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ENVIRONMENTAL CONCERNS AT U.S. OVERSEAS MILITARY INSTALLATIONS

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# DEFENSE AND ARMS CONTROL STUDIES PROGRAM



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### ENVIRONMENTAL CONCERNS AT U.S. OVERSEAS MILITARY INSTALLATIONS<sup>1</sup>

As the environment vies with other issues for priority on the political agenda, increasing attention is being paid to the impact of the military on its surroundings. Further, as the need for a large standing military ceases to be a foregone conclusion, society is unlikely to dismiss certain environmental problems as consequences of a quest for national security.

The purpose of this paper is to investigate the extend of environmental damage at U.S. overseas military installations.<sup>2</sup> Whereas considerable government, public and academic attention has been paid to environmental problems at military installations within the United States,<sup>3</sup> those overseas are often neglected. When environmental problems at overseas installations are addressed, the extent of the problem is often extrapolated from

<sup>&</sup>lt;sup>1</sup>I would like to thank the individuals within the Department of Defense, U.S. House of Representatives, General Accounting Office, and Environmental Protection Agency that I interviewed. They were, without exception, extremely helpful. I would also like to thank Professor Nazli Choucri for suggesting this topic to me and for providing valuable comments.

<sup>&</sup>lt;sup>2</sup>This paper confines itself to a consideration of conventional forces and excludes nuclear and chemical weapons and environmental issues relating to their production, testing and destruction. For information on these problems, see Clarfield, Gerard and William Wiecek. <u>Nuclear America: Military and</u> <u>Civilian Nuclear Power in the United States, 1940-1980</u>. New York: Harper and Row, 1984; and Divine, Robert A. <u>Blowing on the</u> <u>Wind: The Nuclear Test Ban Debate, 1954-1960</u>. New York: Oxford University Press, 1978.

<sup>&</sup>lt;sup>3</sup>For example, Seigel, Lenny. <u>The U.S. Military's Toxic</u> <u>Legacy</u>. Boston: National Toxic Campaign Fund; Schneider, Keith. "Military Has New Strategic Goal in Cleanup of Vast Toxic Waste." <u>New York Times</u>. August, 5, 1991, p. A1; and, Shulman, Seth. <u>The Threat at Home: Confronting the Toxic Legacy of the</u> <u>U.S. Military</u>. Boston: Beacon Press, 1992.

that within the United States. There has been, however, no comprehensive analysis of the environmental legacy left by U.S. forces abroad.

I believe that it is misleading to predict the magnitude and scope of the military's overseas environmental problems based upon those discovered here at home. To validate this statement, I use this paper to investigate three areas. First I look at the scope, nature, and magnitude of DOD's overseas activities. These are referenced against domestic problems and a functional matrix is developed that generalizes the types of environmental consequences that might result from military activities conducted overseas. Second, I categorize various types of environmental law and compare U.S. laws and regulations with those that apply to U.S. military installations overseas. The resulting ambiguity is addressed in the third section of this paper. Here DOD policy is analyzed to determine why different installations function under different environmental laws and how recent DOD initiatives will address this problem. In addition to formal policy, this section also discusses organizational, oversight, and funding structures which may impact environmental concerns.

Based upon the above constructions I believe that, although no comprehensive study has been conducted of DOD overseas environmental problems, it is likely that they are of significantly smaller magnitude and scope than those in the United States. Regardless of the extent of these environmental problems, however, it is doubtful that they will be

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addressed in a comprehensive manner because foreign nations currently have few incentives to pursue sensitive environmental issues with the United States and have little in the way of statutory vehicles for pressing these claims. This situation may change in the future depending upon the status accorded environmental issues. Finally, inadequate and slow policy guidance from DOD and various organizational disincentives have complicated consideration of the U.S. military's overseas environmental problems.

# DOD'S ENVIRONMENTAL DILEMMAS AT HOME AND ABROAD

At the beginning of the 1990s DOD employed approximately 5,000,000 people in both military and civilian capacities, operated over 3,500 installations in the United States and 1,200 overseas, owned 27 million acres of land, and purchased about 200 million barrels of fuel oil every year.<sup>4</sup> The U.S. military is a vast enterprise whose mission requires it to operate industrial facilities, depots, maintenance and repair facilities, ammunition production plants and testing ranges, weapons basing facilities, and military installations that are really small cities -complete with hospitals, sewage treatment plants, shopping malls, schools, family housing and administrative facilities.

<sup>&</sup>lt;sup>4</sup>Data sources: Department of Defense. Defense Environmental Restoration Program: Annual Report to Congress for Fiscal Year 1991. February 1992, pp. 5-7; House Armed Services Committee. Overview of DOD Environmental Activities. Hearings before the Environmental Restoration Panel of the Committee on Armed Services, U.S. House of Representatives. 101st Congress, 1st Session. HASC No. 101-27, p. 14; and, Shulman, Seth. <u>The Threat at Home: Confronting the Toxic Legacy of the U.S.</u> <u>Military</u>. Boston: Beacon Press, 1992, p. 23.

These activities also produce by-products and hazardous wastes that are harmful to the environment. Some of these problems -- such as air pollution, medical waste, and sewage -are typical of any city. Others -- such as unexploded munitions, toxic cleaning agents, radioactive materials, and other things needed to fuel, clean, repair, and operate tanks, planes, ships and missiles -- are generally unique to the military. Because of its size and the scope of its activities, the military generates enormous amounts of hazardous waste, producing nearly a ton of pollutants every minute.<sup>5</sup>

Indeed, DOD is the largest producer of hazardous waste in the United States and almost every military installation is responsible for some type of environmental contamination.<sup>6</sup> Rather than illegal practices, the vast majority of this waste results from day-to-day operations and activities. For example,

<sup>&</sup>lt;sup>5</sup>Shulman, Seth. "Toxic Travels: Inside the Military's Environmental Nightmare." <u>Nuclear Times</u>. Autumn, 1990, p. 20.

<sup>&</sup>lt;sup>6</sup>Several phrases and words with subtle differences in meaning will be used repeatedly in this paper. Thus, some definitions are in order. This paper will use the General Accounting Office's definition of "hazardous waste" to refer to "any expended material that is ignitable, corrosive, reactive, and/or toxic," plus petroleum, oil, lubricants, and polychlorinated biphenyls (PCBs). For a more detailed explanation of this definition, see General Accounting Office. Hazardous Waste: Management Problems Continue at Overseas Military Bases. August 1991. GAO/NSIAD 91-231, p. 10. "Contaminant" will be used to designate a broader category of materials, that include hazardous wastes, which pollute or leave the environment impure if disposed of improperly. Finally, "installation" will be used to denote any facility of physical operation used by the military in the pursuit of its mission. This definition is purposefully broad so as to include everything from large bases and ports to radar relay stations and administrative facilities.

the solvents used to clean aircraft generally contain trichloroethylene (TCE), a hazardous material that is a volatile organic compound; that is, it turns readily into a gaseous form. Cleaning one aircraft requires the use of TCE and the U.S. Air Force operates over 2,500 fighter and attack aircraft.<sup>7</sup>

DOD's environmental problems in the United States are well documented. In addition to numerous private articles and books, the Deputy Assistant Secretary of Defense for the Environment authors an annual report to Congress on the Defense Environmental Restoration Program (DERP). DERP is DOD's vehicle for identifying and cleaning up environmental problems at U.S. installations.<sup>8</sup> Table 1 summarizes some of the environmental problems addressed in the DERP for fiscal year 1991.

During fiscal year 1991, 253 remedial actions were undertaken to correct specified environmental problems at DOD's domestic installations. Table 2 summarizes these measures according to type of activity.

<sup>&</sup>lt;sup>7</sup>Not to mention 33 conventional bombers, over 800 airlift aircraft, and over 1300 attack and fighter aircraft used by Navy and Marine Corps active and reserve forces. For total numbers of these and other general purpose forces, see Department of Defense. Annual Report to the President and Congress. Office of the Secretary of Defense. Washington, DC.

<sup>&</sup>lt;sup>8</sup>The second and third sections of this paper explain the DERP in greater detail.

TABLE 1					
DOMESTIC	M]	LITARY	SITES	REQUIRING	SOME
TYPE (	OF	ENVIRON	<b>IMENTA</b>	L RESTORAT	ION

	Army	Navy	Air Force	DLA <sup>1</sup>	Total
Total Number of Sites	10578	2409	4354	319	17660
Number of Active Sites Number of Sites Requiring	5524	1688	3520	192	10924
No Further Action	5054	721	834	127	6736
NPL Sites <sup>2</sup>	36	26	32	4	98

<sup>1</sup>DLA is the Defense Logistics Agency, a support agency within DOD. <sup>2</sup>NPL sites are locations on the National Priorities List. This list contains sites in the United States with the worst environmental problems. Section two of this paper contains a more detailed discussion of the regulations governing NPL sites.

Source: Department of Defense. Defense Environmental Restoration Program: Annual Report to Congress for Fiscal Year 1991. February 1992, p. 6, B-2 - B-7.

#### TABLE 2 REMEDIAL ACTIVITIES INITIATED IN FISCAL YEAR 1991

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Type of Activity	Number of Activities at Restoration Sites	Number of Activities at NPL Military Sites
Alternate Water		
Supply/Treatment	12	33
Incineration	2	7
Site Treatment/		
Remediation	85	101
Decontamination	3	23
Waste Removal	116	121
Ground Water		
Treatment	35	63
Total	253	348

Source: Department of Defense. Defense Environmental Restoration Program: Annual Report to Congress for Fiscal Year 1991. February 1992, pp. 8, A-7.

DOD estimates the total cost of cleaning up all currently identified sites in the United States to be \$24.5 billion (FY 1991 dollars).<sup>9</sup> Table 3 charts the growth in funding for DOD's Installation Restoration Program.

TABLE	3
INSTALLATION RESTORAT	ION PROGRAM FUNDING
(in millions of c	urrent dollars)
Fiscal Year	Amount
1984	\$86
1985	\$ 181
1986	\$ 248
1987	\$ 336
1988	\$ 378
1989	\$ 469
1990	\$ 579
1991	\$1004
1992	\$1184

Source: Department of Defense. Defense Environmental Restoration Program: Annual Report to Congress for Fiscal Year 1991. February 1992, p. 27.

DERP data pertains to U.S. installations only, however. No similarly comprehensive source of data exists for U.S. military installations overseas. As of March 1990, DOD had yet to conduct an overall assessment of its overseas environmental problems and could identify neither the number of sites needing cleanup nor the estimated cost of that cleanup.<sup>10</sup>

<sup>9</sup>DERP, p. 27.

<sup>&</sup>lt;sup>10</sup>House Armed Services Committee. Overseas DOD Environmental Activities. Hearing before the Environmental Restoration Panel of the Committee on Armed Services. U.S. House of Representatives. 101st Congress, 2d Session. HASC No. 101-70, p. 33.

While it is tempting to fill this void by generalizing from the scope and magnitude of domestic problems to possible problems at overseas installations, such an extrapolation is misleading. Three factors unique to DOD's operations overseas serve to reinforce the need for a more discriminating basis to generalize from.

First, the majority of DOD's domestic environmental problems can be attributed to industrial activity.<sup>11</sup> The design, manufacturing, and testing of weapons systems produces such contaminants as heavy metals, volatile organic compounds, and polychlorinated biphenyl (PCBs), among others. At overseas installations that engage in analogous industrial-type activities, similar environmental problems have been discovered. However, most overseas installations are small administrative and support facilities or maintenance facilities. There is only one major industrial-type facility in Europe (Mainz Army Depot) and none of comparable size in the Pacific.

Dr. Mike West of the House Armed Services Committee's Environmental Restoration Panel estimates that, rather than industry-generated contaminants, 75% of overseas problems come from petroleum, oils, and lubricants (POLs). Most of the rest are solvents and contaminants that result from maintenance

<sup>&</sup>lt;sup>11</sup>The House Armed Service Committee's Environmental Restoration Panel estimates that 80% of U.S. hazardous waste and serious cleanup problems are caused by industrial activities. See House Armed Services Committee. Report of the Delegation to Europe of the Committee on Armed Services, U.S. House of Representatives. 102d Congress, 2d Session. Committee Print No. 9, p. 4.

activities.<sup>12</sup> These problems require relatively straightforward cleanup with processes and technologies that are known and have been used previously.<sup>13</sup>

Second, DOD has identified far fewer environmental problems overseas and host nations have, so far, been willing to accept U.S. estimates. In Germany, the host nation with the most stringent environmental regulations, the Ministry of Environmental Affairs has not seriously questioned U.S. assessments and does not foresee major cleanup problems.<sup>14</sup> That said, more U.S. overseas military installations have been located in Germany than any other single country and a more extensive search for environmental problems has been undertaken there. As will be discussed in Section 2 of this paper, however, it is unlikely that a host nation will seriously question U.S. estimates given the nature of the U.S.-host relationship over military facilities and the structure of agreements governing their functioning.

Third, not all environmental problems at installations currently being used by the United States can be attributed to the forces stationed there.<sup>15</sup> In some cases, facilities were previously utilized by the host country or another country and it

<sup>&</sup>lt;sup>12</sup>West, Mike. Professional Staff Member, Environmental Restoration Panel of the Committee on Armed Services, U.S. House of Representatives. Interview on April 7, 1992. Washington, DC.

<sup>&</sup>lt;sup>13</sup>HASC, Committee Print No. 9, p. 31.
<sup>14</sup>HASC, Committee Print No. 9, p. 31.
<sup>15</sup>HASC, Committee Print No. 9, p. 31.

is difficult to prove responsibility for some forms of contamination. For example, in Germany an Army depot was accused of causing POL contamination in the ground. Though the base was responsible for some of the pollution, it became obvious that other actors were as well. First of all, the same facility had been utilized by the Germans during both World Wars. In addition, the contaminant in question -- a type of heating fuel -- was no longer available on the German or U.S. market. Finally, the United States has been adding red dye to its heating fuel for over 15 years and no red dye was detected at the contamination site.<sup>16</sup>

DOD maintains that its overseas environmental problems are case-specific. In testimony before congress, it has identified the following problems and priorities.

With respect to Europe, the Army is the service with the most problems by virtue of its larger role in Europe in general, and in Germany in particular. Of 153,000 military personnel and 400 installations, 90% of this is located in Germany.<sup>17</sup> The Army's number one concern, Mainz Army Depot, is also located there. The Mainz base is a heavy track vehicle facility that maintains combat vehicles, major assemblies, missile ground support items, and tires and rubber products. There is significant soil and groundwater contamination from chlorinated

<sup>16</sup>HASC, Committee Print No. 9, pp. 38-39.

<sup>17</sup>HASC, Committee Print No. 9, p. 17.

hydrocarbons (CHCs) with \$30 million already being spent on cleanup.<sup>18</sup>

Outside of Mainz, the Army believes that most of its problems in Europe are due to hazardous waste; specifically, CHCs, POLs, and solvents.<sup>19</sup> Besides hazardous waste, the Army has identified air pollution problems arising from chlorofluorocarbons (CFCs), asbestos and radon in buildings, fixed facility and mobile source compliance and emission standards, and the need to convert coal-fired heating plants. In addition, vehicles need to be converted to unleaded gasoline. Water quality problems are being addressed with updated sewer systems and on-going programs to upgrade or install waste oil collection tanks and separators. Groundwater contamination appears to be particularly acute at Mannheim and Rhine Mien Air Bases in Germany.<sup>20</sup> Noise pollution has resulted from aircraft and artillery firing operations. For none of these problems have the precise magnitude and scope been documented in testimony, however.

In the Pacific, the Army's largest generator of hazardous waste is the maintenance facility known as Camp Carroll, Korea. PCBs have been found at numerous sites in Japan, including Camp Zama, Sagami General Depot, Kawakami Ammunition Depot and Akizuki Ammunition Depot. The Army has also contaminated Japanese

<sup>18</sup>HASC, Committee Print No. 9, p. 33.
 <sup>19</sup>HASC No. 101-70, p. 76.
 <sup>20</sup>HASC, Committee Print No. 9, p. 17.

groundwater at these installations with trichloroethylene (TCE).<sup>21</sup> The Air Force also has PCB cleanup.problems at several installations in the Pacific including Yokota and Misawa Air Force Bases in Japan and Kadena Air Force Base, Okinawa.

The situation for the Air Force in Europe is slightly different from that of the Army. On one hand, size is a determining factor. The Air Force has 63,000 military personnel in Europe with 75% of that being in Germany and the United Kingdom. While the Army has 400 installations, the Air Force has only 16 major air bases. Air Force bases in the UK are also structurally different. All USAF installations there are Royal Air Force bases and their environmental concerns are dealt with by the UK Ministry of Defense.<sup>22</sup> Predominant Air Force concerns in Europe include hazardous waste cleanup from jet fuel storage facilities and other fuel and chemical tanks and aircraft noise levels.

Even fewer are Navy and Marine Corps military personnel in Europe. While they number 33,000, almost half of these are afloat. Shore facilities tend to be small or administrative except for the industrial operations at Rota, Spain and at Gaeta, La Maddelena, Naples, and Sigonella in Italy. Most of the Navy's

<sup>22</sup>HASC, Committee Print No. 9, p. 21.

<sup>&</sup>lt;sup>21</sup>House Armed Services Committee. Department of Defense Environmental Programs. Hearings before the Readiness Subcommittee and the Environmental Restoration Panel and the DOE Defense Nuclear Facilities Panel of the Committee on Armed Services, U.S. House of Representatives, 102d Congress, 1st Session. HASC No. 102-18, p. 69-80.

environmental problems are associated with forces afloat. Shipboard operations and industrial support activities produce hazardous wastes, solid waste, sewage and medical waste that must be contained onboard while the ship is at sea, safely transferred to other support vessels or to port facilities, and then disposed of either in the host country or retrograded to the United States.<sup>23</sup>

In the Pacific, Naval and Marine operations tend to be much larger and more industrial. The Navy has identified significant hazardous waste problems at Yokosuka Naval Base, Sasebo Naval Base, and Atsugi Naval Air Station in Japan with Yokosuka believed to be the most serious problem.<sup>24</sup> The Navy also admits to dumping untreated water and sewage at Subic Bay Naval Base in the Philippines, though no analysis of the scope of the problem has been undertaken.<sup>25</sup>

Even though these sites are identified as having significant problems, public testimony by the services only generally outlines these concerns. Comments on neither specific types of contamination nor the extent of the problem are available.

Given the lack of comprehensive assessment by DOD and the misleading nature of generalizing from problems at domestic installations to those overseas, it is difficult to speculate about the extent of the U.S. military's overseas environmental

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<sup>&</sup>lt;sup>23</sup>HASC, Committee Print No. 9, p. 23.
<sup>24</sup>HASC No. 102-18, p. 106.

<sup>&</sup>lt;sup>25</sup>HASC No. 102-18, p. 70.

problems. Rather than relying solely on a case-by-case approach, Table 4 offers an alternative based upon functional differentiation between types of activities performed at different installations. While this table cannot account for variations in environmental accountability, quality and quantity of relevant personnel, or problems for which the United States is not responsible, it does provide clues to the potential environmental problems that are associated with different installation functions. To repeat, this table does not imply that all problems are present at all facilities; rather, it suggests that the inputs used and operations conducted do result in certain byproducts that are harmful to the environment if not disposed of correctly.

FUI	TABLE 4 NCTIONAL TYPOLOGY OF ENVI	RONMENTAL IMPACTS
FUNCTION	TYPES OF INSTALLATIONS	ASSOCIATED ENVIRONMENTAL IMPACT
Housing	bases, communities, forts	ordinary garbage, medical waste, sewage, asbestos, radon, problems associated with most large cities
Aircraft Maintenance and Operations	naval air stations, air bases, forts	aviation fuel (contains tetraethylene and lead), TCE (used to de-ice and clean planes), POLs, solvents, excessive noise, CHCs, halons, nitrogen oxides, leaking underground storage tanks

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# FUNCTIONAL TYPOLOGY OF ENVIRONMENTAL IMPACTS (continued)

Ship Maintenance and Operations	shipyards, naval bases, naval stations	toxic residue from paints, paint strippers, fuel, solvents, waste oils, grease, PCBs, POLs, sewage, solid waste, CHCs, halons, leaking underground storage tanks
Ground Forces Training Facilities	camps, forts	chemicals and oils used to fight fires, routine dumping of petroleum products, pesticides, herbicides, solvents, PCBs, CFCs, CHCs, soil erosion, halons, nitrogen oxides
Munitions Testing and Production	ammunition depots, arsenals, proving grounds	RDX (hexahydro-1,3,5- trinitro-1, 3, 5-triazine), TNT, nerve gas, unexploded munitions, zinc, lead, mercury, chromium, sulfates and phosphates, dinitrotoluene (DNT) DS2 (a combination of diethylenetriamime and ethylene glycol momenthyl - used by the Army to decontaminate things exposed to chemical weapons), excessive noise, nitrogen oxides, arsenic
Industrial Activities: Production, Repair, Overhaul, and Rebuild Compone	depots, government owned/contractor operated facilities (GOCOS) ents	heavy metals, waste oils, acids, cyanide, solvents, CHCs, wastes from electroplating, POLs, CFCs, PCBs, methyl ethyl ketone, perchloroethylenes and trichloroethanes, chromic acid

Sources: Broder, John M. "U.S. Military Leaves Toxic Train Overseas." Los Angeles Times. June 18, 1990, p. 1; Department of Defense. Defense Environmental Restoration Program: Annual Report to Congress for Fiscal year 1991. February 1992; the following reports by the General Accounting Office: GAO/NSIAD 86-24, GAO/NSIAD 87-88br, GAO/NSIAD 88-4; the following reports and prints by the House Armed Services Committee: HASC No. 101-27, HASC Committee Print 9, HASC No. 102-18; Pringle, William J. B. Commander's Guide to Environmental Management. U.S. Army Toxic and Hazardous Materials Agency, July 1991, CETHA-EC-TR-91036; Shulman, Seth. The Threat at Home: Confronting the Toxic Legacy of the U.S. Military. Boston: Beacon Press, 1992.

To summarize, there is a void in both DOD's and the public's knowledge of the environmental problems for which the U.S. military is responsible at its overseas installations. While the military services have identified some concerns, it is inappropriate to assume, based upon the extent of DOD's environmental problems at domestic installations, that this is merely the tip of an iceberg. The majority of domestic problems have been caused by industrial-type facilities whereas most overseas installations perform support and administrative It is more appropriate to estimate an installation's functions. likely environmental legacy by looking at its function and the typical contaminants that result. Table 4 is a tool for such That said, Table 4 does not address the degree to comparison. which an installation has properly disposed of its contaminants. Therefore, just as it is misleading to assume that the United States has created vast environmental problems overseas, it is also misleading to assume that the problems which exist are Significant environmental problems do exist at overseas minor. military installations. These problems will require millions of dollars to cleanup. However, they are unlikely to rival the scope and magnitude of problems within the continental United States.<sup>26</sup>

<sup>&</sup>lt;sup>26</sup>Given the tremendous variance in contamination that can result from the negligence of a small group of individuals, differing geographic conditions (such as highly-permeable groundwater supplies versus more isolated ones), and other variables, it is also possible that extreme environmental contamination exists which has yet to be discovered. This paper merely states that, given the evidence, such problems are

#### ENVIRONMENTAL LAWS AND OVERSEAS MILITARY INSTALLATIONS

To a certain degree, environmental problems must be defined in the context of applicable statutes and regulations. Such rules define the range and nature of liability; they determine what environmental standards DOD is held accountable to and, therefore, what constitutes a violation or "environmental problem" and the remedial actions that are required. That said, determining what laws an overseas installations is governed by is no small task. Laws vary between host nations, between the United States and other countries, and within the United States itself. It is the task of this section to identify differences between the environmental laws of countries where the United States has military installations, between those laws and U.S. laws, and between U.S. laws that apply to DOD and those that do not.

Because environmental rules and regulations differ between locations, are at times contradictory, and are non-existent at some sites, determining exactly what DOD is accountable to is problematic.<sup>27</sup> When combined with other variables, this ambiguity creates certain disincentives for a host nation to press the United States on environmental issues. Further, the question arises of whether liability for environmental problems

unlikely.

<sup>&</sup>lt;sup>27</sup>Section 3 will address the question of how DOD has prioritized, understood, and applied the various environmental laws presented in this section to its overseas military installations.

is prescribed by laws alone or by the larger notion of global commons and the idea that one should "know better" than to pollute. A corollary query is whether liability for environmental concerns is static or dynamic; that is, with respect to DOD, will it be held accountable for today's problems under today's interpretation of the rules, or will the definition of liability change in the future as nations become more aware of the costs associated with environmental problems. Before undertaking this discussion, however, it is necessary to unravel and categorize various levels of environmental rules and regulations.

Perhaps the easiest place to start is with U.S. environmental laws. Over the last twenty years, U.S. environmental legislation has grown exponentially. For the purposes of this paper, the key statutes are the National Environmental Policy Act (NEPA), the Resource Conservation and Recovery Act (RCRA), and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund). The first requires that federal agencies consider the consequences of their actions on the environment. The second regulates the use and disposal of hazardous wastes and CERCLA addresses cleanup and liability. CERCLA creates a National Priority List (NPL) onto which the United State's worst hazardous

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waste sites are placed and for which Superfund money is used for cleanup.<sup>28</sup>

Besides their environmental focus, these statues share three commonalities: they apply to both federal and private entities; the President can exempt a federal agency or waive compliance requirements in the interest of national security; and, where they do apply to the military, they govern activities at U.S., but not overseas, installations.

Federal agency compliance with environmental law is also governed by a series of Executive Orders (EOS) signed by various presidents. EO 12088, "Federal Compliance with Pollution Control Standards," dated October 1978, mandates that federal agencies control and monitor their environmental pollution in accordance with federal environmental laws. It also requires agencies to submit reports, called A-106 forms, that estimate cleanup costs and environmental expenditures for a five year period. EPA reviews the A-106s and then turns them over to the Office of Management and Budget for use in the president's budget process.<sup>29</sup>

<sup>&</sup>lt;sup>28</sup>DOD sites may be placed on the NPL. However, all of the installation is then treated as an NPL site whereas for private entities, only the specified site itself is treated as an NPL site.

<sup>&</sup>lt;sup>29</sup>Most A-106 reports filed by DOD are available to the public from EPA. The EPA's Federal Facilities Compliance Strategy, called the "Yellow Book," outlines submission requirements for A-106 forms as well as regulations governing compliance, investigations, enforcement, and the role of state laws in environmental regulation. In Army parlance, A-106 reports are known as 1383 Reports.

A subsequent EO, EO 12580, applies CERCLA to federal facilities by delegating the authority for enforcement, cleanup, and suggesting remedies to the president. For private entities, EPA serves this function.<sup>30</sup> The effect of this change is to make EPA enforcement with respect to federal agencies contingent upon approval of the Justice Department. Under the Bush and Reagan Administrations, the Justice Department has acted according to a unitary theory of the executive; basically, if EPA files a suit against another executive agency (such as DOD), it is violating Article III of the Constitution because the executive is, in effect, suing itself. Further, according to the interpretation of the Justice Department, this also violates Article II in that it interferes with the president's ability to manage the executive branch.<sup>31</sup>

The Justice Department has also refused to enforce state environmental laws against federal agencies under the theory of sovereign immunity. That is, the federal government is presumed to be immune from liability suits sponsored by a state. In a recent Supreme Court decision, the Court further strengthened

<sup>&</sup>lt;sup>30</sup>Dalzell, Sally. Office of Federal Facilities Enforcement, Environmental Protection Agency. Washington, DC. Telephone Interview on April 9, 1992.

<sup>&</sup>lt;sup>31</sup>Dalzell interview. Private citizens, however, can sue a federal agency for environmental damage.

sovereign immunity by making it applicable unless Congress specifically and unambiguously waives it.<sup>32</sup>

The application of several federal environmental statues varies between federal and private entities. For example, RCRA requires a more vigorous inspection schedule for federal agencies. Whereas private entities are inspected every two years, federal ones are inspected annually. With respect to CERCLA, federal facilities qualify for Superfund money only for alternative water supplies.<sup>33</sup>

Although most federal environmental statutes can be waived in the interest of national security,<sup>34</sup> their application to DOD is usually the same as to other federal agencies. One exception, however, is CERCLA. DOD has its own parallel program that performs much the same function as CERCLA. Established in 1984, the Defense Environmental Restoration Program (DERP) coordinates DOD's evaluative and cleanup efforts at DOD installations. DERP provides centralized funding and management for cleanup efforts and is administrated by the Deputy Assistant Secretary of Defense

<sup>&</sup>lt;sup>32</sup>The specific case in point was a ruling that Congress had not clearly stated its intention to make federal agencies liable for fines under the Clean Water Act and RCRA. See Greenhouse, Linda. "Shield From Pollution Fines is Upheld." <u>New York Times</u>. April 22, 1992, p. A16.

<sup>&</sup>lt;sup>33</sup>Seigel, Lenny. <u>The U.S. Military's Toxic Legacy</u>. Boston: National Toxic Campaign Fund, p. 3.

<sup>&</sup>lt;sup>34</sup>For example, DOD was allowed a waiver for filing environmental impact statements during the Persian Gulf War.

(Environment).<sup>35</sup> The Superfund Amendments and Reauthorization Act of 1986, reauthorized this program and required that it be implemented in consultation with EPA.

DERP addresses environmental problems at three levels. First, the Installation Restoration Program (IRP) identifies, assesses and remediates hazardous waste sites at DOD installations and formerly used defense sites (FUDS). It focuses on cleanup rather than prevention of future problems and is DOD's version of Superfund. All IRP cleanup activities are funded through the Defense Environmental Restoration Account (DERA). Second, DERP administers programs to manage current hazardous waste operations. It supports minimization and recycling efforts as well as research and development to further decrease waste. Finally, DERP also manages building demolition and debris removal.<sup>36</sup>

DERP, and especially IRP, govern DOD's handling of domestic environmental problems. They provide mechanisms for prioritizing hazardous waste sites, standardizing environmental matters among the services, and assigning responsibility.

U.S. domestic military installations are governed by a complex and vast legal framework. The same is true for U.S.

<sup>&</sup>lt;sup>35</sup>DERP funding is a budgetary line item in the annual defense appropriations bill.

<sup>&</sup>lt;sup>36</sup>House Armed Services Committee. Overview of DOD Environmental Activities. Hearings before the Environmental Restoration Panel of the Committee on Armed Services, U.S. House of Representatives. 101st Congress, 1st Session. HASC No. 101-27, pp. 5-17.

overseas military installations with one exception: none of the laws listed above, nor DOD's DERP, DERA, or IRP apply overseas. Instead, these installations are subject to four types of law: an executive order, agreements between the U.S. and the host nation over the use of installations, host nation environment laws<sup>37</sup> and international and bilateral treaties. Each of these will be explained in turn.

First, although U.S. environmental laws do not apply in fact to overseas installations, they do apply in spirit. EO 12114, "Environmental Effects Abroad of Major Federal Actions," as implemented by DOD Directive 6050.7 requires DOD to be aware of the environmental consequences of its actions. This EO requires environment planning documents and reviews when overseas installations are to be closed or realigned, encourages cooperation between DOD and host nations, and contains provisions that involve the U.S. Department of State in negotiations between federal agencies and host nations over environmental concerns.<sup>38</sup>

The second type of law includes basing or access agreements that cover the use of facilities and Status of Forces Agreements (SOFAs) that govern the actions of personnel. Generally, these documents will be negotiated on a country-wide and nationspecific basis. For example, the German SOFA will apply to all

<sup>&</sup>lt;sup>37</sup>As shall be subsequently explained, installations are not necessarily governed by host nation environmental laws. The extent to which there are applicable is determined by U.S.-host agreements over the use of installations and internal DOD policy.

<sup>&</sup>lt;sup>38</sup>HASC No. 101-70, pp. 5-9.

U.S. military personnel in Germany but is unlikely to be the same as a SOFA the United States has negotiated with any other country.

SOFAs contain two types of provisions which impact liability for environmental problems. The first type addresses environmental concerns specifically and may make reference to the environmental condition in which an installation is to be left. It also may outline the process used by the host nation to recover damage.<sup>39</sup> The second type is referred to as a residual value agreement. The United States often makes capital improvements in the installations it leases or operates. This is especially true for installations that have seen a long U.S. presence. Residual value agreements outline how much of these improvements the United States must be reimbursed for by the host nation. Generally, DOD believes that these two clauses can be negotiated together with any environmental cleanup costs being more than covered by the residual value owed the United States.<sup>40</sup>

<sup>&</sup>lt;sup>39</sup>West, Mike. Professional Staff Member, Environmental Restoration Panel of the Committee on Armed Services, U.S. House of Representatives. Interview on April 7, 1992. Washington, DC.

<sup>&</sup>lt;sup>40</sup>For example, DOD estimates the residual value of its closing installations in Germany to be approximately \$600 million. It estimates environmental cleanup to cost \$200 million. See HASC Committee Print No. 9, p. 43.

Most SOFAs contain neither environmental nor residual value clauses.<sup>41</sup> In essence, DOD can return a base to the host nation and leave it as is -- regardless of the environmental problems. Without SOFA environmental provisions, a host country has no statutory mechanism for holding DOD and the United States accountable for host environmental laws. The SOFA applying to Germany, however, has both residual value provisions and clauses about damage caused to a facility. In addition, the SOFA makes the German government responsible for 25% of the cost for any cleanup and mandates that any contract for cleanup over one half million dollars must be given to a German firm.<sup>42</sup>

Host nation environmental laws may also be important depending upon the SOFA and, as will be seen in section 3, the interpretation given of DOD and service policy guidance with respect to whether installations should follow U.S. or host nation environmental laws. However, many nations do not have environmental laws. Further, for those that do, finding an english translation is problematic.<sup>43</sup> DOD testimony before Congress and interviews with various officials have revealed the

<sup>42</sup>Interview with Mike West.

<sup>43</sup>Making a comprehensive survey of host nation environmental law was beyond the scope of the resources devoted to this paper.

<sup>&</sup>lt;sup>41</sup>Parts of some SOFAs are classified. After numerous phones calls and attempts, I was unable to locate someone within DOD who could provide a definitive answer for how one goes about getting copies of a given SOFA and which ones are classified. My assessment that most SOFAs contain neither environmental nor residual value clauses is based upon interviews with personnel at DOD, GAO, and HASC who made such statements.

following information about host nation environmental laws, SOFAs, and expected outcomes as the United States returns bases to their hosts:

<u>Germany</u> -- Germany has the strictest set of environmental laws of any nation where the United States has military forces. The enforcement process is decentralized at the district and county levels.<sup>44</sup> Much emphasis is placed on drinking water and ground water protection due to the heavy reliance of German cities on shallow aguifers for municipal drinking water.

Japan -- Japanese environmental regulations focus on air and water pollution and less on hazardous waste management and disposal.<sup>45</sup> Japan is in the process of drafting a hazardous waste management law which appears to be based upon RCRA. The SOFA covering Japan has no environmental clause and, in the past, the Japanese Environmental Agency has been unwilling to take action against U.S. installations and violations have been dealt with by an Environmental Subcommittee between the U.S. and Japan. Japan tends to pay for environmental projects and is predisposed to favor advanced, state-of-the-art equipment.<sup>46</sup>

<u>Netherlands</u> -- The United States has one installation which is jointly operated with the Dutch and environmental problems are not expected to be an issue.

<u>Philippines</u> -- The Philippines has few environmental laws. Further, U.S. forces left on less-than friendly terms and the installations they occupied have been considerably damaged by recent volcanic eruptions.

<sup>44</sup>HASC No. 101-70, p. 37.

<sup>45</sup>The United States encountered a specific problem in Japan with respect to PCB disposal. DOD had purchased some equipment from Japan that contained PCBs. Trying to disposal of that equipment proved difficult. The Toxic Substances Control Act prohibits the importation of PCBs for disposal that are not of U.S. origin, Japan would not allow for in-country disposal, and Korea (the only other potential recipient in the area) refused. DOD applied for, and was eventually granted, a waiver from EPA and, after being stored for a long period in Japan, the PCBs will now be retrograded to the United States for disposal. See HASC No. 101-70, p. 10.

<sup>46</sup>HASC No. 102-18, p. 73.

<u>UK</u> -- The UK is using U.S. Air Force environmental rules as the basis for their own. The basing agreement here does not address environmental cleanup.

Formal environmental enforcement programs with respect to U.S. installations exist in Australia, Belgium, Canada, Greece, Italy, Japan, Netherlands, Panama, Germany, Spain, Turkey, and the U.K. Enforcement tends to be accomplished via discussion and negotiation, not formal inspection.<sup>47</sup>

The fourth type of laws which may impact overseas installations are bilateral, multilateral, and international agreements. These laws tend to be vague and lack strict enforcement mechanisms. One exception is a proposal before the U.S. Congress to prohibit the export of U.S. hazardous waste (including that produced at DOD overseas installations) unless the United States has a bilateral agreement with the potential importer with respect to hazardous waste disposal. Currently, the United States has such an agreement with Mexico.<sup>48</sup> Additionally, NATO may in the future assume a greater role in European environmental concerns. NATO has a SOFA that addresses claims for damage in general but NATO's precise role in environmental issues is unclear.<sup>49</sup> International law becomes

<sup>47</sup>HASC No. 101-70, pp. 35-37.

<sup>48</sup>HASC No. 101-70, p. 4.

<sup>49</sup>NATO's role is generally mentioned in terms of a series of pilot studies it has sponsored to address various environmental concerns. The NATO Committee on the Challenges of Modern Society (CCMS) is the vehicle for such pursuits. During a March 1992, trip to Europe to study environmental restoration issues, members of the House Armed Services Committee expressed frustration at being unable to discover any precise answers on the role of NATO in these concerns. The chair of the delegation, Congressman Richard Ray, outlines several suggested roles for NATO in HASC, Committee Print No. 9. especially important in the case of Naval forces afloat. Often operating in international waters, these are the only statues that formally apply.

Despite a plethora of laws and regulations governing environmental matters, it is difficult to make a definitive statement about precise liability at overseas military installations. Though DOD is a federal agency of the United States government, U.S. laws do not apply overseas. However, even though DOD operates on foreign soil, its installations are not necessarily subject to host nation rules. That said, many nations have few or no significant environmental laws and international rules tend to be vague and general. When disputes have arisen in the past, they have been dealt with on a case-bycase basis through negotiations between the United States and the host country or, in some German cases, with local government authorities. Thus, the precedents for resolving questions of liability tend to be case-specific.

In addition to confusion over the applicability of various types of law, host nations may be faced with one of several disincentives for pressing the United States on environmental liability concerns. These disincentives arise from the need to consider the impact of such actions on domestic politics and relations with third party nations.

Domestically, a host nation may suffer from contradictions between the existence of environmental laws and their enforcement. It may be politically embarrassing or destabilizing

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for a government to press the United States on compliance issues that are ignored by the government itself or other entities within the host nation. In countries without strict environmental laws, it may prove embarrassing to highlight deficient U.S. practices which are, in fact, better that those of the host nation.

Pressing the United States on its environmental legacy also is impacted by host nation relations with third parties. This is especially true in the case of Germany, where numerous nations may have contributed to environmental damage. The United States is likely to be less responsive to increased claims in situations where other nations may be responsible for contamination as well. Germany has shown little willingness to hold France or the U.K. accountable for their actions in Germany. Even more serious is the question of whom to hold accountable for the environmental problems of the former East Germany. The Soviet Union and other Warsaw Pact forces contributed to environmental damage in East Germany, and most of Eastern Europe, that is of a far greater magnitude than that for which the United States is responsible. Clearly, the Germans cannot make claims against the former Soviet Union and expect reimbursement. Even Russia is unlikely to have the funds to devote to any significant cleanup operations.<sup>50</sup> Perhaps an even greater problem is the danger that any attempt to

<sup>&</sup>lt;sup>50</sup>Thanks to Mike West of the House Armed Services Committee for bringing this dilemma to my attention. For a discussion of some of the environmental problems of eastern Europe, and of Czechoslovakia in particular, see HASC, Committee Print No. 9.

determine liability will degenerate into an inter-German conflict that reflects pre-unified Germany tensions.<sup>51</sup>

This discussion of disincentives to question DOD's definition of what it is liable for at a location should be not interpreted as an incentive for DOD to minimalize its environmental responsibilities. Even with respect to installations that are being returned to the host nation, the United States has an incentive to satisfy host nation concerns because the United States may have other in-country bases that are continuing operations or it may seek, at some future date, to reestablish military installations there.

Speculating whether or not host nations will object to DOD's classification and handling of environmental concerns depends in large part on how these issues will be treated in the future. Europe is increasingly seeing a U.S. presence as less essential for security and, at the same time, environmental concerns are assuming a larger role on the political agenda. In 1992, the European Community will enact common environmental standards. Some nations have a long way to go before they satisfy the proposed requirements. This may create an incentive for them to press the United States on compliance issues and to cleanup up

<sup>&</sup>lt;sup>51</sup>That said, German local government authorities also have an incentive to make environmental problems at an installation look more serious. As mentioned above, enforcement of German environmental law tends to be done at the local or state level. These officials are also perhaps the most interested in buying lands that were formerly used by the U.S. military. It is likely that the price of such lands will reflect the assessment of the environmental problems there. Thanks to Mike West for suggesting this point.

past problems, with such problems defined as widely as possible.<sup>52</sup> In addition, many Pacific nations where the United States has installations have only begun in the last few years to enact significant environmental legislation. Operations at overseas installations will no doubt be impacted by these trends.

U.S. liability for problems at its overseas installations, even the ones that are closing, may be definable only in dynamic terms. As the quality of the environment comes to be seen as more of a global issue, host nations may be increasingly able to hold the United States accountable for past actions, regardless of applicable statues. Further, as technology and detection techniques improve, especially in developing countries, former host nations may seek liability claims not when the United States leaves its installations, but when environmental problems are discovered. The ultimate success of such liability actions will depend in large part on the development of regimes, both formal and informal, that define nation-specific environmental problems as more global concerns. As environmental contamination comes to be seen as something that nations should "know better" than to do, it is likely to become increasingly probable for host nations to hold the United States accountable for past, current, and future problems.

### DOD GUIDANCE FOR OVERSEAS INSTALLATIONS

As outlined in Section 2, DOD policy guidance with respect

<sup>&</sup>lt;sup>52</sup>Thanks to Mike West for suggesting the subject of the political implications of common environmental standards.

to environmental concerns at domestic military installations is centralized, readily available, and standardized among the services. There are guidelines for prioritizing sites and a special fund (DERA) exists to cover cleanup operations. Generally, these things are lacking with respect to overseas installations. Although DOD-wide draft guidance is currently being completed, this lack of overall instruction to the services has complicated analysis of the overseas environmental situation. Two main problems have resulted: it has been unclear whether the services should follow U.S. or host nation environmental laws, and there has been no standardized oversight or attempt to address environmental concerns in a comprehensive manner. Indeed, the case can be made that the structure governing policy formation for overseas installations has itself been a disincentive to identifying and remediating environmental problems.

In a report discussing his recent trip to Europe to study environmental matters, Congressman Richard Ray of the House Armed Services Committee's Environmental Restoration Panel concludes "... the main obstacle to environmental compliance at overseas military bases continues to be the lack of clear and consistent DOD policy guidance."<sup>53</sup> He goes on to explain that DOD policy has been to comply with U.S. or host nation laws, whichever is more strict. However, DOD did not provide a mechanism for resolving conflicts between these laws or for defining applicable

<sup>53</sup>HASC, Committee Print No. 9, p. 2.

environmental standards. The result, in Mr. Ray's words, was that "... while earlier DOD guidance sounded reasonable, it was almost impossible to apply in practice."<sup>54</sup>

Overseas policy guidance is found in DOD Directive 5100.50, "Protection and Enhancement of Environmental Quality." Issued in 1973, it requires installations to observe host nation regulations, international agreements, SOFAs and to "conform to the extent practicable" to more detailed U.S. guidance.<sup>55</sup> The implementation of this guidance rests with the major commands and the commanders of each installation. However, they are given few instructions for how to reconcile host nation law with U.S. law, what parts of U.S. law to apply, and how to deal with any unique political circumstances that might arise.<sup>56</sup>

Compounding this problem is a lack of knowledge about host nation laws. In many cases, english translations of host laws are not available. Overall, the military's environmental effort also suffers due to high turnover and problems recruiting and training qualified personnel.<sup>57</sup> This creates problems with

<sup>54</sup>HASC, Committee Print No. 9, p. 2.

<sup>55</sup>General Accounting Office. Hazardous Waste: Management Problems Continue at Overseas Military Bases. August 1991, GAO/NSIAD 91-231, p. 13.

<sup>56</sup>For example, in countries that do not enforce their own environmental laws, it might be politically disadvantageous of the government in power if U.S. installations were obviously better custodians.

<sup>57</sup>This lack of qualified personnel is partially due to noncompetitive salaries, often difficult working conditions, confusing policy directives, and personnel reductions in general. As military forces are reduced in size, installations have continuity; just as one official comes to understand a situation, they move to a new assignment. Further, installations are usually left to their own means to master both U.S. and host nation regulations and these frequently change.<sup>58</sup>

To this guidance, the services each add their own. For the Navy and Marine Corps, this says to abide by host nation laws and that U.S. laws do not apply overseas. If host nation laws are not as strict, then installations should apply U.S. laws as needed to protect the environment.<sup>59 60</sup> The Air Force<sup>61</sup> and the Army<sup>62</sup> both require compliance with host laws but say nothing about compliance with U.S. regulations.<sup>63</sup> DOD has neither the staff nor the resources to determine if service

eliminated or downgraded environmental positions in favor of keeping others. See HASC No. 102-18, p. 68-70.

<sup>58</sup>HASC, Committee Print No. 9, p. 9.

<sup>59</sup>General Accounting Office. Hazardous Waste: Management Problems at DOD's Overseas Installations. September 1986, GAO/NSIAD 86-24-C (unclassified version), p. 12.

<sup>60</sup>Navy and Marine Corps guidance is found in OPNAVINST 5090.1, "Hazardous Materials Environmental Management Ashore." This states that ships afloat must abide by the same rules that apply to Naval shore activities in the United States.

<sup>61</sup>AFR 19-1, "Pollution Abatement and Environmental Quality," contains the Air Force's environmental regulations.

<sup>62</sup>The main Army environmental regulations are found in AR 200-1, "Environmental Protection and Enhancement," and AR 200-2, "Environmental Effects of Army Actions."

<sup>63</sup>GAO/NSIAD 86-24, p. 12.

environmental regulations conflict with each other or with overall directives.<sup>64</sup>

In late 1989, DOD began a review of its overseas environmental policy. It issued DOD Directive 6050.16, "DOD Policy for Establishing and Implementing Environmental Standards at Overseas Installations," in September 1991. This policy statement provides for centralized DOD leadership in developing a baseline guidance document for overseas environmental affairs, supplies guidance for merging U.S. and host nation laws, and provides for the designation of an executive agent whose responsibility it is to know host nation environmental law. Though the baseline guidance is still in draft form, this directive provides mechanisms for correcting many of the problems that plagued DOD's overseas environmental policy.<sup>65</sup>

The Overseas Environmental Baseline Guidance Document is being developed as a joint effort between the Army, Navy, Air Force, Defense Logistics Agency (DLA), and the Office of the Chairman of the Joint Chiefs of Staff with the Air Force being the lead agency. This team extrapolated from U.S. federal environmental laws and developed regulations in 18 different areas.<sup>66</sup> This guidance will apply when "... host-nation

<sup>&</sup>lt;sup>64</sup>GAO/NSIAD 91-231, p. 13.

<sup>&</sup>lt;sup>65</sup>During most of the interviews conducted within DOD, officials expressed frustration at delays in receiving a final version of the baseline guidance.

<sup>&</sup>lt;sup>66</sup>Environmental Quality Directorate. Office of the Civil Engineer. Headquarters, United States Air Force. Interview on April 10, 1992.

environmental standards do not exist, are not applicable, or provide less protection to human health and the natural environment than the baseline guidance.<sup>67</sup> Still in the draft stages, the final version is expected in the summer of 1992.

Directive 6050.16 also designates that an Executive Agent for each host nation be appointed.<sup>68</sup> This official is tasked with identifying host nation environmental standards at both the national and local level and merging these with base rights, SOFAs and other provisions.<sup>69</sup> Then, the applicability of a given host nation standard is to be determined with the end result being a list of which law for a given medium applies to DOD installations.<sup>70</sup> The Executive Agent is also responsible

<sup>68</sup>The Executive Agent is to be appointed by the Assistant Secretary of Defense (Production and Logistics), in consultation with the service secretaries and the Chairman of the Joint Chiefs of Staff. Generally, the Executive Agent will be a member of the service that has the most major installations in a country. For example, the Army is the Executive Agent for German, the Navy for Italy.

<sup>69</sup>Other provisions include "... other relevant international agreements and principles of customary international law." This provides a loophole in which the executive agent can take into consideration political problems and sensitivities of the host nation. Interview at the Environmental Quality Directorate of the United States Air Force.

<sup>70</sup>Delay in the development of the baseline guidance is a bit puzzling in the sense that the need to coordinate and make allowances for varying environmental law is not unique to overseas installations. Domestically, each state has its own environment regulations which must be obeyed in addition to federal laws. Granted, these laws are all in english and the court system is responsible for ensuring that they are not contradictory, but each service has had to understand and apply

<sup>&</sup>lt;sup>67</sup>Department of Defense Directive 6050.16. DOD Policy for Establishing and Implementing Environmental Standards at Overseas Installations. September 20, 1991.

for updating the list of "governing standards" and for coordinating them with the appropriate unified and specified commands and the U.S. diplomatic mission for the country in question. When completed, each list of governing standards will be shared with other installations in the host nation, regardless of service affiliation.<sup>71</sup>

Despite the improvements that are likely to result from overall policy guidance, DOD still lacks an oversight mechanism to ensure compliance. A 1991 study by the General Accounting Office (GAO) echoed the conclusion of a similar GAO study from 1986 when it complained that oversight was so limited, DOD had little idea of whether bases were properly managing hazardous wastes. Both studies found that personnel were inadequately trained in the handling of hazardous waste, environmental offices were frequently understaffed, and ensuring compliance was often a collateral duty or a part time position.<sup>72</sup>

them. Thus, a process could have been developed domestically to take into account variations among state laws that could then be applied overseas. It appears, however, that the idea of appointing executive agents and sharing information among the services is unique to overseas matters.

<sup>&</sup>lt;sup>/1</sup>During an interview, an official with the Office of the Chief of Naval Operations, Environmental Protection, Safety, and Occupational Health Division, mentioned that DOD has adopted these service initiatives rather than develop a policy of its own. The idea of appointing executive agents was largely in response to the need to save dollars and pool resources. Generally, the services will pick the countries for which they will be responsible.

<sup>&</sup>lt;sup>72</sup>GAO/NSIAD 91-231, pp. 14-20 and GAO/NSIAD 86-24, pp. 12-15.

Currently, oversight of DOD's environmental compliance is generally left to several agencies within DOD. In addition to an occasional congressional oversight hearing<sup>73</sup>, the responsibility falls to the major commands, the service inspector generals, and the service audit agencies. Unlike domestic installations which are submitted to inspection by EPA and state regulatory agencies, overseas installations are not routinely subject to oversight from an external agency.

Oversight efforts are likely to benefit from a recent initiative by the services. Though still lacking external oversight, the services have decided to standardize their selfevaluation procedures by adopting the Air Force's Environmental Compliance Assessment Management Program (ECAMP) and the Army's Environmental Compliance Assessment System (ECAS). ECAMP consists of a worldwide manual that outlines compliance requirements and is supplemented by host nation chapters addressing host-specific variables.<sup>74</sup> As with the selection of Executive Agents under DOD Directive 6050.16, each service has accepted responsibility for providing certain host nation ECAMP

<sup>&</sup>lt;sup>73</sup>Before 1985, environmental problems affecting national security were handled by the Energy and Commerce Committee and the Public Works Committee. Today this jurisdiction mainly falls to the Armed Services Committees. See HASC No. 101-27, p. 2.

<sup>&</sup>lt;sup>74</sup>ECAMP also provides for the utilization of 1383 Reports on expected environmental expenditures to request line item funds in DOD's budgeting process.

chapters.<sup>75</sup> ECAS is a process for identifying problems and designing plans to correct them.

Given the above changes, many of the past problems associated with overseas environmental policy are likely to be alleviated, if not remedied. However, these initiatives have not altered the organization structure governing the development of DOD's environmental policy nor the source of funding for undertaking cleanup operations overseas. Both of these concerns are likely to continue to impact the ability of DOD to adequately address overseas environmental concerns.

Authority for DOD environmental policy, both domestic and overseas, is centralized in the Assistant Secretary of Defense (Production and Logistics) (ASD(P&L)). One of eleven assistant secretaries, the ASD(P&L) reports to the Under Secretary of Defense (Acquisition) who, in turn, is responsible to the Secretary of Defense. The ASD(P&L) has a variety of responsibilities for various production and logistics issues and is assisted by four deputy assistant secretaries. It is at this level, in the Deputy Assistant Secretary of Defense (Environment) (DASD(E)), that environmental policy is usually developed.

Each of the services also has its own organizational structure and method for developing and implementing environmental policy. At this level, policy authority rests with an assistant or deputy assistant service secretary who reports to

<sup>&</sup>lt;sup>75</sup>Chapters have been completed for the UK and Germany with Japan and Korea currently in process. See HASC No. 102-18, p. 103.

the overall service secretary. The Secretaries of the Army, Navy, and Air Force are subordinate to the Secretary of Defense. Appendix A contains specific organizational charts for environmental concerns in each of the services.

Environmental policy for each of the services is implemented through civilian, military, and engineering components. Although the lines on the organizational charts appear straightforward, in reality, the lines of authority are often more complex and changing. The interface between the civilian and military sides of the services tends to be a gray area; coordination is generally the norm but issues of ultimate authority and responsibility are often negotiated on an ad hoc basis. Fragmentation and decentralization fuel these problems.<sup>76</sup> The Navy has recently undertaken some structural reforms which may ease this problem and the Army is currently considering reform options.<sup>77</sup> As environmental concerns increase in important and

<sup>77</sup>Organizationally, initial impressions about the prestige accorded a policy (not combat or combat support) function by the services, and the military as a whole, can be gained by looking at physical location. The pecking order starts with Pentagon window offices, moves through various general locations within that building, then to offices outside the Pentagon but in the Washington, DC area, and finally to field locations across the country. Each of the service's environmental policy offices is located outside of the Pentagon but in the greater area of northern Virginia. Interestingly, though perhaps due to other

<sup>&</sup>lt;sup>76</sup>This conclusion is based upon an analysis of the service organizational charts, my impressions of service personalities and esprit, and interviews with individuals who have environmental policy responsibilities in each of the services. With respect to the latter, comments about organizational structure were not uniform with respect to the severity of the problem. However, all interviewees did agree that at times the lines of responsibility were blurred or confusing.

budgetary allotments, these problems may prove more cumbersome.

A second concern that may impact DOD's ability to address environmental problems is the source of funding for overseas cleanup operations. The domestic Installation Restoration Program (IRP) gets its funding for cleanup from the Defense Environmental Restoration Account (DERA); a source that specifically earmarks money for such activities. DERA does not apply to overseas installations, however.<sup>78</sup> Instead, this cleanup must be funded from the services readiness and military construction accounts. The services also use this money for installation construction projects, quality of life programs, and training and combat preparation concerns. Therefore, funds devoted to the environment are in direct competition with the funds needed to perform activities central to the main mission of the military.<sup>79</sup>

<sup>78</sup>The special account devoted to funding for closing military bases does not apply to overseas installations either.

In addition to funding, DERA also provides a means of tracking and estimating cleanup costs. For overseas installations, cleanup costs are not separately identified because they come from multiple-use accounts. Thus, none of the services can precisely identify the cost of the cleanup it has undertaken overseas. Further, environmental compliance costs for overseas activities suffer from the same inability to be separately identified in the budget. See HASC No. 101-70, pp. 32-35.

<sup>79</sup>Host countries may also provide cleanup funding. Under the NATO SOFA claims process, the host country is responsible for 25% of the cost with the United States paying the rest. In the Pacific, Japan has tended to finance most cleanup operations and

factors, the House Armed Services Committee staff member who deals most often with environmental issues has an office in a former closet in a different building than the main committee offices.

In testimony before Congress, DOD officials have stated that a separate DERA for overseas cleanup is not necessary. Indeed, numerous incentives, such as protecting personnel, general concern for the environment, avoiding potential future problems with host nations, and contributing to the prestige of the military, all encourage the services to fund their environmental problems. However, these same incentives are not as applicable to installations that are closing or being significantly reduced.

In a sense, the current funding structure for cleanup asks installations commanders to make a tradeoff between U.S.-allied relations and the quality of life and readiness concerns of the personnel under their command. While they are directly responsible for the latter, their decisions may have a disproportionate effect on the former. If a host nation becomes dissatisfied with the environmental legacy of the U.S. military, this may impact other U.S.-host relations or relations over future use of host military installations. Such concerns are political and, as such, should not be made by professional military officers who, in the course of executing their responsibilities, make such choices by default.

In addition to delayed policy guidance, problems associated with blurred lines of policy responsibility, and disincentives associated with the funding structure for cleanup activities,

the trend in Korea is to do the same. In the case of Korea, it is expected that as part of assuming a greater role for their own defense, the Koreans will also be expected to carry more of the burden for financing environmental concerns. See HASC No. 101-27.

overseas environmental concerns are also impacted by the activities of the Defense Logistics Agency (DLA). DLA is generally responsible for the storage and distribution of material used for military activities and, thus, for any spills, leaking underground storage tanks, and other environmental problems that result from its mission.

DLA is also responsible for the disposal of hazardous waste generated by the military. Through its network of Defense Reutilization and Marketing Services (DRMSs), DLA contracts for the disposal of hazardous waste or retrogrades it to the United States or another country. The Defense Reutilization and Market Office (DRMO) for a given geographic area is responsible for inspecting and properly labeling hazardous waste before disposal and for ensuring that contractors for disposal have the necessary qualifications. DRMS also coordinates the reutilization and marketing of Foreign Excess Personal Property -- including materials with potential to adversely affect the environment such as excess solvents, waste oil, and unused paint. Both DLA and DRMS perform these functions at domestic and overseas installations.

Despite its potential impact on environmental concerns, DOD has paid little attention to the way DRMS conducts its business both in the United States and abroad. A 1991 GAO report found that DRMS guidance at overseas installations was inconsistent and sometimes contradictory to DOD policy. Further, DRMS has no standardized way to measuring how it disposed of overseas

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materials.<sup>80</sup> Domestically, DRMS has come under fire for mislabeling hazardous materials, not being selective about the contractors it uses for waste disposal, and providing poor estimates about the quality of waste being sold.<sup>81</sup> No similar analysis has been conducted of DRMS procedures overseas.<sup>82</sup> THE FUTURE AGENDA: BASE CLOSURES, PRECEDENTS AND LEEWAY

If the functional typology offered in section 1 proves reliable, DOD's environmental problems overseas are likely to be smaller in scope than those they have encountered domestically. Overseas installations do not engage in the industrial-type activities that have been the major source of U.S. contamination. Regardless of the accuracy of this prediction, DOD's lack of initial policy guidance has meant that environmental compliance and compliance standards may vary greatly between installations, services, and host nations. DOD's organizational ambiguity and the lack of dedicated funds for environmental cleanup have served to further complicate the situation.

The varying applicability of environmental statutes, lack of environmental provisions in the SOFAs, and politically-based

<sup>80</sup>GAO/NSIAD 91-231, p. 15.

<sup>81</sup>See House Armed Services Committee. DLA's Management of Hazardous Materials and Hazardous Wastes. Hearing before the Environmental Restoration Panel of the Committee on Armed Services, U.S. Hose of Representatives. 101st Congress, 2d Session. HASC No. 101-64.

<sup>82</sup>A GAO study found that in Europe, the DRMO is able to sell little hazardous waste to contractors because of host nation laws prohibiting the sale of such potential contaminants. In the Pacific, however, most hazardous waste can be readily sold. See GAO/NSIAD 86-24, p. 28. disincentives for pressing the United States on compliance and cleanup issues may mean that the United States will be allowed to set the agenda in terms of environmental issues at overseas bases. This ability, however, may prove transient depending upon the precedent the U.S. sets in addressing environmental problems.

DOD is currently reviewing a draft policy document -- the Environmental Restoration Program Overseas (ERPO) -- to standardize cleanup processes at overseas installations.<sup>83</sup> Developed by the Air Force in cooperation with the other services the purpose of ERPO is to outline procedures to comprehensively identify and evaluate environmentally problematic sites that have already been discovered at overseas installations<sup>84</sup>, negotiate with the host nation to assign responsibility for the pollution, and enact remedies.<sup>85</sup> This policy, however, is not intended to apply to installations that are being returned to the host nation.

The procedure for installations in Europe that the United States is leaving is as follows.<sup>86</sup> First, all known problems

<sup>84</sup>This policy does not provide for systematic searches to identify all problems.

<sup>85</sup>HASC No. 102-18, p. 103.

<sup>&</sup>lt;sup>83</sup>Domestically, RCRA is intended to provide similar guidance. However, DOD has expressed an unwillingness to apply RCRA or Superfund-type assessment to overseas installations because these processes are expensive and time consuming. They also provide more comprehensive data. See HASC Committee Print No. 9, p. 30.

<sup>&</sup>lt;sup>86</sup>This procedure only applies to U.S. installations. Currently NATO does not have a procedure for negotiating the closure of NATO bases in Europe. DOD has expressed its desire

will be investigated and documented. The resulting data will be used to assist negotiators in determining tradeoffs between residual value and environmental cleanup.<sup>87</sup> Next, environmental concerns that pose imminent danger or significant problems will be cleaned up. Beyond these, installations will be left in "serviceable condition" with documentation of environmental problems that are not corrected.<sup>88</sup> Concurrent with these activities, a team will be designated to negotiate the terms of the base return with the host nation. How and with whom these negotiations will occur is still very ambiguous. It is likely that the United States Army Europe (USAREUR) will deal with the German Ministry of Finance for German installations given that the Army has the largest number of installations both in Germany and that the United States is leaving.<sup>89</sup> There is no evidence

not to direct the process. See HASC, Committee Print No. 9, p. 45.

<sup>87</sup>HASC, Committee Print No. 9, pp, 42-43.

<sup>88</sup>For a discussion of the Air Force's suggestions for prioritization of environmental problems at closing installations see Vest, Gary D. Deputy Assistant Secretary of the Air Force (Environment, Safety and Occupational Health). Memorandum for Deputy Assistant Secretary (Environment), Office of the Assistant Secretary of Defense (Production and Logistics). Subject: Environmental Restoration Policies for Overseas Installations. May 15, 1991.

The comparable Army instructions can be found in "Policy on Environmental Considerations and Actions Applicable to Installations Being Returned to Host Nation." This directive identifies "must fund" actions but also instructs commanders not to spend time looking for new problems or to undertake remedial actions simply to increase residual value.

<sup>89</sup>HASC, Committee Print No. 9, p. 45.

available that a similar plan or process is being developed for the closure of Pacific installations.

The United States has identified 492 overseas installations to be returned or reduced, but it has yet to engage in the first major round of installation return negotiations. The nations involved in this process are listed in Appendix B. If, as allowed under certain SOFAs and basing agreements, the United States "walks away" from the installations it has occupied, it may trade short term convenience for problems that could develop over the long run. More specifically, serious undetected or unremediated environmental problems are not likely to be selfcorrecting. The chances of these problems going undetected will decrease as technology becomes more able to identify and assign responsibility for environmental contamination. Further, access to technology is likely to become more available to developing countries.

The conduct of these negotiations, U.S. willingness to address environmental concerns of the host nation, and any problems the host discovers after U.S. forces have gone home, may determine how much leeway the United States is allowed in other nations, in future basing arrangements, and with any global environmental regime that develops in the future. The U.S. Administration, Congress, and DOD should be aware that in the coming months, the return of installations to host nations and the beginnings of a new definition for U.S. military power in the world could coincide over environmental issues.

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### APPENDIX A DOD ORGANIZATIONAL STRUCTURE FOR ENVIRONMENTAL POLICY



#### DEPARTMENT OF THE ARMY

#### DEPARTMENT OF THE NAVY



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# DOD ORGANIZATIONAL STRUCTURE FOR ENVIRONMENTAL POLICY

#### DEPARTMENT OF THE AIR FORCE



Source: Department of Defense. Defense Environmental Restoration Program: Annual Report to Congress for Fiscal Year 1991. February 1992.

# APPENDIX B

# INSTALLATION CLOSURES AND REALIGNMENTS (by nation and service)

FORCE
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Source: Department of Defense. Office of the Assistant Secretary of Defense (Public Affairs). Press Release, January 30, 1992. "US to End Operations at More Overseas Bases."

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