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US Army Military Base Closures in Germany - Evaluation of EH&S Activities

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ABSTRACT

This research assessed the effectiveness of existing Environmental, Health and Safety (EH&S) Management programs for two army installations located in Germany that were scheduled for closure. These two base closures were separated by a period of four years. This research qualitatively assessed the control measures in place, the effectiveness of these measures, and the final status of EH&S issues upon completion of the base closure process.

EH&S programs were evaluated using interviews of employees involved in the base closure in order to determine what processes were in place to minimize environmental impacts, what actions were taken to ensure the health and safety of employees working on the installation, and what environmental issues remained unresolved at the time of closure. The goal of the research was to determine improvements occurring in the EH&S management programs between these two base closures.

Results of this research indicate that the US Army has improved its base closure process by publishing an environmental strategy, thoroughly planning and coordinating specific environmental tasks, and working with the host nation to minimize environmental damage and limit liability. The US Army has not yet fully integrated the health and safety management aspects into its program for base closure. Closer adherence to the goals and objectives outlined in the Army Cleanup Strategy will result in fewer unresolved issues for subsequent base closures.

DEFINITION OF TERMINOLOGY

ACSIM – Assistant Chief of Staff for Installation Management

AEC – Army Environmental Center

AR – Army Regulation

Army Proponent – The Army unit, element, or organization responsible for initiating or carrying out the proposed action

BCA – Base Closure Account

BCP – Base Realignment and Closure Clean up Plan

BCT – Base Closure Team

BRAC ERP – Base Realignment and Closure Environmental Restoration Program

BSB – Base Support Battalion

CLOSE – All missions of the base will cease or be relocated

CONUS – Continental United States

CONSTRUCTION – Any land disturbing activity

DA – Department of the Army

DOD – Department of Defense

DRMO – Defense Reutilization Management Office

DPW – Department of Public Works

EO – Executive Order

EPR – Environmental Program Requirements

FACILITY – Facilities include buildings, structures, public works, equipment aircraft, vessels, and other vehicles and property under control of, or constructed or manufactured for leasing to the Army

FORSCOM – U.S. Army Forces Command

FY – Fiscal Year from the month of October to the month of October of the following year

FY01- Fiscal Year 2001

FY04 – fiscal year 2004

HQ – Headquarters

HM – Hazardous Material

HW – Hazardous Waste

IMA – Installation Management Agency

INSTALLATION A grouping of facilities, located in the same general vicinity, over which the Installation Commander has authority

RELOCATE – The term used to describe the movement of missions, units, or activities from a closed base to another base

OCONUS – Outside of the Continental United State

T FOR C – Terminate for Convenience

UNRRA – United Nations Relief and Rehabilitation Agency

USACE – U.S. Army Corps of Engineers

USAEC – U.S. Army Environmental Center

USEUCOM – United States European Command

INTRODUCTION

The United States Army is one of the strongest organizations worldwide. It exists to protect the Nation's interests at home and abroad. (AR 870-5 Military History, 2001) The US European Command (USEUCOM) was assigned in Europe to accomplish such a mission soon after World War II. After 1945, land was obtained and 47 major military bases were established in Germany in order to maintain territorial protection. Over the ensuing decades, many political, economical and Use of Force interests forced the U.S. Army in Europe to adopt changes in tactics, strength and possessions. Specifically, Europe is no longer the Army's main focus with regard to world security. Concentration has moved to Asia and the Middle East, leaving Europe with a mission of armed forces support. USEUCOM has already closed many bases and the Department of Defense (DOD) is currently considering further closure of other installations in Germany.

The closure of bases and subsequent return of these installations to the German government has proven to be a challenging task for the US Govemment. While economic and political outcomes are of primary importance to both nations, EH&S procedures play a crucial role in the process of returning installations to the host nation. This study focused on EH&S management activities of these closures. From the results of this study, it will be evident there is a continued need to focus on the matters related to the EH&S management activities during the closure of US military bases in Germany.

Statement of Topic

Although many installations have closed in the past two decades, this study focuses on the recently closed base in Bad Kreuznach (BK) in 2001, and the base in Bad Aibling (BA), which was closed in September 2004. The purpose of this study was to investigate the effectiveness of the Environmental, Health, and Safety (EH&S) Management program in the US Army when closing a US Army installation. During the course of this study the following questions were answered: Were EH&S management activities integrated with closure plans in FY01? Is there an integrated EH&S management program taking place for Bad Aibling? Will

an integrated EH&S Management program improve future closures? How can future programs be improved over previous programs?

Significance of the Topic

This topic is relevant for future base closures in the US Army European Theater of Operations. Lessons learned from previous base closures are extremely useful and can be applied to enhance and refine EH&S management controls. These controls will minimize problems faced by the US government in expediting future closures, returning installations to the host nation, and reducing the remaining hazards for future use of these facilities.

Reason for Interest in the Topic

As a US Army Veteran, my interest in this topic was that an evaluation of EH&S activities and identification of concerns will aid in the US Army military base closing tactics in Germany. This study involved two specific cases allowing me to point out site-specific matters. While the US Army has various programs and systems in place for military installation closure, there remain concerns in relation to EH&S Management. Since future employment with the US Army Environmental Department is a possibility, any contribution to the environmental, health and safety management program will provide me with an in depth knowledge of the divisions and functions of the US Army's EH&S program.

LITERATURE REVIEW

History

The US European Command was assigned in Europe to guard the nation's interests abroad soon after World War II. (AR 870-5 Military History, 2001). Many of the installations acquired by the US were German military installations. These installations were taken over by American forces after WWII. In the midst of shielding US interests in Germany, the US Army needed the capabilities of maintaining all necessary equipment and forces in the area. Now, operational missions and troop requirements have changed and the Army requires fewer facilities. The related economic, political and environmental impacts associated with the

consequent closing of US installations in Germany are of concern to both nations (Cunningham and Klemmer, 1995).

Bad Kreuznach

Bad Kreuznach (BK), once home to roughly 2,300 soldiers and the 1st Armored Division Headquarters, is located in western Germany. It is close to the border of France and belongs to the German state of Rhein-Main Platz. The BK installations were taken over by US forces in 1945. On Feb. 15, 2000, Secretary of Defense William S. Cohen announced the end of operations of the Headquarters, US Army Europe in Bad Kreuznach. As part of this closure, six facilities were returned to host nation control. They are the Bad Kreuznach Family Housing Area, the Army Air Field, the Hospital Kaserne, the George C. Marshall Kaserne, the Moersfeld Storage Point, and Rose Barracks. These installations contained a training area, target range, hospital, motor pool, airfield, family housing units, fueling station, and various administrative buildings. In May 2001, BK was closed and 1,500 soldiers, 1,800 family members, 450 US and 350 local workers were relocated from BK to Wiesbaden, Germany (Dougherty, 2001). In December 2001, the installations were turned over to the German government.

Bad Aibling

The installation of Bad Aibling (BA) is located in southeastern Germany at the foot of the Alps in the state of Bavaria. In 1934, Adolph Hitler constructed many airfields in southern Germany, and Bad Aibling provided air support for the Third Reich operations. Between 1936 and 1939, troops and planes occupied the area. The airfield, nicknamed "Jaegerplatz" (Hunter's Place), was not strong enough to withhold the new heavy fighter planes that were built for the war. Consequently, the camp was converted into a flight-training base. In 1945, during the last stages of the war, many of the German planes standing on the camp were destroyed when the field was bombed. Subsequently, the camp was used by the U.S. Army 101st Cavalry as a prisoner of war camp named PWE 26. In 1946, the United Nations Relief and Rehabilitation Agency (UNRRA) along with the International Refugee Organization (IRO) turned the camp into a displaced persons camp and orphanage. The U.S. Army took over the camp in 1952, and

in 1960, the U.S. built a radio station on the base. In the years between 1972 and 1994 the Department of Defense took control of the operations in Bad Aibling. Since 1994, it is operated by the Intelligence and Security Command (INSCOM), and is primarily used for rapid radio relay and secure communications, as well as testing and evaluation of communications equipment (Bacheler, 1997). The existing facilities include 325 acres, 87 buildings of which 40 are inhabited, a gas station, shopping center, family housing, a medical treatment facility, and other logistical support activities. It is home for 1,500 Americans and 140 German civilians. DOD confirmed the closure of BA on December 20, 2002. The base closure was officially announced via e-mail, "town meetings" and bulletins on April 23, 2003. The closure of the Bad Aibling base is scheduled for September 30, 2004 (Crawford, Thomas A.).

Bad Aibling has a top security and classified mission. While it has long been rumored that Bad Aibling has been used to gain advantage over European businesses and for other more sinister purposes (Czucka), the main reason for closure of the installation at Bad Aibling is that its primary mission no longer exists, and it's ancillary missions have been absorbed by other installations (Crawford).

Results of Previous Base Closures

In order to fully understand the current direction DOD is taking with its current base closures, it is important to look at lessons learned from base closures in the past. In contrast to base closures in the U.S., DOD maintains complete authority over the foreign base closure process (Cunningham and Klemmer). Because of this, overseas installations are returned to the host nation in less time than is required for domestic closures. This greatly reduces the timeline that authorities have to ensure that all environmental threats have been resolved. The closures reached their height in 1992 and 1993 when the U.S. announced closures on an average of one every two months with word of the closure coming only weeks before troops were moved and facilities shut down. As a result of this accelerated pace, it was impossible to consult with local officials and address their concerns regarding facilities and their condition after withdrawal of American forces. In order to ease the impacts of closure, U.S. authorities were able to arrange

shared-use agreements, on-site inspections, and financial compensation to the German government (Cunningham and Klemmer, 45).

When the DOD or Army decides to return a facility, it must consider two components, compensation for buildings and environmental cleanup. This paper focuses primarily on the environmental cleanup issues that arose in the past but are still pertinent today and will continue to be in the future. Both US and German policies require the United States to clean all contamination at the facilities for which it is responsible and to return the land in the same condition it was found (Cunningham and Klemmer 46). When remediating environmental contamination, the US is legally required to: (1) clean the contamination, or (2) allow the German government to clean the site and deduct the cost from the agreed upon residual value. It is important to note that at many base closure sites, the cost of conversion to commercial or private use is extremely high and is often cost prohibitive to the German government, local government, or private organizations. In light of this, residual value is often much lower than expected and alternatives for future use are very limited. This places a great responsibility on US officials who may be forced to comply with all host nation environmental requirements before they can officially turn over the site (Cunningham and Klemmer, 47-75). However, the German government cannot refuse to take receipt of the installation even if all environmental issues have not been resolved. Liability litigation by private organizations may continue for up to 30 years after a base is handed over to the host nation, and government files must remain available for this period (Schommer and Walmsley).

Development of the Army's EH&S Management System

The organizational structure and interrelationships of the Army's EH&S Management System is identified in Figure 1. From this figure, it is possible to understand where command, policy, funding, and guidance are derived. It is also possible to see which organizations provide technical expertise to the ultimate end user, the overseas installation. It is at the installation level where all policies and programs are put into effect and compliance is monitored as well as where issues are resolved. There are two organizations that are critical to the implementation and

monitoring of overseas environmental policy, the Installation Management Agency and the U.S. Army Claims Office. The roles and responsibilities of these two organizations will be discussed later in this paper.

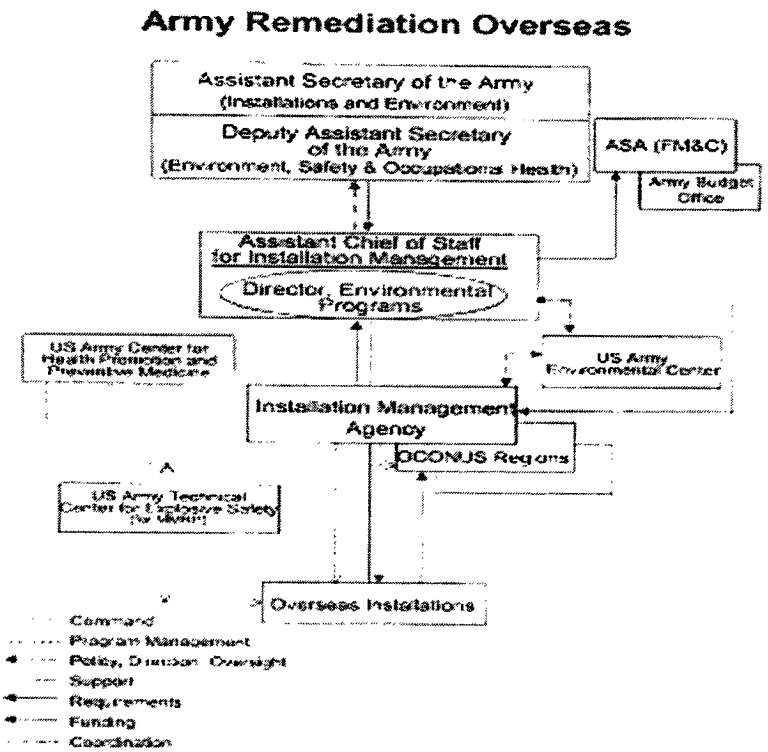

Figure 1. Overseas EH&S Management Structure

EH&S Policy and Guidance

The Army's EH&S Management Policy is promulgated in several documents, the first of which was published in 1998. This policy, DODI 4715.8 (DOD), assigns responsibilities and prescribes procedures for remediation of environmental contamination on DOD installations outside the US. Specifically addressed in this instruction are procedures for facilities that have been designated for return or that are already returned (DOD, 5-6). It directs DOD components, in this case the Army, to take prompt action to remedy known imminent and substantial hazards to human health and safety. These hazards must be located on or emanating from an installation designated for return. The in-theater component commander makes the determination of

whether a hazard poses an imminent threat to health and safety.

While this remediation may be completed after return to the host nation, actions are limited to essential parts in the remediation plan. The DOD component commander must approve this plan. This policy also indicates that DOD may be subject to additional remediation as required by international agreement even though such remediation may not pose an imminent threat to human health and safety. DODI 4715.8 allows flexibility for both the U.S. and host nations to undergo efforts to clean up contamination both before and after turnover of the installation. Finally, this policy requires that information pertaining to environmental contamination be maintained for five years after the location is returned to the host nation, and all claims are finally resolved.

The US Army Center for Health Promotion and Preventive Medicine (USACHPPM) is the agency primarily responsible for overseeing issues and managing problems as it affects health. USACHPPM's mission is to provide worldwide technical support for implementing preventive medicine, public health, and health promotion/wellness services into all aspects of America's Army and the Army Community anticipating and rapidly responding to operational needs and adaptable to a changing world environment(About USACHPPM). As indicated in Figure 1, they oversee activities in OCONUS regions, but do not coordinate with any other agency involved to include IMA or the US Army Environmental Center.

Environmental Program Requirements Report

The Environmental Program Requirements (EPR) Report is the mechanism the Army uses to identify and document all ongoing environmental requirements and resources required in support of the Army's environmental program. Specifics of the EPR are outlined in "the Policy and Guidance for Identifying U.S. Army Environmental Program Requirements" (Office of the Director Environmental Programs). This policy identifies the tracking mechanism for all ongoing environmental projects from the time they are identified until the time they are completed. It also retains historical information to meet the requirements of the Army's cleanup strategy (Fiori, 45). This policy identifies the classes of environmental projects (Office of the

Director Environmental Programs, I6-I13) and the priority of each of these projects (I13-I16). From this policy, it is easy to determine the criticality of an environmental issue at the time of base closure, and the likelihood of funding in order to resolve the issue before turnover of the installation.

This report, accessed by commanders and environmental/resource managers at all levels, is used to plan, program, budget, and forecast costs to manage the environment, practice good environmental stewardship, and to attain compliance with existing laws and regulations. Of critical importance, it is used to identify projects and track the associated costs of these projects. It can be used to estimate future costs of similar projects. This report may be used when a base closure is announced in order to identify all ongoing environmental issues and assess where they are in the process of resolution. It may also helpful in estimating the time required to resolve ongoing issues.

Environmental Status Report

The environmental status report is a reporting requirement mandated by the EPR Policy and Guidance (Office of the Director Environmental Programs, I-20). It is intended to measure the status of an installation's environmental program at a given point in time. The report determines the program status by comparing the current conditions of an installation to an Army-wide standard. This allows an effective comparison of funding to status. This status report is a useful tool to evaluate progress towards resolving identified environmental issues.

Cleanup Strategy

In May 2003, shortly after the release of the EPR policy, the Army Assistant Secretary for Installations and Environment published the road map to guide the Army in attaining its environmental cleanup vision. This guiding principle was entitled "Army Environmental Cleanup Strategic Plan" (Fiori). This strategy uses the ISO 14001 standards as its framework. The strategic plan delineates the mission for cleanup overseas, which is to remediate known imminent and substantial hazards to human health and safety due to environmental contamination caused by the Army (Fiori). It is important to note that domestic environmental

policy does not govern Army installations in Germany, and Army installations in Germany are held to a higher standard. When there are different standards between German environmental policy and domestic policy, the policy with the more stringent standard takes precedence. These standards are comprehensively delineated in the Final Governing Standards (FGS). While these FGSs are important for ongoing operations, they have no relevance for bases identified for closure (Office of the Deputy Chief of Staff, Environmental Division).

The Army Environmental Cleanup Strategic Plan is the primary policy that is applicable to DOD installations overseas that are earmarked for closure. (Fiori, 44-48). Responsibility for executing and monitoring base cleanup lies with the Installation Management Regional Office (IMRO). For German installations, this office is located in the city of Heidelberg, Germany.

It is important to understand how hazards are identified and monitored. The local U.S. Army Claims office is primarily responsible for examining known hazardous sites and documenting conditions that exist at each site. This information is provided to the German Claims Office in order to ensure both host nation and U.S. Army local officials have the same information. This information is kept on file for thirty years in the event of a third party claim subsequent to the return of the installation to the host nation. Only third parties (private investors, businesses, etc) are allowed to make claims for costs incurred for clean up of known contaminated sites.

The cleanup mission for overseas locations outlined in this document is similar to the mission identified in DODI 4715.8. It adds additional considerations of "retaining mission/operational capability, maintaining installation access, protection of human health, and applicable international agreements" (Fiori, 45). It also delineates the reporting mechanism for identifying and reporting overseas remediation projects. The Army will report these projects through the Environmental Program Requirements (EPR) report. The Army will review this report and resolve any discrepancies as appropriate.

The Army, in conjunction with the Army Environmental Center, should conduct management review of progress through a semiannual programmatic review of all overseas

remediation projects. Any programmatic issues needing increased visibility, awareness, or monitoring are addressed by the overseas commands during the annual overseas program in-process-review (IPR) meeting.

Base Closure Procedures

On June 27, 2003 IMA Europe presented a briefing on Installation Closure Procedures in relation to the Environmental Perspective (Schommer and Walmsley). The briefing denoted the specific procedures and responsibilities of the parties involved during a US Army base closure. This is basic information taken into account for closures after 2003.

The closure procedures are guided by requirements that are essential for the coordination of a base closure. The proceedings of the closure rely on the organization set forth by the commander. The commander will decide the visitation rights into the facility. The decision is based on the party's legitimate interest. The visits cannot interfere with the usual base operations. These visitations usually include the host nation's landowner, Installation Management Activity (IMA) Claims Office, local fire inspectors, and real estate representatives for the US Army and the host nation. The visitations determine the course of actions for the base closure. Certain aspects like property management within the installation are handled according to ownership of the property. Property that does not belong to the US Army may not be removed without the approval of the host nation. This property includes installed buildings, improvements, structures and all other on site constructions. The removal of property is considered when the host nation identifies an economically feasible use for the property. The property belonging to the US is removed and disbursed according to commander's decisions and relocation procedures. Adjustments to the Environmental Progress Report (EPR) are made during the closure announcement process. The IMA-Europe along with the Area Support Group and Base Support Battalion (BSB) commanders will meet to determine the coordination of the EPR. The BSB Environmental Management Office is in charge of the changes made to the EPR. Host Nation determinations regarding operational changes will included in the EPR. The determination is based on the operational, technical and legal implications of the projects to

include funded and ongoing remediation efforts. Projects that increase residual value are not considered. As part of the EPR update, the costs of the Environmental Management Office (EMO) staff, laboratory analysis costs, and hazardous waste disposal costs are included in order to reduce or raise program management costs. The EMO is responsible for retaining all environmental records, hazardous waste disposal, and tank closures along with providing information for the ESR. According to the FGS (Office of the Deputy Chief of Staff, Environmental Division, 2003), records are required to be kept for use in the EMS development. Liability related reports are kept by the claims office. There are no specific record keeping requirements for the host nation. Permits and any violations to exclude cost information is shared by the HN and the US forces.

The HW/HM disposal is done in conjunction with the generating unit. The unit is responsible for providing proper packing, labeling and for effecting disposal. HM are returned to the unit's supply system. HW is disposed of through the Defense Reutilization Marketing Service International (DRMSI). An updated inventory is made describing the types of hazardous waste generated. The central turn-in points and point of contact individual are established during the first phase of the closure after closure announcement. Necessary inspections are conducted and a review of disposal contracts is performed in order to ensure the proper handling of increased HW.

Tank closure decisions are dependent on host nation determination and these decisions should be in writing. The host nation will determine if the tanks ought to be left empty and clean or filled and this decision is primarily based on the economic benefit of continued use. The host nation must also provide personnel to maintain operation of heating tanks and heating systems. The disposal of real property is based on the use of the property. Underground Storage Tanks (USTs), petroleum, oil, and lubricant (POL) containers and grease separators should be cleaned. Cooking ranges, retention basins and sewers should not be cleaned.

The local administrative element of the base closure is centered in the ASG. The ASG Commander is accountable for the installations funds and efficient transition. The Installation

Management Agency- Europe (IMA-E) handles the overall administrative aspect. The Environmental Status Report is the responsibility of the IMA-E. The timing of the ESR is determined based on the number of installation that are closing. The ESR contains a determination of the environmental impacts associated with the turnover. The estimated and know clean up costs are also included in the ESR. The ESR is divided into 2 major sections: (1) The Installation Background and Description and (2) the Summary of Environmental Conditions which consists of:

USTs/ASTs

- Sewer
- Sewage Treatment Plant
- Asbestos Survey and Abatement Records
- Landfills in use

Landfills closed

Air Pollution

- Erosion, Deforestation and natural resource damage

Radon Surveys

- Drinking Water

HW/HM

PCBs

- General Environmental Reports

Known Soil and Groundwater contamination

The US Army Claims Service Europe is in charge of gathering the information for the ESR. The claims office conducts a historical investigation and determines the extent of any soil/groundwater contamination. The data is provided to US Army Chief of Staff Europe for the final ESR preparation. The host nation authorities are provided with contamination details. Sites that have third party claims are the only ones to have ongoing remediation projects. After the base closure, IMA provides residual value assistance. The ASG/BSB will respond to HN

data inquires. Any claims dealing with the installations after closure are handled through the Claims Office. Only third Party claims are considered after closure and the German Federal Government cannot make any direct claims.

The National Fire Protection Association (NFPA) guides the fire regulations within the US Army installations. These regulations are more stringent than the fire regulations in Germany. Since most of the constructions in BA and BK were built prior to WWII, only improvements made since by the U.S Army are governed by these standards (Crawford). Host nation laws and regulations vary between German states, and the states of Rhein-Main Platz and Bavaria have different laws.

METHODOLOGY

The comparison study denotes the EH&S Management parameters that were used in FY01 and the EH&S Management factors being used in the future closing in (FY04) by the US Army. This study compared laws and regulations, base closure stipulations, and EH&S issues, with particular focus on: hazardous materials, hazardous waste management, ground and drinking water and underground tanks in closing these installations. In the closure of Bad Kreuznach, many of the individuals involved with the closure of the base were no longer available to be contacted, and the research was based on historical documents left behind. Further methodology is outlined in the sections below.

Research Methods, Validity, and Analysis

Review of existing documentation and personal interviews were utilized during this work to obtain data pertaining to the EH&S activities used by the US Army in Germany. Background information was studied on the EH&S Management tactics used by the US Army in Germany as well as the recent programs developed. It includes the aspects that form part of the US Army's EH&S strategies. The investigation was based on two US Army military installations in Germany. Data from various sources in relation to each Army base was obtained through textbooks, publications and electronic research, as well as personal interviews. This information

was reviewed in order to achieve a comparison of procedures and activities at each base.

Information and data was gathered from the US Army work force. Environmental Engineers, personnel from the Department of Public Works (DPW), and sources from the Installation Management Agency IMA- Europe were contacted starting from an initial contact list and increasing the contacts through recommendations and referrals. The contacts were made predominantly via telephone and other electronic means. Interviews were arranged and audio taped with permission of interviewee. This method enabled active listening, providing the means of going back and reevaluating what the interviewee expressed and said. Specific questions regarding the study were addressed (Appendix C). Additional information regarding other useful contacts was requested from each interviewee.

Due to the delicate matters of this research, the information collection changed throughout the process. The author encountered information that is for military official use only, therefore it cannot be disclosed. Several interviewed parties provided limited data, but by the interviewees' request, their names are not disclosed. Because of the classified US Army missions, interviewees could not reveal the status of many of the known turnover issues. This information is provided to the host nation as "Official Use Only" information, and it is not possible to determine which sites pose the most imminent threat, which have the highest priority, and the total cost associated with cleanup of these sites. Interviewees were only permitted to provide information pertaining to the history, land area and existing buildings.

Validity was established through a set pattern of questions in relation to each field. The pattern of questions aided in the determination of truthful and accurate answers. The data was continuously evaluated and verified through in-depth interviews. An interpretation was obtained from the analysis of the sources and applied to the framework of an effective EH&S Management program. A question/interview sheet/research guide was established. Early respondents were contacted again with additional questions arising from later interviews. The results of the questions helped identify areas that needed resolution when conflicting information was provided by the interviewees. Individuals of different organizational backgrounds were

interviewed to provide validity to responses.

RESULTS

Bad Kreuznach

Jurgen Knura, the Chief of the Department of Public Works (DPW) Environmental Office at Bad Kreuznach was interviewed during this research, and was the primary source of present and historical information relating to the closure of the Bad Kreuznach installation. He outlined the process that was used to close and turn over the installation to German federal government in December 2001. Before the installation was turned over, all ongoing projects had to be terminated. Any projects that were partially completed were not finished. After the date was determined to turn over the installation, the German government had no choice but to accept the installation in the condition that it was in at that time. All efforts at remediation had to be completed before this date. Most of the installation was vacant due to deployment. A time period of six months elapsed between the announcement of the closure and the actual closure.

Closure Procedure

The closure of Bad Kreuznach was outlined in HQUSAREUR OPLAN 4374 (Operation Brilliant Exit), with environmental concerns outlined in Annex E of the plan. An attempt was made to obtain this OPLAN through IMA-E Environmental Branch, Ms. Mary Schommer, but this information was classified. The closure of BK was expedited by the deployment of many of the 1st Armor Division units to Iraq in 1992. Upon return, many of these units did not return to the installation, but instead were moved to Wiesbaden, Germany. This allowed the Department of Public Works to collect excess and unwanted materials left behind without having to contend with tenants in the buildings.

The environmental management plan consisted of inventorying, organizing, recycling, and disposal of all items on the installation. The Environmental Program Manager, Jurgen Knura, managed this program. While assessing and inventorying remaining assets posed a logistical challenge due to the decrease of personnel, the actual turn in of equipment went well

with all tenants cooperating to return assets to the installation.

Hazardous waste removal was accomplished by an accumulation point plan. This plan consisted of designated points on the installation (Rose Barracks) where units turned in the hazardous waste (HW) materials. Oversight and quality control was the responsibility of the Defense Reutilization Management Office (DRMO). A contracting company came in once a week, accepted the hazardous waste, and disposed of it in the host nation's state operated disposal facilities. When this plan was implemented in 1990, there were difficulties due to lack of user training and unfamiliarity with procedures. However, by 2001, this process was well established and worked efficiently.

The fueling station required specific measures before it was acceptable for turn over. A contractor removed remaining fuel. The double walled tanks had to be drilled to allow drainage of the fluid between the walls. This fluid ensured proper containment of fuel in the event the inner wall was damaged. These tanks were not dug up, but only closed and secured. Future removal of these tanks will be very expensive, as they cannot be reutilized for their original purpose. Contractors were also required to remove heating fuel from the family housing units.

Special steps were required to ensure the proper closure of the water and wastewater disposal systems. All water lines were closed due to different U.S. and German chlorination standards. German laws allow chlorination in water for disinfection only, and no more than 0.6 mg/L of chlorine may be present after treatment (Wricke, 2). Normal range for U.S. drinking water is between 5 mg/L and 20 mg/L after treatment (EPA, 4). For wastewater disposal, the installation used the BK sewer plant. This plant performed the function of inspecting, dismantling, and securing the sewer pipes and draining the septic system of the hospital.

The only ongoing remediation site is on Marshall Caserne which is a ground water sewer system remediation stemming from a dry cleaning facility that was in operation for over 40 years. The Army was required to inform the German federal state of this ground water contamination site before turn over of the installation. This remediation has been ongoing since 1987 and the facility has been out of operation since 1995. There is no known resolution for this

remediation site (Knura, Jurgen).

Environmental Status Report for Bad Kreuznach (Installation Management Activity, USAREUR, and 7th Army) was obtained. This document presented a comprehensive plan of the duties and responsibilities of affected organizations during an installation closure, and provided an update of ongoing concerns for the installation. It addressed hazardous waste and material disposal, tank closure, and the ESR of the facility as of May 2001. The ESR documents existing locations of known hazards to include underground tanks, sewer, asbestos, landfills, air pollution, drinking water, HW/HM, PCBs, soil and ground water. It also identifies known sites and clean-up costs, as well as suspected sites of environmental contamination. While the ESR documents ongoing concerns, it is done so only in order to alleviate future liability for the Army.

Additional guidance for the closure of Bad Kreuznach was found on the Internet in the IMA Environmental Smartbook (Environmental Smartbook). As part of the closure, the Army focused only on known and identified hazards, and did not seek to identify and remediate any new hazards that arose after the announced base closure.

Bad Aibling

There had been an Occupational Health, Environment, Fire and Safety program (OHEFS) in place at Bad Aibling for some time before closure was announced. This program consisted of nearly two-dozen Standard Operating Procedures (SOPs) addressing such concerns as confined spaces, control of hazardous energy, blood borne pathogens, and forklift operations. The terms for the closure of Bad Aibling were internal standards set by the Environmental Health, Safety and Fire Department along with the Engineering Department.

The responsibility to follow the base closure terms was placed with the Base Closure Team (BCT). This team was composed of active duty personnel as well as civilian components. The team was in charge of identifying environmental and safety issues and implementing controls during the closure procedures.

The BCT guided its procedures according to the BAS Closure Project Management Plan, which was provided to me by Thomas Crawford, Chief of OHEFS at Bad Aibling. The majority

of the plan is "For Official Use Only" and many of the items are noted as classified information. The facility return process began in April of 2003, 391 days before final turn over. The initial planning activities began with the coordination of USAREUR and IMA-E Staffs. Inspections of water, sewer and gas to determine conditions commenced in June 2003 and were completed in November 2003. Disposal of hazardous wastes started in June 2003. Closure of all workshops began in June 2003 and will finish in July 2004. 289 days prior to closing, safety activities took place to include Safety/Risk Management training for all military and civilian personnel. Improvement of buildings to meet operational standards began in May 2003. Health screening and physical exams were conducted on all employees to establish health conditions upon termination. The USTs and the water plant are still awaiting host nation determination and a final decision had not been received at the time of the interview.

Limitations

The research effort was impacted by the availability of personnel to interview for the closure of Bad Kreuznach and the sensitive nature of the information that forms the basis of this research. The researcher was unable to provide a detailed analysis of the specific EH&S concerns remaining at each installation, and report on the ultimate resolution of these issues. While these details would have contributed additional quantifiable information to this paper, their absence did not prohibit the researcher from comparing the relative success of two programs occurring four years apart.

Historical documentation presented an incomplete picture for the closure of Bad Kreuznach, and many concerns may not have been documented. The results obtained from the ongoing closure of Bad Aibling present only a partial picture of the progress being made in closing the base. Many environmental concerns were not resolved prior to the completion of this research, and are not presented here due to continued discussion between the host nation and the US government.

ANALYSIS AND DISCUSSION

The U.S. Army did not have a comprehensive EH&S program when it closed Bad Kreuznach in 2001. Its program did not go beyond compliance with regulations. The EHS closure of Bad Kreuznach essentially followed the operational plan, and the base was closed with only one ongoing remediation project. Ongoing environmental issues were addressed and the command attempted to resolve these issues through direct tasking to specific subordinate organizations. The DPW was the one responsible for completing the mission. Some goals were attained in order to remove imminent threats to health and safety and minimizing known hazards to the greatest extent possible, but these goals were not managed by one central agency with knowledge of the scope of the entire closure proceedings. Because of this, actions were uncoordinated and resulted in much duplication of effort and disagreement on priorities and goals. The decision to fill underground tanks with sand and leave them in place at Bad Kreuznach illustrates this point. From the safety perspective, filling them was the best decision, but from the environmental perspective, it would have been best to remove them from the soil and dispose of them in environmentally conscious manner. Environmental goals and indicators were not the most important factor of the base closure. The main focus was set on compliance with Army regulations.

The Army is in the process of implementing its EH&S management program. As part of this, the Army Environmental Center (AEC) published its environmental cleanup strategic plan in May 2003 (Appendix B). This document was a tremendous step forward in that it outlined objectives, targets, and success indicators for Army remediation overseas. The plan provides a basis for the development of an Environmental Health & Safety Management program. This document can be used to assess and measure the success of remediation efforts prior to turnover of the installation to the German government. It provides the framework for effectively monitoring environmental issues as they are identified, and it gives the DOD the ability to manage, fund, and remediate known environmental hazards in order to reduce the difficulty in turning over facilities for future base closures. Target 2.2 of this policy indicates the

Army will develop and implement a relative risk prioritization system for overseas remediation sites within one year of discovery, and will accomplish this by the end of FY2005. Additionally, the Army is establishing an environmental database that will contain all known contamination sites, but this will not be completed until FY2007.

It is evident from this research, that this policy had little impact on the closure at Bad Aibling, and the EH&S management continues to be fragmented. Because of the classified mission of Bad Aibling Station, interviewees could not reveal the status of many of the known contamination sites. This information is provided to the host nation as "Official Use Only" information, and it is not possible to determine which sites pose the most imminent threat, which have the highest priority, and the total cost associated with cleanup of these sites. Contamination sites will only be evident after subsequent turnover of the installation to the German government and a full independent survey has been conducted.

Each BSB was required to complete a comprehensive cultural and historical assessment in order to establish geographic location, land usage characteristics, and identify responsibility for each activity. The documentation for Bad Kreuznach is now considered only for interested parties involved in the purchase of the land and assets. The assessment for Bad Aibling is in the process of completion, and the information is still considered classified. Interviewees were only permitted to provide information pertaining to the history, land area and existing buildings. This allowed people involved in the closure of Bad Aibling to more easily organize the closure.

Because Bad Aibling is still awaiting a decision by the host nation on the final use of the USTs/ ASTs and water plant, it was not possible to perform a comparison of procedures used during these operations. The claims office will maintain historical documentation on the base status prior to closing and thereafter. The plan for Bad Aibling included health exams for those employees who were terminating their jobs. This clearly shows the intent of integrating health management as part of the EH&S management into the closure procedures. Their program was limited in that it did not show how future health risks could be avoided for the communities settling on the land previously occupied by the installation. There is only speculation as to how

these risks will be managed when this time comes.

For Bad Aibling, the main priority for closure was the safety of the teams. This also shows a clear integration of EH&S Management in the closure procedures. In contrast, during the Bad Kreuznach base closure, safety issues were not a priority. The plan for Bad Aibling base closure up to the time of this research has been followed without restraints, with the exception of the unresolved issues pertaining to the tank closures, the water treatment plant, and the housing heating plants. The responsible parties planned the closure, tasks that needed to be accomplished, and the estimated timeline required to complete these tasks. They then took necessary action in order to complete the base closure in a timely manner.

Future use of the land is important when considering the EH&S management program at each installation. The actions taken by the DPW during the closure of Bad Kreuznach have hindered the economical benefit of the premises. The base closure for Bad Aibling has taken into consideration the priorities and desires of the local German community, and there are many potential use projects already planned.

CONCLUSIONS AND RECOMMENDATIONS

This research makes an assessment of the changes occurring in the US Army's EH&S management programs in place during base closures occurring in 2001 and 2004. The researcher assessed the programs in place at the time of each closure, and the integration of each element of the EH&S management program. Despite limited sources of information and restricted disclosure of information surrounding the base closures, these goals were achieved.

Looking to the future, the Army must better integrate the health and safety management aspects of EH&S into its daily operations in order to realize the effects of an integrated program. To integrate, the U.S. Army must identify an agency that is ultimately responsible for making decisions in regard to issues relating to EH&S management. Currently, responsibility lies with multiple agencies to include the base support battalion, the Installation Management Agency (IMA), US Army Center for Health Promotion and Preventive Medicine (USACHPPM), and the

priorities of tenant unit commanders. Based on this research, the best-suited agency to handle this responsibility and provide comprehensive coordination of closure activities is the IMA. Currently, it is the BSB that operates each installation and is responsible for monitoring daily activities and projects on the installation. The BSB should coordinate closely with the IMA and provide continuous feedback on closure progress and receive guidance as EH&S management issues arise. USACHPPM must also coordinate with the IMA in order to address health issues as they arise, and provide assistance based on previous lessons learned. This will minimize detrimental effects of hazards on employee health as bases are closed. In order to achieve this coordination, USACHPPM may have to become a subordinate agency under the IMA.

In 2004, the Army took strides to incorporate an environmental management system into its ongoing base operations. It has improved the process of closure and turnover of installations through policies set forth in the Army Environmental Cleanup Strategy and specifically, Army Remediation Overseas. Close adherence to the objectives, targets, and success indicators outlined in this policy should ensure the Army is able to minimize the environmental impact as bases operations continue. It is recommended that the health and safety goals and targets should receive additional emphasis and be further integrated into the process. This will ensure an operational system that encompasses every aspect of an EH&S management system. This management system will ultimately reduce the cost to the government when the land is returned to the host nation.

Focusing only on known hazards when a base closure is announced is short sighted on the Army's part. By actively identifying health and safety risks as well as estimating remediation costs, the Army can adequately fund and plan resources in order to minimize the effects of potential contamination sites. The Cleanup Strategy set forth by the US Army is a step forward in organizing subordinate activities such as the Installation Management Agency, each Area Support Group and Base Support Battalion. The Cleanup Strategy also places a priority on the preservation of the environment and ensuring the future safety of residents and businesses that occupy the area.

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Appendix A- Department of Defense Instruction Number 4715.8

February 2, 1998

USD(A&T)SUBJECT: Environmental Remediation for DOD Activities Overseas

References:

(a) Deputy Secretary of Defense Memorandum, "Environmental Remediation Policy for DOD Activities Overseas," October 18, 1995

(b) DOD Instruction 4715.5, "Management of Environmental Compliance at Overseas Installations," April 22, 1996

(c) DOD Directive 5530.3, "International Agreements," June 11, 19871.

1. PURPOSE

This Instruction:

1.1. Implements policy, assigns responsibilities and prescribes procedures under reference (a) for remediation of environmental contamination on DOD installations or facilities or caused by DOD operations outside the United States.

1.2. Is for the internal management of the Department of Defense and does not create any independent right enforceable against the Department of Defense, the United States, or their officers, agents, or employees.

1.3. Supersedes previous guidance that is inconsistent with its provisions.

1.4. Does not supersede or amend any existing agreement respecting remediation of DOD environmental contamination outside the United States.

2. APPLICABILITY AND SCOPE

2.1. This Instruction applies to:

2.1.1. The Office of the Secretary of Defense, the Military Departments (including the Coast Guard when it is operating as a Military Service in the Navy), the Chairman of the Joint Chiefs of Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, and the DOD Field Activities, including any other integral DOD organizational entity or instrumentality established to perform a government function (hereafter referred to collectively as "the DOD Components").

2.1.2. Remediation of environmental contamination on DOD facilities or installations outside the United States, including DOD activities on host-nation installations or facilities.

2.1.3. Remediation of environmental contamination caused by current DOD operations, including training, which occurs off a DOD installation or facility outside and the United States. Such operations do not include operations connected with actual or threatened hostilities, security assistance programs, peacekeeping missions, or relief operations. Such operations also do not include logistics, maintenance, or administrative support functions

provided by a contractor off base.

2.2. This Instruction does not apply to:

2.2.1. Actions to remedy environmental contamination that are covered by requirements in environmental annexes to operation orders and similar operational directives, or to requirements issued under DOD Instruction 4715.5 (reference (b)), either in country-specific Final Governing Standards or, where no Final Governing Standards have been issued, in the Overseas Environmental Baseline Guidance Document.

2.2.2. The civil works function of the Department of the Army.

2.3. For purposes of this Instruction, "United States" means the several States of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Commonwealth of Northern Marianas, any other territory or possession over which the United States has jurisdiction, and associated navigable waters, contiguous zones, and ocean waters of which the natural resources are under the exclusive management authority of the United States.

3. POLICY

The DOD Components shall, in accordance with the specific limitations contained in Sections 5 and 6 of this Instruction, remedy known environmental contamination caused by DOD operations outside the United States.

4. RESPONSIBILITIES

4.1. The Deputy Under Secretary of Defense for Environmental Security, under the Under Secretary of Defense for Acquisition and Technology, shall:

4.1.1. Provide guidance on policy for remediation of overseas environmental contamination.4.1.2. Resolve a DOD Component's objections to a Combatant Commander's resolution of a dispute between the DOD Component and the Executive Agent if such objection is properly referred to the Deputy Undersecretary of Defense for Environmental Security.

4.2. The Heads of the DOD Components shall:

4.2.1. Remedy known environmental contamination to the extent required by this Instruction and the country-specific policy established by Environmental Executive Agents as set out in paragraph 4.2.3.1, below.

4.2.2. Resolve site-specific issues such as approving strategies for remediation and determining how best to use DOD Component resources.

4.2.3. Carry out or delegate the responsibilities of Environmental Executive Agents for particular nations when designated by the Department of Defense under DOD Instruction 4715.5 (reference (b)), including the following:

4.2.3.1. Establish country-specific remediation policy to ensure consistent remediation of DOD-contaminated sites in the host nation. Consistent with this Instruction and subject to the specific limitations contained in Sections 5 and 6, below, the country-specific policy shall:

4.2.3.1.1. Define, or provide procedures to define, the appropriate level of remediation at contaminated sites;

4.2.3.1.2. Provide procedures for negotiating the scope of any required remedial measures with the host nation that are consistent with the policy and procedures for negotiating and concluding international agreements in DOD Directive 5530.3 (reference (c)); and

4.2.3.1.3. Provide procedures for furnishing documentation to the host government.

4.2.3.2. Negotiate, or coordinate and approve the negotiations of the DOD Components, with host nations on implementation of this Instruction, and regularly inform the cognizant Combatant Commander of such negotiations.

4.2.3.3. Consult with one another to ensure in-theater consistency in implementing this Instruction.

4.3. The Commanders of the Combatant Commands shall

4.3.1. Coordinate and approve implementation of the overall policy within their geographic areas of responsibility, as necessary, to carry out their mission.

4.3.2. Resolve disputes between a DOD Component and the Environmental Executive Agent on country-specific policy.

5. PROCEDURES

Subject to the availability of funds and the other provisions of this Instruction, the following requirements apply to remediation of environmental contamination overseas:

5.1. DOD Installations or Facilities That Are Open and Have Not Been Designated for Return

5.1.1. The DOD Components shall take prompt action to remedy known imminent and substantial endangerments to human health and safety due to environmental contamination that was caused by DOD operations and that is located on or is emanating from a DOD installation or facility.

5.1.2. After consultation with the DOD Environmental Executive Agent, if any, the in-theater commander of the DOD Component may approve additional remediation of environmental contamination if the commander determines the additional remedial measures are required to maintain operations or protect human health and safety.

5.1.3. International agreements may also require the United States to fund environmental remediation.

5.1.3.1. Such remediation may be more extensive than that necessary to remedy known imminent and substantial endangerments to human health and safety.

5.1.3.2. Before a DOD Component begins remediation under such an agreement, it shall consult with the DOD Environmental Executive Agent, if any, and shall obtain a legal determination that the requirement for environmental remediation is mandatory and arises from a binding international agreement that pertains to U.S. military operating rights in the host country.

5.1.4. Remediation beyond that specified in paragraphs 5.1.1. through 5.1.3.,

above, may be undertaken by the host nation using its own resources during U.S. occupancy of the installation or facility. The DOD Components shall encourage such remediation and cooperate with host-nation efforts by providing the information specified in section 6., below, and appropriate access to contaminated sites, subject to operational and security requirements.

5.2. DOD Installations or Facilities That Have Been Designated for Return or That Are Already Returned

5.2.1. The DOD Components shall take prompt action to remedy known imminent and substantial endangerments to human health and safety that are due to environmental contamination that was caused by DOD operations and that is located on or is emanating from a DOD installation or facility designated for return to the host nation.

5.2.1.1. Such remediation may be completed after return of the installation or facility to the host nation, but shall be limited to the essential elements in a remediation plan approved by the DOD Component before return. If remediation will continue after return, to ensure consistency among DOD Components before finally approving a remediation plan, the appropriate DOD Component shall consult with the DOD Environmental Executive Agent, if any.

5.2.1.2. The remediation plan is developed for a particular installation by application of this Instruction and country-specific policy to the particular circumstances of the installation, and shall include, but is not limited to sites to be remedied, areal and vertical extent of the contamination, contaminants to be addressed, and cleanup levels.

5.2.2. After consultation with the DOD Environmental Executive Agent, if any, the in-theater commander of the DOD Component may approve additional remediation of environmental contamination on installations or facilities that have been designated for return if the commander determines, in light of the projected return date, that the additional remedial measures are required to maintain operations or protect human health and safety.

5.2.3. International agreements may also require the United States to fund environmental remediation.

5.2.3.1. Such remediation may be more extensive than that necessary to remedy known imminent and substantial endangerments to human health and safety.

5.2.3.2. Before a DOD Component begins remediation under such an agreement, it shall consult with the DOD Environmental Executive Agent, if any, and shall obtain a legal determination that the requirement for environmental remediation is mandatory and arises from a binding international agreement that pertains to U.S. military operating rights in the host country.

5.2.3.3. After return of an installation or facility, the Department of Defense shall not fund any environmental remediation in excess of that required by binding international agreement or that which is pursuant to an approved remediation plan under paragraph 5.2.1., above.

5.2.4. Remediation beyond that specified in paragraphs 5.2.1. through 5.2.3., above, may be undertaken by the host nation using its own resources during U.S. occupancy of the installation or facility. The DOD Components shall encourage such remediation and cooperate with host-nation efforts by providing the information specified in section 6., below, and appropriate access to contaminated sites, subject to operational and security requirements.

5.3. Environmental Contamination Off a DOD Installation or Facility

5.3.1. The DOD Components shall take prompt action to remedy known imminent and substantial endangerments to human health and safety due to environmental contamination caused by current DOD operations at locations within the territory of a nation other than the United States and that is not located on or emanating from a DOD installation or facility.

5.3.2. After consultation with the DOD Environmental Executive Agent, if any, the in-theater commander of the DOD Component may approve additional remediation of environmental contamination caused by current DOD operations if the commander determines the additional remediation is required to maintain operations.

5.3.3. International agreements may also require the United States to fund environmental remediation.

5.3.3.1. Such remediation may be more extensive than that necessary to remedy known imminent and substantial endangerments to human health and safety.

5.3.3.2. Before a DOD Component begins remediation under such an agreement, it shall consult with the DOD Environmental Executive Agent, if any, and shall obtain a legal determination that the requirement for remediation is mandatory and arises from a binding international agreement that pertains to U.S. military operating rights in the host country.

5.3.4. Remediation beyond that specified in paragraphs 5.3.1. through 5.3.3., above, may be undertaken by the host nation using its own resources. The DOD Components shall encourage such remediation and cooperate with host-nation efforts by providing the information specified in section 6 below, and appropriate access to contaminated sites, subject to operational and security requirements.

5.4. Determination of Known Imminent and Substantial Endangerment and Extent of Remedy

5.4.1. The decision as to whether a contaminated site poses an imminent and substantial endangerment shall be made by the in-theater commander of the DOD Component after consultation with the appropriate DOD medical authority and the DOD Environmental Executive Agent, if any, for the respective host nation.

5.4.2. The authority to make this decision may be delegated by the in-theater commander of the DOD Component to an installation or facility commander, as appropriate, but consultation as set out in paragraph 5.4.1. above, is still required.

5.4.3. Projects designed to remedy an imminent and substantial endangerment are considered complete when the contamination no longer poses an imminent and substantial endangerment to human health, environment, and safety. Commanders have the discretion to make risk-based decisions on how to carry out the remediation, ranging from institutional responses, such as restricting access, to more permanent remedies.

5.5. Residual Value Adjustment for Host-Nation Contributions. Consistent with the provisions of applicable international agreements, actual or anticipated environmental remediation costs incurred by the host nation for DOD-caused contamination on or emanating from DOD installations or facilities or caused by current DOD operations may be considered as an offset against the residual value of DOD capital improvements.

5.6. Host-Nation Contribution. To the extent consistent with applicable international

agreements, the responsible official under section 4., above, shall seek host-nation or third country contribution, including assistance in kind, for remediation funded by the United States.

5.7. Negotiations With Host Nation. Negotiations with the host nation, whether by the DOD Environmental Executive Agent or DOD Component, shall be conducted in accordance with this Instruction; DOD Directive 5530.3 (reference (c)), and other applicable Directives.

6. INFORMATION REQUIREMENTS

6.1. The DOD Components may develop information, and shall maintain existing information, about environmental contamination at DOD locations for five years after the location is returned to the host nation and all claims or other issues about contamination are finally resolved.

6.2. Information on contamination not located on or emanating from a DOD installation or facility that was caused by DOD operations shall be collected and maintained for five years after issues about the contamination are finally resolved with the host nation.

6.3. Subject to security requirements, this information shall be provided, through the DOD Environmental Executive Agent and the Embassy, where required, to host-nation authorities upon request.

7. EFFECTIVE DATE

This Instruction is effective immediately. Signed J.S. Gansler.

Appendix B—Army Remediation Overseas

Background

The Army operates numerous installations outside of the United States, its territories, or possessions (hereafter overseas) in support of national security interest. The Army's operations at such facilities have the potential to affect the environment of the host nation (HN), as well as the health and safety of soldiers and civilian personnel. Demonstrating environmental stewardship within host countries is a critical component o\to the Army's ability to ensure continued access to overseas installations and facilities in support of US national security interests. Environmental management responsibilities at overseas Army installations are a complex composite of provisions in US laws, Executive Orders (EO), and DOD policies that are specifically applicable to federal facilities overseas, combined with the requirements, flexibilities and latitude of our stationing overseas provided by international agreements. A clear understanding of environmental policies applicable overseas is critical to ensuring a consistent strategy for management of remediation at Army overseas locations.

Federal legislation generally applies only within the territorial jurisdiction of the US, unless there is specific language that provides a clear intent to extend coverage beyond areas over which the US has sovereignty. Additionally, some Eos (e.g., EO 12088, EO 12114) are written specifically to ensure that federal facilities overseas comply with or address HN environmental considerations appropriately. There are no US laws regarding remediation or environmental contamination cleanup that have extraterritorial applicability. However, the Department of Defense has taken discrete measures to develop and implement an overseas "cleanup" policy. That policy, which is formally promulgated in DOD Instruction (DODI) 4725.8, "Environmental Remediation for DOD Activities Overseas", February 1998, applies to open installations as well as installations designated for return to the HN.

Program Drivers

There are numerous drivers for overseas environmental management and remediation. DODI 4715.8 provides the fundamental policy "driver" applicable to remediation at Army installations overseas, and thus provides the basis for the Army Environmental Cleanup Strategy (AECS) for remediation at Army installations and activities overseas. Some of the drivers may be manifested in international agreements, such as Status of Froces Agreement (SOFA). The overseas remediation program differs significantly from the cleanup program conducted in the continental United States (CONUS), which is driven by statutory requirements. Specifically, there is no requirement for a comprehensive cleanup program overseas that seeks to actively identify, remediate, or cleanup all known or suspected contaminated sites. Thus the objectives, targets, and success indicators for overseas sites are tailored accordingly, as the CONUS metrics are not necessarily applicable. This strategy document does not supersede or amend any existing remediation policies for environmental contamination overseas. Additionally, neither this strategy, nor the DODI 4715.8 policy and procedures therein, apply to contingency operations, deployments, operations connected with actual or threatened hostilities (e.G., the Balkans), relief operations or peacekeeping missions.

Investment and Expenditures

The Army programs, executes and monitors expenditures for overseas cleanup via the EPR process. Installation Management Regional Offices (IMROs) and installations will maintain historical data on costs for remediation at overseas locations.

Mission Statement for Army Remediation Overseas

The primary cleanup mission at overseas locations is to remediate "known" imminent and substantial endangerments to human health and safety due to environmental contamination caused by past Army operations that are located on or is emanating from an Army installation or facility. Additional mission elements to consider are retaining mission/operational capability, maintaining installation access, protection of human health, and applicable international agreements.

Objectives, Targets, and Success Indicators for Army Remediation Overseas

Objectives, targets and success indicators are formatted as follows:

1. Objective.
   1.1. Target(s) for this objective.
      1.1.1. Success indicator(s) for this target.

1. Protect the health and safety of military, civilian and local national personnel.
   1.1. Protect workers, the public, and the environment as hazards are identified.
      1.1.1. Exposure to contaminated sites is limited until remediation measures are conducted.
2. Conduct remediation in accordance with policy and procedures prescribed in DODI 4715.8; specifically, this includes:
   - Remediation of known imminent and substantial endangerment to human health and safety;
   - Remedial measures required in order to maintain operational capabilities;
   - Protection of human health and safety; and'
   - Consideration of applicable international agreements.

   2.1. Develop and maintain an inventory of contaminated sites that pose a threat to human health and safety by the end of fiscal year 2004.

   2.2. Develop and implement a relative risk prioritization system for overseas remediation sites by the end of FY2005. Complete relative risk site evaluation for newly identified sites within one year of discovery.
      2.2.1. Identification of appropriate site prioritization (high, medium, low) in EPR exhibits.

   2.3. Establish and maintain a permanent archive for cleanup information, regardless of funding source, so that cleanup information can be retrieved at any date in the future, by FY2005.
      2.3.1. Comprehensive, up to date permanent archive that reflects all environmental

remediation at an overseas installation.

2.4. Achieve full compliance with country-specific remediation policies as they are established by the DOD designated Executive Agents.

3. Consider mission capabilities and objectives as an integral component of the decision-making process when determining whether the ability to "maintain operations" is sufficient to warrant cleanup expenditures (in consonance with DODI 4715.8).

3.1. Ensure contaminated sites do not impair operational/ mission needs.

3.1.1. Maintenance of unimpaired operations and installation access.

4. Plan, program, and execute funds for identified remediation requirements at overseas locations.

4.1. Establish a baseline profile of remediation projects for the POM.

4.1.1. Requirements for all identified sites are programmed in the EPR.

4.1.2. Successful quality assurance review and validation of projects by HQDA/ODEP.

4.2. Ensure that 100% of all overseas remediation sites comply with funding eligibility parameters established in DODI 4715.8 and are programmed.

4.2.1. Funding requirements are adequately programmed in the EPR through the POM

4.2.2. Decreases in programmed funding for baseline sites in the outyears.

4.3. Implement verifiable, credible and auditable cost estimates for overseas remediation projects.

4.4. Monitor projects to ensure that Army funds are spent for projects that meet the criteria established in, or are otherwise eligible for funding in accordance with DODI 4715.8.

4.4.1. Remediation projects in the baseline profile are steadily being completed.

4.4.2. Newly identified projects are higher in relative risk or another parameter to justify funding priority ahead of remediation projects in the baseline profile.

5. Demonstrate cooperation and coordination with host nation authorities, and ensure use of the claims process where appropriate.

5.1. Eliminate, to the extent practical, projects programmed in the EPR that are eligible for funding via the "Claims" process (e.g., by the host nation/third parties).

5.1.1. Reduction/elimination of sites/projects programmed in EPR due to funding via the Claims process.

Reporting Mechanism

The Environmental Program Requirements (EPR) report is the primary mechanism to identify and report overseas remediation projects. The Army will continue to review overseas remediation projects in the EPR to ensure adherence to DODI 4715.8, and resolve any discrepancies as appropriate.

Management Review

A semiannual programmatic review of all overseas remediation projects will be implemented as part of the Army's environmental cleanup strategy. Army IMA regional offices conduct a comprehensive review of all EPR remediation projects. The Army Environmental Center also participates to ensure adherence to DODI 4715.8, and resolve any discrepancies as appropriate. The HQDA EPR validation review efforts have historically been focused on Exhibit 2 narratives, and conducted to ensure sufficient information is provided to determine whether in fact the parameters of the DODI are met with regard to compliance with DODI 4715.8 policy. Any programmatic issues needing increased visibility, awareness, or monitoring are also addressed by the overseas commands during the annual overseas program in-progress-review (IPR) meeting.

Appendix C - Interview Questionnaire

INSTALLATION:_____ DATE: _____

INTERVIEWEE:_____TITLE:_____

1. When was the closing of the installation officially announced?
2. How were you involved in the installation closure?
3. Known reasons for base closure?
4. What was/is most concerning to you when closing the installation?
5. What was your first priority when informed that the installation was closing?
6. What were/are the EH&S management arrangements in place?
7. When were environmental, health and/or safety management arrangements started in order to close the installation?
8. Were EH&S management activities integrated with closure plans?
9. Are environmental management, health management and safety management handled separately for the installation closing? What or who is in charge of each management aspect?
10. What were/are the most outstanding problems with the installation closing?
11. Is/was the EH&S management program that is/was in place effective during the installation closure?
12. If there were one thing you can change about the installation closure, what would it be?
13. What do you feel is/was the most neglected part of the EH&S management?
14. How would you improve the future installation closures in terms of EH&S management?
15. Is there anything you would like to add to this questionnaire?