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FINAL FEDERAL FACILITIES AGREEMENT SITE MANAGEMENT PLAN FOR CALENDAR  
YEAR 2015 NAS PENSACOLA FL  
12/1/2014  
NAVFAC SOUTHERN

**FINAL  
FEDERAL FACILITIES AGREEMENT  
SITE MANAGEMENT PLAN**

**CALENDAR YEAR 2015**

**NAVAL AIR STATION PENSACOLA  
PENSACOLA, FLORIDA**

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TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
ACRONYMS AND ABBREVIATIONS.....	ii
<b>1.0 INTRODUCTION.....</b>	<b>1-1</b>
1.1 OVERVIEW OF SITE MANAGEMENT PLAN .....	1-1
1.2 INSTALLATION RESTORATION PROGRAM.....	1-1
1.3 MILITARY MUNITIONS RESPONSE PROGRAM .....	1-1
1.4 STATUS OF OPERATIONAL RANGE(S) .....	1-2
1.5 PETROLEUM PROGRAM .....	1-2
<b>2.0 OVERALL MANAGEMENT APPROACH.....</b>	<b>2-1</b>
2.1 PRIORITIES.....	2-1
2.2 BACKGROUND .....	2-1
2.3 RATIONALE FOR OPERABLE UNIT GROUPING .....	2-4
2.4 ACTIVE OPERABLE UNIT STATUS.....	2-5
2.5 PRIMARY AND SECONDARY DOCUMENTS.....	2-26
<b>3.0 SCHEDULING .....</b>	<b>3-1</b>
REFERENCES.....	R-1
 <u>APPENDICES</u>	
A INSTALLATION RESTORATION PROGRAM SCHEDULE .....	A-1
B FEDERAL FACILITIES AGREEMENT DOCUMENT REVIEW SCHEDULE SUMMARY .....	B-1

TABLES

<u>NUMBER</u>	<u>PAGE</u>
1 Site Description Chart, Installation Restoration Program, NAS Pensacola.....	2-12
2 Potential Source of Contamination and Site Status Restoration Program, NAS Pensacola.....	2-22

## ACRONYMS AND ABBREVIATIONS

ARAR	Applicable or Relevant and Appropriate Requirement
AST	Aboveground Storage Tank
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	Chemical of Concern
COPC	Chemical of Potential Concern
CS	Confirmation Study
CTT	Closed, transferred or transferring
CVOC	Chlorinated Volatile Organic Compound
CY	Calendar Year
DERP	Defense Environmental Restoration Program
DDT	Dichlorodiphenyltrichloroethane
DFM	Distillate Diesel Fuel Marine
DOD	Department of Defense
ESD	Explanation of Significant Difference
ESI	Expanded Site Inspection
FDER	Florida Department of Environmental Regulation
FDEP	Florida Department of Environmental Protection
FFA	Federal Facilities Agreement
FS	Feasibility Study
GSI	Groundwater to Surface Water Interface
HSWA	Hazardous and Solid Waste Amendments
HW	Hazardous Waste
IAS	Initial Assessment Study
I-RACR	Interim Remedial Action Completion Report
IRP	Installation Restoration Program
IWTP	Industrial Wastewater Treatment Plan
JP	Jet Fuel
LTM	Long Term Monitoring
LTRA	Long Term Remedial Action
LUC	Land Use Controls
MC	Munitions Constituents
MCL	Maximum Contaminant Level
MEC	Munitions and Explosives of Concern
MMRP	Military Munitions Response Program
MNA	Monitored Natural Attenuation

## ACRONYMS AND ABBREVIATIONS (CONTINUED)

NACIP	Navy Assessment and Control of Installation Pollutants
NAS	Naval Air Station
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEESA	Naval Energy and Environmental Support Activity
NEPA	National Environmental Policy Act
NFA	No Further Action
OU	Operable Unit
PA	Preliminary Assessment
PCB	Polychlorinated Biphenyl
PP	Proposed Plan
PRG	Preliminary Remediation Goal
PSC	Potential Source of Contamination
PSCR	Preliminary Site Characterization Report
PWC	Public Works Center
RA	Remedial Action
RAB	Restoration Advisory Board
RACR	Remedial Action Completion Report
RC	Reference Concentration
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RI	Remedial Investigation
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SI	Site Inspection
SMP	Site Management Plan
SVOC	Semivolatile Organic Compound
SWMU	Solid Waste Management Unit
TCE	Trichloroethene
Tetra Tech	Tetra Tech NUS, Inc.
UFP-SAP	Uniform Federal Policy Sampling and Analysis Plan
U.S. EPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VS	Verification Study
WP	Work Plan
WWTP	Wastewater Treatment Plant

## 1.0 INTRODUCTION

This Site Management Plan (SMP) provides a summary of response actions and associated documentation to be undertaken at the Naval Air Station (NAS) Pensacola according to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986, as implemented by the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), and to the extent practicable the National Environmental Policy Act (NEPA) of 1969.

The requirement for this SMP is identified in the Federal Facilities Agreement (FFA) that was signed by the United States Environmental Protection Agency (U.S. EPA), the state of Florida, Department of Environmental Regulation (FDER), now Florida Department of Environmental Protection (FDEP), and the Department of the Navy. The FFA is based on the requirement for an interagency agreement that is identified in Section 120 (e)(2) of the SARA.

The FFA was signed on 23 October 1990, and has a declared effective date of 1 November 1990. Therefore, the SMP dated December 2014 for Calendar Year 2015 is the 25<sup>th</sup> annual update.

### 1.1 OVERVIEW OF SITE MANAGEMENT PLAN

The intent of the plan is to provide: (1) actions deemed necessary to mitigate any immediate threat to human health or the environment from the release or threatened release of CERCLA hazardous substances, pollutants or contaminants; (2) a list of Operable Units (OUs) subject to the terms of the FFA, (3) a prioritization and rationale for the OUs at NAS Pensacola; (4) activities and schedules for work planned for the current calendar year, including the schedule of submittal of primary documents; and (5) work projections of subsequent calendar years.

### 1.2 INSTALLATION RESTORATION PROGRAM

Brief descriptions, with a current regulatory status, of the sites and Potential Sources of Contamination (PSCs) identified under the FFA are presented in Section 2 of this document. The status of these sites will be coordinated, updated, and submitted during the NAS Pensacola Partnering Team meetings, which occur quarterly.

### 1.3 MILITARY MUNITIONS RESPONSE PROGRAM

The Department of Defense (DOD) has established the Military Munitions Response Program (MMRP) as a sister program to the Installation Restoration Program (IRP) under the Defense Environmental Restoration Program (DERP) to specifically address munitions and explosives of concern (MEC; including unexploded ordnance and discarded military munitions) and munitions constituents (MC) at other than operational military ranges and other sites. Closed, transferred or transferring (CTT) military ranges and

sites not located on an operational range are considered “other than operational”. As part of the Navy’s nationwide assessment of “other than operational” ranges at active installations, a Preliminary Assessment (PA) was completed at NAS Pensacola in 2007. The PA identified 10 “other than operational” ranges at NAS Pensacola, however three of the ranges including: the Chevalier Field Machine Gun Range, the Chevalier Field Pistol Range, and the National Cemetery Gunnery Range Area North were deemed not to require further action and were not carried forward to the Site Inspection (SI) stage. The individual ranges are listed and described on Table 1 in Section 2. In 2010, the Navy initiated SI at seven sites and the final SI Reports were submitted in September 2010. The SI Report recommended no further action for the Sherman Field Rifle Range. Additional investigation was recommended for the remaining six sites. Planning documents have been completed and the investigation fieldwork was completed during 2014. The Extended SI report for UXO 1 (Former Gun Ranges and Bombing Targets) was submitted in August 2014 and is scheduled for completion in calendar year 2015. The RI report for UXO 2 was completed in February 2014 and is currently being revised to address regulator comments.

#### **1.4 STATUS OF OPERATIONAL RANGE(S)**

Although operational military ranges are not subject to established DERP program requirements stemming from the need for DOD to comply with CERCLA and the NCP, at the request of U.S. EPA the following information is provided with regard to the status of the operational range(s) at NAS Pensacola:

The only operational range within the Pensacola Naval Complex is the pistol range at Sherman Field. The range construction was completed in 1953 and the range has been used continuously since then. The range is not certified for rifles with the exception of shotguns, which are used periodically. The range is utilized to certify military personnel in the use of pistols which are fired into targets placed in front of a large berm. The range is operated under “Best Management Procedures” including a “de-leading” operation where the backstop berm soils were removed, screened for lead (for proper disposal) and returned to the berm. There are no plans by the facility to close the range and there is no reason to believe any off-range release of hazardous substances has occurred in connection with the historical operation of this facility.

#### **1.5 PETROLEUM PROGRAM**

Because petroleum releases are excluded from coverage under CERCLA, the NAS Pensacola FFA does not extend to such releases on the facility. However to assist the NAS Pensacola Partnering Team with taking a holistic approach to tracking cleanup sites at the facility regardless of regulatory program, previous SMPs included a schedule for sites under the facility’s petroleum program as well. In 2011 the Navy and FDEP worked cooperatively to restructure a separate SMP for annual reporting of petroleum corrective action activities at the facility under the auspices of a 1990 Florida Petroleum Contamination Agreement; that information will not be provided in this document.

## 2.0 OVERALL MANAGEMENT APPROACH

As stated in the FFA and for the benefit of the parties involved in the revision and execution of the environmental activities in NAS Pensacola, specific program priorities and a brief history of the development of the sites are presented in this section.

### 2.1 PRIORITIES

Currently no actions are deemed necessary to mitigate any immediate threat to human health or the environment at NAS Pensacola.

### 2.2 BACKGROUND

The Navy developed the Navy Assessment and Control of Installation Pollutants (NACIP) Program to identify and control environmental contamination from past use and disposal of hazardous substances at Navy and Marine Corps Installations. The NACIP Program is now part of the Navy's IRP, and is similar to the U.S. EPA "Superfund" Program authorized by the CERCLA of 1980. The three major investigation activities performed at NAS Pensacola under the IRP or Superfund Programs are the following: (1) Initial Assessment Study (IAS) or PA, (2) Verification Study (VS) or SI, (3) and the Confirmation Study (CS) or Expanded Site Inspection (ESI). The IAS (1982-1983) was conducted by the Naval Energy and Environmental Support Activity (NEESA) and identified and assessed 29 PSCs at NAS Pensacola which could pose a potential threat to human health or the environment as a result of contamination from past naval operations. The VS (1984) and the CS (1985-1986) were conducted by Geraghty & Miller, Inc. to confirm or deny the presence of contamination at the PSCs identified in the IAS, as well as possibly locate additional PSCs. If contamination was detected, the magnitude and the extent of contamination would have been evaluated to allow for the recommendation of future remedial response action at these PSCs.

In addition to the Navy's IRP/CERCLA program, NAS Pensacola has other active regulatory programs. A Florida Resource Conservation and Recovery Act (RCRA) permit was issued to NAS Pensacola by the FDER (now known as FDEP). Concurrently, a RCRA Hazardous and Solid Waste Amendments (HSWA) permit was issued to the installation by U.S. EPA in August 1988. A RCRA Facility Assessment was included in the U.S. EPA issued permit, and additional PSCs were located. Currently the facility is operating under a Post Closure Permit (permit number 0154498-005-HF) completed on 12 September 2008. The permit will expire on 20 September 2016. An Underground Storage Tank (UST) program is currently investigating multiple tank sites as provided by the Chapter 62-780 Florida Administrative Code.

A total of 46 PSCs have been identified at NAS Pensacola. Of the 46 PSCs, 26 PSCs have been classified as requiring Remedial Investigation and Feasibility Study (RI/FS) status and 19 PSCs have

been classified as requiring screening status in accordance with the FFA. PSC 30 was combined with PSC 31 and eventually grouped into OU 2. Twenty-two PSCs (all classified as RI/FS status) including PSCs 1, 2, 8, 9, 11, 12, 15, 17, 24, 25, 26, 27, 29, 30, 32, 33, 35, 38, 39, 40, 42, and 43, have had Records of Decisions (RODs) submitted.

Of the 19 screening PSCs, seven PSCs have been transferred to the UST program including PSCs 3, 19, 20, 21, 22, 23, and 37, and three PSCs have been transferred to the RCRA Program including PSCs 32, 33, and 35. Ten PSCs including PSC 4, 5, 7, 10, 13, 14, 16, 18, 28, and 36 received no action status following the Site Characterization phase. Screening PSC 6 was removed from the screening process because it is an active construction debris landfill exempt from the CERCLA screening process (correspondence dated 30 July 1997). PSC 34 received no action following completion and approval of a decision document in 2010 (Correspondence dated 9 February 2001). PSC 41, Combined Wetlands was elevated to RI/FS status and the NAS Pensacola Tier I Partnering Team elevated PSC 44, 45, and 46 to RI/FS status during the August 2006 meeting because elevated levels of chemicals of potential concern (COPCs) were identified in the Site Characterization Report investigation. U.S. EPA has assigned OU numbers to these sites (OU 19, 20, and 21, respectively). Table 1 provides a brief site description and contaminant source history for each of the PSCs. Table 2 identifies all PSCs and OU groupings and provides the regulatory status and last decision document completed.

For PSCs currently listed as RI sites, if upon review of the RI report, the Navy, U.S. EPA and FDEP agree that no remedial action is needed, then a draft Proposed Plan (PP) will be submitted in place of the FS. The Navy, U.S. EPA, and FDEP should make this decision as early in the process as possible and revise the appropriate enforceable schedules. During the investigation, if a removal action is deemed necessary or desirable, the Navy will provide a schedule indicating impacts to the current enforceable schedule for the consideration by the NAS Pensacola Tier I Partnering Team.

Specific changes have been made to facilitate the investigation at OUs 2 and 13. The RI/FS PSCs including 11, 26, 27, and 30 have been combined into OU 2 due to their geographic proximity and common potential remediation. (Note: PSC 27 was originally OU 7 and PSC 30 was originally OU 5.) The Screening PSCs including PSCs 12 (Scrap Bins) and 25 (Radium Spill Site) are associated with OU 2. It should be noted that PSC 25 was originally associated with OU 7. The original OU 9 — PSC 31 (Soil North of Building 648) has been combined with PSC 30 (Building 649 and 755) within OU 2 due to the proximity and similar contaminants. PSC 27 (Radium Dial Shop Sewer) and Screening PSC 25 have been moved and combined so they can be reported together with OU 2. This combination was necessary to allow study of contaminant migration across site boundaries.

Additional changes were agreed upon at the 22 August 1996, NAS Pensacola Tier I Partnering Team meeting. Due to the proximity of PSCs 8, 22, and 24 and the detected levels of contamination at PSCs 8 and 24, these sites were grouped into OU 13. Therefore, Screening PSC 24 (DDT Mixing Area) has been elevated to RI/FS status, and grouped into OU 13 based on geographic location. Screening PSC 8 (Rifle Range Disposal) has been elevated to RI/FS status and grouped into OU 13 based on geographic location. RI/FS PSC 22 has been transferred to the UST Program.

Seven PSCs (including: PSCs 3, 19, 20, 21, 22, 23, and 37) will not proceed in the IRP process. These PSCs were transferred to the Petroleum Program and the proposed schedule of deliverables is included in Florida Petroleum Contamination Agreement Annual Site Management Plan Amendment. The FDEP has a regulated process for the assessment and remediation of sites contaminated with petroleum or petroleum products.

As agreed upon in the March 1999 NAS Pensacola Tier 1 Partnering Meeting in Tallahassee, Florida, the Navy, in a letter dated 6 March 2002, requested groundwater be handled under RCRA Authority at OU 10. The selected remedy for OU 10 was soil excavation, with deferral of groundwater treatment to the RCRA program. Soil excavation has been completed in accordance with the ROD and is documented in a Remedial Action Completion Report (RACR).

OU 10 met the criteria established in 62 Code of Federal Register Part 62523 to defer the site to the RCRA program. The transfer to RCRA, as concurred by FDEP and U.S. EPA, ensured that the remedy remains protective of human health and the environment, complies with federal and state requirements that were identified in the ROD as applicable or relevant and appropriate to this remedial action at the time the original ROD was signed. However, an Explanation of Significant Difference (ESD) will be completed for OU 10 in calendar year 2015 to document the transfer to RCRA.

The CERCLA RI/FS process is tailored to allow prioritization of PSCs according to potential threat to human health and the environment. The process initially focuses on source identification and delineation of contaminants identified in soil, sediment, groundwater, and surface water. Data are continually assessed and PSCs evaluated to determine if contamination is present, to what extent, and what further action is needed. Should a threat to human health or the environment exist, the process is responsive to provide time critical removal of contaminants from a PSC. If an initial data evaluation indicates a medium to be an immediate threat to human health or the environment, interim actions may be performed to mitigate the risk. If contamination is not judged to be an immediate threat, delineation may be performed on a larger scale by viewing local aquifer and surface water systems as individual OU(s). Those OUs may be impacted by several PSCs simultaneously.

Innovative ways are continually sought to reduce lengthy interim report development and review process. The innovative methods utilized by the NAS Pensacola Tier 1 Partnering Team such as offering data presentations and “on-board” document reviews to regulatory agencies allowing continual data assessment and rapid decision-making are good examples. “On board” reviews eliminate formal interim data submittals, thereby reducing the time required to make critical decisions at each PSC. Specifically, the data gaps and the information needed to fill those gaps are identified by evaluating the data itself rather than by evaluating a formal data report. These data presentations to concerned agencies offer effective communication and a reduced schedule to reach a ROD. A formal report is prepared once the nature and extent of contamination has been adequately delineated for the purposes of performing a Baseline Risk Assessment and selecting a Remedial Action. Decisions concerning data assessment and actions to be taken are made during NAS Pensacola Tier I Partnering meetings. These Tier I Partnering meetings provide a forum for discussion of investigative results and proposed actions.

As agreed upon in the FFA, the Navy shall update the SMP yearly. This SMP provides event management planning. Included in this SMP is a description of NAS Pensacola's PSC program arrangement into remedial activity categories and OUs. Updates will reflect changes in project priorities, changes in scheduling, and the addition or deletion of PSCs due to the site condition or program accomplishments with the continued regulatory agency and the Restoration Advisory Board (RAB).

Upcoming deliverables are listed in Appendix A. Additionally, the Community Involvement Plan update will be completed in calendar year 2015.

### **2.3 RATIONALE FOR OPERABLE UNIT GROUPING**

To initially facilitate implementation of the NAS Pensacola RI/FS program, the 26 PSCs requiring RI/FS were clustered into 17 OUs. Additional OUs and sites have been included through the years. The current list of OUs is as follows.

OU 1 = PSC 1	OU 11 = PSC 38	OU 17 = PSC 42
OU 2 = PSC 11, 12, 25, 26, 27 & 30	OU 12 = PSC 39	OU 18 = PSC 43
OU 3 = PSC 2	OU 13 = PSC 8 & 24	OU 19 = PSC 44
OU 4 = PSC 15	OU 14 = PSC 17	OU 20 = PSC 45
OU 6 = PSC 9 & 29	OU 15 = PSC 40	OU 21 = PSC 46
OU 10 = PSC 32, 33 & 35 (RCRA Program)	OU 16 = PSC 41	

The scheduled work at these OUs is being prioritized based on relative potential threat, schedule optimization, and task management. The criterion used to generate the RI/FS OUs was as follows:

- Geographic proximity of PSCs
- Similar contamination types
- Similar aquifer contamination zones
- Similar potential investigation methods
- Potential scope and complexity of the investigation
- Mission impact of remedial activities
- Regulatory concerns
- Similarity of potential remedial actions
- Potential for human exposure/contact
- Suspected mobility of potential contaminants
- Potential for off-site migration and exposure
- Relative threat to groundwater (e.g., suspected date, volume of release)

These OUs may be re-defined as more data are collected and evaluated. Ultimately, an OU will consist of PSCs and matrices which require similar remedial efforts, or potential for human exposure/contact, or for earlier remediation.

A description of the individual OUs, OU concerns, and status is provided in Table 1.

## **2.4 ACTIVE OPERABLE UNIT STATUS**

Currently at NAS Pensacola there are 11 active OUs and one PSC with investigation or remedial efforts ongoing. The active OUs include: OU 1, OU 2, OU 4, OU 10, OU 11, OU 13, OU 16, OU 18, OU 19, OU 20, OU 21, and OU 22. An ESI is currently being conducted at Building 3221. A description of the activities at each of the active OUs and the Building 3221 ESI is provided below.

### **OU 1 (Site 1 Former Sanitary Landfill)**

The OU 1 ROD was completed on 25 September 1998. Ongoing activities at the site include semi-annual sampling of groundwater and surface water. A draft Interim RACR (I-RACR) for groundwater was submitted to the regulatory agencies in 2013 and will be finalized in calendar year 2015. A Uniform Federal Policy Sampling Analysis Plan (UFP-SAP) for the Long-Term Monitoring (LTM) was completed and approved. LTM was initiated in August 2014.

Based on an Optimization Study completed in 2007, operation of the groundwater interceptor trench was discontinued in May 2010 because the system was not attaining groundwater or surface water

remedial action objectives. Subsequently, the Navy, U.S. EPA and FDEP agreed to transfer OU 1-associated wetlands (Wetlands 1B, 3, 4D, 15, and 18A/B) from OU 16 to OU 1. The UFP-SAP for the OU 1, OU 2, and OU 16 wetlands field investigation was finalized in October 2014. Sampling was initiated on 28 October 2014 and is planned to be completed in August 2015. If other areas of risk are identified at OU 1 wetlands, the remedial alternatives in the FS will address all areas of identified risk. A FS Report, PP and ROD Amendment will be completed. Based on the Five Year Review, the ROD Amendment will include:

- The decommissioning of the groundwater interceptor trench
- The revised surface water remedial action and point of compliance
- The revised groundwater and surface water RAOs
- The groundwater chemicals of concern (COCs) discrepancy between the PP and ROD
- The existing Land Use Controls (LUC) implementation policy and possibly completion of a LUC Remedial Design to update the LUC remedy
- Re-evaluation of applicable or relevant and appropriate requirements (ARARs) including the change in the federal arsenic maximum contaminant level (MCL) from 50 µg/L to 10 µg/L
- Future wetlands investigation and remedial actions will be removed from OU16, the Combined Wetlands and returned to OU1 for completion

#### **OU 2 (Sites 11, 12, 25, 26, 27, & 30)**

The OU 2 ROD was completed on 29 September 2008. Soil removals for CERCLA COCs have been completed at Sites 12, 25, and 30 during the period of 2010 through 2014. Soil removals for radium-226 (Ra-226) have been completed at Site 27 during 2010 to 2011. No soil removals were required for Site 26 because cleanup goals were not exceeded in soils at this site. A revised remedy for Site 11 is being proposed as described later in this section. In addition a Feasibility Study Addendum, PP and ROD Amendment are currently in preparation to amend the existing soil remedy for Site 11 of excavation and disposal of contaminated soils with LUCs by adding a soil cover with additional LUCs; to address the addition of asbestos as a soil COC at Site 11 and the addition of radium-226 as a soil COC for Sites 12 and 27. The FSA and PP are currently undergoing regulatory review and the ROD Amendment is expected to be submitted to the regulatory agencies during calendar year 2014. The ROD Amendment will also address minor changes to ARARs with the addition or modification of applicable State and Federal ARARs. The GSI is being completed and the GSI Report, summarizing the investigation and results, will be prepared and submitted in 2015. A Remedial Action Work Plan (RAWP) will be prepared

and the Remedial Action (RA) will be completed in calendar year 2015. The draft soil RACR and groundwater I-RACR are expected to be submitted in calendar year 2015. The Navy, U.S. EPA and FDEP agreed to transfer the OU 2-associated wetlands (Wetlands 5A, 6, 7, and 64 complex) from OU 16 to OU 2. The UFP-SAP for the OU 1, OU 2, and OU 16 wetlands field investigation was finalized in October 2014. Sampling was initiated on 28 October 2014 and is expected to be completed in August 2015. If areas of risk are identified during the OU 2 wetlands investigation, additional FS Addendum, PP, and ROD Amendment will be completed to address all areas of identified risk.

### **OU 3 (Site 2 Waterfront Sediments)**

The OU 3 ROD was completed on 30 September 2005. The selected "No Action" remedy for OU3 included a requirement that the site be included in the 5-Year Review but did not include site monitoring to confirm that natural attenuation processes are serving to reduce unacceptable risk to benthic organisms. U.S. EPA's review of the NAS Pensacola FY2013 5-Year Review indicated that some form of attenuation monitoring as well as a review of upgradient contaminated sites as potential contributors to further sediment contamination at OU 3 need to be undertaken before any protectiveness determination is made. The Navy did not agree, given the basis for the previous No-Action decision, that such monitoring or upgradient site review(s) are needed.

The Navy prepared a Technical Memorandum Recommendation for No Further Action at OU 3 to show how the NFA decision was reached. The Navy re-evaluated the baseline ecological risk assessment that was conducted as part of the RI Report Addendum in March 2004. Based on this evaluation, the Navy concluded that risks to the benthic organisms are not ecologically significant and do not warrant taking any actions to address sediment at the site. Therefore, OU 3 sediment does not pose an unacceptable risk to benthic invertebrates and site closure is appropriate and the Navy proposed that the site be removed from future NAS Pensacola 5-Year Reviews.

The FDEP issued a letter indicating that their previous decision of no further action was unchanged; the U.S. EPA indicated their concurrence with the decision of no further action and removal of the site from the 5-Year Review. A memorandum to file for the Administrative Record was prepared documenting the decisions and is currently in review. The memorandum to file, once approved and placed in the Administrative Record will formally document the decision and remove the site from the 5-Year Review process. An addendum to the 5-Year Review is being completed.

### **OU 4 (Site 15 Pesticide Rinsate Disposal Area)**

The OU 4 ROD was completed on 27 September 2000. Ongoing activities at the site include semi-annual sampling of groundwater. The primary COC for OU 4 groundwater is arsenic. Because the regulatory performance standard for arsenic in groundwater has changed since the ROD was signed,

an ESD describing the modification of the performance standard to the current federal MCL was prepared in 2014. The I-RACR for groundwater at OU 4, Site 15, was finalized in 2014.

The dieldrin standard per Florida Chapter 62-777, F.A.C. has changed from 0.1 µg/L to 0.002 µg/L since the ROD was signed. The change in the dieldrin standard will be included in the ESD currently being prepared.

LUCs were implemented under a Land Use Control Implementation Plan developed pursuant to a Land Use Control Action Plan (Memorandum of Agreement; [MOA]) executed by the U.S. EPA, FDEP, and the Navy in 1998. U.S. EPA has raised the issue of MOA enforceability. The Navy disagrees and believes the LUCs are fully enforceable through the OU 4 ROD. However, the Navy is willing to discuss with U.S. EPA and FDEP existing LUC implementation procedures intended to ensure site protectiveness so that the issue raised may be mutually resolved in calendar year 2015.

A background study has been conducted to evaluate natural levels of arsenic since source removal was previously performed. Comments from the regulatory agencies are currently being addressed and an updated background study will be submitted to the agencies in calendar year 2015.

#### **OU 10 (Sites 32, 33, and 35 Industrial Wastewater Treatment Plant)**

The OU 10 ROD was completed on 15 September 1997. This site was transferred to the RCRA program; however, a five year review requirement under CERCLA was retained. Activities at the site include an ongoing groundwater monitoring program. The arsenic MCL has changed from 50 µg/L to 10 µg/L. Although OU10 was previously transferred from the CERCLA to the RCRA program, a full transfer was not completed. A CERCLA Five-Year Review is still required even though it is managed under the RCRA program.

An ESD to document the change in arsenic MCL from 50 to 10 µg/L will be prepared in CY2015 for regulatory review. The ESD will evaluate and discuss the full transfer of OU10 to RCRA and remove the Five-Year Review requirement from the ROD. The ongoing Optimization Study of the in situ bioremediation system is being conducted under RCRA and is not included in this SMP.

#### **OU 11 (Site 38 Facility Hazardous Waste Storage)**

The OU 11 ROD was completed on 5 October 2006. The Navy initially submitted a groundwater monitoring plan for regulatory approval and the activities at the site include semi-annual sampling of groundwater. Subsequently, U.S. EPA requested that OU 11 groundwater monitoring be combined with OUs 20 and 21 because of the close proximity and the similar contaminants. A UFP-SAP for groundwater monitoring for OU 11, OU 20, and OU 21 was approved by the regulatory agencies on 28 August 2014. The first groundwater monitoring event was completed in October 2014. The draft I-RACR for

groundwater was previously submitted to the regulatory agencies on 3 May 2013, and will be resubmitted. The OU 11 I-RACR will also be dependent on whether the groundwater for OUs 20 and 21 will be integrated into OU 11.

**OU 13 (Sites 8 and 24 Rifle Range Disposal Area and DDT Mixing Area)**

The OU 13 ROD was completed on 5 October 2008. Ongoing activities at the site include annual sampling of groundwater. The draft I-RACR for groundwater was submitted to the regulatory agencies and was finalized on 18 September 2014. Based on the 2013 annual groundwater monitoring results, the Navy agreed to install two additional downgradient monitoring wells. The monitoring wells have been installed and are included in the LTM program.

**OU 16 (Site 41, Combined Wetlands)**

The OU 16, Site 41 draft FS report was submitted to the regulatory agencies in CY2010. However subsequent analysis by the NAS Pensacola Partnering Team indicated the need for better characterization of the vertical and horizontal spatial extent of contaminants and the refined risks in sediment and surface water at selected wetlands at the facility. The Navy agreed to complete a UFP-SAP for the investigation. The Navy, U.S. EPA, and FDEP agreed to transfer the OU 1-associated wetlands (Wetlands 1B, 3, 4D, 15, and 18A/B) and OU 2-associated wetlands (Wetlands 5A, 6, 7, and 64) from OU 16 to OU 1 and OU 2 respectively. The wetlands remaining in OU 16 include: 12, 48, and W2. The UFP-SAP for the OU 1, OU 2, and OU 16 wetlands field investigation was finalized in October 2014. The field investigation planned in the UFP-SAP began on 28 October 2014 and is expected to be completed in August 2015. The draft FS Report will be submitted in calendar year 2015 and the draft PP will be submitted in calendar year 2016.

**OU 18 (Site 43 Demolition Debris Disposal Area)**

The OU 18 ROD was completed on 12 April 2010. Remedial activities at the site include excavation of soils with COCs that exceed cleanup levels and quarterly groundwater sampling. Soil removals were completed during June and July 2013 and the groundwater monitoring phase was initiated in July 2013. Based on lead concentrations remaining in site soil at one location, additional soil sampling, LUCs and additional soil removals or engineering controls will be required. The Draft I-RACR for soil and groundwater were submitted to the regulatory agencies during October 2013. The I-RACR for soil is expected to be finalized during 2015. The baseline groundwater monitoring event occurred in July 2013, and first year groundwater monitoring has been completed during calendar year 2014. Based on results of the 2013 and 2014 groundwater monitoring effort, the Draft Annual Groundwater Monitoring Report will be submitted on 21 December 2014, and the Revised Draft I-RACR will be submitted on 24 April 2015.

**OU 19 (Site 44, Former UST Site 3221)**

OU 19, Site 44 was formerly in Informal Dispute due to concerns over the Monitored Natural Attenuation (MNA) remedy for groundwater that was selected as the preferred remedy in the draft final PP. The Informal Dispute was resolved on 14 September 2012, with the approval of the OU 19, Site 44 FS Addendum Work Plan. Additional groundwater delineation was determined to be necessary following the third round of groundwater sampling. The delineation activities are currently being completed. The fourth round of groundwater sampling will be completed following the delineation activities.

The draft FS Addendum will be submitted to the regulatory agencies in calendar year 2014. Responding to comments from the regulatory agencies and finalizing the FS Addendum are planned for calendar year 2015. Preparation of the PP and ROD are also planned for calendar year 2015.

The UFP-SAP for the environmental site investigation (ESI) of Building 3221 was finalized in calendar year 2014. The associated field work is expected to be completed in calendar year 2014. The revised draft ESI Report will be submitted to the regulatory agencies in calendar year 2015.

**OU 20 (Site 45, Building 603 Lead site)**

OU 20, Site 45 is currently in the PP stage. The draft PP was submitted to the regulatory agencies in calendar year 2010 and resubmitted in calendar year 2011. As requested by U.S. EPA, additional groundwater data collection will be completed to verify a potential groundwater MNA remedy. Subsequently, U.S. EPA requested that OU 11 groundwater monitoring be combined with OUs 20 and 21 because of the close proximity and the similar contaminants. A draft UFP-SAP for additional groundwater monitoring at OUs 11, 20, and 21 was approved by the regulatory agencies on 28 August 2014. Groundwater monitoring began in October 2014. A technical memorandum summarizing the results of the first monitoring event will be submitted in December 2014. OUs 20 and 21 will be considered for inclusion in OU 11 (Site 38) in calendar year 2015. The revised draft PP will be submitted in July 2015 and the ROD will be submitted in calendar year 2016.

**OU 21 (Site 46, Former Building 72)**

OU 21, Site 46 is currently in the PP stage and the draft PP was submitted to the regulatory agencies in calendar year 2011. As requested by U.S. EPA additional groundwater data collection is planned and will be completed to verify a potential groundwater MNA remedy. Subsequently, U.S. EPA requested that OU 11 groundwater monitoring be combined with OUs 20 and 21 because of the close proximity and the similar contaminants. A draft UFP-SAP for additional groundwater monitoring at OUs 11, 20, and 21 was approved by the regulatory agencies on 28 August 2014. Groundwater monitoring began in October 2014. A technical memorandum summarizing the results of the first monitoring event will be submitted in December 2014. OUs 20 and 21 will be considered for inclusion in OU 11 (Site 38) in

calendar year 2015. The revised draft PP will be submitted in July 2015 and the ROD will be submitted in calendar year 2016.

#### **OU 22 (MMRP UXO-002)**

OU 22 is in the RI phase. The draft RI report was prepared in calendar year 2014 and is currently being revised to address regulatory comments. The RI will be finalized in calendar year 2015. The FS and PP will be prepared in calendar year 2015.

#### **2.4.1 Additional Significant Items**

As indicated above, the promulgated MCL for arsenic in groundwater has been reduced. Based on a request from U.S. EPA, the Navy agreed to work towards developing an acceptable strategy for how the NAS Pensacola Partnering Team will assess, as needed, the continued protectiveness of sites at the facility where arsenic releases to groundwater have been previously identified.

The U.S. EPA had requested that I-RACRs be completed for groundwater remedial construction activities for sites with ongoing groundwater monitoring activities including OU 1, OU 2, OU 4, OU 11, and OU 13. Draft I-RACRs for groundwater were prepared for OU 1, 4, 11, and 13 in calendar year 2013. The I-RACRs for OUs 4 and 13 were finalized on 23 September 2014. The OU-2 I-RACR for groundwater will be completed during calendar year 2015. The OU 1 I-RACR will be submitted to the regulatory agencies in calendar year 2015. The OU 11 I-RACR schedule will be dependent on whether the groundwater for OU 20 and 21 will be integrated into OU 11.

**TABLE 1  
SITE DESCRIPTION CHART  
INSTALLATION RESTORATION PROGRAM  
NAS PENSACOLA  
PENSACOLA, FLORIDA**

PSC	Site Description	Waste Type	Regulatory Status
1	Sanitary Landfill (OU 1)	Solvents, polychlorinated biphenyl (PCB), plating solution, oil, paints, mercury, and asbestos	Long-Term Remedial Action (LTRA)
PSC 1, also referred to as Site 1 or OU 1, is an inactive sanitary landfill encompassing approximately 85 acres. The landfill surface varies from 8 to 20 feet above mean sea level and is densely vegetated with 15- to 40-foot tall planted pines and natural scrub vegetation. During the early 1950s and until the official closing 1 October 1976, a variety of domestic and industrial wastes generated from NAS Pensacola and other outlying Navy facilities were disposed at PSC 1.			
2	Waterfront Sediments (OU 3)	Solvents, cyanide, metals	No Action ROD (2005)
PSC 2 is along the southeastern shoreline of NAS Pensacola in Pensacola Bay. The site consists of near-shore sediments along the waterfront. From 1939 to 1973, untreated industrial wastes from Naval Aviation Depot and Naval Air Rework Facilities operations were routinely discharged into Pensacola Bay, near PSC 2. Over 34 years, an estimated 83 million gallons of the following materials were disposed of in the bay: waste-containing paint, paint solvents, thinners, ketones, trichloroethylene, alodine, mercury, and concentrated plating wastes (primarily chromium, cadmium, lead, nickel, and cyanide).			
3	Fire Fighting Training Area	Petroleum constituents	Transferred to Petroleum Program (UST Site 18)
PSC 3 (currently referred to as UST Site 18) occupies approximately 47.5 acres of open land along the southwestern border of Forrest Sherman Field. The site is bordered on the east by aircraft Runway 19, to the north by a paved taxiway, to the west by scattered brush and woods, and to the south by an open field. Between 1955 and 1997, the UST Site 18 area was used to train firefighters for aircraft crash responses, using available fuel as a combustion source. Historically, during training exercises, approximately 30 to 700 gallons of fuel were poured into unlined pits or onto various pieces of equipment and then ignited to simulate aircraft crashes. Firefighter training ceased at the PSC in May 1997.			
4	Army Rubble Disposal	Rubble, timber, pipes, other wastes	PSCR No Further Action (NFA) (1997)
PSC 4 (Site 4) is an area of about 150 feet by 800 feet southeast of Forrest Sherman Field, just north of Building 3260. In the early 1950s, rubble from tearing down the old United States Army barracks at Fort Barrancas was disposed of at Site 4. The rubble included timber, pipes, mattresses, and other waste.			
5	Borrow Pit	No disposal is known to have occurred at this site	PSCR NFA (1995)
PSC 5 (Site 5), a long, shallow pit about 1 foot deep, is southeast of Forrest Sherman Field and east of Building 3221. Soil was removed ("borrowed") from the site in 1976 for use elsewhere on the facility.			
6	Fort Redoubt Rubble Disposal Area	Construction debris, yard wastes	NFA Correspondence (dated August 8, 1997)
From 1973 onward, PSC 6 (Site 6) has been used for rubble disposal. The site is adjacent to PSC 5 and has reportedly received rubble and demolition wastes from the removal of several buildings on base. The site is generally rectangular shaped measuring approximately 450 feet by 1,650 feet. The site visit conducted during the Initial Assessment indicated the presence of concrete, wood, metal and a few plastic items. Evidence of hazardous waste disposal was not found at the site.			
7	Firefighting School	Petroleum, oils and lubricants	PSCR NFA (2000) & Completion Report (1998)
The firefighting training school in Building 1713 has been in operation since 1940. Training that involved gasoline fires (and perhaps other flammable liquids) in open tanks of water reportedly occurred west of Building 1713. The presence of a clearing and firefighting tower east to southeast of Building 1713 suggests there was training conducted in those areas as well. There is no evidence of hazardous waste disposal or threat to human health or the environment. A PSC was conducted in 1996 to determine if contaminants were present in onsite soils and groundwater above the residential PRGs. Soil and groundwater samples were collected and analyzed for target compound list and target analyte list parameters. Aluminum arsenic and iron exceeded soil PRGs and aluminum and iron exceeded secondary standards in groundwater. No organic constituents were detected above the PRGs in either soil or groundwater. The detected metals in groundwater were less than the NAS Pensacola reference concentration. A time critical soil excavation and offsite disposal remedial action was completed by the Navy in 1998 to remove the soil containing arsenic concentrations exceeding PRGs. The regulatory agencies approved NFA.			

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PENSACOLA, FLORIDA**

PSC	Site Description	Waste Type	Regulatory Status
8	Rifle Range Disposal Area	Solid waste, paper	Long-Term Remedial Action (LTRA)
<p>PSC 8, also referred to as Site 8 or OU 13, is a rifle range disposal area and is located in the area now occupied by Building 3561, which houses the NAS Pensacola Public Works Center (PWC) Maintenance/Material Department. This building covers an area approximately 550 feet by 163 feet. Surrounding the building is an asphalt parking lot on the eastern, western, and northern sides of the building. Along the southern side of the building lies a small grassy area. This area was reportedly used for the disposal of solid waste (primarily paper) from NAS Pensacola between 1951 and 1955, and disposal was accomplished by burning and burial. PSC 8 is surrounded by chain-link fencing. The site is not part of the Navy's MRP program. In 2004 and 2005 the Navy completed an Interim Removal Action for soils contaminated with cadmium and dieldrin. The ROD, completed in 2006, specified that the Site 8 soils did not pose a risk but groundwater concentrations exceeded remedial goals and MNA and LUCs were the selected remedy.</p>			
9	Navy Yard Disposal (OU 6)	Trash and refuse	NFA ROD (1999)
<p>This area was used for the disposal of trash and refuse during the period between 1917 and the early 1930s. It is reported that the PSC is shown on several old maps as the Navy Yard Dump or the Warrington Village Dump (NEESA, 1983). In the late 1960s, while trenching for the IWTP system, part of PSC 9 was excavated. Glass, scrap metal, and debris were unearthed. No unusual odor was reported associated with the PSC.</p>			
10	Commodore's Pond	Underwater storage of oak timbers	PSCR NFA (2000)
<p>During the mid-nineteenth century, screening PSC 10 was the location of a small surface water body used for the underwater storage of shaped oak timbers. This underwater storage method preserved the wood prior to its use for shipbuilding. The original pond's, no longer in existence, exact dimensions are unknown. PSC debris was unearthed in the late 1960s during trenching operations for installations of the IWTP system. Abandoned oak timbers were exhumed and reburied on Magazine Point. It is reported no hazardous materials were encountered during this effort.</p>			
11	North Chevalier Disposal Field (OU 2)	Industrial waste, oils, hazardous waste	ROD (2008)
<p>The North Chevalier Field Disposal Area, PSC 11 (Site 11), is a former landfill where industrial and municipal wastes were disposed and burned from the late 1930s to the mid-1940s. The area occupies approximately 20 acres southwest of an extension of Bayou Grande called the Yacht Basin. Surface elevations on the site are approximately 5 feet above mean sea level and topography slopes gently eastward toward Bayou Grande. Two prefabricated buildings — Buildings 3627 and 3628 — are near the center of the site. Building 3445, at the site's southeastern corner, is used to store outdated office equipment. A fenced area north and south of Building 3445 is used for outside storage of boats, trucks, and heavy equipment. This PSC is a former landfill that received industrial waste and oils, including hazardous waste.</p>			
12	Scrap Bins (OU 2)	Wet garbage material	ROD (2008)
<p>Screening PSC 12 is located approximately 800 feet northwest of Chevalier Field and 600 feet west of PSC 11. Most of the site area is enclosed by a fence and covered with a large concrete pad where heavy equipment is currently kept. From the early 1930s to mid-1940s, garbage from NAS Pensacola was placed in scrap bins and stored in this area (industrial waste was sent to the North Chevalier Disposal Area). Approximately 16 cubic yards (2 truckloads) per day of wet garbage was stored before being hauled off and used as livestock feed.</p>			
13	Magazine Point Rubble Disposal	Rubble, metal, concrete	PSCR NFA (1996)
<p>PSC 13 is located East of Building 3644 south of but in the same general area as PSC 32 and 33, and was identified in 1971 during the construction and upgrading of the existing WWTP. Beginning in 1965 the area between the dredge spoils area and Magazine Point was used as a rubble disposal area. A visual inspection conducted during the IAS indicated the presence of brick, concrete, wood scrap metal and other inert building wastes.</p>			
14	Dredge Spoil Fill	Dredge	PSCR NFA (1997)
<p>PSC 14 is located south of Building 3450 and Building 3220 and has been used for placement of dredge materials removed from Pensacola Bay. These materials represent the sand, mud, and debris found at various depths within the Pensacola Bay dredged channels and basins.</p>			

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15	Pesticide Rinsate Disposal Area (OU 4)	Organic pesticide	Long-Term Remedial Action (LTRA)
PSC 15 (Site 15, OU 4) is located in the northern portion of NAS Pensacola, and includes portions of the golf course, the golf course maintenance facilities, three concrete wash-down pads, two asphalt wash-down pads, a former pesticide/drum storage building, a removed UST, equipment storage buildings, and several in-use buildings. In the past, a sink located outside of Building 3586 and a floor drain in a concrete pad north of the building collected pesticide and herbicide residue waste and discharged them into a UST. The contents were periodically pumped out by a contracted agent before its removal in 1993. Reportedly, the UST was removed in 1993 and the contents of the tank were spread across the ground surface, approximately 200 feet north-northwest of Building 3447.			
16	Brush Disposal Area	Pruning and tree trimming refuse	PSCR NFA (1997)
PSC 16 (Site 16) is northeast of the east end of Forrest Sherman Field. From the late 1960s to 1973 the site was used for the disposal of brush pruned and trimmed at NAS Pensacola. The Army may have used part of the site to burn garbage and dispose of ash.			
17	Transformer Storage Yard (OU 14)	Dielectric oils, PCBs	NFA ROD (1998)
PSC 17 originated when transformers containing PCBs as well as PCB-free transformers were stored in a paved area west of East Avenue and north of Building 604. A black oily residue on the pavement was found to contain high levels of PCBs as well as other chlorinated hydrocarbons.			
18	PCB Spill Area	Transformer oil, PCBs	PSCR NFA (1996) & Completion Report (1998)
In 1966, a transformer at Substation A (located south of North Avenue and west of Center Avenue) reportedly failed, spilling approximately 50 gallons of transformer oil containing an unknown concentration of PCBs on the small gravel-covered area along the northeast side of substation A. It is assumed in the Initial Assessment Study (IAS) that no immediate cleanup effort was conducted. A Preliminary Site Screening Investigation was completed in 1996 and a time critical soil excavation and offsite disposal remedial action was completed by the Navy in 1998 to remove the soil containing PCB concentrations exceeding residential PRGs. The regulatory agencies approved NFA.			
19	Fuel Farm Pipeline Leak	Petroleum products	Transferred to Petroleum Program (UST Site 20)
PSC 19 (Site 19) is located southwest of Forrest Sherman Field, approximately 1,300 ft. west of the southern portion of Aircraft Runway 36. The site consists of an above ground dual pipeline, which runs between the fuel farm and the tank truck loading facility at Forrest Sherman Field (Buildings 1879 and 1880). Parallel to the pipeline is an unimproved dirt road. The site is surrounded on all sides by scattered brush and woods, and the site terrain is generally flat. The only building located in the immediate vicinity of the site is the Naval Base Pistol Range, approximately 1,300 ft. north of the site. The underground/aboveground pipeline supplies fuel for aircraft at Forrest Sherman Field from the fuel farm located to the south. A leak from the aboveground portion of the pipeline was reported to have occurred in 1958, releasing JP-4 fuel to the surrounding environment. The amount of fuel initially discharged was not measured, but it was estimated that more than 360,000 gallons of JP-4 fuel was discharged at the site.			
20	Pier Pipeline Leak	Petroleum products	Transferred to Petroleum Program (UST Site 21)
PSC 20 (Site 20) is situated along the Pensacola Bay shoreline and consists of an approximately 30-foot wide concrete loading area immediately adjacent to the pier seawall, surrounded by a large asphalt parking lot. Previously, there was a 1,300,000-gallon AST (No. 354) with a concrete containment wall adjacent to and west of the pier. This AST was used to contain Navy Special Fuel Oil, Distillate Diesel Fuel Marine (DFM), and JP-5 Jet Fuel from 1926 until the mid-1980. Pipelines extended from the fuel oil AST, presumably north toward Building 2573 to the berthing pier and possibly to other ship fueling areas. AST No. 354 was removed on 17 November 1993, and not replaced. The pipelines were inactive for several years. In 1981, a leak was discovered in the fuel pipeline leading to the berthing pier. According to available information, the lines had broken during the years of usage or were penetrated while a contractor was driving piles. The soil in the area of the leak appeared soaked with fuel oil, reportedly Navy Special Fuel Oil or DFM. An unknown volume of soil was removed and properly disposed of in 1981.			

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21	Sludge at Fuel Tanks	Petroleum products	Transferred to Petroleum Program (UST Site 22)
PSC 21 (Site 21) is the former location of an aviation gasoline (AVGAS) tank farm. From approximately 1940 to the late 1960s, nine ASTs were used to store aviation gasoline at the site. The tanks were routinely cleaned and the sludge from the bottoms of the tanks was disposed of on the ground surface in the immediate vicinity of the tanks. The ASTs have been removed from the site and the majority of the site is currently grass covered. Building 670, which is a fuel system pump house, is located at the eastern edge of the site, south of Radford Boulevard. Two USTs for contaminated fuel were reportedly associated with Building 670.			
22	Refueler Repair Shop	Petroleum products	Transferred to Petroleum Program (UST Site 26)
PSC 22 (Site 22) is the refueler repair shop located southwest of the intersection of John Tower Road and Taylor Road near the approximate center of NAS Pensacola. Crushed oyster shell, hard-packed gravel or soil, and weedy vegetation largely cover this irregularly shaped site, an approximately 300- by 400-foot (ft) open area. The site's southwestern edge is paved and Building 1659 occupies its southwest corner. The site is currently used for equipment and vehicle parking. The site is generally flat with a land surface elevation averaging 29 ft above mean sea level. The site history indicated that petroleum fuel might have been released in the past as refueling trucks underwent repair.			
23	Chevalier Field Pipe Leak	Petroleum products	Transferred to Petroleum Program (UST Site 23)
PSC 23 (Site 23) is located in the southwest part of the former Chevalier Field. The site was the result of two separate fuel leaks: Navy Special Fuel oil was spilled in 1965 and diesel fuel marine was spilled in 1968 or 1969. The leaks were repaired but no immediate attempt was made to recover the released fuel products.			
24	Dichlorodiphenyltrichloroethane (DDT) Mixing Area	DDT with diesel fuel	LTRA
PSC 24, also referred to as Site 24 or OU 13 is immediately north of Building 3561 and PSC 8. The northern portion is encompassed by the northwest corner of the Barrancas National Cemetery and contains many grave sites. The northern and central portions are primarily unpaved and sparsely covered with native grasses and trees. The southern portion contains a fenced storage area with a gravel and crushed shell surface. An unimproved dirt road runs east to west across the southern portion of the site. Site 24 was once used as a pesticide mixing and handling area. The site is currently used as a buffer zone for privacy between John H. Towers Road and the Barrancas National Cemetery.			
25	Radium Spill Site (OU 2)	Radioactive waste	ROD (2008)
PSC 25 (Site 25) is located on the eastern portion of NAS Pensacola just east of Murray Road and north of Farrar Road on the east side of Building 780. NEESA (1983) reported a small spill of low-level radioactive waste containing radium at this site in 1978. The spill occurred on pavement and was properly cleaned up according to NEESA. The spill occurred because drums of waste were being stored outside and allowed to corrode and leak. Building 780 was the location of radium removal operations for radium dials and other equipment. The equipment was decontaminated in the site location before being repainted in the radium dial shop (former Building 780). Contamination resulting from the spill or waste handling was the focus of the spill investigation.			
26	Supply Department Outside Storage (OU 2)	Industrial waste, oils	ROD (2008)
PSC 26 (Site 26) is a 90 square foot outside area, south of Building 684, used to store containers of industrial materials. Containers were stored on steel mats. Leakage is reported to have occurred from these containers. Because PSC 11 is downgradient from the area of PSC 26, investigations were conducted as part of OU 2.			
27	Radium Dial Shop Sewer (OU 2)	Radium, phosphorus	ROD (2008)
From 1940s to 1975, Building 709 was used to rework instrument dials painted with radium containing paint. Spent cleaning solutions and luminous paint were routinely poured into the sanitary sewer system. In 1976, the building was dismantled and the drain pipe found to have a reading of 1.2 millirems per hour (mR/hr). The drain pipe was removed to a depth of 18 inches. The remaining lateral underground portion of the pipe was capped and covered with concrete. In 1975, all activities related to radium painted instruments, including stripping and re-painting, were permanently moved to Building 780. Instrument dials were stripped using paint thinner, then soaked in a lye and nitric acid solution. Contaminated instrument cases were processed by soaking in a "turco" acid solution. Components were cleaned with a wire brush to remove all residues. All operations related to the radium dials are no longer completed at the facility. It is believed that the operations were discontinued in approximately 1995 when Naval Aviation Depot operations were discontinued.			

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28	Transformer Accident	Transformer oil	PSCR NFA (1997) & Completion Report (1998)
In 1969, a transformer fell from a truck traveling on Radford Boulevard, just north of Building 632. The transformer broke open and spilled approximately 50 gallons of transformer oil onto the pavement. At that time it was not known whether the oil contained PCBs. The oil was reportedly washed into a nearby storm sewer drain. A Preliminary Site Screening Investigation was completed in 1996 and a time critical soil excavation and offsite disposal remedial action was completed by the Navy in 1998. The regulatory agencies approved NFA.			
29	Soil South of Bldg. 3460 (OU 6)	Slimy black substance (unknown)	NFA ROD (1999)
In 1981, workers excavating soil beneath the concrete apron south of Building 3460 received skin burns from a "black slimy liquid" in the soil. Types of chemicals involved and extent of contamination are unknown. A leak in the nearby industrial sewer line from the Naval Aviation Depot facility was the expected source. A RI was conducted in 1994 that identified manganese, dieldren and PAH contaminated soils. In 1995 an Interim Removal Action was completed to remove and properly dispose of 422 cubic yards of contaminated soil. The ROD was completed in 1999 with the selected remedy of No Action. The ROD indicated: "Because hazardous substances do not remain onsite, the five year review does not apply."			
30	Buildings 649 and 755, Sewer Line TL 045/A north to IWTP (OU 2)	Metals, acids, caustic, degreasers, chromic solution, cyanide, paint, pesticides, paint thinner and sludge, industrial waste	ROD (2008)
Over a 15 year period north of Building 649, waste paint, thinner, and paint sludge were poured onto the ground in the area of Site PSC 30. A monitoring well located near the site indicated the presence of low concentrations of chlorinated hydrocarbons; however, analysis of additional samples did not detect CVOCs. The exact location of the disposal site in relation to the monitoring well is not reported. On October, 14 1992, the UST Program transferred 647N and 648N, which are at PSC 31, to the IRP. Building 755 operated 50 tanks located inside this building over a 10 year period as a plating facility for nickel, lead, tin, chromium and miscellaneous metals. These tanks, ranging in capacity from 50 to 200 gallons, were drained periodically into the ditch near the site.			
31	Soil North of Building 648	Paint waste and paint thinner	Incorporated into Site 30 and OU 2
Site 31 is an approximately 175- by 225 foot, unpaved area located adjacent to and north of Building 648 and Murray Road. North of the site is a large, tree covered parking area and immediately west of the site is a paved driveway. Most of the site area is enclosed by an iron and concrete fence. Building 648 was used for painting operations from 1949 until 1973. Typical operations included discarding the paint waste and spent paint thinner to the unpaved area north of the building.			
32	IWTP Sludge Drying Beds (OU 10)	F006 HW	Transferred to RCRA (2003)
PSC 30 sludge drying beds operated with the IWTP from 1971 to 1984. These units received listed hazardous waste sludge (F006) from the RCRA surface impoundment (IWTP Surge Pond), and, as a result, underwent RCRA closure in 1989. Contents of the drying beds (remaining sludge and leachate drainage system) and an underlying layer of sand were removed to about 6 feet below ground surface. Material removed was disposed of as a hazardous waste			
33	Wastewater Treatment Plant (WWTP) Ponds (OU 10)	F006 HW, wood, bricks	Transferred to RCRA (2003)
These surface impoundments consist of the domestic polishing pond, phenol/stabilization pond, and industrial surge pond. In 1987, the U.S. EPA RCRA Compliance Branch determined the polishing and stabilization ponds received listed F006 hazardous waste from the surge pond. The ponds were taken out-of-service. In 1988 to 1989, the ponds underwent RCRA permitted "clean closures".			
34	Solvent North of Bldg. 3557	Solvent detergent	NFA (2000)
During May 1984, a leak occurred in a pipeline at the north end of Building 3557. The leak reportedly resulted in the loss of solvent detergent used for cleaning aircraft. The solution contained 1.7 percent chlorinated aromatic hydrocarbons solvent. A field investigation was completed at Site 34 and soil contaminated with naphthalene and lead was identified, excavated and properly disposed of offsite. Naphthalene was detected in an onsite groundwater sample but was not detected in downgradient groundwater samples. Based on the soil removal it was expected that the limited area of elevated naphthalene detected in groundwater would naturally attenuate. The Navy proposed No Further Remedial Action for Site 34 and the regulatory agencies concurred (U.S. EPA letter 9/23/99; FDEP letter 9/8/00).			

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35	Miscellaneous IWTP Solid Waste Management Units (SWMUs) (OU 10)	Unknown	Transferred to RCRA (2003)
Site 35 Miscellaneous IWTP SWMUs operated with the IWTP from 1971 to 1984. These units received listed hazardous waste sludge (F006) from the RCRA surface impoundment (IWTP Surge Pond), and, as a result, underwent RCRA closure in 1989.			
36	IWTP Sewer Line	Industrial waste	NFA (1997)
The industrial waste sewer line is about 23,000 feet long and is located in an area approximately 1 mile wide by 1.5 miles long in the southeastern portion of NAS Pensacola. Flow within the sewer line is toward the IWTP, which is located at the northeast end of the base.			
37	Sherman Field Fuel Farm	Petroleum products	Transferred to Petroleum Program (UST Site 24)
The Sherman Field Fuel Farm site is located on the western perimeter of the base approximately 2,400 feet north of Radford Boulevard. The site is an approximately 3.5-acre fenced area including four cut and cover petroleum storage tanks (Tank Numbers 1884, 1886, 1887, and 1888). The petroleum storage tank system was installed in approximately 1945 and used to store JP-4 jet fuel. The fuel storage tanks were abandoned in place in 1995 when a new fuel facility was constructed adjacent to the south of the original fuel farm. The site history indicates, an equipment malfunction in 1983 resulted in the release of approximately 48,000 gallons of JP-4 jet fuel. NAS Pensacola personnel installed four recovery ditches initially and recovered approximately 600 to 700 gallons of free product.			
38	Bldg. 71, 604 and Sewer Line TL 073/C southwest to the end (OU 11)	Paint stripper, ketones, TCE, Industrial waste	ROD (2006)
Site 38 consists of the contaminated soil and groundwater identified at Buildings 71 and 604 and associated IWTP sewer line area of NAS Pensacola. Building 71 was used from 1935 to the late 1970s for aircraft paint stripping and painting operations, and consisted of a steel-framed structure with metal siding on a 10- to 14-inch-thick concrete slab. The building was approximately 100 feet wide by 160 feet long and approximately 35 feet high. Waste stored during this period reportedly consisted of solvents, acids, caustics, oxidizers, and liquid and non-liquid toxic materials. The building structure has been demolished. Building 604 was an irregularly shaped, brick/masonry structure built in 1937. Naval Aviation Depot metal plating operations were located in Building 604 until it was closed in May 1996. Initial plating operations were conducted in the western portion of Building 604 from approximately 1960 until the shop was demolished around 1970. Wastes from various operations at Site 38 (including paint stripping) were discharged to Pensacola Bay until the IWTP was built in 1973. Because of Hurricane Ivan damage (2004), the Navy elected to remove the buildings and associated parking lots.			
39	Oak Grove Campground Site (OU 12)	Debris, petroleum, oil and lubricants, broken clay, coal, cleaning solutions	ROD (1995) NFA ESD (1998)
Oak Grove is a campground area located immediately south of Sherman Field on the south side of Radford Boulevard. An area of stressed vegetation and stained soil approximately 150 feet in diameter was found near Pensacola Bay.			
40	Bayou Grande Area (OU 15)	Unknown	NFA ROD (2005)
Bayou Grande, an estuarine water body connected to Pensacola Bay, lies adjacent to the northern boundary of NAS Pensacola. Bayou Grande has a total surface area of approximately 1.5 square miles and approximately 20 miles of total coastline. Approximately 8.5 miles of Bayou Grande coastline border NAS Pensacola property. Bayou Grande, with a mean depth of approximately 6 feet, is part of a larger surface water system known as the Pensacola Bay System. Site 40 (OU 15), Bayou Grande, was included as a separate site for an RI based on the possible receipt of hazardous substances and that media within Site 40 may individually provide exposure pathways impacting human health and the environment.			

**TABLE 1  
SITE DESCRIPTION CHART  
INSTALLATION RESTORATION PROGRAM  
NAS PENSACOLA  
PENSACOLA, FLORIDA**

PSC	Site Description	Waste Type	Regulatory Status
41	NAS Pensacola Wetlands (OU 16)	Unknown	RI/FS
Site 41 encompasses all of the wetlands potentially impacted by site activities, both tidal and non-tidal, within the NAS Pensacola boundary. A U.S. EPA inventory of wetlands identified and enumerated 79 wetland complexes on NAS Pensacola. Two other wetlands were identified during habitat/biota surveys. For the purpose of these studies, freshwater and brackish water ponds, and drainage ditches are included as wetlands. The majority and largest of the wetlands on NAS Pensacola are located in the western portion of the installation, primarily south and west of Sherman Field. About a third of the 81 wetlands are located east of Sherman Field, where most of the IRP sites are located.			
42	Pensacola Bay (OU 17)	Unknown	NA ROD (1998)
NAS Pensacola is bordered on the south by Big Lagoon and Pensacola Bay, on the east by Pensacola Bay, and on the north by Bayou Grande. Only a very small portion of the western end of NAS Pensacola is farther than a mile from one of these bodies of water. Swampy areas exist on or near the western portion of NAS Pensacola. Man-made drainage ways and storm drains feed into the short intermittent streams emptying into Pensacola Bay and Bayou Grande.			
43	Demolition Debris Disposal Area 43 (OU 18)	Metals	ROD (2010)
Site 43 is located in a developed area of the base south of Taylor Road and west of Murray Road. A paved parking lot covers approximately 31,000 square feet of the site area. The site was identified in 1992 because of the discovery of a partially buried drum.			
44	Former UST 3221SW (OU 19)	Solvents	RI/FS
Site 44 is located at the southwest end of Building 3221, which is a large hangar currently used to refurbish aircraft used for museum display. Building 3221 is adjacent to Forrest Sherman Field. The hangar and adjacent paved areas were part of the Naval Air Rework Facility (NARF), and were probably used for aircraft maintenance before the current National Museum of Naval Aviation location opened in 1975. The paved area adjacent to the southwest corner of Building 3221 is currently used as a wash rack for cleaning aircraft and aircraft parts. Surface drainage in this area flows to a small concrete-lined ditch located on the southeast edge of the pavement. When aircraft parts washing activities are being conducted, a diverter system is used to direct the run off to the sanitary sewer system for treatment at the NAS Pensacola IWTP.			
45	Building 603 Lead Site (OU 20)	Lead	RI/FS
During an investigation to characterize Site 18 (PCB spill at Substation A), lead concentrations in soil were found to exceed screening levels in an area west of Site 18. This area was designated as PSC 45 (Site 45) — Building 603 Lead Site and its initial boundaries were presumed based on the Site 18 investigation. Site 45 lies near the intersection of Mustin Street and Center Avenue at NAS Pensacola.			
46	Former Building 72 (OU 21)	Metals	RI/FS
This PSC was discovered during the investigation of Site 38 — OU 11 (Building 71 Sewer Line). While investigating Site 38 (OU 11), lead concentrations detected appeared to be increasing further from the suspected source for Site 38. Buildings 71 and 72 were used from 1935 up to the late 1970's for aircraft paint stripping and painting. Before 1973, wastes from paint stripping and painting operations were discharged directly to Pensacola Bay. The release of contaminants at Site 46 probably resulted from routine aircraft maintenance activities and storage of materials used in these activities.			

**TABLE 1  
SITE DESCRIPTION CHART  
INSTALLATION RESTORATION PROGRAM  
NAS PENSACOLA  
PENSACOLA, FLORIDA**

PSC	Site Description	Waste Type	Regulatory Status
<b>Munitions Response Program Sites</b>			
--	Chevalier Field Machine Gun Range	Munitions constituents	NFA PA
The Chevalier Field Machine Gun Range is a 0.2-acre site located just north of Chevalier Field. Based on historical maps, the site was used from approximately 1939 to 1943. No other information regarding the range was located. Munitions use was probably limited to small arms ammunition; typical munitions used at a machine gun range included .30-and .50-caliber ammunition. Building 3644 has been constructed over the former range, and no former range features are present on the site.			
--	Chevalier Field Pistol Range	Munitions constituents	NFA PA
The Chevalier Field Pistol Range is a 1.2-acre site located northwest of Chevalier Field. Based on historical maps, the site was used from approximately 1940 to 1942. No other information regarding the range was located. Munitions use was probably limited to small arms ammunition; typical munitions used at a pistol range included .38-and .45-caliber ammunition. Building 781 and the adjacent parking area have been constructed over the former range, and no range features are present on the site. IRP Site 12 within OU 2 overlaps the northeast corner of the site. Sampling of groundwater at IRP Site 12 showed exceedances of some metals above Florida's groundwater cleanup target levels; however, lead concentrations were within RC for NAS Pensacola.			
--	Fort Barrancas Rifle Range (3 Ranges)	Munitions constituents	SI
The Fort Barrancas Rifle Range is a complex of three historical ranges: Fort Barrancas Rifle Range 1, Fort Barrancas Rifle Range 2a, and Fort Barrancas Rifle Range 2b. The range and associated butt and firing lines for Fort Barrancas Rifle Range 1 are denoted on a 1910 map that shows the range's orientation with a general direction of fire from northeast to southwest. Based on the map's depiction of the berm located closer to the firing position than the targets, munitions would have been fired over the berm and would have landed in Pensacola Bay and Big Lagoon. Fort Barrancas Rifle Ranges 2a and 2b were identified on an 1893 map that shows a range butt located near the front of Fort San Carlos at sea-level. Three firing points that fired towards a target in front of Fort San Carlos are denoted on the historical map, with the general direction of fire being from east to west or southeast to northwest, depending on the location of the firing point. Two of the firing points are denoted in the PA as Fort Barrancas Rifle Range 2a and Rifle Range 2b. The third firing point was marked as 'proposed', indicating that it may not have been in use.			
--	Fort Redoubt Skeet Range	Munitions constituents	SI
The Fort Redoubt Skeet Range, also denoted as Gunnery Range and Army Range on historical maps, is located approximately 300 feet to the southwest of the walls of Fort Redoubt. The range is denoted on maps dated 1930 through 1954. Based upon information obtained from the 1950 map, the Fort Redoubt Skeet Range appears to have been a single-field range. One structure (Building 1712) is denoted on maps dated 1949 through 1954. Two features that appear to be a berm and a ditch appear on maps dated 1930 through 1954; however, no document was identified that explained the use or affiliation of these features. No berm, ditch, or structures exist at the site or in the immediate vicinity. Approximately 30 percent of the area comprising the surface danger zone for the Skeet Range falls on land that was transferred to the Department of the Interior (managed by the National Park Service) in 1947.			
--	Magazine Point Bombing Target	Munitions constituents and munitions and explosives of concern	SI
The Magazine Point Bombing Target is a 72-acre site located on the Magazine Point peninsula, approximately 800 feet north of the boundary to Chevalier Field. The Magazine Point Bombing Target was first identified on a 1933 historical map, along with one powder magazine and a radio spotting system. The Bombing Target was no longer shown on a 1939 map. No records were located that indicate munitions used, or construction details; however, given the proximity to Chevalier Field, it is likely that the site was used as a practice bombing range. It is assumed in the PA that the Bombing Target utilized a typical 500-foot scoring arc to approximate the distance between the edge of the target and the dropped munitions.			

**TABLE 1  
SITE DESCRIPTION CHART  
INSTALLATION RESTORATION PROGRAM  
NAS PENSACOLA  
PENSACOLA, FLORIDA**

PSC	Site Description	Waste Type	Regulatory Status
--	Magazine Point Rifle Range	Munitions constituents	SI
The Magazine Point Rifle Range is an 8.6-acre site located on the Magazine Point peninsula that was used for small arms training during the early 1900's. The Rifle Range was a 1,000-yard range, with firing points at 200, 300, 500, 600, and 1,000 yards. Firing was directed towards the north into a backstop berm. The Rifle Range was partially destroyed by a hurricane in 1906 and no archival evidence exists of the range after 1910. The center of the 500-foot scoring arc for the Magazine Point Bombing Target lies just south of the 300 yard firing point for the Rifle Range, and a majority of the Rifle Range is encompassed within the surface danger zone for the Bombing Target.			
--	National Cemetery Gunnery Range Area North (4 ranges)	Munitions constituents	NFA PA
The National Cemetery Gunnery Area North is a 12-acre complex of four historical ranges: Gunnery Area North Machine Gun Range, Gunnery Area North Pistol Range, Gunnery Area North Rifle Range, and Gunnery Area North Firing Stand. Each of the ranges is identified on various historical maps dated between 1933 and 1954. The northern portion of the rifle range was reportedly excavated based on a review of 1950s and 1960s aerial photography and maps. No other information regarding the ranges was located. Munitions usage in the gunnery area was likely limited to .22-caliber, .30-caliber, .45-caliber, .50-caliber, and 20-millimeter (mm) small arms ammunition based on the typical munitions usage for each type of range. The National Cemetery Skeet and Trap Ranges site overlaps a portion of the Gunnery Area North. IRP Site 8 (Rifle Range Disposal Area) and IRP Site 24 (DDT Mixing Area) are collectively known as OU 13 and overlap the northern and western portion of the National Cemetery Gunnery Area North, including the area of the former target berm. Soil and groundwater sampling were conducted at OU 13 between 1995 and 2006. The 2006 ROD for OU 13 stipulates no further action for soil at OU 13 and LUCs to prevent use of the surficial aquifer for drinking water along with continued groundwater monitoring to be sufficient to protect human health and the environment (Tetra Tech, 2006b). The entire Gunnery Area North is developed, and no former range features were identified at the site.			
--	National Cemetery Gunnery Range Area South (2 ranges)	Munitions constituents	RI
The National Cemetery Gunnery Area South is a complex containing the Gunnery Area South Pistol Range and Machine Gun Range. The National Cemetery Gunnery Area South is located north of Hovey Road. The Machine Gun Range is identified on historical maps dated 1933 and 1939 through 1943. The Pistol Range is located just west of the Machine Gun Range, illustrated on maps dated 1940 through 1943. Currently the National Cemetery Gunnery Area South is completely developed. Structures include Building 488, Building 461, and the associated asphalt parking lots.			
--	National Cemetery Skeet Range and Trap Range (2 ranges)	Munitions constituents	RI
The National Cemetery Skeet and Trap Ranges site includes the National Cemetery Skeet Range and the National Cemetery Trap Range. The National Cemetery Skeet and Trap Ranges site is adjacent to the Barrancas National Cemetery. The Skeet Range is identified on one 1940 map, and the Trap Range is identified on maps dated 1941 and 1942. Currently the National Cemetery Skeet and Trap Ranges site is completely developed.			
--	Sherman Field Rifle Range	Munitions constituents	SI
The Sherman Field Rifle Range is located southwest of Sherman Field, within the boundaries of NAS Pensacola, and includes the area west of the former and present fuel farms. The Sherman Field Rifle Range was denoted on one historical map dated 1951 and titled "Jet Training Field Land Use Map." Direction of fire is assumed to have been from the north-northeast to the south-southwest, based upon the range orientation and the surrounding development, as depicted on historical maps. Firing lines would have been located on the northern end of the Sherman Field Rifle Range, near the Sherman airfield, and there were probably multiple firing points throughout the length of the range. The location of a berm for the Sherman Field Rifle Range could not be identified and was not denoted on the map.			

**Notes:**

AST — Above Ground Storage Tank  
CVOC — Chlorinated Volatile Organic Compound  
DDT — Dichlorodiphenyltrichloroethane  
DFM — Distillate Diesel Fuel Marine  
ESD — Explanation of Significant Difference  
FDEP — Florida Department of Environmental Protection  
FS — Feasibility Study  
IAS — Initial Assessment Study  
HW — Hazardous Waste  
IRP — Installation Restoration Program  
IWTP — Industrial Wastewater Treatment Plant  
LUC — Land Use Control  
MNA — Monitored Natural Attenuation  
NAS — Naval Air Station  
NEESA — Naval Energy and Environmental Support Activity  
NFA — No Further Action  
OU — Operable Unit  
PA — Preliminary Assessment  
PCB — Polychlorinated Biphenyl  
PRG — Preliminary Remediation Goal  
PSCR — Preliminary Site Characterization Report  
PSC — Potential Source of Contamination  
PWC — Public Works Center  
RC — Reference Concentration  
RCRA — Resource Conservation and Recovery Act  
RI — Remedial Investigation  
ROD — Record of Decision  
SI — Site Inspection  
SWMU — Solid Waste Management Unit  
TCE — Trichloroethene  
U.S. EPA — United States Environmental Protection Agency  
UST — Underground Storage Tank  
WWTP — Wastewater Treatment Plant

**TABLE 2  
POTENTIAL SOURCES OF CONTAMINATION AND SITE STATUS  
INSTALLATION RESTORATION PROGRAM  
NAS PENSACOLA  
PENSACOLA, FLORIDA**

PSC No.	OU Group	SITE SWMU UST AOC PSC	Site Name	FFA Screening Site	ROD Date	NFA date	Regulatory Status	Last Decision Document	Comments
1	1	1	Sanitary Landfill	No	09/25/98	NA	Active remedy	Annual Monitoring Report; OU 1 LTM UFP-SAP, Wetlands UFP-SAP	Groundwater monitoring is to be conducted until concentrations are below standards; An Optimization Study was completed in 2005. A ROD amendment will be required. A UFP-SAP for LTM is currently being finalized. Wetlands 1B, 3, 4D, 15, 18A and 18B have been transferred from OU 16 to OU 1. The UFP-SAP for the wetlands has been completed.
2	3	2	Waterfront Sediments	No	09/30/05	9/30/05	ROD	No Action, Technical Memorandum Presenting NFA Rationale	A technical memorandum presenting the Navy's decision for NFA was finalized in 2014.
3		UST 18	Crash Crew Training Area	No	NA	NA	Transferred to Florida Petroleum Program		
4		4	Army Rubble Disposal Site	Yes	NA	09/30/97	No Action	Preliminary Site Characterization Report	Site 4 Preliminary Site Characterization Report (7/31/97)
5		5	Borrow Pit	Yes	NA	10/04/95	No Action	Preliminary Site Characterization Report	Site 5 Preliminary Site Characterization Report (7/7/95)
6		6	Fort Redoubt Rubble Disposal Area	Yes	NA	10/22/97	No Action	FDEP approval letter (10/22/97)	
7		7	Fire Fighting Training School	Yes	NA	11/09/00	No Action	Preliminary Site Characterization Report	Site 7 Preliminary Site Characterization Report (01/17/97) Project Completion Report - Remediation Work (11/19/98; Time Critical Removal Action)
8	13	8	Rifle Range Disposal	No	10/05/08	NA	Active remedy	Annual Monitoring Report, groundwater I-RACR	A groundwater I-RACR has been finalized. Additional monitoring wells were installed and added to the LTM program during calendar year 2014.
9	6	9	Navy Yard Disposal Site	No	09/07/99	09/23/99	ROD	No Further Action	
10		10	Commodore's Pond	Yes	NA	11/09/00	No Action	Preliminary Site Characterization Report	Site 10 Preliminary Site Characterization Report (11/95); Project Completion Report — Remediation Work (11/19/98; Time Critical Removal Action)
11	2	11	North Chevalier Disposal Area	No	09/29/08	NA	Active remedy	Remedial Design, RA UFP SAP, Groundwater to Surface Water Interface UFP SAP, Wetlands UFP-SAP	A ROD Amendment is currently being prepared to incorporate an amendment to the soil remedy and to incorporate asbestos as a soil COC. LTM for groundwater contaminants. Wetlands 5A, 6, 7, and 64 have been transferred from OU 16 to OU 2. The UFP-SAP for the wetlands has been completed. GSI study is underway during 2014 and 2015.
12	2	12	Scrap Bins	Yes	09/29/08	NA	Active remedy	Remedial Design, RA UFP SAP, Groundwater to Surface Water Interface UFP SAP, Wetlands UFP-SAP, ROD Amendment	A ROD Amendment is currently being prepared to incorporate radium-226 as a soil COC. LTM for groundwater contaminants. Wetlands 5A, 6, 7, and 64 have been transferred from OU 16 to OU 2. The UFP-SAP for the wetlands has been completed.
13		13	Magazine Point Rubble Disposal Area	Yes	NA	08/14/96	No Action	Preliminary Site Characterization Report	Site 13 Preliminary Site Characterization Report (9/95)
14		14	Dredge Spoil Fill Area	Yes	NA	07/09/97	No Action	Preliminary Site Characterization Report	Site 14 Preliminary Site Characterization Report (11/17/95)
15	4	15	Pesticide Rinsate Disposal Area	No	09/27/00	NA	Active remedy	Annual Monitoring Report	An ESD is currently being prepared to change the performance standard for arsenic to the current federal maximum contaminant level.
16		16	Brush Disposal Area	Yes	NA	07/11/97	No Action	Preliminary Site Characterization Report	Site 16 Preliminary Site Characterization Report (1/17/97)
17	14	17	Transformer Storage Yard	No	08/19/98	09/25/98	ROD	No Action	
18		18	PCB Spill at Substation A	Yes	NA	11/09/00	No Action	Preliminary Site Characterization Report & Removal Action Completion Report	Site 18 Preliminary Site Characterization Report (7/31/96). Project Completion Report — Remediation Work (11/19/98; Time Critical Removal Action)

**TABLE 2  
POTENTIAL SOURCES OF CONTAMINATION AND SITE STATUS  
INSTALLATION RESTORATION PROGRAM  
NAS PENSACOLA  
PENSACOLA, FLORIDA**

PSC No.	OU Group	SITE SWMU UST AOC PSC	Site Name	FFA Screening Site	ROD Date	NFA date	Regulatory Status	Last Decision Document	Comments
19		UST 19	Fuel Farm Pipeline Leak	Yes	NA	NA	Transferred to Florida Petroleum Program		
20		UST 21	Pier Pipe Leak	Yes	NA	NA	Transferred to Florida Petroleum Program		
21		UST 22	Sludge at Fuel Tanks	Yes	NA	NA	Transferred to Florida Petroleum Program		
22		UST 26	Refueler Repair Shop	No	NA	NA	Transferred to Florida Petroleum Program		
23		UST 23	Chevalier Field Pipe Leak	Yes	NA	NA	Transferred to Florida Petroleum Program		
24	13	24	DDT Mixing Area	No	10/05/08	NA	Active remedy	Annual Monitoring Report, groundwater I-RACR	A groundwater I-RACR has been finalized. Additional monitoring wells will be installed and added to the LTM program during calendar year 2014.
25	2	25	Radium Spill Site	Yes	09/29/08	NA	Active remedy	Remedial Design, RA UFP SAP, Groundwater to Surface Water Interface UFP SAP, Wetlands UFP-SAP, ROD Amendment	LTM for groundwater contaminants. Wetlands 5A, 6, 7, and 64 have been transferred from OU 16 to OU 2. The UFP-SAP for the wetlands has been completed.
26	2	26	Supply Department Outside Storage	No	09/29/08	NA	Active remedy	Remedial Design, RA UFP SAP, Groundwater to Surface Water Interface UFP SAP, Wetlands UFP-SAP, ROD Amendment	LTM for groundwater contaminants. Wetlands 5A, 6, 7, and 64 have been transferred from OU 16 to OU 2. The UFP-SAP for the wetlands has been completed.
27	2	27	Radium Dial Shop Sewer	No	09/29/08	NA	Active remedy	Remedial Design, RA UFP SAP, Groundwater to Surface Water Interface UFP SAP, Wetlands UFP-SAP	An FSA, PP and ROD Amendment are currently being prepared to incorporate radium-226 as a soil COC. LTM for groundwater contaminants. Wetlands 5A, 6, 7, and 64 have been transferred from OU 16 to OU 2. The UFP-SAP for the wetlands has been completed.
28		28	Transformer Accident	Yes	NA	06/13/97	No Action	Site Characterization Report	Site 28 Preliminary Site Characterization Report (12/18/96)
29	6	29	Soil South of Building 34	No	09/27/99	01/31/01	ROD	No Action	
30	2	30	Building 649 & 755	No	09/29/08	NA	Active remedy	Remedial Design, RA UFP SAP, Groundwater to Surface Water Interface UFP SAP, Wetlands UFP-SAP, ROD Amendment	LTM for groundwater contaminants. Wetlands 5A, 6, 7, and 64 have been transferred from OU 16 to OU 2. The UFP-SAP for the wetlands has been completed.
31		31	Soil North of Building 648	No	NA	NA	No Action	Letter	Site 31 was addressed in the OU 2 investigation. A ROD Amendment is required for the asbestos and radium-226 COCs. LTM for groundwater contaminants. Wetlands 5A, 6, 7, and 64 have been transferred from OU 16 to OU 2. The UFP-SAP for the wetlands Additional monitoring wells were installed and added to the LTM program during calendar year 2014.
32	10	32	IWTP Sludge Drying Beds	No	09/16/97	08/12/03	Transferred to RCRA Program	RA Completion Report	Remedial Action Completion Report (1/9/98). An ESD revising the MCL for arsenic and eliminating the requirement for inclusion in CERCLA 5-Year Review is being prepared.
33	10	33	WWTP Ponds	No	09/16/97	08/12/03	Transferred to RCRA Program	RA Completion Report	Remedial Action Completion Report (1/9/98). An ESD revising the MCL for arsenic and eliminating the requirement for inclusion in CERCLA 5-Year Review is being prepared.

**TABLE 2  
POTENTIAL SOURCES OF CONTAMINATION AND SITE STATUS  
INSTALLATION RESTORATION PROGRAM  
NAS PENSACOLA  
PENSACOLA, FLORIDA**

PSC No.	OU Group	SITE SWMU UST AOC PSC	Site Name	FFA Screening Site	ROD Date	NFA date	Regulatory Status	Last Decision Document	Comments
34		34	Solvent North of Building 3557	Yes	NA	09/08/00	No Action	Letter (8/18/99)	
35	10	35	Misc. IWTP SWMUs	Yes	09/16/97	08/12/03	Transferred to RCRA Program	RA Completion Report	Remedial Action Completion Report (1/9/98). An ESD revising the MCL for arsenic and eliminating the requirement for inclusion in CERCLA 5-Year Review is being prepared.
36		36	Industrial Waste Sewer Line	Yes	NA	07/16/97	No Action	Site Characterization Report	Site 36 Preliminary Site Characterization Report (4/25/97)
37		UST 24	Sherman Field Fuel Farm	Yes	NA	NA	Transferred to Florida Petroleum Program		
<b>Sites Added Post Federal Facilities Agreement</b>									
	11	38	Facility Hazardous Waste Storage	No	10/05/06	NA	Active Remedy	Draft UFP-SAP	OU 20 and 21 groundwater may be included in OU 11.
	12	39	Oak Grove Campground	No	08/30/95	03/06/98	ROD	No Further Action & ESD	OU 12 Explanation of Significant Differences (9/22/97)
	15	40	Bayou Grande Area	No	09/30/05	9/30/05	ROD	No Further Action	
	16	41	Combined Wetlands	No	NA	NA		Draft UFP-SAP	Additional sampling was determined to be needed. A UFP-SAP for sediment and surface water sampling is being completed. OU 1 wetlands (1B, 3, 4D, 15, 18A/B) have been transferred to OU 1. OU 2 wetlands (5A, 6, 7, and 64 complex) have been transferred to OU 2. Wetland 12, 48 and W2 will remain OU 16. The UFP-SAP has been completed.
	17	42	Pensacola Bay Area	No	09/25/98	09/25/98	ROD	No Further Action	
	18	43	Demolition Debris Disposal Area	No	04/12/10	NA	Remedial Action	Final Remedial Action Work Plan	Excavation is completed. Draft I-RACR submitted during 2013. Residual lead contamination in surface soil being addressed either with additional soil removals or engineering controls. LUC and MNA are being implemented.
	19	44	Former UST Site 3221	No	NA	NA	Informal Dispute was resolved with completion of FS Addendum Work Plan	Draft Feasibility Study Work Plan (UFP SAP)	
	20	45	Building 603 Lead Site	No	NA	NA	Proposed Plan	Draft Proposed Plan and Draft UFP-SAP	UFP-SAP for groundwater monitoring has been completed. OU 20 and 21 groundwater may be included in OU 11.
	21	46	Former Building 72	No	NA	NA	Proposed Plan	Draft Proposed Plan and Draft UFP-SAP	UFP-SAP for groundwater monitoring has been completed. OU 20 and 21 groundwater may be included in OU 11.
		UXO 1	MMRP	No	NA	NA	ESI	Draft ESI report	Revised Draft ESI report is being completed.
	22	UXO 2	MMRP	No	NA	NA	Remedial Investigation Report	Draft Remedial Investigation Report	Remedial Investigation Report is being completed.
		N/A	Building 3221	No	NA	NA	ESI	Draft ESI UFP-SAP	ESI UFP-SAP was completed.

**Notes:**

AOC — Area of Concern

CERCLA — Comprehensive Environmental Response, Compensation and Liability Act

CY — Calendar Year

DDT — Dichlorodiphenyltrichloroethane

ESD — Explanation of Significant Difference

FDEP — Florida Department of Environmental Protection

I-RACR — Interim Remedial Action Completion Report

IWTP — Industrial Wastewater Treatment Plant

LTM — Long Term Monitoring

LUC — Land Use Control

MNA — Monitored Natural Attenuation

NA — No Action

NFA — No Further Action

OU — Operable Unit

PSC — Potential Source of Contamination

RA — Remedial Action

RCRA — Resource Conservation and Recovery Act

ROD — Record of Decision

SWMU — Solid Waste Management Unit

UFP-SAP — Uniform Federal Policy Sampling and Analysis Plan

UST — Underground Storage Tank

ESI — Expanded Site Inspection

NA — Not assigned.

## 2.5 PRIMARY AND SECONDARY DOCUMENTS

The NAS Pensacola FFA specifically designates “primary documents” and “secondary documents” that are part of the RI/FS and Remedial Design/Remedial Action (RD/RA) process. Primary documents are major, discrete portions of RI/FS or RD/RA activities. Primary documents are initially issued by the Navy in draft form subject to review and comment by U.S. EPA and FDEP. Following receipt of comments on a particular draft primary document, the Navy will respond to the comments received and issue a draft-final primary document. The draft final document will become the final document 30 calendar days after issuance if dispute resolution is not initiated.

Secondary documents include those reports, plans, and studies that are discrete portions of the primary documents and are typically input or feeder documents. Secondary documents are initially issued by the Navy in draft form subject to review and comment by U.S. EPA and FDEP. Although the Navy will respond to comments received, the draft secondary documents may be finalized in the context of the corresponding primary documents.

The FFA specifies the following primary documents and unless otherwise specified the documents shall be for a specific OU.

### **NAS Pensacola Primary Documents**

- Site Management Plan
- Site Community Relations Plan
- RI/FS Work Plans
- Baseline Risk Assessment Reports
- Remedial Investigation Reports
- Feasibility Study Reports
- Proposed Remedial Action Plans
- Records of Decision
- Remedial Design Reports
- Remedial Action Work Plans
- Final Remediation Reports
- Five Year Review Reports
- National Priorities List Closeout Reports
- Interim Remedial Action Completion Reports
- Remedial Action Completion Reports

**NAS Pensacola Secondary Documents**

- Preliminary Characterization Summary Reports
- Site Health and Safety Plans
- Preliminary Risk Assessments
- Site Sampling and Analysis Plans
- Site Quarterly Progress Reports
- Treatability Study Reports
- Remedial Action Progress Reports
- Remedial Design Implementation Plans
- Remedial Pre-Design Reports
- Remedial Action Post Construction Reports

### **3.0 SCHEDULING**

OU schedules are based on the issuance of draft primary and secondary submittals. The schedule is in accordance with the FFA and reflects U.S. EPA and FDEP input allowing for review periods based on their resources. The SMP schedule assumes no delays for dispute resolutions. The final comment responses to be submitted with each draft final primary document shall be the product of consensus of all Parties to the maximum extent practicable. In order to achieve this goal, the Navy shall notify the Parties in writing of any difficulties which it foresees in adequately addressing any agency's comments as soon as possible, and no later than 60 days from receipt of all regulatory comments. Submittal dates of Draft Primary documents to the FFA parties for IRP activities are presented in tabular format in Appendix A. Appendix B provides a summary of the FFA specified document review periods.

## REFERENCES

Federal Facilities Agreement between United States Environmental Protection Agency, Florida Department of Environmental Regulation for the State of Florida and United States Department of the Navy for the United States Naval Air Station Pensacola, Pensacola, Florida. 1990.

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NEESA (Naval Energy and Environmental Support Activity). Initial Assessment Study of Naval Air Station, Pensacola, Pensacola, Florida. 1983.

**APPENDIX A**  
**INSTALLATION RESTORATION PROGRAM SCHEDULE**

**TABLE A — 1**  
**NEAR TERM AND OUT YEAR MILESTONES**  
**SITE MANAGEMENT PLAN CALENDAR YEAR 2015**  
**NAS PENSACOLA**  
**PENSACOLA, FLORIDA**  
**Page 1 of 4**

Site	Primary or Secondary Document	CY2015	CY2016	CY2017	CY2018
OU 1 (Site 1)	Primary Documents				
	Draft OU 1 Wetlands Feasibility Study Addendum	29 November 2015			
	Draft OU 1 Wetlands Proposed Plan		June 2016		
	Draft OU 1 Wetlands ROD Amendment		September 2016		
	Draft OU 1 Wetlands Remedial Design			April 2017	
	Draft OU 1 Wetlands Remedial Action Work Plan			November 2017	
	Secondary Documents				
	Draft 2014 Annual Monitoring Report	1 March 2015			
	Draft 2015 Annual Monitoring Report		February 2016		
	Draft 2016 Annual Monitoring Report			February 2017	
Draft 2017 Annual Monitoring Report				February 2018	
OU 2 (Sites 11, 12, 25, 26, 27 & 30)	Primary Documents				
	Draft OU 2 Remedial Action Work Plan Addendum	11 February 2015			
	Draft Soil Remedial Action Completion Report and Groundwater Interim Remedial Action Completion Report	21 August 2015			
	Draft OU 2 Wetlands Feasibility Study	29 November 2015			
	Draft OU 2 Wetlands Proposed Plan		June 2016		
	Draft OU 2 Wetlands Record of Decision Amendment		September 2016		
	Draft OU 2 Wetlands Remedial Design			April 2017	
	Draft OU 2 Wetlands Remedial Action Work Plan			November 2017	
	Secondary Documents				
	Draft GSI Report	04 February 2015			
	Annual 2014 Groundwater Monitoring Report	11 July 2015			
	Annual 2015 Groundwater Monitoring Report		July 2016		
	Annual 2016 Groundwater Monitoring Report			July 2017	
Annual 2017 Groundwater Monitoring Report				July 2018	
OU 4 (Site 15)	Primary Documents				
	None				
	Secondary Documents				
	Draft 2014/2015 Annual Monitoring Report	30 May 2015			
	Draft 2015/2016 Annual Monitoring Report		May 2016		
	Draft 2016/2017 Annual Monitoring Report			May 2017	
Draft 2017/2018 Annual Monitoring Report				May 2018	

**TABLE A — 1**  
**NEAR TERM AND OUT YEAR MILESTONES**  
**SITE MANAGEMENT PLAN CALENDAR YEAR 2015**  
**NAS PENSACOLA**  
**PENSACOLA, FLORIDA**  
 Page 2 of 4

Site	Primary or Secondary Document	CY2015	CY2016	CY2017	CY2018
OU 10 (Sites 32, 33 and 35)	Primary Documents				
	Draft ESD	18 February 2015			
	Secondary Documents				
	None				
OU 11 (Site 38)	Primary Documents				
		None			
	Secondary Documents				
	Draft 2014 Annual Monitoring Report	5 July 2015			
	Draft 2015 Annual Monitoring Report		July 2016		
	Draft 2016 Annual Monitoring Report			July 2017	
	Draft 2017 Annual Monitoring Report				July 2018
OU 13 (Sites 8 & 24)	Primary Documents				
	None				
	Secondary Documents				
	Draft Year 8 Annual Groundwater Monitoring Report	29 January 2015			
	Draft Year 9 Annual Groundwater Monitoring Report		January 2016		
	Draft Year 10 Annual Groundwater Monitoring Report			January 2017	
Draft Year 11 Annual Groundwater Monitoring Report				January 2018	
OU 16 (Site 41)	Primary Documents				
	Draft Feasibility Study	29 November 2015			
	Draft Proposed Plan		June 2016		
	Draft ROD		September 2016		
	Draft Remedial Design			April 2017	
	Draft Remedial Action Work Plan			November 2017	
	Secondary Documents				
None					
OU 18 (Site 43)	Primary Documents				
	Revised Draft I-RACR	24 April 2015			
	Secondary Documents				
Annual Groundwater Monitoring Report	21 November 2015				

**TABLE A — 1**  
**NEAR TERM AND OUT YEAR MILESTONES**  
**SITE MANAGEMENT PLAN CALENDAR YEAR 2015**  
**NAS PENSACOLA**  
**PENSACOLA, FLORIDA**  
 Page 3 of 4

Site	Primary or Secondary Document	CY2015	CY2016	CY2017	CY2018
OU 19 (Site 44)	Primary Documents				
	Draft Proposed Plan	11 April 2015			
	Draft Record of Decision	6 September 2015			
	Draft Remedial Design		February 2016		
	Draft Land Use Control Remedial Design	3 December 2015			
	Draft Remedial Action Work Plan		April 2016		
	Draft Interim Remedial Action Completion Report for Groundwater		April 2016		
	Draft Remedial Action Completion Report for Soil			January 2017	
	Secondary Documents				
	Draft 4 <sup>th</sup> Event Tech Memo	8 February 2015			
OU 20 (Site 45)	Primary Documents				
	Revised Draft Proposed Plan	7 July 2015			
	Draft Record of Decision		January 2016		
	Draft Remedial Design		August 2016		
	Secondary Documents				
None					
OU 21 (Site 46)	Primary Documents				
	Revised Draft Proposed Plan	7 July 2015			
	Draft Record of Decision		January 2016		
	Draft Remedial Design		August 2016		
	Secondary Documents				
None					

**TABLE A — 1**  
**NEAR TERM AND OUT YEAR MILESTONES**  
**SITE MANAGEMENT PLAN CALENDAR YEAR 2015**  
**NAS PENSACOLA**  
**PENSACOLA, FLORIDA**  
 Page 4 of 4

Site	Primary or Secondary Document	CY2015	CY2016	CY2017	CY2018
MMRP Sites UXO-001 Former Gun Ranges and Bombing Targets	Primary Documents				
	None				
	Secondary Documents				
	Draft/Final Expanded Site Investigation Report	11 January 2015			
(OU 22) MMRP UXO-002	Primary Documents				
	Draft Feasibility Study Report	26 November 2015			
	Draft Proposed Plan	26 November 2015			
	Draft Record of Decision		June 2016		
	Draft Remedial Design			February 2017	
	Draft Remedial Action Work Plan			September 2017	
	Draft Remedial Action Completion Report				August 2018
	Secondary Documents				
	None				
Base wide	Primary Documents				
	CY 2016 Site Management Plan	1 September 2015			
	CY 2017 Site Management Plan		September 2016		
	CY 2018 Site Management Plan			September 2017	
	CY 2019 Site Management Plan				September 2018
	Draft Fourth Five-Year Review			December 2017	
	Secondary Documents				
	Annual LUC Inspection Report	15 December 2015			
	Annual LUC Inspection Report		December 2016		
	Annual LUC Inspection Report			December 2017	
	Annual LUC Inspection Report				December 2018

**APPENDIX B**  
**FEDERAL FACILITIES AGREEMENT DOCUMENT**  
**REVIEW SCHEDULE SUMMARY**

**NAS PENSACOLA  
NAS PENSACOLA FEDERAL FACILITIES AGREEMENT  
DOCUMENT REVIEW SCHEDULE**

**FFA Section §VIII.G.2-6**

- Unless the Parties mutually agree to another time period, all draft documents shall be subject to **ninety (90) calendar day period for review and comment.**
- In cases involving complex or unusually lengthy documents, U.S. EPA or FDEP may extend the ninety (90) calendar comment period for an **additional twenty (20) calendar days** by written notice to the Navy prior to the end of the ninety (90) calendar day period.
- Unless the Parties mutually agree to another time period, within **sixty (60) calendar days** of the close of the comment period on a draft primary document, the Navy will transmit to the U.S. EPA and FDEP its written response to comments received within the comment period.
- Unless the Parties mutually agree to another time period, **within sixty (60) calendar days** of the close of the Navy's response period to U.S. EPA and FDEP comments on a draft primary document, the Navy shall transmit to U.S. EPA and FDEP a draft final primary document, which shall include the Navy's response to all written comments received within the comment period.
- The Navy may extend the sixty (60) calendar day periods for either responding to comments on a document or for issuing the draft final primary document for an **additional twenty (20) calendar days** by providing written notice to U.S. EPA and FDEP (in appropriate circumstances, these time periods may be further extended in accordance with Section XXIV (Extensions) of this agreement (FFA)).

**FFA Section §VIII.I**

- Unless the Parties mutually agree to another time period, the draft final primary document shall become the final primary document if no party invokes dispute resolution **within thirty (30) calendar days** of issuance of the document.