AND ON HAULOUTS ON UGAK ISLAND

Year	Quarter	Date	Time (local)	Number sea lions	Number harbor seals	Notes
2011	2nd (Apr–Jun)	N/A				Source selection for flights.
2011	3rd (Jul–Sep)	21–Sep–11	1330–1430	19	462	Only sea lion sighting.
2011	4th (Oct–Dec)	5–Dec–11				Postponed twice due to multiple storms.
2012	1st (Jan–Mar)	Mar–12	0930–1030	0	32	Results Typical.
2012	2nd (Apr–Jun)	N/A				Postponed due to storms.
2012	3rd (Jul–Sep)	8–Jul–12	1600–1626	0	747	Results Typical.
2012	4th (Oct–Dec)	20–Oct–12	1200–1330	0	975	Results Typical.
2013	1st (Jan–Mar)	16–Mar–13	1209–1334	0	823	Results Typical.
2013	2nd (Apr–Jun)	16–Jun–13	1342–1408	0	332	Results Typical.
2013	3rd (Jul–Sep)	1–Oct–13	1210–1316	0	955	Results Typical.
2013	4th (Oct–Dec)	14–Nov–13	N/A–N/A	0	847	Results Typical.
2014	1st (Jan–Mar)	21–Jan–14	1115–1230	0	144	Results Typical.
2014	2nd (Apr–Jun)	5–Apr–14	1218–1338	0	1133	Results Typical.
2014	3rd (Jul–Sep)	3–Jul–14	1110–1239	0	513	Results Typical.
2014	4th (Oct–Dec)	30–Oct–14	1100–1207	0	810	Results Typical.

TABLE 6—MARINE MAMMAL OBSERVATIONS (2011–2016) DURING LAUNCH-RELATED ENVIRONMENTAL MONITORING WITHIN SIX-MI RADIUS STUDY AREA AND ON HAULOUTS ON UGAK ISLAND—Continued

Year	Quarter	Date	Time (local)	Number sea lions	Number harbor seals	Notes
2015	1st (Jan–Mar)	26–Jan–15	1100–1200	0	312	Results Typical.
2015	2nd (Apr–Jun)	23–Apr–15	1230–1330	0	631	Results Typical.
2015	3rd (Jul–Sep)	24–Aug–15	1520–1610	0	726	Results Typical.
2015	4th (Oct–Dec)	18–Oct–15	1100–1154	0	609	Results Typical.
2016	1st (Jan–Mar)	21–Mar–16	1100–1200	0	898	Results Typical.

Previous rocket launches did not appear to depress the daily attendance of pinnipeds at haulouts on Ugak Island (Table 7).

TABLE 7—HARBOR SEAL COUNTS PRE- AND POST-LAUNCH

[2006–2008]

Launch name/date	Numbers pre launch	Numbers post launch
FT–04–1 (02/23/06) [1]	[6] 350	[6] 211
FTG–02 (09/01/06) [2]	[7] 901	[7] 961
FTG–03 (05/27/07) [3]	[7 8] 136	[7 8] 402
FTG–03a (09/28/07) [4]	[7] 461	[9] 0
FTX–03 (07/18/08) [5]	[7] 853	[7] 840

1. R&M et al. 2006. Environmental Monitoring Report FT–04–1 Launch. Report for Alaska Aerospace Development Corporation. Anchorage, Alaska. 28pp + Appendices.
2. R&M et al. 2006. Environmental Report FTG–02 Launch. Report for Alaska Aerospace Development Corporation. Anchorage, Alaska. 32pp + Appendices.
3. R&M et al. 2007. Environmental Monitoring Report FTG–03 Launch. Report for Alaska Aerospace Development Corporation. Anchorage, Alaska. 24pp + Appendices.
4. R&M et al. 2007. Environmental Monitoring Report FTG–03a Launch. Report for the Alaska Aerospace Development Corporation. Anchorage, Alaska. 28pp + Appendices.
5. R&M et al. 2008. Environmental Monitoring Report FTX–03 Launch. Report for Alaska Aerospace Development Corporation. Anchorage, Alaska. 29pp + Appendices.
6. Visual count; launch coincided with execution of LOA that requires photographic documentation of seal numbers.
7. Counts from photographs.
8. Data are not representative of launch period. Sole pre-launch survey was done two days prior to launch (weather precluded surveys on launch day), and first post launch survey was done two days after launch due to adverse weather conditions.
9. Survey occurred at high tide when haulouts were flooded.

Analyses and Preliminary Determinations

Negligible Impact Analysis

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.'' A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.,* population-level effects). An estimate of the number of Level B harassment takes alone is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be ''taken'' through behavioral harassment, we consider other factors, such as the likely nature of any responses (*e.g.,* intensity, duration), the context of any responses (*e.g.,* critical reproductive time or location, migration), as well as the number and nature of estimated Level A harassment takes, the number of estimated mortalities, and effects on habitat. In making a negligible impact determination, NMFS considers (and should explicitly address whenever possible) the following:

(1) The number of anticipated injuries, serious injuries, or mortalities;

(2) The number, nature, and intensity, and duration of Level B harassment (all relatively limited);

(3) The context in which the takes occur (*i.e.,* impacts to areas of significance, impacts to local populations, and cumulative impacts when taking into account successive/contemporaneous actions when added to baseline data);

(4) The status of stock or species of marine mammals (*i.e.,* depleted, not depleted, decreasing, increasing, stable, impact relative to the size of the population);

(5) Impacts on habitat affecting rates of recruitment/survival; and

(6) The effectiveness of monitoring and mitigation measures.

For reasons stated previously in this document, the specified activities are not likely to cause long-term behavioral disturbance, abandonment of the haulout area, serious injury, or mortality because:

(1) The possibility of injury, serious injury, or mortality may reasonably be considered discountable;

(2) The effects of the activities are expected to be limited to short-term startle responses and localized behavioral changes;

(3) The considerable evidence, based on over 10 years of monitoring data, suggesting no long-term changes in the use by harbor seal haulouts in the project area as a result of launch operations. Launches will not occur more than a maximum of nine times per year over the next five years. In past years, AAC has conducted zero to two launches on an annual basis. NMFS has analyzed the specified activity to include disturbance events of up to nine launches per year as AAC anticipate the capability to carry out more efficient mission turn-around time over the duration of the proposed regulations;

(4) Based on aerial survey data, the harbor seal population on Ugak Island has increased and is stable. 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 in 2008 (R&M 2007a, 2007b, 2008, 2009). Therefore, NMFS does not believe there would be any long-term impact on the health of the population. Given harbor seals are considered a species that is easily disturbed, their resilience to launch effects suggest impacts from launches are short-term and negligible;

(5) 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 OCS. 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 PSCA would not be expected to cause any impacts to habitats used by marine mammals, including pinniped haulouts, or to their food sources or would impact their survival, and;

(6) 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).

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 time-lapse photography system would be able to detect impacts (takes) from launch exposure, including the number of pinnipeds flushing at the haulout sites, while quarterly aerial surveys would aid in determining long-term trends of pinniped abundance. The proposed monitoring measures contained within this notice are specifically designed to, among other things, determine if Level B Harassment 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 PSCA will have a negligible impact on the affected marine mammal species or stock.

Small Numbers Analysis

The numbers of proposed authorized takes would be considered small relative to the relevant stocks or populations, eight percent for harbor seals. But, it is important to note that the number of expected takes does not necessarily represent of the number of individual animals expected to be taken. Our small numbers analysis accounts for this fact. Multiple exposures to Level B harassment can accrue to the same individuals over the course of an activity that occurs multiple times in the same area (such as AAC's proposed activity). This is especially likely in the case of species that have limited ranges and that have site fidelity to a location within the project area, as is the case with harbor seals.

As described above, harbor seals are non-migratory, rarely traveling more than 50 km from their haulout sites. Thus, while the estimated abundance of the South Kodiak stock of harbor seals is 19,199 (Muto *et al.,* 2015), a substantially smaller number of individual harbor seals is expected to occur within the project area. We expect that, because of harbor seals' site fidelity to locations at Ugak Island, and because of their limited ranges, the same individuals are likely to be taken repeatedly over the course of the proposed activities. Therefore, the number of exposures to Level B harassment over the course of proposed authorization (the total number of takes described in the Estimated Take by Incidental Harassment section) is expected to accrue to a much smaller number of individuals. The maximum number of harbor seals expected to be taken by Level B harassment over the 5-year regulations is 1,575. As we believe the same individuals are likely to be taken repeatedly over the course of the proposed activities, we use the estimate of 1,575 individual animals taken for the purposes of estimating the percentage of the stock abundance likely to be taken.

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, we preliminarily find that small numbers of marine mammals will be taken relative to the populations of the affected species or stocks.

Impact on Availability of Affected Species for Taking for Subsistence Uses

Several communities on Kodiak Island use harbor seals (and Steller sea lions) for subsistence uses. The communities closest to Ugak Island are Old Harbor and Kodiak City; each is over 35 miles from Ugak Island. The Alaska Native Harbor Seal Commission quantified the Kodiak area subsistence take of harbor seals (and Steller sea lions) in a report issued in 2011. Within the last ten years, 2011, 2008, 2007, and 2006 were surveyed. On average, during the years surveyed in the last 10 years, Kodiak city took 35.3 harbor seals and Old Harbor took 35.2 harbor seals annually. Specific locations of take are not mentioned in this document.

Based on the distance from each community and the opportunities closer to each community, either a small fraction of the averages provided, or no take can be estimated from each community. It is possible that some fraction of the average number of harbor seals taken listed above were taken from Ugak Island specifically, but there is no documentation to support that conclusion.

There is no expectation that harbor seals will abandon sealing grounds, based on AAC's launches or the launches at other launch sites (*e.g.,*VAFB). In addition, no permanent barriers will be placed between the subsistence hunter and pinnipeds on Ugak Island. There are temporary closures of Ugak Island for a portion of a 24-hour day during each launch.

AAC will consult (as they have for previous regulations) with the Alaska Native Harbor Seal Commission as well as the Kodiak communities before the issuance of any final regulations to ensure project activities do not impact relevant subsistence uses of marine mammals implicated by this action.

Endangered Species Act

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. NMFS and AAC consulted internally with AKR under the ESA on its proposed issuance of AAC's 2017 MMPA regulations and subsequent LOAs. It was determined that no effect would occur from the proposed activities; therefore, ESA consultation, formal or informal is not required.

National Environmental Policy Act

In 1996, the FAA prepared an EA, and subsequently issued 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 PSCA. 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 Pacific Spaceport Complex Alaska, Kodiak Island, 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. A more recent EA and FONSI was completed in April 2016 that addresses the potential environmental impacts of the proposed action where the FAA would modify the AAC launch site operator license for the PSCA. The EA evaluates the potential environmental impacts of modifying the launch site operator license to include medium-lift launch capability at PSCA with the addition of new infrastructure necessary to support these types of launches, including the construction of a launch pad and associated facilities. NMFS has determined that the proposed action was fully analyzed in the previous NEPA documents, particularly the 2016 EA, and NMFS will adopt the 2016 EA as necessary for the final issuance of the regulations and subsequent LOA(s).

Classification

Pursuant to the procedures established to implement section 6 of Executive Order 12866, the Office of Management and Budget has determined that this proposed rule is not significant.

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. 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 this proposed rule.

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: January 9, 2017.

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.,* unless otherwise noted.

■ 2. Add subpart H to part 217 to read as follows:

Subpart H—Taking of Marine Mammals Incidental to Space Vehicle and Missile Launches at Pacific Spaceport Complex Alaska (PSCA), Alaska by Alaska Aerospace Corporation (AAC).

Sec.

Subpart H—Taking of Marine Mammals Incidental to Space Vehicle and Missile Launches at Pacific Spaceport Complex Alaska (PSCA), Kodiak Island, Alaska by Alaska Aerospace Corporation (AAC).

§ 217.70 Specified activity and specified geographical region.

(a) Regulations in this subpart apply only to the AAC at the PSCA on Kodiak Island, Alaska, and those persons it authorizes to conduct activities on its behalf for the taking of marine mammals that occurs in the area outlined in paragraph (b) of this section and incidental to conducting up to nine space vehicle launches each year from PSCA, for a total of 45 launches over the 5-year period of these regulations.

(b) The incidental take of marine mammals under the activity identified in paragraph (a) of this section is limited to 315 harbor seals (*Phoca vitulina richardii*) of all ages annually (total of 1,575 seals over the 5-year period of these regulations).

§ 217.71 [Reserved]

§ 217.72 Permissible methods of taking.

Under a Letter of Authorization (LOA) issued pursuant to § 216.106 of this chapter and § 217.70, the holder of the LOA (herein after AAC) and its contractors may incidentally, but not intentionally, take harbor seals by Level B harassment 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.

§ 217.73 Prohibitions.

Notwithstanding takings contemplated in § 217.70(b) and authorized by an LOA issued under § 216.106 of this chapter and § 217.76, no person in connection with the activities described in § 217.70 may:

(a) Take any marine mammal not specified in § 217.70(b);

(b) Take any marine mammal specified in § 217.70(b) other than by incidental, unintentional Level B harassment;

(c) Take a marine mammal specified in § 217.70(b) if NMFS determines such taking results in more than a negligible impact on the species or stocks of such marine mammal; or

(d) Violate, or fail to comply with, the terms, conditions, and requirements of this subpart or an LOA issued under § 216.106 of this chapter and § 217.76.

§ 217.74 Mitigation.

(a) When conducting operations identified in § 217.70(a), the mitigation measures contained in the LOA issued under § 216.106 of this chapter and § 217.76 must be implemented. 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. 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 miles (mi) (0.4 kilometer (km)), and will maintain a vertical distance of 1,000 feet (ft) (305 meter (m)) from the haulouts when within 0.5 mi (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) If launch monitoring detects pinniped injury or death, or if long-term trend counts from 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;

(3) AAC will purchase and install time-lapsed photography systems in order to survey each of the three pinniped haulout locations around Ugak Island to confirm the abundance of pinnipeds at the haulouts and allow for the more complete surveying efforts. The number of camera systems, equipment capabilities, placement of the systems to be used, and the daily photo frequency will be determined through a cooperative effort between AAC, NMFS, and field experts;

(4) AAC will conduct a correlation study in coordination with NMFS. The purpose of the study is to evaluate the effectiveness of the time-lapsed photography systems (specifically, the accuracy of the photography systems compared with aerial count surveys). The results of this study will determine the need to continue aerial surveys. The study will be conducted through a minimum of five launches;

(5) All Castor 120 equivalent launches will be conducted at LP1 which is equipped with a concrete and water-filled flame trench. The purpose of the flame trench is to direct smoke away from the launch pad and to absorb light and noise at their, respective peaks (*i.e.* lift-off) to reduce the noise created during each launch; and

(6) Additional mitigation measures as contained in an LOA.

(b) [Reserved]

§ 217.75 Requirements for monitoring and reporting.

(a) Holders of LOAs 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 LOA, the holder of the LOA must notify the Administrator, Alaska Region, NMFS, by letter, email or telephone, at least two weeks prior to each launch. If the authorized activity identified in § 217.70(a) is thought to have resulted in the mortality or injury of any marine mammals or take of marine mammals not identified in § 217.70(b), then the holder of the LOA must notify the Director, Office of Protected Resources, NMFS, or designee, by telephone (301–427–8401), within 48 hours of the injury or death.

(b) Holders of LOAs must designate qualified, on-site individuals approved in advance by NMFS, as specified in the LOA, to:

(1) Deploy for AAC, time-lapsed photography systems designed to monitor pinniped abundance and detect pinniped responses to rocket launches conducted under these regulations. AAC will monitor the effectiveness of these systems, comparing the results to aerial surveys from at least five launches;

(2) Ensure the time-lapsed photography systems will be in place and operating in locations that allow for visual monitoring of all three pinniped haulouts during launches.

(3) Relocate the time-lapsed photography systems in cooperation with NMFS after five launches if the system is not accurately capturing all three pinniped haulouts and total pinniped abundance during the launches;

(4) Review and log pinniped presence, abundance, behavior, and re-occupation time from the data obtained from the time-lapsed photography systems and report results to NMFS within 90 days of the first five launches under this system;

(5) Conduct one pre-launch aerial survey and one post-launch aerial survey for each launch. AAC will conduct a minimum of one aerial survey annually (in the event no launch occurs during a calendar year); and

(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 annual report required under paragraph (e) of this section.

(c) Holders of LOAs must conduct additional monitoring as required under an LOA.

(d) Holders of an LOA 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 the time-lapsed photography systems;

(3) Design of the monitoring program for the time-lapsed photography systems and a description of how data is stored and analyzed; and

(4) Results of the monitoring program for the time-lapsed photography

systems, including, but not necessarily limited to:

(i) Numbers of pinnipeds, by species and age class (if possible), present on the haulout 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.

(e) An annual report must be submitted on March 1 of each year that will include results of the aerial quarterly trend counts of pinnipeds and comparison of the results using the time-lapsed photography systems on Ugak Island. Future aerial surveys may be reduced if the time-lapsed photography systems capture similar or better data than aerial surveys.

(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;

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

(4) State the date(s), location(s), and findings of any research activities related to monitoring using time-lapsed photography systems on marine mammal populations.

§ 217.76 Letter of Authorization.

(a) To incidentally take marine mammals pursuant to these regulations, AAC must apply for and obtain an LOA.

(b) An LOA, unless suspended or revoked, may be effective for a period of time not to exceed the expiration date of these regulations.

(c) If an LOA expires prior to the expiration date of these regulations, AAC must apply for and obtain a renewal of the LOA.

(d) In the event of projected changes to the activity or to mitigation and monitoring measures required by an LOA, AAC must apply for and obtain a modification of the LOA as described in § 217.77.

(e) The LOA 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) Means of effecting the least practicable adverse impact (*i.e.,* mitigation) on the species of marine mammals authorized for taking, its habitat, and on the availability of the species for subsistence uses; and

(4) Requirements for monitoring and reporting.

(f) Issuance of an LOA shall be based on a determination that the level of taking will be consistent with the findings made for the total taking allowable under these regulations.

(g) Notice of issuance or denial of an LOA will be published in the **Federal Register** within 30 days of a determination.

§ 217.77 Renewal of a Letter of Authorization.

(a) An LOA issued under § 216.106 of this chapter and § 217.76 for the activity identified in § 217.70(a) will be renewed or modified upon request by the applicant, provided that:

(1) The proposed specified activity and mitigation, monitoring, and reporting measures, as well as the anticipated impacts, are the same as those described and analyzed for these regulations (excluding changes made pursuant to the adaptive management provision in § 217.77(c)(1)), and

(2) NMFS determines that the mitigation, monitoring, and reporting measures required by the previous LOA under these regulations were implemented.

(b) For an LOA modification or renewal requests by the applicant that include changes to the activity or the mitigation, monitoring, or reporting (excluding changes made pursuant to the adaptive management provision in § 217.77(c)(1)) that do not change the findings made for the regulations or result in no more than a minor change in the total estimated number of takes (or distribution by species or years), NMFS may publish a notice of proposed LOA in the **Federal Register**, including the associated analysis illustrating the change, and solicit public comment before issuing the LOA.

(c) An LOA issued under § 216.106 of this chapter and § 217.76 for the activity identified in § 217.70(a) may be modified by NMFS under the following circumstances:

(1) Adaptive Management—NMFS may modify (including augment) the existing mitigation, monitoring, or reporting measures (after consulting with AAC regarding the practicability of the modifications) if doing so creates a reasonable likelihood of more effectively accomplishing the goals of the mitigation and monitoring set forth in the preamble for these regulations:

(i) Possible sources of data that could contribute to the decision to modify the mitigation, monitoring, or reporting measures in an LOA:

(A) Results from AAC's monitoring from the previous year(s);

(B) Results from other marine mammal and/or sound research or studies; and

(C) Any information that reveals marine mammals may have been taken in a manner, extent or number not authorized by these regulations or subsequent LOAs.

(ii) If, through adaptive management, the modifications to the mitigation, monitoring, or reporting measures are substantial, NMFS will publish a notice of proposed LOA in the **Federal Register** and solicit public comment.

(2) Emergencies—If NMFS 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) and 217.72(a), an LOA may be modified without prior notice or opportunity for public comment. Notice would be published in the **Federal Register** within 30 days of the action.

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 648

[Docket No.: 161118999–7008–01]

RIN 0648–BG46

Fisheries of the Northeastern United States; Atlantic Sea Scallop Fishery; Framework Adjustment 28

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

ACTION: Proposed rule; request for comments.

SUMMARY: NMFS proposes to approve and implement measures included in Framework Adjustment 28 to the Atlantic Sea Scallop Fishery Management Plan, which the New England Fishery Management Council adopted and submitted to NMFS for approval. The purpose of Framework 28