

FINDING OF NO SIGNIFICANT IMPACT (FONSI)  
MEDIUM LAUNCH VEHICLE II PROGRAM  
CAPE CANAVERAL AFS, FLORIDA

1. PROPOSED ACTION

The proposed action is the modification of Launch Complex 36 (LC 36), pads A and B, and the Industrial Area complex at Cape Canaveral AFS (CCAFS), Florida, to support eleven launches of Atlas II space vehicles from 1991 through 1994. The launches will place ten Department of Defense "Defense System Communications Satellites" (DSCS) and one Space Test Program (STP) satellite in orbit. A maximum of ten launches per year from LC 36 are possible, including up to four military launches and six commercial launches by General Dynamics' Space Systems Division. The commercial launches will be carried out subsequent to licensing under the Commercial Space Act of 1984. The project is necessary to decrease the backlog of DSCS satellites which were removed from the U.S. Space Shuttle manifest in 1986. Alternatives to the proposed action that were considered by the USAF included no action, alternative sites, and alternative launch vehicles. Alternatives were eliminated from detailed consideration in this environmental assessment (EA) because they were incapable of meeting the mission requirements of the MLV II program.

CCAFS is located along the eastern coast of Florida near the city of Cocoa Beach in Brevard County. It occupies approximately 15,800 acres (25 sq. mi.) of the barrier island that contains Cape Canaveral; it is bounded on the east by the Atlantic Ocean and on the west by the Banana River. LC 36 is located at the easternmost apex of the triangular mass of land that comprises CCAFS.

2. SUMMARY OF ENVIRONMENTAL IMPACTS

Air Quality

The air quality impacts from the processing and launch of the Atlas II vehicle would be insignificant because of the relatively innocuous nature of the propellants [RP-1 (kerosene) and liquid oxygen] and the primary combustion

products [hydrogen ( $H_2$ ), oxygen ( $O_2$ ), water ( $H_2O$ ), carbon dioxide ( $CO_2$ ) and carbon monoxide ( $CO$ )]. The only combustion product of concern would be  $CO$ . However, in the lower atmosphere, rapid oxidation would convert most of the  $CO$  to carbon dioxide ( $CO_2$ ) within few seconds after emission. During construction, insignificant amounts of air emissions and volatile organic compounds will be generated because of the relatively small scale of construction and modification activities. Emissions during launch processing activities will be insignificant because of the relatively small amounts of monomethylhydrazine (MMH) and hydrazine ( $N_2O_4$ ) used and the strict operational safety guidelines used. Thus, no significant air quality impacts would be expected from a normal launch.

#### Water Quality

Surface water impacts would not be significant. During periods of precipitation, surface runoff would accumulate sediment from disturbed areas. The runoff, however, would discharge to storm drains in paved areas and would infiltrate rapidly ( $>20$  in/hr) to groundwater in unpaved areas.

Discharge from the holding ponds that contain spent deluge water after each launch would be directed into earthen swales. The swales lead to a culvert that connects to a 5-acre wetland area outside the exclusion fence between Launch Complexes 36 A and B. No surface water impacts are expected because gate valves will be installed at the culvert which leads to the wetland to prevent the runoff from reaching the wetland.

Uncontained deluge water would infiltrate to the unconfined aquifer from the unpaved areas around the launch complex and from deluge water discharge to the wetland adjacent to the site. The deluge water discharge has been analyzed following previous launches and has not shown concentrations of chemical constituents in excess of Florida's water quality standards, with the exception of iron. An application for an industrial waste water discharge permit has been submitted to the Florida Department of Environmental Regulation.

### Noise

Noise levels during the launch of MLV-1I vehicles would be expected to reach a peak of 93 dBA at a distance of 3.1 miles from the launch site. Lower noise levels will be experienced in areas outside of CCAFS. The nearest off-base land area is about 5 miles south of LC 36. The noise from launch vehicles is normally perceived in surrounding communities as a rumble in the distance. The noise, at worst, would be considered an infrequent nuisance as opposed to a health hazard. Sonic booms, which are generated during lift-off of the vehicle and reentry of spent stages, would occur over the open ocean and would not impact developed areas.

### Ecology

Limited freshwater habitat exists on CCAFS and only a few freshwater fish species, which are characteristic of harsh environments, inhabit the area. No threatened or endangered fish or aquatic invertebrate species have been identified in the water bodies near the site. Because no adverse impacts to surface water quality are expected and because no construction is planned to occur in the wetland, aquatic biota at the launch site would not be affected.

Construction activities would be restricted to previously disturbed areas of LC 36 and the Industrial Area, therefore no plant and animal habitats would be destroyed, and no significant impacts on biota would occur. Atmospheric emissions during processing and launch and deluge water discharge would not contain toxic substances that would be damaging to vegetation or wildlife habitat. Noise levels during launch could result in some hearing loss among wildlife, increasing their susceptibility to predation; however, population levels would not be expected to decline significantly.

Threatened and endangered species, with the possible exception of three species of sea turtles, would not be significantly affected by the proposed project, because no loss of habitat would occur. However, illumination of the

LC 36 launch pads at night, for security reasons, could affect sea turtle hatchings. The hatchings have been observed to be attracted inland by artificial lighting near other launch complexes adjacent to the beach, whereupon they experienced increased mortality due to desiccation and predation. Consultation by the USAF with the U.S. Fish and Wildlife Service (USFWS) is underway regarding the activities at CCAFS (including LC 36) and their potential to exacerbate the sea turtle issue. Informal consultation between the USAF and USFWS has indicated that mitigation measures can be employed which will avoid a potential taking in violation of Section 9 of the Endangered Species Act. The Air Force will undertake all mitigation measures committed to in the mitigation plan to be completed prior to the operation of LC 36. USFWS agrees in principle with the USAF's proposed measures to mitigate any adverse effects on the endangered turtles from the operation at LC 36. Formal Biological Consultation will occur once a Light Management Plan is prepared by the USAF and submitted to the USFWS. This will occur before the incoming turtle hatch season.

#### Socioeconomics

Project employment would have a negligible impact on the local population, economy, and other community resources during both construction and operation. Because construction workers would be hired from the local labor pool, no significant impacts are expected. The in-migration of 130 new operations employees would represent 0.09% of the County's employment base, and with their families, 0.12% of the County's 1984 population. This increase would have negligible impacts to the economy and demand for public services.

#### Cultural Resources

Excavation in undisturbed areas would not occur during modifications to support the MLV II program; therefore, no impact on the archaeological site of Canaveral Town is anticipated. Visual evidence of the historic integrity of LC 36 as part of the space program could be affected by some of the proposed improvements; however, in accordance with the Section 106 of the National

Historic Preservation Act, a Memorandum of Agreement (MOA) has been signed by the USAF, the Florida State Historic Preservation and the Advisory Council on Historic Preservation. The MOA includes mitigation measures which would result in the project having no adverse impacts on the historic values of LC 36.

### Accidents

Safety aspects of pre-launch, launch, and post-launch phases of the proposed MLV II program are discussed in the MLV II Accident Risk Assessment Report (ARAR). The potential air quality impacts of accidents associated with the Atlas MLV II program would not be significant given the relatively innocuous nature of the vehicle propellants, the small amounts of toxic propellants (i.e., MMH and  $N_2O_4$ ) in the payloads, and the hypergolic nature of MMH and  $N_2O_4$  which would result in immediate combustion in the case of a launch failure or accident. Impacts to the water quality of the adjacent wetland and the unconfined aquifer could occur if a propellant or hydrazine spill (prior to launch) drained and deposited in the wetland. Impacts to ecological resources would depend on the amount of fuel spilled and the type of habitat affected. The impacts of an in-flight failure of the launch vehicle would be confined to the vicinity of the deposition of the debris.

Significant impacts to public health and safety could occur only in the event of the simultaneous failure of both the vehicle guidance system and the vehicle destruction system, which could result in the crash and explosion of a vehicle in an inhabited area. The likelihood of such an accident is extremely remote as the simultaneous failure of both the vehicle guidance and destruction systems has never occurred.

### 3. FINDINGS

The 30-day public notification period for this document is waived as this action does not meet the notification requirements set forth in Air Force Regulation 19-2, Environmental Impact Analysis Process, para. 11 f (1-4):

- This action is not considered to be unusual, new or precedent setting because the USAF has been launching Atlas from LC 36 for over 20 years.
- All environmental controversies have been mitigated, and no scientific controversy is associated with this action.
- A similar action to the one proposed in this document will not normally require an Environmental Impact Statement.
- This action will not have a direct or indirect impact on wetlands due to the preventive measures included in the operational requirements.

Based upon the above, a Finding of No Significant Impact is made. Copies of the Environmental Assessment on the proposed action, dated February 1989, can be obtained from:

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