



MARINE MAMMAL COMMISSION

15 November 2017

Ms. Jolie Harrison, Chief
Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225

Dear Ms. Harrison:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the application submitted by Space Explorations Technology Corporation (SpaceX) under section 101(a)(5)(D) of the Marine Mammal Protection Act (the MMPA). SpaceX is proposing to take marine mammals by harassment incidental to conducting rocket recovery activities at Vandenberg Air Force Base (VAFB) in California during a one-year period. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 25 October 2017 notice (81 Fed. Reg. 49332) announcing receipt of the application and proposing to issue the authorization, subject to certain conditions. The rocket launches are covered under regulations issued to the U.S. Air Force (USAF), which expire in March 2019. This will be the second authorization for boost-back activities.

SpaceX proposes to conduct boost backs and landings of the Falcon 9 rocket at VAFB and on a barge 50 km offshore. Up to 12 rocket recovery activities would occur per year at any time of day. The main source of disturbance is from the sonic boom of the rocket descending back to earth during boost back. Given that boost-back activities occur shortly after the rocket is launched and launch activities are covered under the USAF's final rule, the Commission is unsure why NMFS did not propose to amend the rule to include the boost-back activities rather than to authorize those activities under a separate incidental harassment authorization, which essentially segments the activity. The Commission included a similar recommendation in [its 21 April 2016 letter](#) regarding the 2016 authorization. However, NMFS did not address that recommendation when it issued last year's authorization (81 Fed. Reg. 34984). Therefore, the Commission again recommends that NMFS include boost-back activities via a proposed amendment to USAF's final rule rather than authorizing those activities in separate incidental harassment authorizations until the rule would expire in 2019 and, at the very least, include boost-back activities in the future proposed rule that will cover all other rocket activities conducted by USAF beginning in 2019.

NMFS preliminarily has determined that, at most, the proposed activities would result in the temporary modification of the behavior of six pinniped species¹. It also anticipates that any impact on the affected species and stocks would be negligible. NMFS does not anticipate any take of marine

¹ The Commission informally noted an error in the estimation of Level B harassment takes for California sea lions. NMFS plans to reduce the numbers of takes accordingly in the final authorization.

mammals by death or serious injury and believes that the potential for disturbance will be at the least practicable level because of the proposed mitigation measures. The mitigation, monitoring, and reporting measures include—

- avoiding, whenever practicable, boost-back activities during the harbor seal pupping season of March through June, unless constrained by human safety or national security;
- conducting in-situ acoustic measurements of sonic booms resulting from the boost-back activities;
- using qualified observers to monitor pinniped activity at VAFB, if it is determined by modeling that a sonic boom of greater than 1.0 pounds per square foot (psf) could occur— including new northern elephant seal pupping location(s) at VAFB during the pupping season², when practicable;
- using qualified observers to monitor haul-out sites closest to the predicted sonic boom impact area on the Northern Channel Islands (NCI), if it is determined by modeling that a sonic boom of greater than (1) 1 psf is predicted to impact one of the Islands between March 1 and June 30, (2) 1.5 psf between July 1 and September 30, and (3) 2 psf between October 1 and February 28;
- using qualified observers to monitor (1) all pinniped activity for at least 72 hours before and 48 hours after any planned boost-back activities and (2) harbor seal activity within 2 weeks of boost-back activities during the pupping season;
- supplementing observations at VAFB and on NCI with time-lapse photography or videotaping of pinniped responses to boost-back activities;
- reporting injured and dead marine mammals to the Office of Protected Resources and the West Coast Regional Stranding Coordinator using NMFS's phased approach and suspending activities, if appropriate; and
- submitting an annual report.

The Commission recommends that NMFS issue the incidental harassment authorization, subject to inclusion of the proposed mitigation, monitoring, and reporting measures.

Please contact me if you have questions concerning the Commission's recommendations.

Sincerely,

A handwritten signature in blue ink that reads "Rebecca J. Lent". The signature is written in a cursive style with a large initial "R".

Rebecca J. Lent, Ph.D.,
Executive Director

² January through February.