

FY2015

TARHEEL ARMY MISSILE PLANT

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), Tarheel Army Missile Plant, 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
AS	Air Sparging
Bldg	Building
BRAC	Base Realignment and Closure
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CIP	Community Involvement Plan
CY	Calendar Year
DD	Decision Document
EOS	Emulsified Oil Substrate
ER,A	Environmental Restoration, Army
FRA	Final Remedial Action
FS	Feasibility Study
FY	Fiscal Year
IAP	Installation Action Plan
IMCOM	Installation Management Command
IRA	Interim Remedial Action
K	Thousand
LTM	Long-term Management
N/A	Not Applicable
NC	North Carolina
NCDENR	North Carolina Department of Environment and Natural Resources
NFA	No Further Action
NOV	Notice of Violation
NPL	National Priorities List
PA	Preliminary Assessment
POL	Petroleum, Oil, and Lubricants
RA	Remedial Action
RA(C)	Remedial Action (Construction)
RAB	Restoration Advisory Board
RAD	Radiation
RC	Response Complete
RI	Remedial Investigation
RIP	Remedy-in-place
ROD	Record of Decision
ROE	Right of Entry
RRSE	Relative Risk Site Evaluation
SI	Site Inspection
STG	Storage
SVE	Soil Vapor Extraction
SVOC	Semi-Volatile Organic Compound
TAMP	Tarheel Army Missile Plant
TAPP	Technical Assistance for Public Participation
TBD	To Be Determined
TCE	Trichloroethene

Acronyms

TRC	Technical Review Committee
USAEC	US Army Environmental Command
USAMCOM	US Army Aviation and Missile Command
USCOE	US Army Corps of Engineers
USGSA	US General Services Administration
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WST	Waste

Installation Information

Installation Locale

Installation Size (Acreage): 32.00

City: Burlington

County: Alamance

State: North Carolina

Other Locale Information

Tarheel Army Missile Plant (TAMP) was formerly a US Army Aviation and Missile Command (USAMCOM) facility used to manufacture defense related electronic systems. It is currently owned by Hopedale Investments, LLC and is located within the city limits of Burlington, NC, occupying 32 acres and consists of 22 buildings. The site is located adjacent to a residential area to the north, with commercial properties in other directions. TAMP is located in the Carolina Slate Belt of North Carolina's Piedmont physiographic province.

Installation Mission

The installation is not an active Army installation and therefore, has no mission.

Lead Organization

Base Realignment and Closure Division

Lead Executing Agencies for Installation

Installation Management Command (IMCOM), US Army Environmental Command (USAEC)

Regulator Participation

State North Carolina Department of Environment and Natural Resources (NCDENR)

National Priorities List (NPL) Status

TARHEEL ARMY MISSILE PLANT is not on the NPL

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

Installation is in the process of determining interest in establishing a RAB.

Installation Program Summaries

IRP

Primary Contaminants of Concern: Petroleum, Oil and Lubricants (POL), Semi-volatiles (SVOC), Volatiles (VOC)

Affected Media of Concern: Groundwater, Soil

Cleanup Program Summary

Installation Historic Activity

1927 - 1942: Old Burlington Rayon Plant.

1942 - 1944: Federal Government leased to Fairchild Aircraft Corporation (Built AT-21 aircraft).

1944 - 1945: Firestone Tire & Rubber Company (tank rebuilding program)/vacant.

1948 - 1951: US General Services Administration (USGSA) leased to Western Electric (manufacture of various electronic devices).

1951 - 1962: USGSA/US Department of the Army (USDOA) leased to AT&T (Defense related electronic systems).

1962 - 1992: USDOA transferred TAMP to USAMCOM (AT&T Defense related electronic systems) - Army Aviation and Missile Command.

1992: AT&T lease expires, but maintenance activities continued by AT&T.

1999: AT&T transfers responsibility to Lucent Technologies, maintenance activities continued.

2004: Site sold by USDOA (USGSA) to Hopedale Investments, LLC, and is currently vacant, most recently used as a hospice flea market.

Installation Program Cleanup Progress

IRP

Prior Year Progress: A supplemental site inspection (SI) was underway in 2015. The Army has gained access to off-installation property through solicitation of right of entry (ROE) with the city of Burlington and private home owners.

Future Plan of Action: The Army plans to conduct an RI in FY16.

5-Year / Periodic Review Summary

No 5-Year / Periodic Reviews have been scheduled

Parcel Summary

Summary of Parcel Prioritization and Transfer Strategy

Parcel Name: TAMP

Parcel Size: 32.00

Associated Sites:

Transfer Date: 200406

Current Land Use: N/A

Future Land Use: N/A

Encumbrances: N/A

Leases/Permits/Licenses: N/A

Transfer Strategy: Public Sale

Recipient Organization: Hopewell Investment, LLC

Other Issues Affecting Transfer:N/A

TARHEEL ARMY MISSILE PLANT

Non-BRAC Excess Installation Restoration Program

IRP Summary

Installation Total Army Environmental Database-Restoration (AEDB-R) Sites/Closeout Sites Count: 28/27

Installation Site Types with Future and/or Underway Phases

1 Contaminated Ground Water
(TAMP-13)

Most Widespread Contaminants of Concern

Petroleum, Oil and Lubricants (POL), Semi-volatiles (SVOC), Volatiles (VOC)

Media of Concern

Groundwater, Soil

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

Site ID	Site Name	Action	Remedy	FY	Cost
TAMP-16	STORMWATER OUTFALLS	FRA	REMOVAL	1995	TBD
TAMP-02	PHOTO LAB BLDG 16	FRA	AIR SPARGING	1996	TBD
TAMP-07	INDUST CHEM STG BLDG 22	IRA	AIR SPARGING	1996	TBD
TAMP-19	UST BLDG 19	FRA	SOIL VAPOR TREATMENT	1996	TBD
TAMP-20	UST-2, BLDG 19	FRA	SOIL VAPOR TREATMENT	1996	TBD
TAMP-21	UST-3, BLDG 19	FRA	SOIL VAPOR TREATMENT	1996	TBD
TAMP-24	UST 1 BLDG 20	FRA	SOIL VAPOR TREATMENT	1996	TBD
TAMP-28	UST 1 BLDG 16	FRA	SOIL VAPOR TREATMENT	1996	TBD
TAMP-07	INDUST CHEM STG BLDG 22	FRA	GROUND WATER TREATMENT	1999	TBD

Duration of IRP

Year of IRP Inception: 198005

Estimated Date for Remedy-In-Place (RIP)/Response Complete (RC): 201706/201706

Date of IRP completion including Long Term Management (LTM): 201706

IRP Contamination Assessment

Contamination Assessment Overview

The TAMP cleanup has been conducted by Lucent Technologies for the past several years to address the POL contamination of the groundwater. The Army will continue the actions for solvent contamination, which started in 2014 with a supplemental SI and an anticipated remedial investigation (RI) start date in fiscal year (FY)16.

Cleanup Exit Strategy

The Army will assess the solvent contaminated groundwater with a supplemental SI and conduct an RI in FY16. It is suspected that there will be a need for an action to address the contaminated solvent plume because it is moving off-post into a residential area. A past pilot test indicated that emulsified oil substrate (EOS) injections worked well with the contamination.

IRP Previous Studies

	Title	Author	Date
1988	Update of the initial Installation Assessment of Tarheel Army Missile Plant, NC	Environmental Science and Engineering, Inc.	JUL-1988
1998	Corrective Action Plan Addendum Tarheel Army Missile Plant Burlington, NC	Roy F. Weston, Inc.	JUN-1998
2002	Semiannual Monitoring Report May 2001 to October 2001 for Tarheel Army Missile Plant, Burlington, NC	Roy F. Weston, Inc.	FEB-2002
2003	Tarheel Army Missile Plant Remedial Action Plan	C.C. Johnson & Malhotra, P.C.	MAY-2003
2004	Tarheel Army Missile Plant Remediation Soil Sampling Results	Solutions Industrial & Environmental Services, Inc.	OCT-2004
2005	Report of Groundwater Remediation Pilot Test Effectiveness for the Former Tarheel Army Missile Plant	Solutions-EIS, Inc.	NOV-2005
2006	Interim Progress Report for Groundwater Remediation and Bioaugmentation Activities at the Former Tarheel Army Missile Plant	Solutions-EIS, Inc.	JUL-2006
2007	Interim Progress Report for Groundwater Remediation and Bioaugmentation Activities at the Former Tarheel Army Missile Plant	Solutions-IES, Inc.	JAN-2007
2010	Enhanced Anaerobic Bioremediation of a TCE Source Area	Solutions-IES, Inc.	MAY-2010
2011	Building Nos. 2 and 3 Soil Boring Investigation and Site-wide Groundwater Sampling Report	Weston Solutions, Inc.	MAR-2011
2013	GROUNDWATER SAMPLING AND SITE ACTIVITIES UPDATE REPORT TAMP	Weston Solutions, Inc.	SEP-2013

TARHEEL ARMY MISSILE PLANT

Non-BRAC Excess

Installation Restoration Program

Site Descriptions

Site ID: TAMP-13
Site Name: AST BLDG 2 POL WST

STATUS

Parcel: NONE

Regulatory Driver: CERCLA

RRSE: HIGH

Contaminants of Concern: Volatiles (VOC)

Media of Concern: Groundwater

<u>Phases</u>	<u>Start</u>	<u>End</u>
PA.....	198005.....	199004
SI.....	199109.....	199406
RI/FS.....	201309.....	201706

RIP Date: N/A

RC Date: 201706

SITE DESCRIPTION

Chlorinated volatile organic compound (VOC) contamination in soil/groundwater migrates from this site. NCDENR issued a notice of violation (NOV) to Lucent for the groundwater and soil contamination at TAMP.

An air sparging/soil vapor extraction (AS/SVE) system was installed and operated that addressed the contamination; however, the chlorinated solvents responded more slowly. The Army transferred the property and agreed to perform the remediation of the solvent plume.

The previous renter of the property turned off the AS/SVE system and abandoned the wells in 2013. The property is currently owned by a real estate developer and they are demolishing the structures. The latest document is the October 2013 groundwater sampling and site activities update report. USACE will perform a sampling event to include surface water and attempt some off-post groundwater wells to satisfy the February 2004 administrative order pending private owner approved access.

CLEANUP/EXIT STRATEGY

TAMP-13 will undergo an RI/feasibility study (FS) to be started in FY16. At that time a decision will be made concerning the specific action appropriate for the groundwater contamination. In the past, emulsified oil substrate (EOS®) showed promise during a pilot study conducted in 2004.

IRP Site Closeout (No Further Action) Summary

Site ID	Site Name	NFA Date	Documentation
TAMP-01	PHOTO LAB BLDG 2	199203	No documentation is available.
TAMP-02	PHOTO LAB BLDG 16	199909	No documentation is available.
TAMP-03	CHEMICAL LAB BLDG 11	199004	No documentation is available.
TAMP-04	CHEMICAL LAB BLDG 20	199208	No documentation is available.
TAMP-05	ELECTRONIC COMPONENT LAB	199203	No documentation is available.
TAMP-06	STRG OF FLAMMABLE LIQ BLDG 19	199203	No documentation is available.
TAMP-07	INDUST CHEM STG BLDG 22	199909	No documentation is available.
TAMP-08	COMPRESSED GAS STG BLDG 28	199203	No documentation is available.
TAMP-09	RAD SOURCES BLDG 4	199004	No documentation is available.
TAMP-10	RAD SOURCES BLDG 16	199203	No documentation is available.
TAMP-11	RAD SOURCES BLDG 13	199203	No documentation is available.
TAMP-12	SANITARY SEWER OUTFALLS	199510	No documentation is available.
TAMP-14	NEUTRALIZATION TNK BLDG 23	199510	No documentation is available.
TAMP-15	INDUSTRIAL WASTEWATER TRT SYS	199510	No documentation is available.
TAMP-16	STORMWATER OUTFALLS	199509	No documentation is available.
TAMP-17	DRUMS 55 GAL STD AT DUKE POWER CO SS	199510	No documentation is available.
TAMP-18	DEEP WATER WELL	199510	No documentation is available.
TAMP-19	UST BLDG 19	199909	No documentation is available.
TAMP-20	UST-2, BLDG 19	199909	No documentation is available.
TAMP-21	UST-3, BLDG 19	199909	No documentation is available.
TAMP-22	UST-1, BLDG 12	199204	No documentation is available.
TAMP-23	UST-2, BLDG 12	199204	No documentation is available.
TAMP-24	UST 1 BLDG 20	199909	No documentation is available.
TAMP-25	UST-1, BLDG 5	199004	No documentation is available.
TAMP-26	UST-2, BLDG 5	199004	No documentation is available.
TAMP-27	UST-3, BLDG 5	199506	No documentation is available.
TAMP-28	UST 1 BLDG 16	199909	No documentation is available.

IRP Schedule

Date of IRP Inception: 198005

Past Phase Completion Milestones

1990

PA (TAMP-01 - PHOTO LAB BLDG 2, TAMP-02 - PHOTO LAB BLDG 16, TAMP-03 - CHEMICAL LAB BLDG 11, TAMP-04 - CHEMICAL LAB BLDG 20, TAMP-05 - ELECTRONIC COMPONENT LAB, TAMP-06 - STRG OF FLAMMABLE LIQ BLDG 19, TAMP-07 - INDUST CHEM STG BLDG 22, TAMP-08 - COMPRESSED GAS STG BLDG 28, TAMP-09 - RAD SOURCES BLDG 4, TAMP-10 - RAD SOURCES BLDG 16, TAMP-11 - RAD SOURCES BLDG 13, TAMP-12 - SANITARY SEWER OUTFALLS, TAMP-13 - AST BLDG 2 POL WST, TAMP-14 - NEUTRALIZATION TNK BLDG 23, TAMP-15 - INDUSTRIAL WASTEWATER TRT SYS, TAMP-16 - STORMWATER OUTFALLS, TAMP-17 - DRUMS 55 GAL STD AT DUKE POWER CO SS, TAMP-18 - DEEP WATER WELL, TAMP-19 - UST BLDG 19, TAMP-20 - UST-2, BLDG 19, TAMP-21 - UST-3, BLDG 19, TAMP-22 - UST-1, BLDG 12, TAMP-23 - UST-2, BLDG 12, TAMP-24 - UST 1 BLDG 20, TAMP-25 - UST-1, BLDG 5, TAMP-26 - UST-2, BLDG 5, TAMP-27 - UST-3, BLDG 5, TAMP-28 - UST 1 BLDG 16)

1992

SI (TAMP-22 - UST-1, BLDG 12, TAMP-23 - UST-2, BLDG 12)

1994

SI (TAMP-02 - PHOTO LAB BLDG 16, TAMP-07 - INDUST CHEM STG BLDG 22, TAMP-12 - SANITARY SEWER OUTFALLS, TAMP-13 - AST BLDG 2 POL WST, TAMP-14 - NEUTRALIZATION TNK BLDG 23, TAMP-15 - INDUSTRIAL WASTEWATER TRT SYS, TAMP-16 - STORMWATER OUTFALLS, TAMP-17 - DRUMS 55 GAL STD AT DUKE POWER CO SS, TAMP-18 - DEEP WATER WELL, TAMP-19 - UST BLDG 19, TAMP-21 - UST-3, BLDG 19, TAMP-24 - UST 1 BLDG 20, TAMP-27 - UST-3, BLDG 5, TAMP-28 - UST 1 BLDG 16)

1995

RD (TAMP-02 - PHOTO LAB BLDG 16, TAMP-19 - UST BLDG 19, TAMP-20 - UST-2, BLDG 19, TAMP-21 - UST-3, BLDG 19, TAMP-24 - UST 1 BLDG 20, TAMP-28 - UST 1 BLDG 16)

SI (TAMP-20 - UST-2, BLDG 19)

RA(C) (TAMP-16 - STORMWATER OUTFALLS)

RI/FS (TAMP-02 - PHOTO LAB BLDG 16, TAMP-07 - INDUST CHEM STG BLDG 22, TAMP-12 - SANITARY SEWER OUTFALLS, TAMP-14 - NEUTRALIZATION TNK BLDG 23, TAMP-15 - INDUSTRIAL WASTEWATER TRT SYS, TAMP-16 - STORMWATER OUTFALLS, TAMP-17 - DRUMS 55 GAL STD AT DUKE POWER CO SS, TAMP-18 - DEEP WATER WELL, TAMP-19 - UST BLDG 19, TAMP-20 - UST-2, BLDG 19, TAMP-21 - UST-3, BLDG 19, TAMP-24 - UST 1 BLDG 20, TAMP-27 - UST-3, BLDG 5, TAMP-28 - UST 1 BLDG 16)

1996

RA(C) (TAMP-02 - PHOTO LAB BLDG 16, TAMP-19 - UST BLDG 19, TAMP-20 - UST-2, BLDG 19, TAMP-21 - UST-3, BLDG 19, TAMP-24 - UST 1 BLDG 20, TAMP-28 - UST 1 BLDG 16)

IRA (TAMP-07 - INDUST CHEM STG BLDG 22)

1998

RD (TAMP-07 - INDUST CHEM STG BLDG 22)

1999

RA(C) (TAMP-07 - INDUST CHEM STG BLDG 22)

RA(O) (TAMP-02 - PHOTO LAB BLDG 16, TAMP-07 - INDUST CHEM STG BLDG 22, TAMP-19 - UST BLDG 19, TAMP-20 - UST-2, BLDG 19, TAMP-21 - UST-3, BLDG 19, TAMP-24 - UST 1 BLDG 20, TAMP-28 - UST 1 BLDG 16)

Projected Phase Completion Milestones

See attached schedule

IRP Schedule

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

To Be Determined

Final RA(C) Completion Date: 199904

Schedule for Next Five-Year Review: N/A

Estimated Completion Date of IRP at Installation (including LTM phase): 201706

TARHEEL ARMY MISSILE PLANT IRP Schedule

 = phase underway

SITE ID	SITE NAME	PHASE	FY16	FY17	FY18	FY19	FY20	FY21+
TAMP-13	AST BLDG 2 POL WST	RI/FS						

Community Involvement

Technical Review Committee (TRC): None

Community Involvement Plan (Date Published): TBD

Restoration Advisory Board (RAB): No

Reason Not Established: Installation is in the process of determining interest in establishing a RAB.

Additional Community Involvement Information

A community involvement plan will be completed during FY15. A contract has been awarded and project activities will begin in late summer 2015.

Administrative Record is located at

Administrative Record is currently located at
IMCOM, USAEC
2450 Connell Road, Bldg 2264, 1st floor, Room - 129,
Fort Sam Houston TX 78234-7664, (210) 466-1739

Information Repository is located at

There is no information repository currently set up in Burlington, NC.

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

TAPP Title: N/A

Potential TAPP: N/A

