



MARINE MAMMAL COMMISSION

21 April 2016

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) 31 March 2016 notice (81 Fed. Reg. 18574) 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 (the Air Force), which expire in March 2019.

SpaceX proposes to conduct boost backs and landings of the Falcon 9 rocket¹ at VAFB and on a barge 50 km offshore beginning in June 2016. Up to six 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 Air Force'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. That amendment could have been minor in nature² if the proposed numbers of species-specific takes from the boost-back activities were the same or less than those already authorized for the launches³. Further, the Commission understands that NMFS plans to request comments on amending the Air Force's final rule via a major amendment in the coming months and recommends that NMFS include boost-back activities in that proposed amendment to the rule rather than authorizing those activities in separate incidental harassment authorizations until the rule would expire in 2019.

NMFS preliminarily has determined that, at most, the proposed activities would result in the temporary modification of the behavior of harbor seals, California sea lions, northern elephant seals,

¹ Which transports satellites and spacecraft into orbit.

² Thus, it may not have necessitated a public comment period.

³ Given that an individual is only considered taken once in a given day.

Steller sea lions, northern fur seals, and Guadalupe fur seals⁴. It also anticipates that any impact on the affected species and stocks would be negligible. NMFS does not anticipate any take of marine 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 possible, boost-back activities during the harbor seal pupping season of March through June, unless constrained by factors including, but not limited to, 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;
- 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 concurs with NMFS's preliminary finding and therefore 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 recommendation.

Sincerely,



Rebecca J. Lent, Ph.D.
Executive Director

⁴ The Commission understands NMFS miscalculated the number of Guadalupe fur seal takes and plans to reduce them from 18 to 6.