DEPARTMENT OF THE AIR FORCE
HEADQUARTERS AIR ARMAMENT CENTER (AFMC)
EGLIN AIR FORCE BASE, FLORIDA

AAC/EMR
207 2nd Street, Building 216
Eglin AFB FL 32542-5461

JUN 5 2001

Mr. Robert Pope
US EPA, Region IV
Federal Facilities Branch
61 Forsyth Street
Atlanta, GA 30303

Mr. Greg Brown, P.E.
Florida DEP
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Subject: Statement of Basis
IRP Site No. OT-264 Cattle Dipping Vat—RR 234/RR678, Revision 2

Dear Sirs:

Enclosed, please find Earth Tech Environment & Infrastructure, Inc. Revision 2 of the Statement of Basis dated June 7, 2001 for Installation Restoration Program (IRP) Site No. OT-264 Cattle Dipping Vat—RR 234/RR 678, Eglin AFB, FL. On the basis of your review comments on Revision 1 of the Statement of Basis, this submittal is considered final.

The public comment period for this Statement of Basis is scheduled for June 15, 2001 through July 31, 2001

If you have any questions regarding this work plan, please contact Ms. Maria Rodriguez at (850) 882-7791, Ext. 214.

Sincerely

SAMI ABDALLA, GS-12
Actg Chief, Environmental Restoration

Attachments:
1. Statement of Basis Revision 2
2. Distribution List

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3.	Mr. Maria Rodriguez AAC/EMR 207 North Second Street Building 216 Eglin Air Force Base, FL 32542	1	1
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STATEMENT OF BASIS

IRP SITE NO. OT-264 CATTLE DIPPING VAT – R.R. 678 & R.R. 234

EGLIN AIR FORCE BASE, FLORIDA

OBJECTIVE

This Statement of Basis (SB) explains the proposed remedy for Installation Restoration Program (IRP) Site No. OT-264 Cattle Dipping Vat – R.R. 678 & R.R. 234, designated in the U.S. Environmental Protection Agency (EPA) Resource Conservation and Recovery Act (RCRA) Hazardous and Solid Waste Act (HSWA) Permit (the Permit) for Eglin Air Force Base (Eglin) as Solid Waste Management Unit (SWMU) OT-264. The site is located on Eglin, and managed under the Air Force IRP. The SB is intended to identify the proposed remedy for the site, to explain the rationale for the remedy selection, and to solicit public review, comment, and involvement in the remedy selection process. A glossary which defines some of the technical terms contained herein is included at the end of this document.

A Preliminary Assessment (PA), a Site Investigation (SI), a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI), and an Interim Corrective Measures (ICM) have been completed at IRP Site No. OT-264. This environmental work is summarized below. The RFI/ICM Report (Earth Tech, December 1999) recommended No Further Investigative Action with Land Use Controls (LUCs). The LUCs restrict future development of the site. This remedy will protect human health and the environment. To implement the LUCs, a Land Use Controls Implementation Plan (LUCIP) will be developed by the Air Force for this site. The LUCIP will be approved by the EPA and will also serve as the Corrective Measures Implementation Plan (CMIP), as required to implement a remedy, pursuant to RCRA.

The public is invited to comment on this proposed remedy for IRP Site No. OT-264, or any other remedial alternatives, including those not previously studied. This SB includes information on how the public may participate in this decision-making process.

INTRODUCTION

IRP Site No. OT-264 is regulated in the Permit for Eglin, issued by EPA Region 4, effective September 16, 1986, and reissued April 26, 1998. This SWMU is regulated under the Permit, which requires that the SWMUs be investigated, remediated, and closed. The Permit requires that an SB be prepared which identifies the proposed remedy for the site, explains the rationale for the remedy selection, and allows for a Public Comment Period of 45 days.

The EPA - Region 4 will finalize the remedy selection decision, by modifying the HSWA Permit to incorporate the corrective measure, subsequent to Florida Department of Environmental Protection's (FDEP) review of, and concurrence with, this SB, and the public comment period has ended. All information submitted during this time frame will be reviewed and considered before final

approval. Eglin, EPA, and FDEP have entered into a memorandum of agreement (MOA) which outlines the LUCs as described in the EPA - Region 4 Memorandum, *Assuring LUCs at Federal Facilities,* dated April 21, 1998. This MOA can be found in Eglin Administrative Record. This MOA serves as Eglin's Land Use Controls Action Plan (LUCAP; which is a basewide, comprehensive document). A LUCIP (which is a site-specific document) will be developed by the Air Force IRP and will serve as the CMIP. The LUCIP will be implemented in accordance with EPA Policy. This SB provides a summary of past investigation work performed at IRP Site No. OT-264. However, the SB is not considered a substitute for the actual technical documents developed for this site. The MOA and the EPA - Region 4 Memorandum, and other documents can be found in the Eglin Administrative Record, which is available for public review (see last section of this SB for locations).

BACKGROUND/HISTORY OF IRP SITE NO. OT-264

Eglin AFB is located within the Eglin Military Reservation in the Florida Panhandle. The Eglin Military reservation comprises an area of approximately 740 square miles and includes portions of Okaloosa, Walton, and Santa Rosa Counties. IRP Site No. OT-264 Cattle Dipping Vat – R.R. 678 & R.R. 234 is located in southeastern Santa Rosa County, Florida, approximately 3 miles north of the city of Navarre (Figures 1 and 2).

The following is a list of the principal historical documents for IRP Site No. OT-264, which are available for public review at the locations provided in the last section of this SB:

- *Preliminary Assessment Report and Site Investigation Work Plan Point of Interest (POI) No. 388 Cattle Dipping Vat – R.R. 678 & R.R. 234,* submitted January 1998 (REI, January 1998);
- *Site Investigation Report POI No. 388 Cattle Dipping Vat – R.R. 678 & R.R. 234,* submitted October 1998 (REI, October 1998); and
- *RCRA Facility Investigation and Interim Corrective Measures Report IRP Site No. OT-264 Cattle Dipping Vat – R.R. 678 & R.R. 234,* submitted in December 1999 (Earth Tech, December 1999).

The site is situated within the southwestern part of the Eglin Reservation in a remote area. The terrain is wooded with oak trees and pines. Ground cover consists of sparse grasses, saplings, and briars. No signs of vegetative stress were recognized during the RFI. Site surface soils are loose and sandy with a moderate organic matter content from degrading plant debris. The ground surface at the site has no discernible slope.

The cattle dipping vat was demolished during ICM activities, which are described below. The structure was constructed of concrete and exhibited a few cracks along its sides. The dimensions of the cattle dipping vat were approximately 30 feet long by 3 feet wide and approximately 4 to 5 feet deep. The former drip pad, located at the west end of the cattle dipping vat, consisted of several broken pieces of concrete. No standing water was observed in the vat during the RFI field activities.

Geologic literature indicates that the surficial aquifer beneath the site extends to an approximate depth of 250 feet below land surface (bls; Hayes and Barr, 1983). The Pensacola Clay, an aquiclude which separates the surficial aquifer from the underlying Floridan aquifer system, is approximately 400 feet thick and extends to a depth of approximately 650 feet bls (Hayes and Barr, 1983; Maslia and Hayes, 1988). The surficial aquifer occurs under water-table conditions. The depth to groundwater is approximately 2 to 12 feet bls. The groundwater flow direction within the surficial aquifer has a west-southwestern component towards the East Bay River, which is located approximately two miles from the site.

No water supply wells are known to exist within a one-mile radius of the site (USACE, 1994).

IRP Site No. OT-264 Cattle Dipping Vat – R.R. 678 & R.R. 234 was associated with the Cattle Tick Fever Eradication Program, which was a Federally funded program in ten southern states, including Florida. The state of Florida enacted it in 1917 and discontinued it in 1944. This program is described in more detail in REI (1998). Common constituents of the cattle dipping vat solutions used to fight the disease-causing tick included arsenic, chlordane, dichlorodiphenyltrichloroethylene (DDT), dichlorodiphenyldichloroethylene (DDE), dichlorodiphenyldichloroethane (DDD), alpha-HCH, beta-HCH, and toxaphene (Woodward-Clyde, 1995).

A report prepared by the Florida Department of Environmental Protection (FDEP), entitled *A Risk-Based Approach to the Protection of Human Health and Management of Environmental Impacts at Florida's Cattle Dip Vat Sites* provides a ranking system to determine which cattle dipping vat sites warrant assessment and/or remediation, and what the priority is to remediate the site (FDEP, November 1995; Woodward-Clyde, January 1995). To determine if remediation of a site is warranted, the analytical data are compared to Acceptable Soil Concentrations (ASCs). These screening values were developed by FDEP for four site land use categories, based upon the exposure risk to potential human receptors. These land use categories are as follows: Residential, Commercial/Industrial, Restricted I, and Restricted II. The lowest Acceptable Soil Concentration is used with the Residential land-use category that involves potential contact on a full-time or nearly full-time basis. The land use category with the highest Acceptable Soil Concentration of the four is the Restricted II category that involves infrequent site contact (Woodward-Clyde, January 1995).

Based on this land use category system, IRP Site No. OT-264 is considered Restricted II, because it is located in a nonresidential, remote, heavily wooded area of the Eglin reservation. Visitors, which include Eglin personnel involved in training exercises or other related activities, and recreators, access the site infrequently. No schools, private residences, or daycare facilities are present within a one-mile radius of the site. The East Bay River is located approximately two miles to the west-southwest (Figure 2).

The Cattle Dipping Vat – R.R. 678 & R.R. 234 was originally identified as POI No. 388. A PA was conducted at the site in early 1998 and included a review of historical data, interviews, and a site reconnaissance (REI, January 1998). An SI was conducted at the site in 1998 to determine the

presence or absence of environmental contamination (REI, October, 1998). The activities, results, and recommendations of the SI are summarized below. The identification number of the site was changed from POI No. 388 to IRP Site No. OT-264 at the conclusion of the SI.

The SI entailed the collection of soil and groundwater samples. The SI analytical data were evaluated to determine Contaminants of Potential Concern (COPC) using a two-tiered screening approach (Tier I and Tier II) for establishing COPCs based on comparison of analytical data to a comprehensive list of Applicable or Relevant and Appropriate Requirements (ARARs) and risk-based guidance concentrations. The Tier I Screening Levels for each of four media: soil, groundwater, surface water, and sediment are the minimum ARAR, if an ARAR exists, or the minimum guidance concentration, if no ARAR exists. The Tier II Screening Levels are the calculated Eglin basewide background concentrations for the inorganic analytes and some selected pesticides. The COPC screening approach utilized during the SI at the Cattle Dipping Vat – R.R. 678 & R.R. 234 is described more fully in a separate volume entitled *Guidelines for COPC Identification at Eglin AFB*, Revision 2 (Eglin, March 1998).

The following summarizes the SI results applicable to this SB:

- Twelve surface (zero to one foot bls) and subsurface soil samples were collected for laboratory analyses during the SI. No Target Compound List (TCL) Volatile Organic Compounds (VOCs), TCL Semi-Volatile Organic Compounds (SVOCs), TCL Pesticides, or TCL Polychlorinated Biphenyls (PCBs) were detected at concentrations above their respective Tier I Screening Levels in the soil samples collected from the site.
- One Target Analyte List (TAL) Inorganic (arsenic) was detected at concentrations above its Tier I and Tier II Screening Levels in all of the soil samples collected during the SI soil sampling. These detected arsenic concentrations were also above the applicable arsenic Florida Soil Cleanup Goal (FSCG) and the U.S. EPA Region III RBC for Industrial Soils.
- Three monitoring wells were installed near the cattle dipping vat. No TCL VOCs, TCL SVOCs, TCL Pesticides, TCL PCBs, or TAL Inorganics were detected at concentrations above their respective Tier I Screening Levels in the groundwater samples collected from these monitoring wells.

The SI conclusions and recommended actions, based on the related SI activities, were as follows:

- Because no COPCs were identified in site groundwater, No Further Action (NFA) was recommended for this medium. The depth to groundwater ranges from 2 to 12 feet bls.
- The surface and subsurface soils at the site had been impacted with elevated arsenic concentrations from past cattle dipping operations.
- The SI Report recommended that additional soil samples be collected to fully delineate the extent of the arsenic-impacted soils as part of an RFI. This work would be performed in accordance with FDEP guidelines for remedial actions at CDVs. The RFI would also include the collection

of groundwater samples from the monitoring wells to confirm the absence of contamination in site groundwater. In addition, samples of the solids and water (if present) at the bottom of the CDV would be laboratory analyzed to determine if the material in the vat continued to be a contaminant source.

- The SI Report concluded that an ICM for the soils was warranted. The results of the SI and the RFI would be used to design the ICM, which was anticipated to entail the excavation and off-site disposal of arsenic-impacted soils, backfilling, and site restoration activities. This work would be performed after the characterization of the arsenic-impacted soils.
- Because of the relatively poor condition of the vat and the physical safety hazards it presented, it was recommended that the cattle dipping vat be removed from the site and disposed of in accordance with applicable state and federal regulations.

The following summarizes the RFI results applicable to this SB:

- Soil arsenic concentrations above the clean-up goal of 36 milligrams per kilograms (mg/Kg) and hence warranting excavation were present in both surface and subsurface soils extending outward to a maximum distance of 24 feet from the drip pad to a maximum depth of 8 feet bls. Also, soils located up to 33 feet east of the vat entrance and up to 20 feet from the north and south sides of the vat to a maximum depth of 8 feet bls exhibited arsenic concentrations above the clean-up goal.

  In addition, subsurface soils impacted with arsenic concentrations above the clean-up goal were identified approximately 25 to 45 feet northwest of the drip pad from 6 to 9 feet bls. The soils overlying these impacted subsurface soils exhibited arsenic concentrations below the clean-up goal. This overlying layer of soil, under the current land use, effectively cuts off the pathway of exposure to potential human or ecological receptors at the ground surface. Therefore, Eglin did not pursue excavation of these subsurface soils during the ICM.
- No TAL Inorganics, other than arsenic, were detected at concentrations above their respective Tier I Screening Levels in the RFI soil samples collected from the site.
- No TAL Inorganics were detected at concentrations above their respective Tier I and Tier II Screening Levels in the groundwater samples collected from the three existing monitoring wells at the site. Therefore, the absence of groundwater contamination from dissolved inorganics was confirmed.
- The detected concentrations of fourteen TAL Inorganics (aluminum, arsenic, barium, calcium, chromium, copper, iron, lead, magnesium, manganese, potassium, sodium, vanadium, and zinc) in the vat solid sample were consistent with those detected in site soils and were below their respective soil Tier I Screening Levels, except for arsenic. Based on these results and the similar physical characteristics, site soils were likely used to fill in the vat after dipping operations ceased. On the basis of the vat solid sample laboratory analytical results, this vat material did not represent a continuing source of arsenic to the surrounding soils.

On the basis of the SI and RFI activities, the following COPC was identified in surface and subsurface soil at IRP Site No. OT-264:

- **Metals:** Arsenic

No COPCs were identified in groundwater.

The Eglin Tier I Partnering Team, which is comprised of Eglin Project Managers, EPA and FDEP representatives, and environmental contractors who work at the base, decided to proactively perform an ICM at IRP Site No. OT-264 to reduce the risk posed by the arsenic-impacted soil at the site. The ICM activities were accomplished in July 1999 and included excavation and off-site disposal of arsenic-impacted soils and site restoration. The clean-up goal for this ICM was 36 mg/Kg. This value corresponds to a risk level of 1E-6 for the Restricted II land use category (which means it receives infrequent visitors; FDEP, 1995). The ICM tasks accomplished were as follows:

- Excavated approximately 312 cubic yards (438 tons) of arsenic-impacted soils from the ground surface to various depths ranging from 2 to 6 feet bls across the site.
- Removed the concrete cattle dipping vat structure and associated drip pad concrete fragments;
- Placed soil directly into dump trucks, and based upon required laboratory analyses, transported the material to a Subtitle D landfill;
- Conducted confirmatory sampling from the bottom and edges of the excavation and submitted the samples to the laboratory for arsenic analyses (24-hour turnaround time), also collected composite samples for Toxicity Characteristic Leaching Procedure (TCLP) analyses for arsenic from areas with elevated arsenic concentrations;
- As warranted by the confirmatory sample results, performed further horizontal excavation to remove any soil where concentrations of arsenic existed above its cleanup level;
- Placed clean fill soil into the excavated area; and
- Completed restoration activities, including replanting of the ground cover.

On the basis of the soil samples collected during the SI, RFI, and the ICM, the maximum arsenic concentration in the surface soils (zero to one foot bls) currently on site is 35 mg/Kg. The maximum arsenic concentration on site within the subsurface soil is 130 mg/Kg (detected in a soil sample collected from 4 to 5 feet bls).

This maximum arsenic concentration in the subsurface soil is above the cleanup goal of 36 mg/Kg. However, the soils from zero to six feet bls overlying these impacted subsurface soils did not exhibit arsenic concentrations above the clean-up goal. This overlying layer of soil, under the current land use, effectively cuts off the pathway of exposure to potential human or ecological receptors at the ground surface. Therefore, Eglin did not pursue excavation of these subsurface soils during the ICM.

The stability these impacted subsurface soils with respect to groundwater quality is demonstated by the following:

- Arsenic was not detected using the TCLP analytical method in the three composite soil samples that were collected at locations across the site that exhibited the highest soil arsenic concentrations. These results indicate that the potential for the remaining arsenic-impacted subsurface soils to leach into the shallow groundwater at the site is minimal.
- The SI and RFI analytical results, which included two rounds of groundwater sampling, did not identify any COPCs in groundwater. These results indicate that the groundwater quality at the site has not been affected by the arsenic-impacted subsurface soils.

The site is at least fifty years old because the cattle dipping operations (source of the arsenic-impacted soils) were discontinued by 1944. Therefore, the shallow groundwater has been in contact with the arsenic-impacted soils for at least 50 years. The fact that no groundwater impacts were identified during the SI and RFI further supports that the groundwater quality with respect to arsenic is stable, and will not be affected by the remaining arsenic-impacted subsurface soils (6 to 9 feet bls) that are located 25 to 45 feet northwest of the drip pad.

PROPOSED REMEDY

It is recommended that No Further Investigative Action with LUCs be implemented for the soils at IRP Site No. OT-264, which is located in a remote area of Eglin. The land use designation for the site is military training and recreational uses, such as hunting and hiking. Future land use is not expected to deviate substantially from the current land use. Should a change in current land use be required, it will be managed in accordance with the LUCAP and the LUCIP.

This remedy complies with each of the standards presented in EPA's *RCRA Corrective Action Plan* (U.S. EPA, 1994) as follows:

- *Protect Human Health and the Environment*. The proposed remedy reduces the soil and groundwater exposure pathways to humans, and hence poses acceptable risks, under the land use scenario of a Restricted II category (Woodward-Clyde, January 1995). The LUCs ensure that the Restricted II criteria will be maintained. That is, the site will continue to be in a nonresidential, remote, heavily wooded area of the Eglin reservation with infrequent visitors. No schools, private residences, or daycare facilities will be established within a one-mile radius of the site. The removal of the arsenic-impacted soils at the site and the installation of clean soil cover during the ICM reduced the long-term risk to the environment by inhibiting exposure to ecological receptors.
- *Attain Media Cleanup Standards Set by Implementing Agency*. The proposed remedy complies with FDEP's Acceptable Soil Concentration (ASC) for arsenic at cattle dipping vats under a Restricted II Land Use category (Woodward-Clyde, January 1995).
- *Control the Source of Releases so as to Reduce or Eliminate, to the Extent Practicable, Further Releases that may Pose a Threat to Human Health and the Environment*. The removal of the

arsenic-impacted soils at the site and the installation of clean soil cover during the ICM eliminated, to the extent practicable, the arsenic-impacted soil as a source of additional contamination to the environment at IRP Site No. OT-264.

- *Comply with any applicable standards for management of wastes*. The ICM activities at IRP Site No. OT-264 complied with the applicable standards for management of wastes. Soil samples were collected from soils that exhibited the highest arsenic concentrations and analyzed using the TCLP for arsenic. The results of these analyses indicated that the soil was nonhazardous; hence, it was transported and disposed of at a Subtitle D receiver facility.
- *Other Factors*. The determination of the proposed remedy also took into account other factors noted in U.S. EPA (1994), including Technical Feasibility, Costs, Long Term Effectiveness and Permanence, Short Term Effectiveness, and Community Acceptance.

Current and future use of the property will be limited to maintain the exposure assumptions that are the basis of the Restricted II category, used to establish the arsenic cleanup goal of 36 mg/Kg. The Restricted II category, as described in the Woodward-Clyde Cattle Dipping Vat Assessment Report (1995), is infrequent site contact. Examples may include campgrounds in state parks, hiking trails away from population areas, and agricultural sites where farming practices result in very limited site contact (two weeks total per year or less). No development of the property will be allowed without the proper engineering controls. Depending on the location, nature, and intensity of potential future land use activities, the Air Force will conduct additional site investigation and assessment activities to determine the proper engineering controls if existing information is not adequate.

The following sections summarize the findings supporting the proposed remedy and outline the proposed LUCs and their implementation.

NATURE OF CONTAMINANTS/SUMMARY OF RISKS

As noted above, arsenic is the only COPC identified at IRP Site No. OT-264. During the RFI, the lateral and vertical extent of the arsenic-impacted soils were delineated. Laterally, these soils extended up to 45 feet from the vat. Vertically, the arsenic-impacted soils were constrained to the upper 2 to 9 feet of soils.

No formal site-specific risk evaluation has been performed. Instead, Eglin used the FDEP's Acceptable Soil Concentrations (ASCs) as the target goal for the ICM activities. These risk-based soil criteria numbers were developed based on a 1E-6 risk for carcinogens for a particular land use scenario (FDEP, 1995; Woodward & Clyde, 1995).

Eglin proactively performed the ICM (which, as described above, consisted of removal and off-site disposal of the arsenic-impacted soil) in August 1999 (Earth Tech, December 1999). This ICM adequately removed the arsenic concentrations that represented a risk of greater than 1E-6 (on the basis of the ASCs) in the upper two feet of soil at the site.

Human health cancer risks considered acceptable by EPA for selecting remedies under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP; Title 40 of the Code of Federal Regulations Part 300) fall within the range of 1E-6 (one in a million) to 1E-4 (one in 10,000). EPA uses a cumulative risk calculation in which all risk drivers (contaminants), all exposure pathways, and all media (groundwater, soil, surface water, and sediment) are totaled for each exposure group. FDEP further looks at the lifetime cancer risk for each individual risk driver in a single medium. For protection of human health, the FDEP cleanup goal is to achieve a maximum excess lifetime cancer risk of 1E-6, for each individual risk driver. In other words, a typical person exposed to a chemical carcinogen at the FDEP cleanup goal and at a specific frequency could expect an increment of one chance in a million increase, above their existing lifetime cancer risk. FDEP considers site-specific cleanup levels greater than 1E-6, if technical unfeasibility, disproportionate costs, or other relevant factors justify their impracticablitiy. These levels, however, must be based on the ability to achieve an equivalent risk management level of 1E-6 through reliable institutional controls or other effective means that manage the extent and frequency of exposure.

No arsenic was detected in monitoring wells located as close as 15 feet downgradient of the cattle dipping vat. The surficial aquifer underlying the site is not being utilized by individuals within a 1,000-foot radius.

PROPOSED REMEDY IMPLEMENTATION

The recommended corrective action for IRP Site No. OT-264 Cattle Dipping Vat – R.R. 678 & R.R. 234, is No Further Investigative Action with Land Use Controls (LUCs) for the soils.

These recommended corrective actions will apply as long as the current and expected land use designation/exposure scenario remains essentially unchanged. The specific requirements of these land use designation/exposure scenarios will be presented in the LUCIP, which Eglin will develop to

address IRP Site No. OT-264 specifically. This LUCIP will provide detailed means to prevent exposure to the soil at the site.

The LUCs will prevent future inappropriate development of the site and consist of the following:

- The site will be restricted from residential development without proper engineering controls. Depending on the location, nature, and intensity of potential future land use activities, the Air Force shall conduct additional site investigation and assessment activities to determine the proper engineering controls if existing information is not adequate.
- Maintenance of existing utilities or replacement of existing utilities in the same location is allowed.
- The property will be inspected at least annually to ensure that unauthorized use of the property does not occur and that status of the property is unchanged. The Air Force will submit an annual site status report to both the EPA and FDEP, in accordance with the mutually approved LUCAP.
- The Air Force will notify EPA and FDEP immediately upon the discovery of any unauthorized change in land use.
- Every five years the facility will prepare a review of the remedy effectiveness and submit the report to the implementing agency. Eglin may at any time present additional information for remedy modification, including but not limited to discontinuing the remedy.
- For requests for major land use changes, written requests will be submitted to both the EPA and FDEP, in accordance with the mutually approved LUCAP. Requests will be submitted as soon as a major land use change is anticipated, to allow sufficient time for regulatory review and amendments to remedy selection decision documents. The requests for regulatory reviews will be made no less than 90 days prior to the anticipated land use change. Major land use changes include any change in land use (e.g., from industrial or recreational to residential) that would be inconsistent with those specific exposure assumptions in the human health and/or ecological risk assessments that served as the basis for the LUCs; any site activity that may disrupt the effectiveness of the implemented LUC (for example, excavation at a landfill; a construction project that may impact ecological habitat protected by the remedy; removal of a fence; unlocking of a gate; or removal of warning signs; or any site activity intended to alter or negate the need for the specific LUC(s) implemented at the site).

A LUCIP will be developed to document the implementation of these LUCs. In addition, the LUCIP will designate an Eglin Environmental Management Restoration (EMR) representative to be responsible for compliance with the LUCs, and the LUCIP will be referenced in appropriate Eglin planning documents. Further, if land use changes are required, the LUCIP and the LUCAP will address how the LUCs or remedy will be changed, if necessary.

By separate MOA dated December 23, 1999, with EPA and FDEP, Eglin on behalf of the Department of the Air Force, agreed to implement base-wide, certain periodic site inspection, condition

certification and agency notification procedures designed to ensure the maintenance by Installation personnel of any site-specific LUCs deemed necessary for future protection of human health and the environment. A fundamental premise underlying execution of that agreement was that through the Air Force's substantial good-faith compliance with the procedures called for therein, reasonable assurances would be provided to EPA and FDEP as to the permanency of those remedies which included the use of specific LUCs.

Although the terms and conditions of the MOA are not specifically incorporated or made enforceable herein by reference, it is understood and agreed by the Air Force, EPA and FDEP that the contemplated permanence of the remedy reflected herein shall be dependant upon the Installation's substantial good-faith compliance with the specific LUC maintenance commitments reflected therein. Should such compliance not occur or should the MOA be terminated, it is understood that the protectiveness of the remedy concurred on may be reconsidered and that additional measures may need to be taken to adequately ensure necessary future protection on human health and the environment.

PUBLIC PARTICIPATION FOR IRP SITE NO. OT-264

The public is encouraged to provide comments regarding the corrective action alternatives provided in this Statement of Basis, or any other remedial alternatives, including those not previously studied. The public can review information on the IRP at Eglin and the investigations and actions taken under the Permit, including all reports and documents. The information repository and administrative record files are available at the following locations:

Eglin Air Force Base AAC/EMR
207 Second Street, Building No. 216
Eglin AFB, FL 32542-5133

Technical Library
203 West Eglin Blvd., Suite 300
Eglin AFB, FL 32542-5429

FDEP
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32399-2400.

A 45-day public comment period will be held from June 15, 2001 to July 31, 2001.

Comments received will be summarized and responses will be provided in the upcoming Responses to Comments document. The Responses to Comments document will be prepared following the close of the public comment period. The Responses to Comments will be included with the final permit modification. If requested during the Public Comment Period, EPA will hold a public meeting to respond to any oral comments or questions regarding this action. The public will be notified of the date, time, and place of any public hearing as soon as it is scheduled.

To request a hearing or provide comments for IRP Site No. OT-264, contact the following person in writing postmarked by July 31, 2001:

U.S. Environmental Protection Agency, Region 4
Federal Facilities Branch
61 Forsyth Street
Atlanta, GA 30303
Attention: Mr. Jon Johnston, Chief Federal Facilities Branch

To request further information, please contact any one of the following people:

Mr. Robert H. Pope
U.S. Environmental Protection Agency, Region 4
Federal Facilities Branch
61 Forsyth Street
Atlanta, GA 30303
(404) 562-8506

Mr. Greg Brown, P.E.
Florida Department of Environmental Protection
2600 Blair Stone Road
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(850) 921-6779

Mr. Thomas Churan
Eglin Environmental Management Restoration
207 N. 2nd Street
Building 216
Eglin AFB, FL 32542
(850) 882-7791

IMPORTANT DATES TO REMEMBER:

Public Comment period begins June 15, 2001.

Public Comment period ends July 31, 2001.

REFERENCES

Earth Tech, *RCRA Facility Investigation and Interim Corrective Measures Report, IRP Site No. OT-264 Cattle Dipping Vat – R.R. 678 & R.R. 234,* Eglin Air Force Base, Florida, December 1999.

Eglin Air Force Base, *Tier I Partnering Team Meeting Minutes,* October 1997.

Eglin Air Force Base, *Tier I Partnering Team Meeting Minutes,* January 1998.

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ACRONYMS

ASC	Acceptable Soil Concentrations
bls	below land surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CMIP	Corrective Measures Implementation Plan
COPC	Contaminant of Potential Concern
DDD	dichlorodiphenyldichloroethane
DDE	dichlorodiphenyldichloroethylene
DDT	dichlorodiphenyltrichloroethylene
EPA	U.S. Environmental Protection Agency
Eglin	Eglin Air Force Base
FDEP	Florida Department of Environmental Protection
FSCG	Florida Soil Cleanup Goal
HI	Hazard Index
HQ	Hazard Quotient
HSWA	Hazardous and Solid Waste Amendments
ICM	Interim Corrective Measures
IRP	Installation Restoration Program
LUC	Land Use Control
LUCAP	Land Use Control Action Plan
LUCIP	Land Use Controls Implementation Plan
mg/Kg	milligrams per kilogram (parts per million)
MCL	Maximum Contaminant Level
MOA	Memorandum of Agreement
NCP	National Contingency Plan
NFA	No Further Action
NGVD	National Geodetic Vertical Datum
NTU	Nephelometric Turbidity Unit
PA	Preliminary Assessment
PAH	polynuclear aromatic hydrocarbons
PCBs	Polychlorinated Biphenyls
POI	Point of Interest
RBC	Risk-based Concentration
RCRA	Resource Conservation and Recovery Act
REI	Rust Environment & Infrastructure, Inc.
SB	Statement of Basis
SI	Site Investigation
SVOC	Semi-Volatile Organic Compounds
TAL	Target Analyte List
TCL	Target Compound List
VOC	Volatile Organic Compound

GLOSSARY

Aquifer: Subsurface rock or sediment in a formation that is saturated and sufficiently permeable to yield economic quantities of water to wells and springs.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA): Delegates authority for the President to take response actions to limit dangers resulting from the release of hazardous substances. Response actions must be performed in accordance with the National Oil and Hazardous Substances Pollution Contingency Plan developed by the EPA. CERCLA was substantially amended in 1986 under the Superfund Amendments and Reauthorization Act. The stature imposes far-reaching liability for costs of cleanup on waste generators, transporters, and current and past owners of disposal sites.

Contaminants of Potential Concern (COPC): Contaminants that represent an actual or potential threat to human health or the environment.

Corrective Measures Study (CMS): Study to develop and evaluate possible corrective measures.

Facility: Refers to a military base or other entire federal installation, whereas the term site refers to a particular area (such as an operable unit) making up only a portion of the facility.

Environmental Protection Agency (EPA): EPA is the federal agency responsible for implementing environmental laws enacted by Congress. State EPA offices or their counterparts implement state or federal environmental laws.

Groundwater: Subsurface water trapped in or moving through fractures, cracks, cavities, and pore spaces under the ground. Units that yield appreciable amounts of water to wells are aquifers; intervening units of low permeability are aquitards of confining units. The top of the zone of complete saturation is called the water table.

Hazard Quotient (HQ): The ratio of a single substance exposure level over a specific time period to a reference dose for that substance derived from a similar exposure period.

Hazardous and Solid Waste Amendments (HSWA): Amendments to RCRA, passed in 1984, which greatly expand the nature and complexity of activities covered under RCRA. They include the Federal Underground Storage Program.

GLOSSARY (Continued)

Human Health Risk Assessment (HHRA): Study to determine the likelihood that a given exposure or series of exposures may have damaged or will damage the health of individuals.

Installation Restoration Program (IRP): The Air Force program designed to identify, investigate, and cleanup contamination associated with past Air Force activities at active AF installations; government-owned, contractor-operated facilities, off-site locations where contamination may have migrated; third party sites; and sites that the AF formerly owned or used.

Land Use Control Action Plan (LUCAP): A memorandum of Agreement (MOA) among Eglin, EPA, and FDEP designed to assure the effectiveness and reliability of the required Land Use Controls (LUCs) for as long as any LUC continues to be required in order for the remedial/corrective action to remain protective.

Land Use Control (LUC): Is broadly interpreted to mean any restriction or control, arising form the need to protect human health and the environment, that limits use of and/or exposure to any portion of that property, including water resources. This term encompasses institutional controls, such as those involving real estate interests, governmental permitting, zoning, public advisories, deed notices, and other legal restrictions. The term may also include restrictions on access, whether achieved by means of engineered barriers such as a fence or concrete pad, or by human means, such as the presence of security guards. Additionally, the term may involve both affirmative measures to achieve the desired restriction (e.g., night lighting of an area) and prohibitive directives (no drilling of drinking waters wells). Considered altogether, the LUCs for a facility, in conjunction with the base master plan, will provide a blueprint for how its property should be used in order to maintain the level of protectiveness which one or more remedial/corrective actions were designed to achieve.

LUC Implementation Plan (LUCIP): A written plan, normally developed after a decision document has required one or more LUCs, for some particular area (operable unit, contaminated unit, and/or solid waste management unit). The LUCIP 1) identifies each LUC objective for that area (e.g., to restrict public access to the area for recreational use) and 2) specifies those actions required to achieve each identified objective (e.g., install/maintain a fence, post warning signs, record notice in deed records). LUCIPs specify what must be done to impose and maintain the required LUCs, and are therefore analogous to design and/or operation and maintenance plans developed for active remedies.

National Oil and Hazardous Substances Pollution Contingency Plan (NCP): The NCP establishes procedures and standards for responding to releases of hazardous substances, pollutants and contaminants.

GLOSSARY (Continued)

Permit: A RCRA permit, issued for Eglin, establishes the facility's operating conditions for managing hazardous waste.

Potable Water: Water that is safe for drinking and cooking.

RCRA Facility Investigation (RFI): Evaluates the nature and extent of the releases of hazardous waste.

Reasonable Maximum Exposure (RME): The maximum exposure reasonably expected to occur in a population.

Resource Conservation and Recovery Act (RCRA) of 1976: Requires each hazardous waste treatment, storage, and disposal facility to manage hazardous waste in accordance with a permit issued by the EPA or a state agency that has a hazardous waste program approved by the EPA.

Site Investigation (SI): Physical inspection of a potential IRP site that may include limited soil and water sampling. Used to confirm results of PA or support of a site that does not present an environmental hazard.

Solid Waste Management Unit (SWMU): Any discernable unit (to include regulated units) at which RCRA solid waste have been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste.

Statement of Basis (SB): The RCRA decision document that specifies the site remedy and establishes LUCs.

U.S. Environmental Protection Agency (EPA): The federal agency responsible for implementing environmental laws enacted by Congress.