

FY2012

KUNIA FIELD STATION

Army Defense Environmental Restoration Program

Installation Action Plan

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Statement of Purpose

The purpose of the Installation Action Plan (IAP) is to outline the total multiyear cleanup program for an installation. The plan identifies environmental cleanup requirements at each site or area of concern (AOC), and proposes a comprehensive, installation-wide approach, along with the costs and schedules associated with conducting investigations and taking the necessary remedial actions (RA).

In an effort to coordinate planning information between the restoration manager, the US Army Environmental Command (USAEC), the Installation Management Command-Pacific Region (IMCOM-Pacific), the Kunia Field Station, the executing agencies, regulatory agencies, and the public, an IAP was completed. The IAP is used to track requirements, schedules, and tentative budgets for all major Army installation cleanup programs.

All site-specific funding and schedule information has been prepared according to projected overall Army funding levels and is, therefore, subject to change.

Acronyms

AEDB-R	Army Environmental Database- Restoration
AOC	Area of Concern
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
ER,A	Environmental Restoration, Army
FRA	Final Remedial Action
FS	Feasibility Study
FY	Fiscal Year
HDOH	Hawaii Department of Health
IMCOM-Pacific	Installation Management Command, Pacific Region
IRA	Interim Remedial Action
IRP	Installation Restoration Program
LTM	Long-Term Management
LUC	Land Use Control
LUST	Leaking Underground Storage Tank
mm	millimeter
NPL	National Priorities List
PBA	Performance-Based Acquisition
POL	Petroleum, Oil, and Lubricants
RA(C)	Remedial Action (Construction)
RAB	Restoration Advisory Board
RAM	Response Action Memorandum
RC	Response Complete
RD	Remedial Design
RI	Remedial Investigation
RIP	Remedy-in-Place
ROD	Record of Decision
RRSE	Relative Risk Site Evaluation
SAL	Soil Action Level
SVOC	Semi-Volatile Organic Compounds
TAPP	Technical Assistance for Public Participation
TRC	Technical Review Committee
USAG-HI	US Army Garrison, Hawaii
VOC	Volatile Organic Compounds

Installation Information

Installation Locale

Installation Size (Acreage): 1

City: Kunia

County: Honolulu

State: Hawaii

Other Locale Information

The Kunia Field Station is located on the Schofield Plateau, approximately 850 feet above sea level on the island of Oahu. The facility is adjacent to Kunia Road, State Highway 750, approximately 21 miles northwest of the city of Honolulu. Agricultural lands (pineapple fields) operated by Del Monte Fresh Produce (Hawaii) Incorporated surround the installation to the west, south and north. The town of Kunia is approximately one mile south of the installation. Schofield Barracks is immediately to the north and Wheeler Army Airfield is across Kunia Road to the east.

Installation Mission

Kunia Field Station is leased to the Navy and is a naval center for communications throughout the Pacific Region.

Lead Organization

Lead Executing Agencies for Installation

USAEC

Regulator Participation

State Hawaii Department of Health (HDOH)

National Priorities List (NPL) Status

KUNIA FIELD STATION is not on the NPL

Installation Restoration Advisory Board (RAB)/Technical Review Committee (TRC)/Technical Assistance for Public Participation (TAPP) Status

The community has expressed no sufficient, sustained interest in a RAB.

Installation Program Summaries

IRP

Primary Contaminants of Concern: Petroleum, Oil and Lubricants (POL)

Affected Media of Concern: Groundwater, Soil, Surface Water

5-Year / Periodic Review Summary

5-Year / Periodic Review Summary

Status	Start Date	End Date	End FY
Planned	201301	201309	2013

5-Year / Periodic Review Details

Associated ROD/DD Name	Sites
Kunia Military Res UST Removal	FSK-01

Land Use Control (LUC) Summary

LUC Title: FSK-01 LUCs

Site(s): FSK-01

ROD/DD Title: Kunia Military Res UST Removal

Location of LUC

AEDB-R site FSK-01 at Kunia Field Station, Kunia, Hawaii.

Land Use Restriction: Media specific restriction - Prohibit, or otherwise manage excavation

Types of Engineering Controls: None

Types of Institutional Controls: Restrictions on land use

Date in Place: 200709

Modification Date: N/A

Date Terminated: N/A

Inspecting Organization: State

Record of LUC: Master Plan or Equivalent

Documentation Date: 200709

LUC Enforcement: Other

Contaminants: PETROLEUM HYDROCARBON

Additional Information

N/A

Cleanup Program Summary

Installation Historic Activity

Kunia Field Station (Kunia) is an active US Army Garrison, Hawaii (USAG-HI) installation. The facility is located approximately 21 miles northwest of Honolulu and one mile south of Schofield Barracks in the north-central plateau of Oahu. The installation was constructed between 1943 and 1944 as an underground aircraft assembly facility. Ownership of Kunia transferred from the Air Force to the Navy, which operated the facility from 1953 to 1976, when it was deactivated.

In 1981, Kunia was transferred to the Army and became part of the US communications network providing rapid and secure radio relay communications for defense. In Fiscal Year (FY) 97 maintenance of the facility changed from the Army to the Navy. The facility currently serves as a tri-services communications complex.

The Army conferred with the HDOH regarding closure remedial activities at this site. An agreement was reached to place a plastic liner over a former tank excavation to prevent infiltrating water from reaching the regional groundwater below. Regional groundwater is estimated to be approximately 600 feet below ground surface. In April 2005, permeability tests were conducted to evaluate whether or not the permeability of the natural soil was low enough to preclude installation of the liner. The tests showed that soil permeability was too high and required the installation of the liner. In August 2005, after negotiations on security issues were resolved, construction of the liner began.

The US Army has constructed a remedial cap over approximately 14,000 square feet of soil containing residual concentrations of petroleum compounds associated with a former underground storage tank (UST) at the project site. Work was completed in accordance with the approved design drawings and the remedial action work plan for the project. The RA report provides documentation of the construction activities and conveys the final as-built drawings for the cap system.

The completed cap system includes a 40-millimeter (mm) high-density polyethylene impermeable liner, a geotextile drainage mat, subsurface drainage piping, protective fill, topsoil, and a vegetative layer. The cap system appears to be functioning effectively.

Routine maintenance of the area over the remedial cap is performed under a performance-based acquisition (PBA) contract and coordinated by the USAG-HI Directorate of Public Works.

The site is response complete (RC) and a decision document (DD) was approved in March 2008.

Installation Program Cleanup Progress

IRP

Prior Year Progress: Long-term management (LTM) is ongoing and land use controls (LUCs) have been implemented at the FSK-01 site.

Future Plan of Action: LTM will continue at FSK-01.

KUNIA FIELD STATION
Army Defense Environmental Restoration Program
Installation Restoration Program

IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 3/0

Installation Site Types with Future and/or Underway Phases

- 1 Maintenance Yard
(FSK-02)
- 1 Soil Contamination After Tank Removal
(FSK-01)
- 1 Spill Site Area
(FSK-03)

Most Widespread Contaminants of Concern

Petroleum, Oil and Lubricants (POL)

Media of Concern

Groundwater, Soil, Surface Water

Completed Remedial Actions (Interim Remedial Actions/ Final Remedial Actions (IRA/FRA))

Site ID	Site Name	Action	Remedy	FY
FSK-01	LUST REMEDIATION (305K GAL TK)	IRA	WASTE REMOVAL - DRUMS, TANKS, BULK CONTAINERS	1995
FSK-01	LUST REMEDIATION (305K GAL TK)	IRA	WASTE REMOVAL - SOILS	1996
FSK-01	LUST REMEDIATION (305K GAL TK)	FRA	CAPPING	2005

Duration of IRP

Date of IRP Inception: 199303

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 200509/200509

Date of IRP completion including Long Term Management (LTM): Indefinite

IRP Contamination Assessment

Contamination Assessment Overview

In August 1990, the US Army Toxic and Hazardous Materials Agency (USATHAMA) conducted an assessment to establish baseline data for potential waste sites. Waste sites were broadly defined as locations from which hazardous constituents might be released into the environment, regardless of whether the material is solid or hazardous. The report identified seven potential waste sites at Kunia, including a 305,000-gallon concrete diesel UST and a drum storage area.

In 1991, several pad-mounted transformers located within the tunnel complex were drained and removed by Unitek Environmental Services, under subcontract to Fritz of Hawaii. Approximately 15 of the 30-year-old transformers were removed from service.

In 1993, a preliminary assessment (PA)/site inspection (SI) was initiated to investigate the possible application of waste oils, including polychlorinated biphenyls (PCBs), on the surficial soils in the vicinity of the present Building 25 site. This practice was discontinued around 1976 after the site was placed on caretaker status. The waste oil primarily consisted of sludge wastes from facility generators and oil purifiers; however, some waste electrical equipment oil, which potentially contained PCBs, may have been occasionally mixed with the used waste oil before application. The investigation found two hot spots of PCB and lead contamination that were likely isolated occurrences and recommended confirmation samples.

A follow-up sampling and analysis was conducted at the two hot spots found during the PA/SI at Building 25 and the microwave tower. This follow-up investigation found no threat to human health or the environment at the site and no further RA was recommended.

In June 1994, the US Army Environmental Hygiene Agency completed a PA on the sites identified in the USATHAMA waste characterization study. The purpose was to "determine the potential threat to human health and the environment and to identify eligibility for Environmental Restoration, Army (ER,A) funding." Sites requiring an SI would be ER,A eligible. The PA concluded that only the 305,000-gallon diesel UST posed an environmental problem.

By 1994, the 305,000-gallon concrete diesel tank was removed following a failed tightness test. The concrete walls of the tank itself were found to have elevated levels of diesel. The concrete was crushed and then thermally treated. The soil below and around the tank and piping was also found to be grossly contaminated with diesel, as defined by the HDOH guidance. Attempts to define the extent of contamination were not successful due to excessive depths of known contamination; however, in 1995 an interim remedial action (IRA) to remove 3,429 cubic yards of grossly contaminated soil was conducted. Upon excavation, this soil was thermally treated. The excavation site boundaries remain grossly contaminated as confirmed with olfactory, visual, and analytical evidence. In FY01 a remedial investigation (RI) to determine the extent of and to characterize the contaminants was completed.

The Army conferred with the HDOH regarding closure remedial activities at this site. An agreement was reached to place a plastic liner over a former tank excavation to prevent any infiltrating water from reaching the regional groundwater below. Regional groundwater is estimated to be approximately 600 feet below ground surface. In April 2005, permeability tests were conducted to evaluate whether or not the permeability of the natural soil was low enough to preclude installation of the liner. The tests showed that soil permeability was too high and required the installation of the liner. In August 2005, after security issues were resolved, construction of the liner began. In September 2005, final construction was completed. LTM is ongoing as part of this project.

Cleanup Exit Strategy

All sites are RC; however, LTM consisting of cap maintenance and LUCs will be administered indefinitely.

IRP Previous Studies

Year	Title	Author	Date
1990	Waste Site Characterization Study, US Army Property Waste Site Summary Category 6, US Army Reserve Centers, Volume 21.	Roy F. Weston, Inc.	AUG-1990
1994	Preliminary Assessment/Site Investigation Report, Kunia Field Station, Oahu, Hawaii. Prepared for Department of Army, US Army Engineer District, Honolulu	Wil Chee Planning and SCS Engineers	FEB-1994
	Site Assessment No. 38-26-K28U-94, Waste Sites at Army Properties, Hawaii. Prepared for USARPAC and USAG-HI	US Army Environmental Hygiene Agency	JUN-1994
1995	Site Investigation Report, Microwave Tower and Building 25, Kunia Field Station, Oahu, Hawaii	US Army Corps of Engineers, Pacific Ocean Division, Environmental Division, Hazardous Toxic Waste Branch	MAY-1995
1996	Site Characterization, Remedial Design, and Remediation of Petroleum-Contaminated Soil at four US Army Installations on Oahu, Hawaii, Final Engineering Evaluation Report. Prepared for RCIE Environmental, Inc., the US Army Corps of Engineers, and the US Army Garrison, Hawaii	PRC Environmental Management, Inc.	JUN-1996
	Site Characterization, Remedial Design, and Remediation of Petroleum-Contaminated Soil at four US Army Installations on Oahu, Hawaii, Underground Storage Tank Final Closure Report. Prepared for RCIE Environmental, Inc., the US Army Corps of Engineers, and the US Army Garrison, Hawaii	PRC Environmental Management, Inc.	JUL-1996
2000	Remedial Investigation Report, Kunia Field Station, Oahu, Hawaii Vol. 1-4	Wil Chee-Planning, Inc./Brewer Environmental Services	SEP-2000
	Human Health and Ecological Risk Assessment, Kunia Field Station, Oahu, Hawaii	Wil Chee Planning Inc.	OCT-2000
2006	Remedial Design and Installation of Remedial Cap, Kunia Field Station, Oahu, Hawaii. Prepared for: US Army Engineer District, Honolulu	Dawson Group, Inc.	JAN-2006
2008	Final Response Action Memorandum, Kunia Field Station	HI State Department of Health	MAR-2008

KUNIA FIELD STATION
Installation Restoration Program
Site Descriptions

Site Name: LUST REMEDIATION (305K GAL TK)

STATUS

Regulatory Driver: CERCLA

RRSE: MEDIUM

Contaminants of Concern: Petroleum, Oil and Lubricants (POL)

Media of Concern: Groundwater, Soil

Phases	Start	End
PA.....	199310.....	199402
SI.....	199310.....	199402
RI/FS.....	199809.....	200107
RD.....	199804.....	200505
IRA.....	199403.....	199607
RA(C).....	200505.....	200509
LTM.....	200606.....	204209

RIP Date: N/A

RC Date: 200509

SITE DESCRIPTION

Kunia Field Station was built during World War II and was originally used as an aircraft assembly plant. The installation was later transformed into a communication facility and is active as such to this date. The station formerly housed a 305,000-gallon capacity UST. In 1991, this tank failed a tank tightness test and was subsequently removed by May 1994. The UST had stored diesel fuel. Prior to removal of the UST, Clayton Environmental Consultants advanced eight borings at the periphery of the concrete UST to collect soil samples for laboratory analysis. Analytical results revealed the presence of volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs) in the samples collected, albeit at concentrations below the HDOH cleanup guidelines in effect at the time.

In June and July 1994, PRC Environmental Management, Inc. conducted a post-removal investigation of subsurface soil within and around the footprint of the former UST. On-site and off-site analysis of soil samples collected during the investigation revealed the presence of petroleum hydrocarbons, VOCs, and SVOCs; however, the concentration of contaminants, including diesel and benzo(a)pyrene, exceeded the respective Tier 1 soil action levels (SALs).

From March 1999 to June 1999, Brewer Environmental Services, under subcontract to Will Chee - Planning, Inc., performed an RI of the leaking UST site to further delineate the horizontal and vertical extent of contamination resulting from the subject tank. During that period, 16 soil borings were advanced to a maximum depth of 250 feet below ground surface (bgs). Diesel concentrations in several collected soil samples exceeded the Tier 1 SAL. Using that data, Brewer Environmental Services estimated the contaminant plume to be of an elongated configuration, oriented from north to south, and extending to approximately 50 feet laterally from the former UST footprint and 250 feet bgs. Results of that investigation initiated risk-based human health and ecological evaluations and the subsequent RA work. Soil beneath and surrounding the UST was found to be contaminated with diesel fuel. Contamination extended to such depth that removal was determined to be infeasible. Construction of the remedial cap system to prevent exposure to soil and to minimize infiltration of rainwater was selected as the remedial approach in partnership between the USAG-HI Directorate of Public Works and the HDOH. In FY05 the cap was installed.

In September 2006 a PBA contract was awarded and LTM had begun. The PBA runs through 2016. In March 2008, the response action memorandum (RAM) for the site was approved. A restoration advisory board (RAB) solicitation occurred for this site in FY11.

CLEANUP/EXIT STRATEGY

No further RAs are planned for the site.

LUCs have been implemented to restrict digging in accordance with the RAM/DD. LTM consisting of cap maintenance and LUCs will be administered indefinitely. Five-year reviews also will be conducted during LTM; the next one is scheduled for FY13.

Site ID: FSK-01
Site Name: LUST REMEDIATION (305K GAL TK)

Work will be funded under the PBA contract through 2016.

Site ID: FSK-02

Site Name: BLDG 25, PCB CONTAMINATION

STATUS

Regulatory Driver: SDWA

RRSE:

Contaminants of Concern: Polychlorinated Biphenyls (PCB)

Media of Concern: Groundwater

Phases	Start	End
PA.....	199303.....	199308
SI.....	199410.....	199505
LTM.....	201103.....	201309

RIP Date: N/A

RC Date: 199605

SITE DESCRIPTION

This is a no cost site. The LTM phase was opened in order to fund an NFA DD in FY11. The work is currently underway, but fully funded in FY11. No future funding is required at this site.

CLEANUP/EXIT STRATEGY

An NFA DD is in progress.

Site ID: FSK-03
Site Name: MICROWAVE TOWER

STATUS

Regulatory Driver: CERCLA
RRSE:

Phases	Start	End
PA.....	199303.....	199308
SI.....	199410.....	199505
LTM.....	201103.....	201309

RIP Date: N/A
RC Date: 199605

SITE DESCRIPTION

This is a no cost site. The LTM phase was opened in order to fund an NFA DD in FY11. The work is currently underway, but fully funded in FY11. No future funding is required at this site.

CLEANUP/EXIT STRATEGY

An NFA DD is in progress.

Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
There are no NFA sites			

IRP Schedule

Date of IRP Inception: 199303

Past Phase Completion Milestones

1993

PA (FSK-02 - BLDG 25, PCB CONTAMINATION, FSK-03 - MICROWAVE TOWER)

1994

SI (FSK-01 - LUST REMEDIATION (305K GAL TK))

PA (FSK-01 - LUST REMEDIATION (305K GAL TK))

1995

SI (FSK-02 - BLDG 25, PCB CONTAMINATION, FSK-03 - MICROWAVE TOWER)

1996

IRA (FSK-01 - LUST REMEDIATION (305K GAL TK))

2001

RI/FS (FSK-01 - LUST REMEDIATION (305K GAL TK))

2005

RA(C) (FSK-01 - LUST REMEDIATION (305K GAL TK))

RD (FSK-01 - LUST REMEDIATION (305K GAL TK))

Projected Phase Completion Milestones

See attached schedule

Projected Record of Decision (ROD)/Decision Document (DD) Approval Dates

Site ID	Site Name	ROD/DD Title	ROD/DD Date
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Final RA(C) Completion Date: 200509

Schedule for Next Five-Year Review: 2013

Estimated Completion Date of IRP at Installation (including LTM phase): Indefinite

KUNIA FIELD STATION IRP Schedule

= phase underway

SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
FSK-01	LUST REMEDIATION (305K GAL TK)	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
FSK-02	BLDG 25, PCB CONTAMINATION	LTM						
SITE ID	SITE NAME	PHASE	FY13	FY14	FY15	FY16	FY17	FY18+
FSK-03	MICROWAVE TOWER	LTM						

Community Involvement

Technical Review Committee (TRC): None

Community Involvement Plan (Date Published): TBD

Restoration Advisory Board (RAB): No

Reason Not Established: The community has expressed no sufficient, sustained interest in a RAB.

Community Interest Solicited on: 201107

Efforts Taken to Determine Interest

A public notice soliciting interest in establishing a RAB was published in the Honolulu Advertiser from July 24 through 26, 2011.

Results

There has been no sustained interest from the community in establishing a RAB.

Follow-up Procedures

TBD

Additional Community Involvement Information

A community involvement plan has not been developed. There has been no sustained interest from the community in establishing a RAB.

Administrative Record is located at

Department of Public Works
948 Santos Dumont Ave, Bldg. 105
Wheeler AAF, Schofield Barracks, HI 96857-501

Information Repository is located at

Wahiawa Public Library
820 California Avenue
Wahiawa, HI 96786
808-622-6345

Mililani Public Library
95-450 Makaimoimo Street
Mililani, HI 96789

Current Technical Assistance for Public Participation (TAPP):N/A

TAPP Title: N/A

Potential TAPP: N/A

