

FINDING OF NO SIGNIFICANT IMPACT
ENVIRONMENTAL ASSESSMENT FOR
NAVSTAR GLOBAL POSITIONING SYSTEM, BLOCK IIR
AND MEDIUM LAUNCH VEHICLE III
CAPE CANAVERAL AIR STATION, FLORIDA

Agency: United States Air Force (USAF), Headquarters Space and Missile Systems Center (HQ SMC), Air Force Materiel Command

Cooperating Agency: Air Force Space Command

Background: Pursuant to the National Environmental Policy Act, the Council on Environmental Quality regulations implementing the Act (40 CFR 1500-1508), Department of Defense Directive 6050.1, Air Force Regulation 19-2, which implements these regulations in the Environmental Impact Analysis Process (EIAP), Air Force Regulation 19-9 regarding interagency coordination, and other applicable federal and local regulations, the US Air Force has conducted an assessment of the potential environmental consequences of the NAVSTAR Global Positioning System (GPS) Block IIR satellite constellation and the Medium Launch Vehicle III (MLV III) program.

Proposed Action: The Air Force proposes to transport, process, launch, operate, and ultimately dispose of 21 NAVSTAR GPS Block IIR Space Vehicles (SV) using the 21 Delta II Launch Vehicles (LV) proposed for acquisition under the MLV III program from Cape Canaveral Air Station (AS), Florida. The Block IIR SVs will replenish the current Block II/IIA SVs as their operational life ends.

Alternatives: HQ SMC considered three alternatives to the proposed action which have been excluded from further consideration: processing and launch from Vandenberg Air Force Base (AFB), California, use of the Space Shuttle as a launch vehicle, and use of the current Block II/IIA SV design. Launch of NAVSTAR GPS SVs from Vandenberg AFB would require a launch path over populated areas, with unmitigable safety concerns. The space shuttle could not support the launch schedule for the NAVSTAR GPS program. The Block II/IIA SV design does not meet current mission requirements. The use of the Atlas II as an alternative LV was considered along with the no action alternative.

Summary of Findings: The environmental assessment evaluated the environmental impacts with regard to processing, launching, operation, and disposal. The potential environmental effects of the programs were assessed for the most affected environmental issues among the following components: air quality (including stratospheric ozone), hazardous materials, hazardous waste, solid waste, pollution prevention, nonionizing radiation, ionizing radiation, water quality, biological communities, cultural resources, noise, socioeconomics, orbital debris, and safety. A summary of findings is presented below.

Air Quality: Operations will be conducted in accordance with applicable air quality permits and regulations, minimizing potential air quality impacts. Stratospheric ozone will not be significantly affected by the proposed action.

Hazardous Materials: Use of hazardous materials will be in accordance with federal, state, local, and 45th Space Wing (45 SW) regulations and safety plans, which will minimize potential impacts. Contractors and programs at Cape Canaveral Air Station must provide material safety data sheets for all hazardous materials to 45 CES/CEV and 45 MDG/SGPB.

Hazardous Waste: Prelaunch processing will generate an estimated 12,815 pounds of hazardous waste per year, which is approximately 3.1 percent of the hazardous waste produced at Cape Canaveral AS. With the termination of the NAVSTAR GPS Block II/IIA program, net hazardous waste generation will actually decrease by 540 pounds per year. All hazardous and regulated wastes will be managed and disposed of in accordance with applicable federal, state, local, and Air Force regulations, as well as 45th Space Wing management plans.

Solid Waste: Prelaunch processing and program operations will produce an estimated 125.3 tons of solid waste per year, which is approximately 4.2 percent of the solid waste produced at Cape Canaveral AS in 1992. With the termination of the NAVSTAR GPS Block II/IIA program, net solid waste generation will actually decrease by 30.9 tons per year.

Pollution Prevention: The proposed action will comply with the Pollution Prevention Management Plan (PPMP) that will be developed by Cape Canaveral AS. Compliance with the PPMP will minimize pollution and meet the regulatory requirements relative to pollution prevention.

Nonionizing Radiation: Safety features including enclosure of SV and LV radio antennas with radiation shields during testing and operation of ground antennas in accordance with radiation restrictions will reduce nonionizing radiation to safe levels.

Ionizing Radiation: The potential dose of radiation from the rubidium in the atomic clock on a NAVSTAR GPS SV (5×10^{-5} millirems/year) is substantially less than the maximum dose under federal regulations for unrestricted areas (500 millirems/year).

Water Quality: Compliance with wastewater discharge permits will minimize impacts on water quality. Launch cloud emissions will not adversely impact water quality.

Biological Communities: The proposed action will utilize existing facilities engaged in activities similar to the proposed action and will not affect existing biological communities or any habitat that would have been utilized by threatened or endangered species beyond current operational impacts.

Cultural Resources: No facility renovations or construction is proposed which would affect any properties eligible for the National Register of Historic Places or archaeological resources.

Noise: Prelaunch processing operations will not produce hazardous noise levels. Safety precautions will assure that launches will not expose personnel or the public to hazardous noise levels in excess of 140 dB impulse noise or 115 dBA averaged over 15 minutes. The noise level at 1,500 feet from a launch is 132 dB, or 120 dBA, occurring for approximately two minutes. Harm to threatened and endangered species from these noise levels is not anticipated.

Socioeconomics: Approximately 220 personnel that are already employed at Cape Canaveral AS will be used in support of the proposed action, representing approximately 2.9 percent of the Cape Canaveral AS work force.

Utilities: Utility usage will be essentially unchanged from current consumption.

Orbital Debris: NAVSTAR GPS SVs will operate in Medium Earth Orbit (MEO), which is not widely used. To minimize orbital debris, sufficient fuel will be reserved to move each SV to an unused disposal orbit and to orient the SV to minimize the possibility of battery explosions. For the near-term, this method of disposal will minimize impacts of orbital debris. The third stage of the LVs will increase the number of cataloged objects in MEO by 3.1 percent, but will reenter within an estimated 70 years.

Safety: Processing, launching, operation, and disposal operations in accordance with applicable federal, state, local, and 45 SW safety plans and regulations will minimize risk.

Overseas Stations: Operation of the Diego Garcia, Kwajalein Atoll, and Kaena Point GPS stations in support of the NAVSTAR GPS IIR SVs will not affect existing baseline environmental conditions.

Conclusion: Based on this environmental assessment, it is concluded that the proposed action will not result in significant environmental impacts or cause significant cumulative impacts with other programs, and an environmental impact statement is not required.

Permits: A review of the regulatory requirements indicated that no additional federal, state, or local permits will be required for the proposed action.

Point of Contact: A copy of the "NAVSTAR Global Positioning System, Block IIR and Medium Launch Vehicle III Finding of No Significant Impact and Environmental Assessment," November 1994, may be obtained from, or comments on these documents may be submitted to:

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