

FINDING OF NO SIGNIFICANT IMPACT (FONSI)
MAUI SPACE SURVEILLANCE SITE PROGRAM EXPANSION
HALEAKALA, MAUI, HAWAII

1.0 DESCRIPTION OF THE PROPOSED ACTION

The Maui Space Surveillance Site (MSSS) is part of the space monitoring network of the U.S. Air Force. The MSSS comprises approximately 1.2 ha (3 acres) of an area known as Science City, located just outside Haleakala National Park at an altitude of 3064 m (10,054 ft) on the island of Maui. The MSSS serves a dual role, functioning as state-of-the-art electro-optical facilities for collecting data from suborbital, near-earth, and deep-space objects, as well as a test site for laser research for the purposes of tracking, ranging, and observing space objects. The U.S. Air Force proposes to expand the capabilities of the MSSS by constructing additional support facilities and adding additional laser operations.

Specifically, the U.S. Air Force proposes to expand the MSSS boundary within Science City to include approximately 3.1 ha (7.7 acres) of additional land. This space will accommodate construction of a 220-m² (2400-ft²) pre-engineered metal warehouse at the edge of the present MSSS parking lot, and a 170-m² (1800-ft²) pre-engineered metal maintenance shop adjacent to the warehouse. The U.S. Air Force also proposes to upgrade the existing diesel fuel storage at the site from 15,000 L (4,000 gal) to 41,600 L (11,000 gal) by replacing the existing steel tank with a larger tank. The access road would be expanded to 6 m (20 ft) from the present 3.3 m (11 ft), with down-focused mushroom lights along the perimeter. The parking lot would be expanded to accommodate an additional six vehicles, and an access-control gate would be installed. Additional heat exchangers would be installed on the existing chiller pad to expand the site's laser cooling capacity. A closed-loop carbon dioxide laser radar system would be installed in the main building, which would utilize the existing cooling capabilities. Electrical power to the site would be expanded by installing additional transformer capacity within the existing Maui Electric substation located on the edge of Science City.

2.0 SUMMARY OF ENVIRONMENTAL IMPACTS

Implementation of the proposed expansion program at the MSSS will not significantly affect the natural or manmade environment.

2.1 NATURAL ENVIRONMENT

Components of the natural environment that may be affected by the proposed expansion are air quality, water quality, terrestrial biota, and soils.

2.1.1 Air Quality

Routine emissions from construction activities and operation of the carbon dioxide laser were examined for impacts to air quality. Because construction will be of very small scale and occur over a short period of time, construction emission will be below air quality standards. Carbon monoxide emissions from operation of the laser were modeled using a maximal release rate and very conservative atmospheric conditions. Resulting calculations show emissions would be below levels requiring permits.

2.1.2 Water Quality

Water quality would not be affected by construction or routine operations. A worst-case spill of the entire contents of the proposal diesel tank was modeled using site-specific soil and hydrological conditions. Resulting concentrations of diesel in groundwater and springs nearest the MSSS would be far below levels with toxic consequences.

2.1.3 Terrestrial Biota

Minor impacts to terrestrial biota could result from construction and operation of the facilities at the MSSS. Surveys of the proposed expansion area identified no plant species listed or proposed for listing on the federal or state protected species list in the areas where construction would occur. Protected animals that could be affected are the 'ua'u (Hawaiian dark-rumped petrel), the nene, and the Hawaiian hoary bat. Surveys of the proposed expansion area and the Science City area identified the nearest petrel burrows 120 m (390 ft) west of the main MSSS building. The 'ua'u could be affected by noise, nighttime lights, traffic collisions, and ground vibrations during construction. Noise and vibrational effects will be of low magnitude and occur over a short period of time. Construction will be limited to daylight hours, eliminating effects of lights on 'ua'u behavior. The chances of vehicle collisions with 'ua'u or nene are very small, and would be less than 1% of the chances that normally result from traffic to the Haleakala National Park Visitor's Center. The 'ua'u, bat, and nene could intercept the laser beam with some possible adverse consequences to vision. However, such an occurrence would be extremely unlikely. Carbon monoxide emissions from the laser would not constitute a hazard to persons or wildlife in the area.

2.1.4 Soils

Impacts to soils include the potential for increased erosion from runoff. This potential would be mitigated by installation of storm drains.

2.2 MANMADE ENVIRONMENT

The area of the proposed expansion was surveyed for artifacts of cultural or historic significance. Several sites of potential significance were located within the expansion area, but none were within areas proposed to be disturbed by construction.

The visual environment would be affected by construction of new buildings at the MSSS. This impact would be minimized by painting or using materials colored similar to the surrounding cinder landscape.

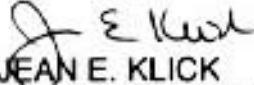
3.0 FINDINGS

Based on the preceding discussion, a finding of no significant impact is made. Additional site-specific environmental consequences of construction activities not addressed the environmental consequences of construction activities not addressed in this document. A copy of the Maui Space Surveillance Site Program Expansion Finding of No Significant Impact and Environmental Assessment, May 1991, may be obtained from, or comments on these documents may be submitted to:

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APPROVED: HQ SSD Environmental Protection Committee

5 JUL 1991


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