

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)
ENVIRONMENTAL ASSESSMENT
SPACE TEST EXPERIMENTS PLATFORM MISSION 3
VANDENBERG AIR FORCE BASE, CALIFORNIA**

NAME OF THE ACTION: Space Test Experiments Platform (STEP) Mission 3 (M3) Program, Vandenberg Air Force Base (VAFB), California

AGENCY: United States Air Force (USAF), Headquarters Space and Missile Systems Center (HQ SMC), Environmental Management Division (CEV)

COOPERATING AGENCY: Department of Defense (DOD) Space Test Program (STP)

BACKGROUND: Pursuant to the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations implementing the Act (40 CFR Parts 1500-1508), DOD Directive 6050.1, Air Force Regulation 19-2, which implements these regulations in the Environmental Impact Analysis Process (EIAP), and other applicable federal and local regulations, the USAF has conducted an assessment of the potential environmental consequences of the proposed implementation of the STEP M3 Program and alternatives.

DESCRIPTION OF PROPOSED ACTION: The DOD STP proposes to launch the STEP M3 spacecraft from VAFB, California. The proposed action includes ground processing and launch of the STEP M3 at VAFB, on-orbit operation of the satellite, and orbital decay and reentry.

The STEP M3 program would include the use of three existing facilities on North VAFB for processing and launch: Building 1555 (Vehicle Integration Facility) for mission processing, the Pegasus Hot Pad Loading Area, and the airfield. The Air Force Small Launch Vehicle (AFSLV), known commercially as the Pegasus XL would launch the STEP M3. The AFSLV would be carried aloft by an Orbital Sciences Corporation (OSC)-modified Lockheed L-1011 passenger aircraft, which would take off from the existing airfield on North VAFB. An F-16 chase aircraft, originating from Edwards Air Force Base, California, would be used for visual observations. The payload for this fourth STEP mission consists of five DOD experiments, pertaining to long-term exposure to the space environment and space structure technology. These experiments will be flown in a 70° inclined circular orbit, in order to allow coordination between spacecraft receivers and ground transmitters. There would be no on-board propulsion system. Existing USAF remote tracking stations around the world would be used to gather data from the satellite. STEP M3 has a planned operational life of 1 year, with a 3-year goal. At the end of its operational life, the orbit would decay, and the satellite would re-enter the atmosphere.

The standard Pegasus launch vehicle and associated activities for placing the satellites in orbit have been evaluated in the AFSLV Environmental Assessment (EA) (May 1991) and the Pegasus EA (October 1989). The launch vehicle processing and integration facilities (Building 1555 and Hot Pad Loading Area) at VAFB were previously evaluated in the OSC Commercial Launch Services Program EA (March 1993) and the STEP Mission 1 EA (January 1994). A

FONSI was approved for each of these actions. The EA for the proposed action updates and supplements the evaluation in these previous documents as necessary to complete the environmental analysis.

ALTERNATIVES TO THE PROPOSED ACTION: HQ SMC considered alternatives to the proposed action. There are no other available launch vehicles or combinations of systems in the U.S. inventory that can fulfill mission requirements of the STEP M3. Existing Titan, Atlas and Delta launch vehicles have limited payload opportunities and would place small payloads in suboptimum orbits with larger payloads, adding unacceptable risk of interference with other payloads. Use of other launch sites would not meet the STEP M3 inclination requirements. The no action alternative would not allow DOD to fulfill the mission requirement and thereby obtain the data required to accomplish the mission. Nevertheless, the no action alternative was analyzed in this EA as an alternative to the proposed action.

SUMMARY OF ENVIRONMENTAL EFFECTS: The EA evaluated the environmental impacts with regard to the STEP M3 ground processing and launch at VAFB, on-orbit operation, and orbital decay and reentry. The following environmental areas were assessed for environmental effects in this EA: air quality, global climate change and stratospheric ozone depletion, waste management, energy, space debris, and safety and risk. Air pollutant emissions are minor in quantity, and do not exceed the base aggregate limit. The emissions of greenhouse and ozone-depleting compounds from the proposed action will not significantly increase the atmospheric concentrations of these compounds. Minimal amounts of hazardous and nonhazardous waste will be generated during satellite processing, which can be accommodated by existing VAFB waste management practices. Energy requirements of the STEP M3 are insignificant, and can readily be obtained from local supplies. The probability of personal injury or property damage from space debris is so low that the hazard is taken as part of the accepted risk for the program. Safety and risk concerns were identified in planning for the STEP M3, and safety procedures were incorporated into mission procedures. Final risk levels are considered acceptable. Minor issue areas of noise, public services, utilities, transportation, socioeconomics, hydrology and water quality, natural resources, and visual resources were evaluated in the STEP Mission 1 EA, and were found not to be adversely affected. The proposed action does not differ from the STEP M1 program in any way that may result in additional, or previously unrecognized, impacts in these resource areas. Therefore, they have not been re-evaluated in this EA. Because the proposed action does not include the construction of any new ground facilities, biological resources, cultural resources, coastal resources, and soils and geology have not been evaluated in this EA. No mitigation measures are required for the proposed action. No permits will be required for the proposed action.

CONCLUSIONS: THE ANALYSIS SUMMARIZED ABOVE INDICATES NO SIGNIFICANT IMPACT WILL RESULT FROM THE PROPOSED ACTION, AND A FINDING OF NO SIGNIFICANT IMPACT (FONSI) IS MADE.

POINT OF CONTACT: A copy of the STEP M3 FONSI and EA, 1 September, 1994, may be obtained from, or comments on these documents may be submitted to:

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APPROVED:
HQ SMC Environmental Protection Committee



EUGENE L. TATTINI

Brigadier General, USAF
Chairperson, Environmental Protection Committee

**FINDING OF NO SIGNIFICANT IMPACT
CONCURRENCE PAGE**


Space Test Experiments Platform Mission 3
Vandenberg Air Force Base, California

September 1994

I concur with the Finding of No Significant Impact (FONSI):

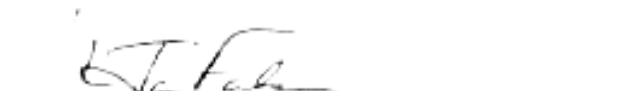
Environmental Protection Committee Approval:

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ALEXANDER A. ABELA, Colonel, USAF
Chairman, Environmental Protection Committee
Vandenberg AFB, CA


11 Oct 94
Date

Judge Advocate Approval:


W. JAN FABER, Lt Col, USAF
Staff Judge Advocate, 30 SW/JA
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Organization Approval:


LOUIS D. VAN MULLEM, JR., Colonel, USAF
Chief, Environmental Management
Vandenberg AFB, CA

7 Oct 94
Date