SANDIA NATIONAL LABORATORIES

# ANNUAL SITE SUMMARY REPORT

KAUA'I, HAWAI'I

DOE and Sandia are committed to *safeguarding the environment, assessing sustainability practices,* and *ensuring the validity and accuracy of the monitoring data* presented in this summary of the 2022 SNL/KTF annual site environmental report.

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This report summarizes the environmental protection and monitoring programs in place at Sandia National Laboratories, Kaua'i Test Facility (SNL/KTF) during calendar year 2022.

Detailed information on these programs can be found in the full annual site environmental reports, accessed via the QR code.





Kaua'i Test Facility



A robust environmental management system ensures a structured approach to identifying environmental aspects, setting environmental objectives, and monitoring environmental performance. Sandia's Environmental Management System is ISO 14001:2015 certified at the New Mexico and California sites. While operations at SNL/ KTF must comply with the environmental management system requirements, they have not been included in the ISO 14001:2015 certification due to their limited scale. The environmental management system is Sandia's primary platform for implementing the environmental management programs that help achieve annual site sustainability goals.

**For fiscal year 2022**, greenhouse gas emissions were identified as a significant aspect for SNL/KTF operations.

Sandia management takes environmental stewardship seriously.

## ENVIRONMENTAL MANAGEMENT SYSTEM





Laysan albatross (Phoebastria immutabilis) with egg

# SITE SUSTAINABILITY



Sandia defines sustainability practices and goals in a site sustainability plan. The annual site sustainability plan provides a roll-up of sustainability data from all primary Sandia sites including SNL/KTF.

**Highlights for SNL/KTF in 2022** include exceeding the goal to increase consumption of clean and renewable electric energy; improving MAN-004, *Sandia National Laboratories/New Mexico Design Standards Manual*; and promoting sustainable acquisition and procurement through modifications, training, and education efforts completed on the ecomedes tool. Additionally, in fiscal year 2022, Sandia personnel completed a climate vulnerability assessment and resilience plan for SNL/KTF.





Waimea Canyon

## During the most recent DOE evaluation, Sandia earned an overall rating of very good.

The U.S. Department of Energy (DOE) assesses environmental management through measures, indicators, and data and collectively reports on all Sandia sites as part of an overall performance evaluation.

**2022 Program activities and results:** There were no DOE-reportable occurrences that met the criteria for reporting in the annual site environmental report.

All environmental monitoring in 2022 was conducted in accordance with program-specific plans that contain applicable quality assurance elements and meet appropriate federal, state, and local requirements for conducting sampling and analysis activities.

## ENVIRONMENTAL PERFORMANCE



Program personnel support compliance with air quality regulations, permits, and other requirements. Two diesel-fired power generators at SNL/KTF are permitted for operation by the State of Hawai'i under a Noncovered Source Permit. Rocket launches are considered mobile sources of air emissions, and rocket launch emissions are included in the review against Toxic Release Inventory reporting thresholds.

**2022 Program activities and results:** Sandia has air quality permits at SNL/KTF and, in 2022, emissions from permitted sources complied with permitted limits. Two monitoring reports for the two diesel-fired power generators operating under a Noncovered Source Permit were submitted to the State of Hawai'i for 2022 operations within required timelines. The highest total combined operating hours for the generators in a rolling 12-month period was 483.4 hours, which occurred from December 2021 to November 2022.

# AIR QUALITY COMPLIANCE PROGRAM

Sunset in Hawai'i



Kaua'i fishing boat at sunset



The Chemical Information System is a comprehensive chemical information tool used to track workplace chemical and biological containers by location. The primary drivers for the Chemical Information System are state and federal regulations, including the Emergency Planning and Community Right-to-Know Act.

SNL/KTF personnel use the Chemical Information System to track and manage chemicals; the system provides the chemical or product name, its location and quantity, and information about who is responsible for the chemical. This electronic inventory helps chemical users and their managers assess and manage workplace hazards. Easy access to this inventory facilitates availability searches. It also improves the ability to share chemicals and thus reduces sources, which minimizes chemical purchases and waste disposal expenses.

### **2022** Program activities and results:

In 2022, chemical containers at SNL/KTF were tracked in the Chemical Information System along with information about any related chemical hazards.

# CHEMICAL INFORMATION SYSTEM





Revetment between administrative compound and launch field, Kaua'i Test Facility (*Photo by Joseph M. Bonaguidi*)

The Cultural Resource Management Program is focused primarily on long-term preservation and protection of cultural resources and cultural resource compliance to ensure that the heritage of Sandia operating areas and their landscapes are maintained. Long-term preservation and protection also ensure that data are available to make proper land use decisions and to assist with environmental planning. The Cultural Resource Management Program is focused on two main cultural resource categories: archaeological resources and historic buildings.

#### **2022** Program activities and results:

In 2022, the Sandia archaeological staff reviewed one National Environmental Protection Agency (NEPA) checklist for an outdoor project, which included launch and facility operations. This project had ground-disturbing activities, which required an archaeologist to monitor all the planned work. Permitted, local Hawai'ian archaeologists who met the State of Hawai'i archaeological monitoring requirements completed the archaeological monitoring on-site. No projects affecting the built environment were undertaken in 2022.

## CULTURAL RESOURCE MANAGEMENT PROGRAM



Ecology Program personnel conduct project assessments to ensure compliance with wildlife regulations and laws and to support land use decisions at SNL/KTF.

#### **2022 Program** activities and results:

In 2022, in accordance with the Endangered Species Act and the Migratory Bird Treaty Act, contracted biologists performed routine wildlife surveys, nocturnal lighting compliance surveys, pre- and post-launch area surveys, and preconstruction surveys. All nighttime operations adhered to prescribed biological mitigations during the Dark Skies period from September 15 to December 15, 2022. No fallout for band-rumped storm petrels, Hawai'ian petrels, or Newell's shearwaters was reported at SNL/KTF in 2022. No mitigation measures were necessary to protect Pacific golden plovers in 2022, and no nesting attempts were documented for the Hawai'ian goose at SNL/KTF in 2022.

In April 2022, one active Laysan albatross nest containing a single chick was discovered at SNL/KTF in a dense patch of kiawe/koa haole. An active nest buffer was established, and the nest was monitored through successful fledging, which occurred in late July. From November to December 2022, biologists located four Laysan albatross nests containing one egg each along the SNL/KTF boundary. Active nest buffers were established, and Ecology Program personnel coordinated with Pacific Missile Range Facility Natural Resources personnel to implement appropriate management actions. Sightings of Laysan albatrosses are significant because the species is currently classified as Near Threatened by the International Union for Conservation of Nature.

# ECOLOGY PROGRAM

Raccoon butterflyfish (Chaetodon lunula)



Kaua'l ocean view

Sandia personnel use on-site meteorological instruments at SNL/KTF during test periods to characterize ground-level and atmospheric wind conditions. Climatic information is obtained from Pacific Missile Range Facility personnel when needed, and severe weather notifications are issued automatically by the Pacific Missile Range Facility Emergency Operations Center to all SNL/KTF resident personnel.

The Kaua'i Test Facility has been an active rocket-launching facility since 1962. Sandia National Laboratories personnel support a variety of missions at the site, including research and development, operational training, and test and evaluation. Launch projects are conducted for various government agencies and organizations on a noninterference basis.

## METEOROLOGY PROGRAM



NEPA Program personnel coordinate with DOE to ensure National Environmental Policy Act compliance and to provide technical assistance in project planning at SNL/KTF.

#### **2022** Program activities and results:

In 2022, program personnel reviewed three proposed projects for NEPA compliance. NEPA Program personnel also supported several upcoming projects that did not start in 2022, including plans to construct a Mission Support Building to replace the current administrative facilities and to negotiate a land use permit with the U.S. Navy. Additionally, NEPA Program personnel supported a causal analysis in 2022 to evaluate a transformer oil spill that occurred in 2021 at SNL/KTF.

# NATIONAL ENVIRONMENTAL POLICY ACT PROGRAM

Rocket launch at Kaua'i Test Facility



Rocket launch at the Kaua'i Test Facility



Oil Storage Program personnel support regulatory compliance associated with the management, operation, and maintenance of oil storage containers and equipment at SNL/KTF. Aboveground oil storage containers at SNL/KTF operate under the *Pacific Missile Range Facility Spill Prevention, Control, and Countermeasure Plan* as required by 40 CFR 112, *Oil Pollution Prevention.* An underground gasoline storage tank (2,500 gallons) is maintained on-site and is subject to regulation under the Hawai'l Administrative Rules, Title 11, Chapter 280.1, *Underground Storage Tanks,* and is permitted with the Hawai'i State Department of Health.

#### **2022** Program activities and results:

In 2022, oil storage containers and equipment at SNL/ KTF consisted of four used oil storage drums, three generator base tanks (two stationary and one mobile), one underground fuel storage tank, one aboveground fuel storage tank, and five oil-filled electrical transformers. There were no reportable oil spills in 2022. The required annual inspection and testing of the underground storage tank system was performed in 2022, and no issues or concerns were identified.

## OIL STORAGE PROGRAM





Hawai'ian goose

## TERRESTRIAL SURVEILLANCE PROGRAM



Terrestrial Surveillance Program personnel collect environmental media (soil) samples at SNL/KTF approximately every five years. Environmental surveillance began at SNL/KTF in 1994 and continued in 1999, 2002, 2007, 2012, 2018, and 2022.

#### **2022** Program activities and results:

In 2022, soil samples were collected at designated locations. Results indicated several exceedances of historical values and comparison reference values.

Although arsenic at sampling location S-13 exceeded established background values, it was within the historical values. Chromium (total) at sampling location S-13 exceeded the historical maximum values with an estimated value but did not exceed the background range. Magnesium at sampling location S-13 exceeded the historical background values; however, there is no background range for that analyte. Nickel at sampling location S-13 exceeded historical values with an estimated value but did not exceed the background range. Silver was within historical values with an estimated value but exceeded the background range at sampling location S-22.

More information on terrestrial surveillance findings can be found in the full annual site environmental report.







#### **2022** Program activities and results:

Hazardous waste was generated in 2022 through normal operations at SNL/KTF. SNL/KTF is in compliance with Hawai'i regulations applicable to very small quantity generators of hazardous waste (Hawai'i Administrative Rules, Title 11, chapters 260, 261, 262, and 268). No asbestos-containing materials were removed in 2022.



Hibiscus (Hibiscus sp.)

## WASTE MANAGEMENT PROGRAM

G.





Green sea turtles (Chelonia mydas) on a Kaua'i beach



The Water Quality Program includes drinking water, release reporting, stormwater, and wastewater. Drinking water is obtained through the Pacific Missile Range Facility public water system. There are no drinking water or groundwater monitoring wells at SNL/KTF.

#### **2022** Program activities and results:

There were no reportable releases in 2022 at SNL/KTF, none of the three on-site septic tanks were inspected or pumped, and there were no wastewater sampling events in 2022. No construction activities required Construction General Permit coverage during 2022. In summary, there were no water quality compliance issues in 2022.

## WATER QUALITY PROGRAM









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