

Generator Fuel Spill Site (SS014)

Maui Space Surveillance Complex, Haleakalā

July 2024

The Department of the Air Force:

- Is dedicated to protecting human health and the environment.
- Recognizes the importance of Haleakalā to the Native Hawaiian Community.
- Is committed to soliciting and receiving input from the Community and utilizing that feedback during decision making.
- Will continue community outreach and engagement.
- Will implement the selected remedial actions in compliance with all applicable state and federal environmental requirements.

Haleakalā Phase 3 Community Meeting

August 15, 2024
5PM-8PM

A public meeting will be held to summarize the Response Action Memorandum. The meeting will be held at the following location:

King Kekaulike High School, 121 Kula Hwy, Makawao, HI 96768



Generator Fuel Spill Site (SS014)

The Maui Space Surveillance Complex (MSSC) is located on Pu'u Kolekole, a promontory at the western edge of the summit caldera of the Haleakalā volcano on the island of Maui, roughly 10,000 feet above mean sea level. Important traditional practices have taken place on Haleakalā for thousands of years, and continue to this day. On 29 January 2023, a lightning strike caused an emergency generator located at the MSSC to malfunction and release approximately 700 gallons of fuel onto the generator pad and adjacent soil, impacting approximately 750 square feet in the vicinity of the generator (the Area of Interest). The spill site has been designated for remediation as Generator Fuel Spill Site (SS014).

In Phase 1 of the response to the spill, 30 cubic yards of soil was excavated in March 2023 and stored on site pending treatment. The excavated areas were lined with plastic and backfilled with clean soil. Soil testing conducted in July 2023 indicated fuel was present in both the excavated soil and soil remaining in place.

Between July 2023 and May 2024, a Phase 2 Site Characterization and Alternatives Evaluation was completed to evaluate site conditions, define the nature and extent of contamination, quantitatively estimate risks to human health and the environment, and provide recommendations for site cleanup and risk reduction. Potential contamination extends to at least 40 feet below ground surface immediately adjacent to the generator. Groundwater was not present within at least 80 feet of the ground surface. A Site Characterization and Alternatives Evaluation final report was prepared and approved by the State of Hawai'i Department of Health.



Fuel staining on soil immediately after spill



Same area after Phase 1 excavations

Current Status and Hazards

Currently, Site SS014 is in the "Selection of a Cleanup Remedy for the Remedial Action" step of the State of Hawai'i Department of Health Remedial Action process. Since January 2023, the lighter fuel components are expected to have mostly evaporated. Remaining components have likely adhered to soil and porous rock surfaces, reducing fuel from seeping further into the ground and impacting groundwater. Fuel does not mix or dissolve readily into water and due to MSSC's elevation and lower temperature, the remaining fuel would be thick (more viscous), thus, rain and runoff are unlikely to wash the fuel deeper underground. Due to the plastic liner and clean soil fill cap, potential exposure is limited to direct contact with soil by construction workers working beneath the plastic liner.

Phase 3 Remedial Action Generator Spill Site (SS014)

Maui Space Surveillance Complex, Haleakalā

FACT SHEET

July 2024

How You Can Help:

- Attend the Phase 3 Community Meeting on August 15, 2024 from 5-8PM at King Kekaulike High School.
- Submit meeting questions ahead of time to the project contact listed below or bring prepared comments/ questions. Comments can be submitted starting July 31, 2024 until September 15, 2024.
- If you cannot attend, submit comments/ questions to the project contact (starting July 31, 2024) by September 15, 2024.
- Be respectful of all viewpoints and opinions presented.
- Keep up to date with the project by attending online biweekly community information sessions (obtain information from the project contact).

To submit comments or for more information please contact (via email, mail, or phone):

Jennifer Wehrmann
Remedial Project Manager
AFCEC/CZOP
10471 20th Street, Suite 343
JBER, AK 99506-2201
1-800-222-4137
pacaf.czop.remotesites@us.af.mil



Cleanup Options

Several potential cleanup options were considered to address 1) contaminated soil that was excavated and stored in large impermeable sacks on site and 2) the in situ soil (i.e., the soil remaining underground) near the generator. These cleanup options are summarized in the table below.

Cleanup Option	Summary	Consideration
No Action	No action taken – spilled fuel remains at the site.	Rejected since soil contaminant concentrations and associated risks are not reduced.
Passive Bioventing	Aeration of soils using bioventing wells, using turbine ventilators to passively exhaust air, to promote microbial breakdown of fuel.	Reduces fuel contaminants in soil but is not as effective as active bioventing.
Land Use Controls (LUCs)/ Long-Term Environmental Hazard Management Plan (EHMP)	LUCs: Construction and installation of signs and fencing which would restrict access to the contaminated site. EHMP: Documents the presence of contaminated environmental medium (e.g., soil, soil vapor) at the site and describes how remaining contamination must be managed.	LUCs: Reduces risk to humans encountering the contaminants but would not reduce contaminants in the soil. EHMP: Manages hazards that remain on site.
Active Bioventing	Aeration of soils by using a blower and underground slotted piping to circulate air through subsurface soils and treating extracted air to remove contaminants prior to emitting to the atmosphere. This will also result in increasing biodegradation of remaining soil contaminants.	This is considered the most effective in removing fuel contaminants from the soil.
Aeration of Excavated Soil (Landfarms)	Excavated soils will be spread on a liner and covered. The soil will be periodically tilled to promote airflow, UV exposure, and subsequent biodegradation of soil contaminants.	This is considered an effective and simple way to aerate the excavated soil.

Recommended Actions

Based on available data and location considerations, the recommended cleanup action is a combination of active bioventing (for soil remaining in place next to the generator), landfarming (for soil excavated and stored on site), and long-term management under an EHMP. This remedy would involve:

- The installation of 10 bioventing wells (2 inches in diameter) to depths of up to 50 feet, placement of a 20-foot shipping container to house equipment, and installation of a FALCO 300 catalytic oxidizer and blower system;
- Construction of landfarms in the MSSC parking lot where soil is currently stored;
- Biweekly (twice a month) monitoring of the active bioventing system and landfarms;
- Both in situ soil and excavated soil treatment, which will result in minimal disturbance of the site. Treated excavated soil will be returned to the site and the site will be restored to the previous condition; and
- Other than the short duration of treatment system and landfarm construction, there will be minimal site noise or visual impact.

Please note that while we are presenting suggested options that we feel would work best, the final remedial action has not yet been decided upon, and depends upon the input of you, the Community. We will not make any final decisions until we have evaluated the comments received as part of the public comment period, which ends 15 September 2024.