

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

NOTICE (97-ARC-01)

National Environmental Policy Act; Lunar Prospector Mission

AGENCY: National Aeronautics and Space Administration (NASA)

ACTION: Finding of no significant impact (FONSI)

SUMMARY: Pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S. C. 4321 *et seq.*), the Council on Environmental Quality (CEQ) Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508), and NASA's policies and procedures for implementing NEPA (14 CFR Subpart 1216.3), NASA has made a finding of no significant impact (FONSI) with respect to the launch of the Lunar Prospector spacecraft from Spaceport Florida at Cape Canaveral Air Station, Florida. The earliest planned launch date is September 24, 1997.

DATE: Comments on the FONSI must be provided in writing and received by NASA on or before August 15, 1997.

ADDRESSES: Written comments should be addressed to Ms. Sandy Olliges, NASA Ames Research Center, Office of Safety, Health and Environmental Services, Mail Stop 218-1, Moffett Field, California 94035-1000. The Environmental Assessment (EA) prepared for the Lunar Prospector mission which supports this FONSI may be reviewed at the following locations:

- (a) NASA Headquarters, Library, Room 1J20, 300 E Street, SW, Washington, DC 20546.
- (b) Spaceport USA, Room 2001, John F. Kennedy Space Center, Florida 32899 (407-867-2468).
- (c) NASA Ames Research Center, Moffett Field, CA 94035 (415-604-0761).
- (d) Central Brevard Library and Reference Center, 308 Forest Avenue, Cocoa, Florida 32922.
- (e) Eau Gallie Library, 1521 Pineapple Avenue, Melbourne, Florida 32935.
- (f) Melbourne Library, 540 East Fee Avenue, Melbourne, Florida 32901.
- (g) Port St. John Library, 6500 Carole Avenue, Cocoa, Florida 32927.
- (h) North Brevard Library, 2121 South Hopkins Avenue, Titusville, Florida 32780.
- (i) Cocoa Beach Library, 55 South Brevard Avenue, Cocoa Beach, Florida 32931.

FOR FURTHER INFORMATION CONTACT: Sandy Olliges, 415-604-3355.

SUPPLEMENTARY INFORMATION: NASA has reviewed the EA prepared for the Lunar Prospector Mission and determined that it represents an adequate and accurate analysis of the alternatives and the scope and level of associated environmental impacts. The EA is incorporated by reference in this FONSI.

Lunar Prospector is part of the Discovery Program designed to maintain the United States' lead in the scientific investigation of the solar system. Selection of the Lunar Prospector (LP) mission was based on technological readiness, launch opportunities, rapidity of data return, and a balance of scientific disciplines. The LP mission objectives are 1) demonstrate the feasibility of small, short development time, inexpensive, high science value missions; 2) search for lunar resources; and 3) provide an accurate gravity model of the moon. Successful completion of these objectives would help pave the way for future lunar exploration.

The spacecraft contains no hazardous materials except for hydrazine (for trajectory and attitude adjustment). There are two ionizing radiation sources with a total of 20 microcuries of nickel-63 associated with the launch vehicle flight termination system.

The proposed action is to launch the LP spacecraft from Space Port Florida at Cape Canaveral Air Station (CCAS), Florida. Elements of the launch vehicle and the spacecraft would be shipped across the United States to CCAS and adjacent facilities. The flight hardware would be checked out and integrated at Astrotech Space Operations, Titusville, Florida. The payload assembly would be transferred to Spaceport Florida for stacking on a Lockheed Martin Launch Vehicle 2 (LMLV2) for launch. The LMLV2, consisting of two Castor 120 solid rocket motor stages, an Orbus 21 solid rocket motor, and a hydrazine propelled liquid stage, would be stacked on the launch pad of Spaceport Florida. Operations completed at the launch site would include mating of the encapsulated payload assembly to the launch vehicle, ordnance installation, and check-out.

Alternative 1 would be utilization of alternate launch vehicles designed to launch heavier payloads.

Alternative 2 would be No Action, with termination of the LP mission resulting in the potential loss of scientific knowledge that could lead to technological advances, and possibly human exploration of other worlds.

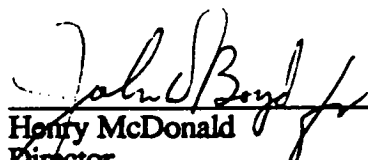
Of the two launch alternatives, the proposed action will produce the lesser environmental impacts while satisfying minimum launch energy, and is more cost effective. Implementation of Alternative 1 would produce more impacts to air quality, because larger motors would be used. The No Action alternative would produce no environmental impacts.

Impacts from the launch would be minor for the proposed action because the LMLV2 and quantity of propellants is substantially smaller than those of other existing launch vehicles that satisfy minimum launch energy requirements. Each of the three launch vehicles currently used at CCAS (Titan, Atlas, and Delta) have recently been evaluated for potential environmental impacts. The findings of these evaluations have been documented in EAs resulting in FONSI's.

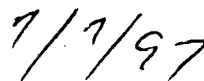
Federal agency activities that affect Florida's coastal zone are required by Section 307 of the Coastal Zone Management Act of 1972 (CZMA), 16 U.S. C. Section 1456 (c), and implementing regulations, 15 CFR Part 930, to be consistent with Florida's Coastal Management Program (FCMP). Under Florida's Statutes (Chapter 380.23), only those federal activities that significantly affect Florida's Coastal Zone will be evaluated for consistency with the FCMP. Since this proposed action is not expected to have any significant offsite effects, it has been judged to be consistent with the Coastal Zone Management Program.

Expected impacts to the human environment associated with the mission arise almost entirely from the normal launch of the LMLV2. Air emissions from the exhaust produced by the solid propellant include hydrogen chloride, carbon monoxide, and aluminum oxide. Air impacts will be short-term and not substantial. Short-term water quality and noise impacts, as well as short-term effects on wetlands, plants, and animals, may occur in the vicinity of the launch complex. These short-term impacts are of a nature to be self-correcting, and none of these effects would be substantial. There would be no impact on threatened or endangered species or critical habitat, cultural resources, or floodplains. Accident scenarios have also been addressed.

On the basis of (1) the analyses performed in support of the EA and (2) reference material used in the investigation, NASA has concluded that implementation of the proposed action will not individually or cumulatively have a significant impact on the quality of the environment. Therefore, the preparation of an Environmental Impact Statement is not required. NASA will take no final action or authorize construction activities prior to 30 days following the publication of the notice of this finding of no significant impact.



Henry McDonald
Director
Ames Research Center



Date