

In this file is the hearing before Congress in 1987. The April and May Gao reports are linked directly to these hearings. I wasn't able to scan every page but all the stuff about Guam is in there. I had to add a file of 3 pages I couldn't scan because of poor quality when I did the original hearings which I copied from the local university. This hearing can be got in it's entirety at any university.

The hearing shows how severe the contamination is. It was centered around the contaminant TCE. Six bases on Guam were cited in the hearing. Andersen AFB and the Guam Naval Complex(5 bases). The Airforce found severe contamination in Feb 1978. Immediately the Airforce instructed it's people to start dilution of the water system on Andersen(The NGL, Northern Guam Lens, sits under Andersen, Naval Communications Station and the Naval Airstation. This aquifer has been designated as a sole source drinking water aquifer. It supplied approximately 75% of the islands water supply)The Marbo Complex is the drinking water system on Andersen and consisted of 11 wells. Page 52 of the hearings talks about medical studies either started or about to be started on military personnel. I haven't been able to find them. Page 84 shows the airforce attempting to deceive the committee. They presented their findings as undiluted figures. In reality they were diluted. There figures started with March 1978. Dilution started in Feb. 1978 per the GAO reports of April and May. Mike Synar, head of the committee, pointed this out. I want to make 3 points here in the following:

1)Number one is that military personnel on Guam were getting the undiluted amount of contaminants before 1978.

2)Next is that I'm in contact with or have been in contact with maybe as many as 150 to 200 sick vets, and or family members, friends or acquaintances. The highest amount of these vets were stationed on Andersen. None were contacted or studied.

3)In 1966 and 67 I was stationed on Naval Communications Station, Guam. I could taste, see and smell what I thought was a solvent in the drinking water. TCE is a solvent I contacted ATSDR to see how high the contaminant TCE would have to be before this could happen. Their response was at least 1,000,000ppb. That's 200,000 times the amount allowable in drinking water. It's about 25,000 times what the airforce is allowing up to which is about 39.9ppb. Of course this is after dilution, the 39.9ppb. What this means is the hearings and my recollections coincide. All contaminants would have been much higher, not just the TCE. The Bioenvironmental engineering reports for the Marbo Complex will show what contaminants were in the water. Although the hearings and GAO reports don't give us the specifics on the exact amounts. They tell of a very small island with a lot of U.S. military that has been contaminating Guam. The drinking water being possibly the most serious. Later documents will point out these contaminants and just how high some of them are. Also Airforce bases and Naval Airstations our the worst for contaminating the environment around them. Also during Viet Nam everything was dumped, burned or buried as a way of getting rid of these contaminants.

**HAZARDOUS WASTE: PROBLEMS AT DEPARTMENT OF DEFENSE FACILITIES
HEARING BEFORE A SUBCOMMITTEE OF THE COMMITTEE ON GOVERNMENT
OPERATIONS
HOUSE OF REPRESENTATIVES
ONE HUNDREDTH CONGRESS
SECOND SESSION
NOVEMBER 5 1987
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**HAZARDOUS WASTE PROBLEMS AT
DEPARTMENT OF DEFENSE FACILITIES
THURSDAY, NOVEMBER 5, 1987
HOUSE OF REPRESENTATIVES,
ENVIRONMENT, ENERGY,
AND NATURAL RESOURCES SUBCOMMITTEE
OF THE COMMITTEE ON GOVERNMENT OPERATIONS,
Washington, DC.**

The subcommittee met, pursuant to notice, at 10 a.m., in room 2203, Rayburn House Office Building, Hon. Mike Synar (chairman of the subcommittee) presiding.

Present: Representatives Mike Synar, Albert G. Bustamante, Matthew G. Martinez, Louise M. Slaughter, and William F. Clinger, Jr.

Also present: Hon. Ben Blaz, U.S. Delegate to Guam.

Staff present: W. Donald Gray, staff director; Sheila C. Canavan, clerk; and Matt Fletcher, minority professional staff, Committee on Government Operations

OPENING STATEMENT OF CHAIRMAN SYNAR

Mr. SYNAR. The subcommittee will come to order.

This morning the Subcommittee on Environment, Energy, and Natural Resources will reopen its oversight hearings on the performance of Federal facilities in complying with Federal hazardous waste management laws. Federal agencies are subject to the Comprehensive Environmental Response, Compensation and Liability Act, better known as CERCLA, also known as the Superfund Act, which requires them to identify and evaluate potential environmental contamination resulting from past inadequate hazardous waste management and disposal practices at their facilities and wherever necessary to clean it up.

Federal agencies are also covered by the Resource Conservation

and Recovery Act [RCRA], which establishes requirements for safe storage, treatment and disposal of hazardous wastes which are currently being generated at their facilities.

It has always been my position that Federal agencies should set an example for the private sector, and that they should be held to the same strict standards of accountability for compliance with the hazardous waste laws as are private entities and individuals. Unfortunately our investigation and hearings to date indicate that all too often this has not been the case. .

We began our hearings in 1983 and 1984 with the Department of Defense because its 900 or so installations represent the largest

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group of Federal agencies, and the nature of their mission requires that they handle large quantities of hazardous materials. DOD has estimated that it generates almost a billion pounds of hazardous waste a year. More recently we held hearings on hazardous waste problems at Department of Energy and Department of the Interior facilities. Today we return to the Defense facilities. Our original investigations and hearings indicated that there were serious problems in DOD's hazardous waste programs. Our purpose today will be to determine how much progress, if any, has been made in solving these problems.

Inquiries made by the subcommittee and studies and reports done for the subcommittee and others by the U .S. General Accounting Office over the past 4 years indicate that DOD's hazardous waste cleanup progress have been moving forward but at a painfully slow pace; that many of the problems previously identified remain unresolved; and that while progress has been made in solving problems at some facilities, the same kinds of problems are showing up at other facilities.

Similarly, while significant progress has been made in improving the management and disposal of currently generated hazardous waste at some facilities we have investigated in the past, such as at Tinker Air Force Base, the experience gained there apparently has not been applied elsewhere and other facilities continue to have serious and repeated violations of the RCRA statute and regulations which could lead to the creation of new Superfund sites in the future.

As matters stand now, I am concerned that DOD's hazardous waste problems will not be resolved in my lifetime. Our objective today is to see what we can do to speed up the process.

At this time I'll call on our ranking minority member, Bill

Clinger.

Mr. CUNGER. Thank you very much, Mr. Chairman. And I would say that it was certainly gratifying to learn last week of the very substantial progress that has been made in the handling and clean-up of hazardous waste at Tinker Air Force Base in your home State of Oklahoma.

However, it has become clear in preparing for today's hearing that the Department of Defense must dramatically increase its efforts on hazardous waste problems at many of its other installations before any congratulations to the Department are truly in order.

As you've indicated, we will be hearing testimony today indicating that there is a great deal left to be done in cleaning up the problems created by the actions and policies of the past. At the same time we will hear testimony about ongoing problems that may be contributing to future contamination.

I want to commend you, Mr. Chairman, for calling this hearing. Congress and the American people need to know if there are undue threats to the environment and public health resulting from the handling of hazardous materials at Government facilities. In fact, later today Chairman Synar and I will be supporting a subcommittee report calling for improved communications between the Environmental Protection Agency, owners of banned pesticides and local communities where banned pesticides are being stored.

Whether we are talking about banned pesticides, PCB's, TCE's or any other hazardous waste, I strongly believe in the public's right to be informed of the dangers inherent in those substances. At the same time I do want to stress to all of today's witnesses the ramifications that may result from irresponsible conjecture or overgeneralization, especially when hazardous materials are the topic of discussion. The right to be informed loses its value unless it is a right to be informed of the true facts. So, I trust that all of the witnesses will strive to present the subcommittee with those facts. Mr. Chairman, I look forward to the testimony we are going to hear today. And I am confident that today's hearing will assist in achieving progress in the handling of hazardous waste by the Department of Defense. Thank you, Mr. Chairman.

Mr. SYNAR. Joining us this morning also is our Delegate from Guam, since one of the issues that we will be discussing today is Guam, Mr. Ben Blaz. Ben, do you have any opening statement?

Mr. BLAZ. I just want to say to you, Mr. Chairman, thank you very much for extending me the courtesy of sitting on the panel.

As you must realize, no one has a more vested interest in the territory of Guam than myself. So, I'm looking forward to the hearing. And I thank you again for extending me this courtesy.

Mr. SYNAR. Thank you, Ben.

Our first witness is Mr. Frank Conahan, Assistant Comptroller General of the National Security and International Affairs Division of the U.S. General Accounting Office, Washington, DC. He is accompanied this morning by Mr. Jacob Sprouse.

As is the custom with the subcommittee, in order not to prejudice any past, present, or future witnesses, we request all witnesses be sworn in. Do you have any objection to being sworn in?

Mr. CONAHAN. No, sir.

Mr. SYNAR. If not, if you will stand and raise your right hand, both of you and anyone else who may potentially testify.

[Witnesses sworn.]

Mr. SYNAR. Thank you very much. Welcome. We appreciate the opportunity to have you before us again. And at this time, as we always say, your entire testimony will be made a part of the record. We would ask you to summarize, and we look forward to hearing from you.

STATEMENT OF FRANK C. CONAHAN, ASSISTANT COMPTROLLER GENERAL, NATIONAL SECURITY AND INTERNATIONAL AFFAIRS DIVISION, U.S. GENERAL ACCOUNTING OFFICE, WASHINGTON, DC, ACCOMPANIED BY JACOB W. SPROUSE

Mr. CONAHAN. Thank you, Mr. Chairman, other members. My testimony today will cover RCRA and the DOD response to CERCLA. I will then deal with the May PCB spill in Guam and the circumstances surrounding ground water contamination at Air Force plant 44 in Tucson. First let me deal with DOD's compliance with the Resource Conservation and Recovery Act [RCRA]. We've issued several reports, principally at the request of this committee, on DOD's compliance with RCRA and its implementing regulations, including specific installation reviews such as at Tinker, Anderson, and Kelly Air Force Bases, and the Guam Naval

Complex. Overall we found that DOD and many installations have made progress toward coming into compliance with RCRA requirements, but have not yet achieved full compliance.

In a May 1986 report on DOD's management of hazardous waste generation, storage, and disposal, we noted that at 14 installations we visited, 12 had been cited for at least one RCRA violation during 1984. These installations were out of compliance for a

number of reasons including the inability of the Defense Logistics Agency to dispose of hazardous waste and to construct storage facilities in a timely manner .

In addition to the storage and disposal problems, we found problems in recordkeeping and the tracking of hazardous waste shipments, hazardous waste container management, and ground water monitoring. We also found that DOD could do more to reduce the volume of waste it is generating.

The problems of delayed hazardous waste disposal, slow construction of storage facilities and limited hazardous waste reduction still exist at the individual installations we reviewed. For example, in an April 1987 report, we noted that DOD's Guam installations have not complied with the RCRA regulations concerning hazardous waste management because of the Defense Logistics Agency's inability to dispose of their hazardous wastes.

As I said earlier, however, progress has been made. In an October 1987 report, which was a followup on Tinker Air Force Base's actions in response to recommendations in our earlier report and recommendations made by this subcommittee, we noted that Tinker initiated, or plans to initiate, actions which we think will be very, very helpful at that installation.

Now, let me move on to DOD's response to the CERCLA. DOD created the Installation Restoration Program, referred to as IRP, in response to the CERCLA requirements. The IRP was initiated to identify hazardous waste disposal sites, to assess their potential for contaminating the environment and to take appropriate corrective actions.

In a review completed in April 1985, we evaluated the implementation of the IRP by the Department of Defense. We found that DOD and the installations have initiated actions to identify and evaluate suspected problems, but again much still needs to be done. We found that although DOD policy calls for coordination with Federal and State regulatory authorities, the level of involvement with the regulatory authorities could be increased to help facilitate the efficient implementation of the IRP .Some installations encountered problems which could have been minimized with earlier regulatory involvement. This is the theme that flows throughout our work, Mr. Chairman.

More recently, we noted in our July report on Tinker that Federal and State regulatory agencies have agreed that Tinker, after reorganizing, is working closer with the regulatory agencies and is making progress in identifying and cleaning up its hazardous waste sites.

Under CERCLA, liability for the cleanup does not terminate when the property is sold to another party. In December 1986, we issued a report in which we reported that DOD had not adequately

assessed the condition of its excess land, and had declared some potentially contaminated properties excess.

We reviewed the cleanup efforts underway at the former Hamilton Air Force Base and the former West Virginia Ordnance Works. Generally, we found that DOD initiated its identification and cleanup efforts after some delays caused by the different services that had used the facility not wanting to take responsibility. Agreement was finally reached.

Let me then briefly cover the PCB spill at Piti Power Plant in Guam and the ground water contamination at Air Force plant 44 in Tucson.

On May 26, 1987, about 20 gallons of PCB oil spilled out of a large transformer located inside Piti Power Plant at the Navy Public Works Center in Guam. Several employees inside the plant were directly exposed to PCB oil while others were' inside the plant at the time of the incident but were not directly exposed. The Navy has kept the plant operating, and has conducted a partial cleanup which was halted on July 14, 1987, because of the discovery off other toxic chemicals.

During the cleanup, the Navy did not outfit the PCB cleanup crews in the recommended personnel protective equipment. Both the Navy and the National Institute for Occupational Safety and Health recommend the use of a certain type coveralls for doing this kind of work. The Navy Public Work Center cleanup crews did not wear this type of protective clothing.

Also, the Navy did not determine the medical history or provide medical monitoring to many PCB exposed employees as is required by Navy regulation.

The Navy also did not provide employees with required training as is required by the Occupational Safety and Health Administration regulations.

And finally, the Defense Logistics Agency in Guam is not storing PCB waste from the spill in compliance with applicable regulations.

Let me now finally move on to Air Force plant 44.

In 1981, during a ground water monitoring inspection of the Tucson area, EP A identified ground water contamination in the vicinity of Air Force plant 44 and the adjacent Tucson International Airport. The contaminated area is about 4.5 miles long and about a mile wide. Subsequent to the EPA inspection, officials from the local and State regulatory agencies determined that the ground water contamination was emanating from several locations, includ-

ing plant 44. The Air Force or its contractors have used several of the adjoining sites for hazardous waste disposal.

After the EPA inspection, the Air Force and Hughes Aircraft Co., which operates the plant, undertook studies which concluded that there was ground water contamination under the plant, and it emanated from disposal sites used prior to 1977.

To clean up the ground water contamination, Hughes and the Air Force began constructing a treatment plant in May 1986 and it became operational in April of this year. By the end of this month, Hughes officials expect the plant to be working near capacity. IRP funds were used for the design and construction of that plant and will be used for 2 years' operation of the plant.

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Hughes would like to continue that arrangement. However, the Air Force is considering various alternatives to fund the future cost of the treatment plant, including making it part of the operating contract with Hughes.

The regulatory agencies' officials with whom we spoke believe that the plant is a good one and is doing a good job. However, they disagree with the Air Force and the Hughes officials over the extent of the contaminant migration from plant 44.

There is currently a lot of activity. In September of this year, EPA sent a notice to all involved to get together and attend a conference later this year to determine the specific share of the total cleanup costs for each entity that contributed to the contamination of the ground water.

Most officials that we spoke to state that their failure to initiate timely investigative actions probably has caused the cleanup of the total site to be delayed for several years. It also may result in an incomplete solution and a longer cleanup period and extra costs.

Mr. Chairman, that concludes my summary. We'll be happy to take whatever questions you have.

[The prepared statement of Mr. Conahan follows:]

United States General Accounting Office
GAO Testimony
For Release Department of Defense
on Delivery Hazardous Waste Management
Expected at
10:00 a.m.
Thursday
November 5, 1987

**Statement of Frank c. Conahan
Assistant Comptroller General
National Security and
International Affairs
Before the
Subcommittee on Environment,
Energy and Natural Resources,
Committee on Government
Operations
House of Representatives
GAO/T-NSIAD-88-4**

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Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to discuss our work on the Department of Defense's (DOD's) efforts to manage its hazardous waste generation, storage, and disposal and to clean up its hazardous waste disposal sites. I have attached to this testimony a list of our major reports on DOD's hazardous waste activities over the past 4 years.

BACKGROUND

Hazardous waste, when improperly managed or disposed of, can pose a serious threat to human health and the environment. DOD is a large generator of hazardous waste and, in 1986, produced hazardous waste at 505 of its 871 installations in the United States. The types of

hazardous waste found at DOD installations include, among others, solvents, polychlorinated biphenyls (PCB), contaminated sludges, acids, cyanides, and contaminated fuel and oil.

Over the last decade, the Congress has enacted major legislation concerning the management and cleanup of hazardous waste. The Resource Conservation and Recovery Act (RCRA) of 1976, as amended, provides for regulatory controls over the generation, transportation, treatment; storage, and disposal of hazardous waste. DOD, as any other generator of hazardous waste and operator of treatment, storage, and disposal facilities, must comply with

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RCRA requirements. Generally, COD considers each installation to be a separate entity for regulatory purposes.

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, as amended, commonly known as Superfund, provides for the cleanup of the nation's hazardous waste sites, including those currently and formerly owned by federal agencies. Although federal agencies must comply with the CERCLA's requirements to the same extent that private entities do, they cannot use CERCLA funds to clean up their sites.

DOD COMPLIANCE WITH THE RESOURCE CONSERVATION AND RECOVERY ACT

We have issued several reports on DOD's compliance with RCRA and its implementing regulations, including specific installation reviews such as at Tinker, Anderson, and Kelly Air Force Bases and the Guam Naval Complex. Overall, we found that DOD and many installations have made progress toward coming into compliance with RCRA requirements but have yet to achieve full compliance. . In a May 1986 report on DOD's management of hazardous waste generation, storage, and disposal, we noted that at 14 installations we visited, 12 had been cited for at least one RCRA violation during 1984. These installations were out of compliance for a number of reasons, including the inability of the Defense

Logistics Agency to dispose of hazardous waste and to construct storage facilities in a timely manner. DOD assigned the Defense Logistics Agency the responsibility to act as the agent for the military installations for constructing storage facilities that Ocomplied with RCRA requirements and to provide disposal services for certain types of hazardous waste.

In addition to the storage and disposal problems, we found that at the 12 installations, 65 percent of the other violations were of the more serious nature according to the Environmental protection Agency (EPA). These included problems in record keeping and the tracking of hazardous waste shipments, hazardous waste container management, and groundwater monitoring. We also found that DOD could do more to reduce the volume of waste requiring disposal by changing maintenance and overall processes and procedures, reusing and recycling the waste materials, and better utilizing industrial waste treatment plants.

The problems of delayed hazardous waste disposal, slow construction of storage facilities, and limited hazardous waste reduction still exist at the individual installations we reviewed. In an April 1987 report, we noted that DOD's Guam installations have not complied with the RCRA regulations concerning hazardous waste management because of the Defense Logistics Agency's inability to dispose of their hazardous waste. At Anderson Air Force Base and the Naval Complex in Guam, hazardous waste was not disposed of in a

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timely manner because of the difficulty in finding a capable contractor willing to bid on the disposal contract. Because Guam does not have adequate storage facilities, waste materials were being stored improperly.

In a July 1987 report, we provided details on the siting of a Defense Logistics Agency storage facility at Kelly Air Force Base. members of the surrounding community raised objections to the facility at the hearings on the final operating permit required by implementing regulations because it is located near a community playground and homes. According to federal and state environmental agency officials, the siting of the storage facility complies with federal, state, and DOD siting standards.

Even though the facility complies with RCRA regulatory requirements, the issuance of the final permit was delayed pending a determination of whether the storage of hazardous waste may affect public health or the environment. Since our report was issued, the Texas Water Commission's hearings examiner, based on data obtained during the public hearings on Kelly's final permit application, recommended to the Commission that Kelly be given only a 2 year non-renewable permit. Depending on the Commission's final decision, the Defense Logistics Agency may have to construct another facility for hazardous waste storage.

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Our July 1985 report on the hazardous waste management at Tinker Air Force Base noted that Tinker (1) sold, transferred, or disposed of waste oils, fuels, and solvents rather than the preferred method of recycling them, (2) lacked adequate management controls to ensure proper disposal of wastes by its contractors, (3) lacked

accounting controls over payments to disposal contractors, and (4) underused and poorly managed its industrial waste treatment plant.

In an October 1987 report, which was a follow-up on Tinker's actions in response to recommendations in our 1985 report, we noted that Tinker initiated or plans to initiate actions to reduce its hazardous waste generation and has instituted several management controls to prevent improper disposal of wastes. In addition, it has installed accounting controls to prevent improper payments to the disposal contractors.

In a classified report concerning hazardous waste management at overseas installations, we also identified similar problems to those found at bases in the United States.

DOD RESPONSE TO THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION AND LIABILITY ACT

DOD created the Installation Restoration Program (IRP) to respond to CERCLA requirements. The IRP was initiated to identify hazardous waste disposal sites, assess their potential for

contaminating the environment, and take appropriate corrective action. The program consists of four phases. Phase I is an assessment of an installation to determine its potential for having contaminated sites. Phase II is to confirm that contaminants are affecting the environment. Phase III is used for developing technology needed to solve the more complex problems associated with cleaning up contaminated areas. In Phase IV, the required corrective actions are taken.

In a review completed in April 1985, we evaluated the implementation of the IRP by DOD and the services' technical agencies as a whole. This review also included the base level implementation of the IRP at 18 Army, Navy, and Air Force installations. In addition, we have extensively reviewed the IRP implementation at some of DOD's individual installations, including McClellan, Tinker, and Anderson Air Force Bases and the Guam Naval Complex. Overall, we found that DOD and the installations have initiated actions to identify and evaluate suspected problems, but much still needs to be done.

We also found that, although DOD policy calls for coordination with

federal and state regulatory authorities, the level of involvement with the regulatory authorities could be increased to help facilitate the efficient implementation of the IRP. Six of the 18 installations encountered problems which could have been minimized with earlier regulatory involvement.

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In our detailed reviews of individual installations, we found that most regulatory agencies still have had limited involvement in the installation IRP process, and as a result, agency officials are questioning some of the actions taken by the installations because they do not fully respond to state regulatory requirements. In contrast, in our July 1987 report on Tinker Air Force Base, we noted that federal and state regulatory officials agreed that Tinker, after reorganizing its hazardous waste management organizations, is making progress in identifying and cleaning up its hazardous waste sites.

In a May 1987 report on efforts of Anderson Air Force Base and the Guam Naval Complex to identify its hazardous waste sites, we noted that federal and Guam officials believed that both installations need to include more site assessment work in Phase II because of deficiencies in the Phase I work. We noted in our November, 1983 report on McClellan's actions to deal with its contamination problems that regulatory officials had limited participation in McClellan's IRP study and criticized its adequacy. Subsequently, McClellan established a management committee, which includes regulatory agencies, to review and coordinate its cleanup activities.

Under CERCLA, liability for the cleanup of hazardous waste sites does not terminate when the property is sold to another party, and

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therefore, we reviewed DOD's efforts to identify contamination on its excess properties and cleanup efforts at two formerly owned properties. In a December 1986 report on DOD's efforts to preclude the disposal of contaminated property, we discussed the results of the visits we made to 19 installations. We found that DOD had not adequately assessed the condition of its excess land and had declared seven potentially contaminated properties excess. Further, at six installations, hazardous waste sites were in the

nearby vicinity of excess property. At four of these Installations, we were told by state environmental officials that migration of contaminants from these sites may affect the excess property.

We also reviewed the cleanup efforts underway at the former Hamilton Air Force Base and the former West Virginia Ordnance Works. Generally, we found that DOD initiated its identification and cleanup efforts after some delays caused by the different services that had used the facility but did not want to take responsibility.

We also reviewed 30 of the Air Force's Phase I reports and found that they were prepared in accordance with applicable guidance. However, in 14 of the reports, we noted that the Phase I contractors recommended several sites on the installations for Phase II actions while similar sites with higher ranking scores were not recommended. Air Force officials told us that a thorough

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analysis of each installation's study would have to be made before they could tell us why this happened. Air Force officials told us that some of the sites with higher scores should have been recommended for Phase II, because it is possible that harmful contamination from these sites could reach the groundwater.

In response to your September 22, 1987, request, we reviewed the Navy's actions concerning the May 26, 1987, PCB spill at Piti Power Plant, Navy Public Works Center, Guam, and the Air Force's efforts to clean up groundwater contamination at Air Force Plant 44, Tucson, Arizona.

PCB TRANSFORMER SPILL IN GUAM

On May 26, 1987, about 20 gallons of PCB oil spilled out of a large transformer located inside Piti Power Plant at the Navy Public Works Center, Guam. Several employees inside the plant were directly exposed to PCB oil while others were inside the plant at the time of the incident. The Navy has kept the plant operating and has conducted a partial cleanup, which was halted on July 14, 1987, because of the discovery of dioxin and furan (toxic chemicals that can be generated when heat or fire is applied to PCB oils).

During the cleanup the Navy did not outfit the PCB cleanup crew~ in the recommended personnel protective equipment. Both the Navy

National Institute for Occupational Safety and Health recommend the use of saranax-coated tyvek coveralls (a synthetic, chemically resistant coverall) when exposure to PCB liquids is anticipated. Navy Public works Center cleanup crews at Piti Power Plant wore non-saranax coated tyvek coveralls.

The Navy did not determine the initial medical history or provide medical monitoring to many PCB exposed employees. The Navy's Hazardous Substance Spill Contingency Planning Manual states that the on-scene operations cleanup team that works with or near hazardous substances shall be provided continuous medical monitoring, including a preplacement physical examination. In addition, the Site Specific Health and Safety Plan for Piti Power plant states that all personnel who operate the plant or work in the PCB cleanup shall participate in a medical monitoring program. This program is to be initiated when an employee starts work and is continued on a regular basis.

The Navy also did not provide employees with required training. Occupational Safety and Health Administration regulations state that those who may be exposed to hazardous substances shall receive a minimum of 40 hours of initial instruction off the site in safe work practices, use of personnel protective equipment, medical requirements, and hazardous substance handling and response. Also required are 3 days of actual field experience in hazardous

substance cleanup and response under the direct supervision of a trained, experienced supervisor.

Finally, the Defense Reutilization and Marketing Office is not storing PCB waste from the spill in compliance with applicable regulations. Regulations require PCB storage facilities to have a continuous six-inch high curb to prevent runoff from spills, and state that PCB waste over 50 parts per million must not be stored outside such a facility for longer than 30 days. The Defense Reutilization and Marketing Office in Guam does not have a storage facility with a continuous six-inch curb, and has stored much of the PCB waste over 50 parts per million outside for longer than 30

days.

AIR FORCE PLANT 44, TUCSON, ARIZONA

In 1981, during a groundwater monitoring inspection of the Tucson area, EPA identified groundwater contamination in the vicinity of Air Force Plant 44 and the adjacent Tucson International Airport. The contaminated area is about 4.5 miles long and about one mile wide. Subsequent to the EPA inspection, officials from the local and state regulatory agencies determined that the groundwater contamination was emanating from several locations including Plant 44, several disposal sites, an old landfill, and a fire training area. The Air Force or its contractors have used several of these sites for hazardous waste disposal.

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After the EPA inspection, the Air Force and Hughes Aircraft Company, which operates Plant 44, undertook studies which concluded that there was groundwater contamination under plant 44 and it emanated from disposal sites used prior to 1977. They also concluded that contamination from Plant 44 extended only to the vicinity of a road, about a mile and a half from Plant 44.

To clean up the groundwater contamination, Hughes and the Air Force began constructing a treatment plant in May 1986 and it became operational April 1987. By the end of November 1987, Hughes officials expect the plant to be working near capacity treating 4,500 gallons per minute 24 hours a day. Air Force funding, allocated from the Installation Restoration Program (IRP) account, for the plant as of September 1987 is \$30.7 million, \$24.4 million for the design and construction of the plant, the control building, and the extraction and recharge wells and \$6.3 million will be used for 2 years operation and to drill additional extraction and recharge wells.

Hughes would prefer to continue operating the plant for the next 10 to 15 years using IRP funds. However, the Air Force is considering various alternatives to fund the cost of future treatment plant operations, including making it part of the overhead portion of Hughes' plant operating contract and apply the cost of treatment across the board to all items produced at the plant.

The regulatory agencies' officials believe that the plant the Air Force built is a good one and is doing a good job. However, regulatory officials disagree with Air Force and Hughes officials over the extent of contaminant migration from Plant 44. Based on information developed by their investigative contractor, they believe that the contamination from Plant 44 has spread beyond the road, probably to the entire 4.5 mile length of the contaminated area. The EPA and Arizona investigative contractors, hired to determine the sources and extent of the contamination, concluded in their reports that the contamination emanating from Plant 44 could have migrated to the northern extremities of the contaminated area identified so far. However, Hughes officials state that neither contractor has complete and conclusive data that contamination from Plant 44 has migrated that far because there are insufficient monitoring wells and related data.

Officials from EPA, state, county, and city agencies told us that they did not begin their investigative efforts to determine the extent and sources of contamination until late 1985, about 4 years behind the Air Force program. These agencies and EPA have work underway now to identify the sources of contamination and to determine the effect each source has had on the contaminated area.

When the contamination was first identified, all of the involved parties participated in a technical review committee set up to make

plans for determining the extent of contamination and what would be their share of the cleanup costs. However, this early cooperation fell apart when the first lawsuits were filed by the people living in the vicinity who had used the contaminated groundwater as drinking water. They alleged that the groundwater contamination had caused adverse health effects.

EPA has designated the area, including Plant 44, a National Priorities List site and is using Superfund money to test the groundwater and to determine the extent and sources of contamination. In September 1987, EPA sent a notice to all involved, including Air Force and Hughes officials, to attend a planning conference in late 1987 to determine the specific share of the total cleanup costs for each entity that contributed to the

contamination of the groundwater.

Officials from the regulatory agencies state that their failure to initiate timely investigative actions probably has caused the cleanup of the total site to be delayed by several years. It also may result in a piecemeal solution to the problem with a longer cleanup period and extra costs.

This concludes my prepared testimony. At this time, I would be happy to answer any questions you may have.

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ATTACHMENT
ATTACHMENT

**GAO REPORTS ON DOD'S MANAGEMENT
AND CLEANUP OF HAZARDOUS WASTE**

**Hazardous Waste: Tinker Air Force Base's Improvement Efforts
(GAO NSIAD-88-4, October 29, 1987)**

**Hazardous Waste: Siting of Storage Facility at Kelly Air Force
Base, Texas (GAO/NSIAD-87-200BR, July 31, 1987)**

**Hazardous Waste: Tinker Air Force Base is Making Progress in
Cleaning Up Abandoned Sites (GAO/NSIAD-87-164BR, July 10, 1987)**

**Water Quality: Pollution of San Francisco Bay and the Sacramento-
San Joaquin Delta (GAO/RCED-87-156FS, June 18, 1987)**

**Hazardous Waste: Abandoned Disposal Sites May Be Affecting Guam's
Water Supply (GAO/NSIAD-87-88BR, May 21, 1987)**

**Hazardous Waste: DOD Installations in Guam Having Difficulty
Complying With Regulations (GAO/NSIAD-87-87, April 22, 1987)**

**Hazardous Waste: DOD Efforts to Preclude Disposal of Contaminated
Property Need Improvement (GAO/NSIAD-87-45, December 15, 1986)**

**Hazardous Waste: Management Problems at DOD's Overseas
Installations (GAO/C-NSIAD-86-24, September 9, 1986)**

**Hazardous Waste: Selected Aspects of Cleanup Plan for Rocky
Mountain Arsenal (GAO/NSIAD-86-205BR, August 29, 1986)**

Hazardous Waste: DOD's Efforts to Improve Management of Generation

Storage, and Disposal (GAO/NSIAD-86-60 May 19, 1986)

Hazardous Waste: Review of Selected Air Force Hazardous Waste Reports (GAO/NSIAD-86-68BR, March 31, 1987)

Hazardous Waste: Federal Agency Hazardous Waste Disposal at Kettleman Hills California (GAO/RCED-86-50, December 26, 1985)

Hazardous Waste: Status of Air Force's Installation Restoration Program (GAO/NSIAD-86-28BR, December 17, 1985)

Hazardous Waste: Status of Cleanup at the Former West Virginia Ordnance Works (GAO/NSIAD-86-22BR, December 6, 1985)

Hazardous Waste: Status of Cleanup at the Former Hamilton Air Force Base, California (GAO/NSIAD-86-23BR, December 6, 1985)

Hazardous Waste Management at Tinker Air Force Base-- Problems Noted, Improvements Needed (GAO/NSIAD-85-91, July 19, 1985)

Efforts To Cleanup DOD-Owned Inactive Hazardous Waste Disposal Sites (GAO/NSIAD-85-41, April 1985)

Status of Air Force Efforts To Deal With Groundwater Contamination Problems At McClellan Air Force Base (GAO/NSIAD-84-37, November 29, 1983)

Mr. SYNAR. Thank you, Mr. Conahan. We will proceed under the 5-minute rule.

What is your assessment of the progress that the Department of Defense has made in cleaning up the hazardous waste at the facilities that all the studies that you've been looking at over these years would show us?

Mr. CONAHAN. I think we would need to point out that the Army began its IRP program in 1975. It wasn't until the following year, in 1976, that the Department of Defense issued guidance for all of the services to undertake these sorts of programs. It wasn't until about 1980 that the Air Force and the Navy really got going at all. So, I think that we're looking at a startup period where there was very little in the way of progress.

Following that period of time, we saw some fairly decent action on the part of the Department of Defense and the services. Based on the latest information that we have, for the 529 of the

close to 900 installations that have been included in their IRP program, DOD has identified a little over 3,000 sites that are under study which have the potential for hazardous waste conditions. I have to report that at this point very few of those sites have been cleaned up. Only about 99, or 3 percent, of those sites have been cleaned up.

Now, this is an evolving process, and it has been determined that only some 460 or 465 of those sites, in fact, warrant remedial action at this point. So, if you apply the 99 against that number, they're at a 20 percent completion rate. But I think we have to look at it both ways because that number of 460 or 465 will grow, and it will grow substantially as they continue their work.

So, overall they've got a very, very long way to go. They started out slow. We see an increase in their progress, but I think that we need to see a lot more attention, a lot more priority given to this kind of activity before we can feel confident that we are near where we need to be in terms of coming to grips with the situation.

Mr. SYNAR. Well, those numbers that you just mentioned are interesting. If you assume that you have only 3 percent of the 3,000 plus sites that may need cleanup have really been cleaned up, and if you only take the 462, 465 that you mentioned-and you say 20 percent of them have been really put into the process of remedial cleanup-that's not a very good batting average.

Could you give the subcommittee an estimate of how long you think it is going to take to clean up the whole problem based upon that track record?

Mr. CONAHAN. Well, the problem or set of problems was a long time in the making. We ignored them for a long time, and we're moving at a pace which will not make a very large dent in it, I don't think that I'm in a position to quantify this in any sort of number of years. I don't think that we will see completion of this effort by the end of this century, certainly not at the rate that they are going now and, indeed, not at the rate of DOD's own estimates. I believe they see this carrying out well beyond the completion of this century.

Mr. SYNAR. Well, let's go on another track here. Obviously, as we are trying to clean up the past mistakes, we also need to be concerned about the present creation of hazardous waste. How would

you assess the Department of Defense's management of the waste that they're presently creating on their bases?

Mr. CONAHAN. Well, the Department of Defense has undertaken some programs to deal with that issue. One of these is called the Used Solvent Elimination Program. It was started in 1983, but

based on our work, we see very little in the way of installation implementation of that program. We looked at a number of places, and found that they weren't really doing very much. As I mentioned earlier, generally we found a good response by Tinker on that particular program. But I think that we have to say that the progress is not as much as it should be.

Mr. SYNAR. What kind of recurring problems do you see in this program and what would you attribute that to?

Mr. CONAHAN. I think I would point to two problems. No.1, we find that the installations are not involving regulatory authorities, either Federal or State, early enough in this process and as a result, the installation will identify what they consider to be needed fixes but they don't have agreement from the regulatory authority. And it just gets itself into a long, drawn-out session. That's one thing.

Second, there is slow implementation by the installations of the programs that are devised by the Department of Defense and the services. I think a fundamental reason for that has to do with the priority given to hazardous waste management and cleanup by local commanders and by higher commanders. We found that where priority attention was given, we saw some pretty good clean-up. Where we saw people who did not hold it in a very high priority, we didn't observe very much progress.

Mr. SYNAR. It's a good point. And as you pointed out in your testimony and as I did last week in releasing the GAO report on Tinker Air Force Base, the way they have dealt with their problems since our hearing could serve as a model for the Air Force and the other services.

Would you not agree that that could be a good example for the rest of the services to follow?

Mr. CONAHAN. Yes, Mr. Chairman, I do. And I think that they themselves think that they could take a lesson from that and move out.

Mr. SYNAR. Let's turn our attention, if we could, for a minute on the issue of the Guam situation, in particular the Guam bases. Have you received a response from the Department of Defense on any actions taken on the recommendations contained in your reports? As you know, this is required by law, 31 U.S.C. 720.

Mr. CONAHAN. Yes, sir. That is a requirement of law. The agencies are required to submit reports to the House Government Operations Committee and the Senate Governmental Affairs Committee 60 days after the date of the report, and then to the Appropriations Committees as they go forward with requests for appropriations. In this case we have not received a response from the Department of Defense. We learned in about mid-September that they were not going to have a response ready for a while. They tell us

that they are working on a response, but we have not received it yet.

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Mr. SYNAR. All right. Let's turn to the Tucson situation. Now, in your testimony you stated that the funding for the construction of the treatment plant for cleaning up the contaminated area in the first 2 years of operation of the treatment plant at Air Force plant 44 will be paid for by using Installation Restoration Program [IRP] funds.

Of this year's cost and the subsequent years' cost, how much of that will be borne by the Hughes Aircraft Co. or be reimbursed to the Air Force?

Mr. CONAHAN. The Air Force determined that Hughes had disposed of its waste in an acceptable manner at the time that it was disposed of and, therefore, Hughes does not have any liability. And it is my understanding, therefore, that Hughes will not be required to pay any of those costs or to make any reimbursement to the Air Force.

Mr. SYNAR. None of those costs nor make any reimbursements. Correct? ."

Mr. CONAHAN. To my knowledge, that's the case, yes, sir.

Mr. SYNAR. All right. Mr. Conahan, in your testimony you also stated that in subsequent years of the cleanup operation, that that could be paid for under the basic operating contract which exists with Hughes. Now, does that mean, or am I to believe that that means, that Hughes could receive a profit on the work they do to clean up the waste that they created at the sites at plant 44?

Mr. CONAHAN. Under the guidelines for negotiated contracts, I would expect that Hughes would expect a profit and likely would be granted one.

Mr. SYNAR. That sounds a little bit absurd, doesn't it?

Mr. CONAHAN. It is part of the contractual arrangements that we have for operating contracts.

Mr. SYNAR. Thank you very much.

Mr. Clinger.

Mr. CLINGER. Thank you very much, Mr. Chairman.

Just following up on one of the chairman's questions, to what extent, if any, would the DOD attribute their slowness in addressing the problems that you've identified with lack of resources? Is that a factor in the problem?

Mr. CONAHAN. No, sir. I don't believe that it is. They receive something on the order of \$350 million a year to apply to this effort. And I think 2 or 3 years ago they used as much as half of it

for other projects, such as debris removal, which are permitted under the IRP funding legislation. They just weren't able to use all of it for hazardous waste cleanup.

Mr. CLINGER. I see. They did not use it.

Mr. CoNAHAN. They did not.

Mr. CLINGER. They had the funds and did not allocate them.

Well, thank you.

I want to get into another line of questioning here and also would like to welcome our colleague, Mr. Blaz, who is the Delegate from Guam and obviously has a great interest in the subject matter of this hearing and a concern for the health of his constituency. And I think that is what we want to get into in this hearing. Clearly, we are here to identify what problems DOD is having with their program, but I think the bottom line is we also want to get a

feel for whether there are problems affecting the health of people exposed to this.

And your report states that the highest levels of TCE at Anderson Air Force Base were found in Marbo Well II. There is no question that the contamination of this well is extremely troubling. However, if you tested the water in Marbo Well II and then tested the water that servicemen or the people of Guam actually drink, would the level of contaminants identified in the two tests be identical?

Mr. SPROUSE. I'll respond to that. The water from well II is mixed with water from other wells. Consequently the contamination level would be lower at the distribution point to the general populace on the base.

Mr. CLINGER. So the water that would come out of the tap of somebody using the water and turning on his tap and taking the water out would have a lower contamination than the tests out of Marbo Well II. Is that right?

Mr. SPROUSE. That's right.

Mr. SYNAR. Would the gentleman yield for a second?

Mr. CLINGER. Yes.

Mr. SYNAR. That method used, which is called dilution, is not an accepted practice by EPA, is it? Is it an acceptable solution to a problem such as this?

Mr. SPROUSE. I cannot answer that specifically whether that is an acceptable practice to EPA. However, some of the water that is being used from the taps is not as diluted as the general populace gets. There are about 1,200 people on the island that are getting a higher concentration of the Marbo Well II water than what the

general populace of the island is getting.

Mr. CLINGER. Well, it would be incorrect, would it not, to assume that because the water in Marbo Well II exceeds acceptable levels of TCE, that the water that servicemen or residents of Guam receive at the tap necessarily exceeds safe levels? In other words, it cannot be said that the water that comes out of the tap contains contaminants necessarily above safe levels.

Mr. SPROUSE. It's not always above the safe level. There have been occasions that it has been above the safe level.

Mr. CLINGER. According to the GAO report, water tested at the clinic site last tested above EPA's acceptable level of 5 ppb in September 1979. What was the last recorded level of TCE contamination recorded at the clinic sampling site as noted in the GAO report?

Mr. SPROUSE. I'll have to supply that to you, sir .

Mr. CLINGER. What we had-it is my understanding that that sampling was 1.3 parts per billion, which was recorded in July 1986. Does that sound about right?

Mr. SPROUSE. Yes, that's sounds about right.

Mr. CLINGER. Is 1.3 ppb under the EPA proposed maximum allowed contaminant level?

Mr. SPROUSE. Yes, 1.3 is below 5, yes.

Mr. CLINGER. YOU said 1.3 is the low point?

Mr. SPROUSE. It is below 5.

Mr. CLINGER. Below. Five is the allowed part.

Mr. SPROUSE. Is the allowed.

Mr. CLINGER. Do you have any evidence showing that the water that the clinic sampling site has exceeded the EPA proposed maximum of 5 ppb's since September 1979? ,

Mr. SPROUSE. Not with me. I don't know. I don't have it.

Mr. CLINGER. Is there any such evidence that you're aware of that would show that that had exceeded?

Mr. SPROUSE. I'll have to supply that.

Mr. CONAHAN. We can provide that for the record.

Mr. CLINGER. OK.

[The information follows:]

The Navy has made four quarterly tests of the water at the clinic since September 1979. In all cases the amount of TCE was below the EPA's 5 ppb standard. However, the other quarterly tests either were not made or the sample container was

broken in transit.

Mr. CLINGER. Well, finally, do you have any evidence showing that the water at any distribution point on Guam-and I understand there are multiple distribution points-any point where individuals could get a glass of water-has levels presently of TCE which exceed the 5 ppb?

Mr. SPROUSE. I believe that there may be a possibility that the water being received by the 1,200 people may exceed 5 ppb,

Mr. CLINGER. Exceeds the 5 ppb?

Mr. SPROUSE. It may.

Mr. CLINGER. Out of the tap?

Mr. SPROUSE. Out of the tap.

Mr. CLINGER. Sporadic?

Mr. SPROUSE. It may be.

Mr. CLINGER. How sporadic? How often do you think that they are exposed to it?

Mr. SPROUSE. We do not have any evidence that the tap water in the homes has been tested. The tests that are supposed to be made quarterly at the clinic and the wells have been sporadic. Some of those tests are not even done because of accidents to the test tube where the test sample is destroyed before it's even tested. As a result, it is more sporadic because of the accidents to the test tubes and the testing methods that they used.

Mr. CLINGER. All right. But it can't be said that they are being exposed on a daily or hourly basis to an excessive level.

Mr. SPROUSE. I don't have any--

Mr. CLINGER. Don't have any evidence that would indicate that.

Mr. SPROUSE [continuing]. Evidence that would show that they are being exposed every day.

Mr. CLINGER. All right. Thank you.

Mr. SYNAR. Let me ask on that if I could just as a followup. And I want to make this clear. We're not talking about the wellhead testing. That's a completely different situation than the tap testing. And we can get into that with EPA.

But it is your understanding that the sampling is sporadic; that it is not regular; that in many cases we have had broken or lost samples. Correct? And So, what you're saying is you can't make any definitive judgment one way or the other about the levels that people are being exposed to based upon that. Correct?

Mr. SPROUSE. Based upon that, you're right.

Mr. SYNAR. Mr. Bustamante.

Mr. BUSTAMANTE. Thank you, Mr. Chairman.

Mr. Conahan, let me thank you for the fine job that GAO did in providing our office and this subcommittee with information in response to several questions that I had regarding the siting of the hazardous waste storage facility at Kelly Air Force Base in San Antonio, TX, which is part of my district. The GAO team, of course, was led by Mr. Sprouse. And they gave us their close, close cooperation in reference to the study they did at Kelly. And I really appreciate that.

The report that GAO issued on this project provided State and local officials with an objective analysis by which they could decide on Kelly's request for a final operating permit.

I would also like to thank the chairman of the subcommittee, Mr. Synar, for sharing my interest in the study with the Kelly problem. I really appreciate that also, Mr. Chairman.

Mr. Conahan, as you pointed out in your full statement shortly after GAO reported its findings on the storage facility at Kelly, an examiner is recommending to the Texas Water Commission the RCRA, permitting agency of RCRA, that Kelly be granted only a 2 year nonrenewable permit. Even though the storage facility complies with RCRA regulatory requirements, do you think that Kelly Air Force Base's decision to locate the facility near the perimeter of the base close to a community playground in a residential neighborhood showed good judgment on the part of the responsible officials? Mr. Conahan, you or Mr. Sprouse, either one. What was your view in reference to that?

Mr. SPROUSE. My position on that was that they had five sites that they considered and the site that they chose met all the standards that were required. And based upon that, they decided that this would be their site.

Mr. BUSTAMANTE. You had a chance to visit the other sites, the other four sites?

Mr. SPROUSE. Not myself, but my staff did, yes.

Mr. BUSTAMANTE. What was their feeling on that? Did they have any-

Mr. SPROUSE. They thought that there was a possibility that there were one or two other sites that could have been a better location.

Mr. BUSTAMANTE. Thank you.

GAO also pointed out that DOD issued a policy memorandum instructing bases to comply with requirements established under the Superfund Reauthorization Act of 1986 that technical review committees be created at DOD installations. Now, technical review committees' functions are to review and comment on DOD actions and proposed actions concerning the management of hazardous substances at installations. It is required that technical review committees include at least one representative from DOD, one from

the EPA, the appropriate State and local authorities, and a public representative of the community involved. The DOD memorandum did not specifically direct bases to include these representatives on their technical review committees, did they? They did not.
Mr. SPROUSE. No.

Mr. BUSTAMANTE. Do you know if DOD has issued a followup memorandum to specifically direct installations to include these representatives?

Mr. SPROUSE. I do not know.

Mr. BUSTAMANTE. You don't know.

Given the Kelly experience, what suggestions could you offer DOD so that it can lessen community objections to future DOD hazardous storage facilities?

Mr. SPROUSE. In the case of Kelly, the DOD followed proper procedures in trying to notify the local communities. They did send out notices. They tried to involve the people. However, somewhere in the communication among the various local community activity groups the line of communication broke and not everybody got the message.

The one thing I think they could do is to make sure by contacting the people themselves to find out if they received the information. In this particular case it would have been the local community action group which said that they didn't get the statement on a timely basis.

Mr. BUSTAMANTE. Thank you. Mr. Chairman, I-yes, sir?

Mr. CONAHAN. I would like to follow up on that, if I may. I think that you're pointing, sir, to one of the fundamental problems here. There is a general reluctance on the part of the installation commanders and the folks who worry about these programs out there to take the aggressive kind of action that we think is required to get the local folks involved.

Mr. BUSTAMANTE. This is one of the points I wanted to make, Mr. Chairman. Sometimes they are reluctant to pursue that which is in the rules. In order to avoid problems, they cause us more problems.

Mr. MARTINEZ. Would the gentleman yield?

Mr. BUSTAMANTE. I'd be happy to yield.

Mr. MARTINEZ. Why should they with the Justice Department policy of not allowing EPA any punitive action over the Department of Defense, an Executive order that says that they are going to do it themselves as if to say that, hey, they'll do it themselves without anybody policing them? How are you going to get them to act? How are you going to get them to move? You put some puni-

tive action against them, if it costs them-if somebody has the authority, just like eminent domain, if you come in and say there's an obvious bad situation here. We as the Government take the power of eminent domain, and say, hey, you're going to clean it up or we're going to clean it up and bill you. You'll see how fast they'd clean it up.

Mr. BUSTAMANTE. Well, I can understand that.

Anyway, Mr. Chairman, I might have some other questions as followup questions.

Mr. SYNAR. We'll leave the record open with unanimous consent. We will do that for everyone.

Mr. BUSTAMANTE. I appreciate that. Thank you very much. Thank you.

Mr. SYNAR. Mr. Martinez.

Mr. MARTINEZ. I'm not too sure if those two things didn't exist, the Executive order and the policy by the Department of Justice, that EPA would do a great job anyway because EPA doesn't do the 86-073 O -88 -2

greatest job, as far as I'm concerned in my particular area. I've got definite problems with them understanding what the real problem is and working on the real problem and taking care of that rather than looking fancy for the press and public and doing the things and motions that make people think they're doing the job they're supposed to be doing when in fact they aren't. I think there really has to be some whole revision of how we go about cleaning up sites, and who we give the authority to clean up that site, and then how we go about enforcing it.

But in your study of the Department of Defense's activities in this case are- and you indicate that if you've got a commander who believes in cleanup-and I think all commanders-they ought to realize they are citizens in a community. And just because they are part of the Government and on a Government reservation, they shouldn't think that they don't have to respond as good neighbors to the rest of the community; that's shortsighted, and they ought to realize that.

Mr. BUSTAMANTE. Will my friend yield on that?

Mr. MARTINEZ. Yes.

Mr. BUSTAMANTE. When I yielded to you, I had intended to follow up. Another question was that the facility at Kelly will be permitted to operate for 2 years. And then after that they have to relocate, and that it costs money. And the commander has to find the money, then to relocate from this area to one of the other sites.

And it is a costly experience.

Mr. MARTINEZ. I understand that, and they've got to take that money from other programs. And you know, a commander is more interested in his military capability than he is in something that is sometimes-many times thought of as a domestic kind of a situation.

You know, we all put out garbage and somebody comes and picks it up and takes it away and cleans it up. And we don't worry about where it goes or how it is handled or if it is polluting or making unsafe situations for people surrounding it or living close to it. You just don't think in those terms. It's not a subject that everybody thinks about. Most people don't have to handle it, and are not in the business of handling it. We aren't concerned with it. But we all have to become concerned with it because it is becoming a situation in the United States where it is endangering lives. So, we have to be concerned with it.

But the point I was trying to make referred to what you had said earlier. And, all of this was leading up to this question because I didn't quite catch it, but it was appalling if it came out like I heard it that of \$350 million appropriated for cleanup, \$175 million of it was used for other purposes.

Mr. CONAHAN. In an earlier period. That is not necessarily true today. I think that the programs have moved much further ahead than they were a couple of years ago, and that there is an increased attention and vigilance in this area.

I think that--

Mr. MARTINEZ. Are they using all the money appropriated to them now?

Mr. CONAHAN. Yes, sir. But I think we have more visibility over this program than we had several years ago. This subcommittee

has put an awful lot of visibility on this area. And if you take a look at the work now being done at Tinker and McClellan, for example, I think that both are a result of earlier review efforts by this subcommittee and ourselves, and that the Air Force is now beginning to take lessons from the increased efforts at both of those installations.

Mr. MARTINEZ. In your study of this situation, could you determine in any way if there could be some kind of a penalty, let's say, against the commander's record for future promotions if he didn't make a considered effort, some way to establish that, hey, where the responsibility lies; because it lies in a person in charge all the time? And the buck stops there. If there is some way we could have

a policy where the EPA can't use the big stick to make the military do what has to be done because you did indicate that there were places where if the man in charge didn't have a great concern for or he was more concerned about the moneys being used for the other programs rather than the cleanup, which he should realize is as big a responsibility as the rest. Did you see any way or any mechanism by which we could get better action, faster action?

Mr. CoNAHAN. My experience over a long period of time is that those things get emphasized that are emphasized by top management. If top management in the Department of Defense and in the services in both the civilian and the military chains is waste management, I think you are going to see much more attention out at the installation level. If that emphasis is not at the higher level, you're not going to see it out there either.

Mr. MARTINEZ. So, there has got to be some way to make them move.

Mr. CONAHAN. I think so.

Mr. MARTINEZ. Thank you.

Mr. SYNAR. Thank you, Marty.

Let me just say this. Last week in releasing a GAO study on Tinker Air Force Base showing that substantial progress had been made by the Air Force in that area, I was joined by Dave McCurdy who serves on the Armed Services Committee in recommending that promotions within the Air Force be awarded to those people in charge of that program as an indication of the commitment that Congress has and to send a message to all the services that that type of action will be rewarded just as much as the successful completion of the defense missions within the armed services. We hope that that kind of a carrot will put everyone on notice that we are committed to it and that we feel that it is just as important a mission as defense.

Louise.

Ms. SLAUGHTER. No questions at this time, Mr. Chairman.

Mr. SYNAR. All right.

Mr. Blaz.

Mr. BLAZ. Thank you, Mr. Chairman. I'm sorry that "Busta" has left. I was going to make the observation that this subcommittee I know has a lot of clout. Now I know why. He's got three people this morning who are from the Hispanic caucus. [Laughter.]

So, I am going to try to join this committee next year. I know where the action is now.

My curiosity is absolutely aroused over your statement that 1,200

people in Guam sporadically receive or drink water that is above the contamination level. You might not have an idea of the location of these faucets, do you?

Mr. SPROUSE. It's on the military base. It's a housing section of the military base.

Mr. BLAZ. Which base?

Mr. SPROUSE. Anderson Air Force Base.

Mr. BLAZ. Anderson Air Force Base.

The other question I have—thank you. I'll try not to drink there.

The other question I have, though, is for you, Mr. Conahan, and that is as a result of the spill at Piti Power Plant, I requested an investigation by your agency. After hearing your timetable this morning, shall I expect to hear from you around 2001?

Mr. CONAHAN. I think we would like to come and brief you on where we stand

Mr. BLAZ. Please.

Mr. CONAHAN. We moved out fairly well on your request.

Mr. BLAZ. You can well imagine how important this matter is to an island with a limited source of water and with only 120,000 people.

Mr. CONAHAN. Yes, sir.

One of the difficulties is that the Navy has not yet reached conclusions on the nature and extent of the contamination. They have a contractor working right now, and we are going to have to make queries on where that stands. Their timetable is fairly far out into the future. They are talking in terms of a completion date of March 1988. So, I think what we need to do is to talk in terms of the information that we have now and then see how we deal with the March 1988 timeframe.

Mr. BLAZ. All right, thank you.

Thank you, Mr. Chairman. And I want to thank the ranking minority member also for the questions that he asked. They were very pertinent to my particular problem. Thank you, sir.

Mr. SYNAR. Thank you, Ben.

Let me go back to the GAO study of May 1987, if we could, Frank and Jacob. Let's turn to appendix 3 because I think one of the issues that we had that came up during the questioning was the issue of sampling and the testing on the well versus the areas. According to this table 3, from May 1980 to January 1986, a period of approximately 6 years, it appears that at the clinic there either was no sampling or where there was sampling there was evidence of TCE with just a couple of exceptions. Is that correct?

Mr. SPROUSE. That's correct.

Mr. SYNAR. So, basically when we talk about that sampling of the faucets around the island of Guam, I think your comment of it being sporadic, irregular, lost, broken samples is pretty accurate

based upon this track record. Is that correct?

Mr. SPROUSE. That's correct.

Mr. SYNAR. Mr. Clinger.

Mr. CLINGER. Thank you, Mr. Chairman.

I just wanted to ask you to comment on one item here that we have from the Guam Environmental Protection Agency in which they conclude that "There is no evidence in records on file that it

any health hazard factor, as determined by the Office of Water Regulations and Standards Criteria of the United States Environmental Protection Agency now exists, or has ever existed, in any public water supply on the Island of Guam within the purview of this Office. That would seem to be at some variance with what you have been saying earlier in your testimony. I wonder if you would care to comment on it.

Mr. SPROUSE. The sampling that we are pointing to is for the water used at the military bases, Anderson and the Navy complex. In some cases, from what I understand, the civilian community does receive some water from the bases. But primarily this deals with military personnel.

Mr. CLINGER. But just to make sure, you're not saying then that you have any evidence per se that the civilian population--

Mr. SPROUSE. No, we do not.

Mr. CLINGER [continuing]. Is being exposed to contaminated water

Mr. SPROUSE. We do not.

Mr. CLINGER. Thank you.

Mr. SYNAR. Thank you, Mr. Clinger. Any other questions?

[No response.]

Mr. SYNAR. Gentlemen, thank you again, and let me take this opportunity, as I always do, to compliment the excellent work of the General Accounting Office. Again, you have done a masterful job. We also appreciate the fact that you have been with us on this long-term investigation for a number of years, and your personnel up and down have really been greatly appreciated by this subcommittee for their efforts. Thank you all very, very much.

Mr. CONAHAN. Thank you, Mr. Chairman.

Mr. CLINGER. Mr. Chairman, I have a letter to Congressman Blaz from the Guam Environmental Protection Agency, which I just alluded to, and I wonder if that could be submitted for the record.

Mr. SYNAR. Unless there's objection, it will be made part of the record.

[The letter follows:]

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**GUAM ENVIRONMENTAL PROTECTION AGENCY
AHENSIAN PRUTEKSION LINA'LA GUAHAN
POST OFFICE BOX 2989 AGANA, GUAM 9B910 TELEPHONE: 646-8863/64/65**

NOV 5

1981

**Honorable Ben Blaz
Congressman
House of Representatives
Congress of the United States
Suite 117, A9ana Shopping Center
Agana. Guam 96910
Dear Congressman Blaz:**

Enclosed are brief summaries of Guam Environmental Protection Agency's review of the following U.S. General Accounting Office (GAO) reports:

- 1. HAZARDOUS WASTE -Abandoned Disposal Sites Hay De Affecting Guam's Water Supply; May 1987**
- 2. HAZARDOUS WASTE -DOD Installtlons In Guam Having Oifficulty Complying with Regulations; April 1987**

The GAO did contact Guam E.P.A. during their investigation. and obtained a substantial amount of information used in these reports from our files, they did not discuss their findings or allow a review of the draft reports by Guam E.P.A.

As a result we find these reports misrepresent the true situation of Hazardous Waste management practices by DOD facilities on Guam, and the regulatory control by the Guam Enviromental Protection Agency.

We do acknowledge the accuracy of the facts regarding violations cited in the report. and by no means absolve DOD facilities on Guam from the violations noted. Guam E.P.A.'s close regulation of these DOD facilities have resulted in the correction of the majority of deficiencies noted.

**Please inform me If you should require any additional information.
Sincerely,**

CHARLES P. CRISOSTOMO, M.P.H.
Administrator

Enclosures
"ALL LIVING THINGS OF THE EARTH ARE ONE"

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GUAM ENVIRONMENTAL PROTECTION AGENCY
AHENSIAN PRUTEKSION LIN'LA GUAHAN
POST OFFICE BOX 2999 AGANA, GUAM 96910 Telephone: 646-8863/64/65
NOV 5 1987

MR Robert M. Gilroy
Director, Far East Office
U.S. General Accounting Office
P. O. Box 50187
Honolulu, Hawali 96850

Dear Mr. Gilroy:

I have recently received GAO's published report, Hazardous Waste: DOD Installations in Guam Having Difficulty Complying With Regulations and I would like to provide your office with our comments on this report.

First, let me state the intent of GAO's evaluation of DOD's hazardous waste management activities in Guam is comendable In that these efforts demonstrate

Congress' concern for this envlromental area of importance within the Territory, However, there are some aspects of GAO's report which are not entirely accurate or require further development. Our comments are as follows:

1. The number of Class 1 violations for several DOD activities, by category for 1985 and 1986 under Table 2.2 is not accurate. Our monthly inspection updates to region IX, EPA for 1985 and 1986 do not identify any Class 1 violations for these DOD activities.
2. The retaining wall described in the narrative for Figures 2.5 and 2.6 is not a retaining wall, rot curbing which is abutting a parking lot for the aircraft around maintenance shop.
3. The narrative under the heading, Inadequate Disposal Service, on

page

of

than

24 of the report suggests that the Guam DRMO facility's practice storing hazardous waste longer than 90 days is contrary to RCRA requirements. The Guam DRMO facility is a designated storage facility, as well as a generator of hazardous waste. Under RCRA regulations, storage facilities which have interim status under RCRA's permitting requirements may store hazardous waste longer than 90 days.

4. The recommendations incorporated at the end of the report should have been more specific in addressing corrections to deficiencies at various U.S. Navy and U.S. Air Force activities on Guam.

Should you have any question, or require further clarification of our comments, please do not hesitate to contact me.
Sincerely yours,

Charles P. Crisostomo, M.P.H,
Administrator
"All LIVING THINGS OF THE EARTH ARE ONE"

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GUAM ENVIRONMENTAL PROTECTION AGENCY
AHENSIAN PRUTEKSION LINA'LA GUAHAN
POST OFFICE BOX 2080 AGANA, GUAM 96910 TELEPHONE: 648-8863/84/86

GUAM'S WATER SUPPLY

Within the Island of Guam there are three separate systems providing drinking water to the populace.

By far the largest, the Public Utility Agency of Guam (PUAG) system supplies approximately 100,000 persons while the U.S. Air Force system and the U.S. Navy systems combined provide water to most of the 22,000 military personnel and dependents stationed on Guam.

The Navy system utilizes large man-made reservoir in the southern highlands as its primary water source and supplements this with pumpage from several wells on Naval Reservations in the north. Some water from lake Fena is also provided to PUAG to supplement flow to the southern villages.

The Air Force system uses several wells in the northern part of the island.

Historically the water-quality throughout the three systems has been maintained within compliance levels of all bacteriological inorganic and organic contaminants. With the exception of the Lake Fena water, no treatment other than chlorination for bacteriostatic purposes is required. Lake Fena, being a surface source, is treated with conventional processes to remove turbidity and biological factors.

All water supplies provide the Guam Environmental Protection Agency (GEPA) with regular reports on water quality tests, in accordance with applicable Federal and Territorial legislation. Independent Sampling and testing by GEPA is performed as a check on the test results documented in the GEPA files indicate that the systems, as a whole have been in constant compliance with applicable standards.

Water quality standards have undergone a significant development over the last decade and, therefore, a progressive series of Maximum Contaminant Levels (MCL). Proposed Maximum Contaminant Levels (PMCL) and Recommended Maximum Contaminant Level. (RMCL) have been issued by U.S.E.P.A. and used as a basis for water quality measurement. The determination of the allowable level of identified pollutants is generally made with consideration of potential health risks of one excess death per million population consuming water with the specified contaminant level over a normal adult lifespan. The Maximum Contaminant Level is set with consideration given to application of practical technology to water supply, treatment and testing.

In the case of the three water supplies on Guam there is no recorded case of an MCL being exceeded at the point of delivery of a drinking water supply.

"ALL LIVING THINGS OF THE EARTH ARE ONE"

Long term continuous monitoring of all water sources has been routine on all the water systems. There have been few cases where the MCL's were exceeded at the sources.

The immediate source of concern involves two wells within a well field being

used as part of the water supply for Andelsen Air Force Base.

The two wells, designated Marbo Well 1, and Marbo WELL 2, have exhibited levels of Trichloroethylene in excess of the MCL intermittantly over a testing period extending into the late 1970's. Notably, Marbo Well 2 has shown levels as high as 39 parts per billion as well as levels below the limits of detection. Point of delivery analysis of the water supply, however, never went above 30 percent of the MCL for this contaminant. Although other wells in the Marbo Well Field have shown barely detectable levels of TCE during dry season conditions, the point of delivery test results generally have insignificant seasonal variations.

Elsewhere on the island, levels of TCE and other members of the Chlorinated Hydrocarbon groups have never been detected at or above the MCL established by the Federal E.P.A. and incorporated in the Guam E.P.A. Safe Drinking Water Regulations.

There is no evidence in records on file that any health hazard factor, as determined by the Office of Water Regulations and Standards Criteria of the United States Environmental Protection Agency now exists, or has ever existed, if in any public water supply on the Island of Guam within the purview of this Office.

MR. SYNAR. Thank you, gentlemen.

Our next witness is Mr. Bill Grant from Gambrills, MD. Mr. grant is an ex-serviceman who believes that the health of his family may have been adversely affected by hazardous waste contamination of the drinking water supplies at the base in Guam where he was stationed.

Mr. Grant, as you saw from the previous panel, we request that all witnesses that testify before the subcommittee, in order not to prejudice past, future, or present witnesses, be sworn in. Do you have any objection to being sworn in?

Mr. Grant. No, I do not.

MR SYNAR. If you would stand and raise your right hand.

[Witness sworn.]

MR SYNAR. Thank you very much. Welcome, Mr. Grant. Your entire testimony which you have provided to the subcommittee will

be made part of the record at this time. We look forward to hearing from you.

**STATEMENT OF WILLIAM N. GRANT, GAMBRILLS, MD,
ACCOMPANIED BY BARRY STEELMAN, ESQ., BALTIMORE, MD**

Mr. GRANT. Mr. Chairman, I would like to open first by saying---

MR SYNAR. Pull that microphone just as close as you can.

Mr GRANT. Since I'm not accustomed to testifying and because I have retained an attorney to protect the rights of my family stemming from the loss of my wife Maria, I have asked my attorney to be present with me. And I would like to introduce Mr. Barry Steelman, from Baltimore, MD

Before I begin my statement, I would like to thank the subcommittee for the opportunity to testify on this subject which is of grave concern to my family and me.

I first became aware of the existence of the contaminated drinking water on Guam in July of this year. An article appearing in the Navy Times entitled "GAO Says Guam's Drinking Water Contaminated" was brought to my attention by a former colleague of mine who had also been stationed on Guam. When I read the article, I felt outraged, but also compelled to find out more information.

I contacted a representative of this subcommittee, Mr. Don Gray, for additional information pertaining to the GAO report. Mr. Gray was extremely helpful in providing me with details of this subcommittee's preliminary findings, and copies of two reports published in April and May of this year on hazardous waste: "DOD Installations in Guam Having Difficulty Complying with the Regulations" and "Abandoned Disposal Sites May Be Affecting Guam's Water Supply ."

In reading the two above-mentioned GAO reports, I felt even more outraged at the apparent total disregard the Department of Defense showed for the people stationed on the island of Guam. I would like to emphasize at this point that I am testifying here today at the request of the chairman of this subcommittee and to ensure that some good will come out of this hearing and the subcommittee's work.

In January 1981 I reported aboard to Guam with my wife Maria and three young daughters, ages 7, 6, and 4. I was assigned to the Naval Oceanographic Command Center located at Nimitz Hill. The base housing area that we were assigned was New Apra Helghts,

and the address was 20 Plummeria Drive.

During this time we were never informed of any problems with the water supply on Guam nor told of any precautions to be taken before use. No information or warnings of any kind concerning the natural drinking water were ever given to me or my family. My wife in particular was a heavy water drinker who normally consumed at least 2 to 3 gallons of water per day. This included ice tea, coffee, as well as ice water. The water that I normally consumed was imported in little red and white cans under the title of Coca Cola.

In June 1981 Maria developed a lump in her left breast which was diagnosed as breast cancer, and she underwent a modified radical mastectomy in July 1981. Her prognosis at the time of surgery was excellent with a stated high percentage of survival. There was no evidence of any metastatic disease and no affected lymph nodes. I should mention there was no family history of cancer. She never smoked, and that prior to Maria's illness she had seen a doctor only for her pregnancies and deliveries, all of which were normal and without complication.

>From July 1981 until spring of 1982, Maria's recovery from surgery was normal and uneventful. She began experiencing pains throughout her body, which were attributed by naval medical doctors as the results of her exercising to rebuild her body after surgery .

In May 1982 Maria developed additional tumors in her right breast which were biopsied and confirmed to be cancerous. Her condition was judged to be too serious to be treated on Guam, and she was transferred to a cancer center. In June 1982 she was med-evacked to Bethesda Naval Hospital. After 3 days of testing, she was given only a 3-month life expectancy due to the invasiveness and aggressiveness of the cancer. From this point until her death in December 1982, Maria was subject to numerous chemotherapy, radiation, and drug treatments, all of which had little effect in arresting her condition. According to the doctors who were treating Maria in Bethesda, her cancer was spreading at an incredible rate, faster than they had seen in comparable cases in the past.

As a layperson who has always had an interest in medicine, coupled with a deep concern over the treatment of my wife, I became as informed as possible regarding the medical aspects of this case. Even after the death of Maria, I always had deep feelings that something just wasn't right, especially since she had been given such an excellent prognosis in July 1981. No one could give me an answer why her condition changed so rapidly. And when I read the GAO report in August this year, everything sort of fell together in my mind, and the missing pieces of the puzzle were put together. Additionally, I feel that the sampling procedures that were used

by the Air Force and Navy demonstrated their lack of concern over a possible problem. The testing methods were inadequate at best. On various occasions, as per page 17 of the May 1987 GAO report,

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water tests were not performed due to something as simple as a sample jar breaking.

As a layperson, I cannot sit here today and say that Maria's cancer was absolutely a direct result of toxins in Guam's drinking water. That testimony is best left for the experts to determine. But what I can say is that the circumstances surrounding Maria's illness were extraordinary; and I firmly believe that the contaminated water either caused Maria's cancer or exacerbated her condition to such an extent as to cause her death. Whether this can be medically proven, I leave to others.

My appearance here today is not only because of the loss of Maria, but also to help this committee determine the truth and hopefully help others that have been adversely affected by Guam's drinking water. At the very least, the guilty parties involved in the contamination and the coverup of the contaminated water in Guam should be held accountable for their actions. The contamination of water on Guam should have been avoidable, but the coverup and lack of concern demonstrated their callous disregard for the inhabitants of Guam and the members of the Armed Forces and their family stationed there.

Thank you very much for allowing me to talk today. I appreciate your attention and concern.

[The prepared statement of Mr. Grant follows:]

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**STATEMENT OF WILLIAM N. GRANT
BEFORE THE
ENVIRONMENT , ENERGY, AND NATURAL RESOURCES
SUBCOMMITTEE
OF THE
COMMITTEE ON GOVERNMENT OPERATIONS
November 5, 1987**

Before I begin my statement. I would like to thank this subcommittee for the opportunity to testify on this subject which is of grave concern to my family and me. I first became aware of the existence of the

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According to the doctors who were treating Maria in Bethesda, her cancer was spreading at an incredible rate, faster than they had seen in comparable cases in the past. As a layperson who has always had an interest in medicine, coupled with a deep concern over the treatment of my wife, I became as informed as possible regarding the medical aspects of this case. Even after the death of Maria, I always had deep feelings that something just wasn't right, especially since she had been given such an excellent prognosis in July 1981. No one could give me an answer why her condition changed so rapidly.

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pieces of the puzzle were put together. Additionally, I feel that the sampling procedures that were used by the Air Force and Navy demonstrated their lack of concern over a possible problem. The testing methods were inadequate, at best. On various occasions, as per page 17 of the May 1987 GAO report, water tests were not performed due to something as simple as a sample jar

breaking.

As a layperson, I cannot sit here today and say that Maria's cancer was absolutely a direct result of toxins in Guam's drinking water. That testimony is best left for the experts to determine. But what I can say, is that the circumstances surrounding Maria's illness were extraordinary, and I firmly believe that the contaminated water either caused Maria's cancer, or exacerbated her condition to such an extent as to cause her death. Whether this can be medically proven, I leave up to others, my appearance here today is not only because of my loss of Maria, but also to help this Committee determine the truth and hopefully help others that have been adversely affected by Guam's drinking water. At the very least, the guilty parties involved in the contamination and the coverup of the contaminated water in Guam, should be held accountable for their actions. The contamination of water on Guam should have been avoidable, but the coverup and lack of concern demonstrated their callous disregard for the inhabitants of Guam and the members of the Armed Forces and their families stationed there. Thank you very much for allowing me to talk today. I appreciate your attention and concern.

-4-

Mr. SYNAR. Well, let me thank you, Mr. Grant. I know how difficult it must be to come here today and speak about the loss of your wife. And I want to extend my personal thanks and the subcommittee's thanks for your being concerned enough to come forward and contact our subcommittee to talk about this very important issue. Let me ask you a few questions, if I could. How long were you in the Navy?

Mr. GRANT. Fifteen years.

Mr. SYNAR. Now, you said you first came to Guam in January 1981. Was that the first time that you or your wife had been there?

Mr. GRANT. Yes.

Mr. SYNAR. Where else were you stationed during your Navy career?

Mr. GRANT. A lot of places. At Virginia in Norfolk; the Air station in Virginia; Oceana Air Base at Virginia Beach; Newport; Rhode Island; Pensacola; Great Lakes, IL; Chanute Air Force at Rantoul, IL; San Diego; Long Beach; San Francisco. Made three Mediterranean cruises, and several western Pacific cruises, and I think that just about summarizes where I've been in the 15 years.

Mr. SYNAR. On behalf of your country, thank you for traveling so

much.

You said in your statement that your wife had no chronic illnesses before she was diagnosed on Guam as having cancer. Is that correct?

Mr. GRANT .That is correct.

Mr. SYNAR. Now, did you live on base in Guam?

Mr. GRANT. We lived in a base housing area that is located off of the base, which is similar to most of their housing areas.

Mr, SYNAR. Where is that located with respect to Anderson-

Mr. GRANT. It's on the other end of the island. It is right next to the Naval Complex.

Mr. SYNAR. It's right next to the Guam Naval Complex.

Mr. GRANT. Right. If you are familiar with the island, it is sort of situated between the naval station and the Piti Power Plant, which you mentioned before.

Mr .SYNAR. Did you know where the drinking water was coming from that you were drinking?

Mr. GRANT. No, I don't.

Mr. SYNAR. While you were stationed on Guam, were you ever told that there was any problems with the drinking water that you were drinking?

Mr. GRANT. Nothing.

Mr. SYNAR. Since reading the article with respect to our studies on the contamination of Anderson, you obviously have been very angry and outraged at the thought that people may have been contaminated, and also that that information may have been withheld from the personnel on the island. Is that correct?

Mr .GRANT. That is correct. And in fact, since that point, I have talked to several people that have just recently left Guam-and by "just recently," within maybe the past year. And once they found out what I was doing and testifying, they were reluctant to talk to myself. But they knew of problems with the drinking water when they were there. And they didn't drink the water. They got bottled water that they bought at the commissary / exchange. But they

didn't elaborate a great deal. And most of them were, I believe, truly afraid of any kind of retribution from the Department of the Navy if they would get involved and speak out against the Navy. And I'm hoping that maybe if I speak out, it might just relieve some of that tension and draw enough attention where they will not feel the fear of getting involved and maybe saying something or showing concern.

Mr. SYNAR. Well, I think you are to be commended for that be-

cause it takes courage to come forward obviously to do what you have done today. Very frankly, Mr. Grant, you have every right to be angry. We may never know whether there is a causal relationship between the water and your wife's illness. But at least you had the right to know that there was a potential danger. And you may now have to go through life always wondering whether or not there was that relationship. And I want to thank you for being here today because, I think you have aided us greatly in what we are trying to find is a solution to this problem for our personnel around the world that may be exposed needlessly to these types of situations.

Ms. Slaughter .

Ms. Slaughter. Thank you, Mr. Chairman, Mr Grant, I certainly offer, along with the chairman, my condolence on your loss and thank you for coming here this morning. Your wife's cancer was diagnosed on Guam in I assume a naval facility

Mr. GRANT. That's correct.

Ms. SLAUGHTER. And then they did the surgery on her there.

Mr. GRANT. That's correct.

Ms. SUUGHTER. And upon examination of lymph nodes they found that there was no metastasis at all.

Mr. Grant. That is correct. They said the cancer that she had-the primary tumor that they removed was incredibly small. And just to make a comparison with something in the recent headlines with Nancy Reagan, I believe Nancy Reagan-the tumor that she had was 7 centimeters. The tumor that my wife had was only 2 to 3 centimeters. And they gave Nancy Reagan the greatest prognosis, said everything-her body is clean. And my wife was told that her 5 year survival rate, which is the baseline that they use for all cancer, was better than 95 percent because of the smallness in the tumor, the lack of invasiveness, and the fact that she did undergo the modified radical mastectomy.

Ms. SLAUGHTER. Then she was diagnosed the following year at the same facility as having-

Mr. GRANT. That is correct. It was about 9 to 10 months later.

Ms. SLAUGHTER. Was it at that point that they decided to move her?

Mr. GRANT. That's correct. They realized at that point that it was well beyond their realm of trying to deal with. And she was medevacked out to Bethesda Naval Hospital.

Ms. SLAUGHTER. What reason did they give you for that rapid change from the diagnosis she had about 9 months earlier?

Mr. GRANT. They didn't give a reason.

Ms. SLAUGHTER. None at all.

Mr. GRANT. Not at all.

Ms. SLAUGHTER. When your wife arrived at Bethesda, I'm sure there were discussions about the previous treatment.

Mr. GRANT. Right. Well, they tried every type of treatment, and they even tried one or two that were at that point experimental treatments that now have become the standard, which was-I imagine you've heard of tomixifin, which is the estrogen drug. And they tried that as just some sort of a chemotherapy protocol. But they never gave us a reason. All they said was that her disease was progressing at an incredible rate, and it was traveling quicker than they could have anticipated, and there was nothing that they could do except more or less just insure comfort.

Ms. SLAUGHTER. Did they ever give you any reason at Bethesda to believe that perhaps on Guam they had missed something in their examination of the lymph nodes, that they might have made a mistake?

Mr. GRANT. They never mentioned a word about it, and I really, truly didn't expect them to say anything due to a definite conflict of interest.

Ms. SLAUGHTER. Because that's the way it goes, right?

Mr. GRANT. Right. And the Navy is not about to accuse themselves of incompetence.

Ms. SLAUGHTER. Now, your children I assume had the same drinking water that your wife had.

Mr. GRANT. Yes, they did. But they didn't drink it to any extent. They mostly drank milk, and from what I remember, the milk was all reconstituted milk. And it is made on Guam.

Ms. SLAUGHTER. With the same water?

Mr. GRANT. That I don't know. I think Foremost is the brand.

Ms. SLAUGHTER. Have there been any adverse indications at all in the health of your children?

Mr. GRANT. No, there isn't. But then again, looking at the amounts that they may have been drinking-and again, I don't think the experts really know exactly what sets something off and how much you would consume, or the difference between a child and an adult and varying consumption. I know my wife's consumption rate was incredibly high. And it wasn't just on Guam that she drank that much. I mean, she was almost aquatic. I mean, if she wasn't drinking water, she was floating in it.

Ms. SLAUGHTER. And how long had you been on Guam when that first cancer was diagnosed?

Mr. GRANT. We were on Guam for-it was about 6 months.

Ms. SLAUGHTER. Six months.

And where had you been prior to Guam?

Mr. GRANT. Rantoul, which is Chanute Air Force Base. I was only at Rantoul for about 5 months-and prior to that I was at Oceana Air Base and the Naval Air Station in Norfolk.

Ms. SLAUGHTER. Well, I certainly do appreciate your coming here. I can certainly offer my sincere condolences.

Mr. GRANT. Thank you.

Ms. SLAUGHTER. Thank you for coming.

Mr. SYNAR. Thank you very much, Louise.

Ben, questions?

Mr. BLAZ. Thank you very much, Mr. Chairman.

Mr. Grant, I think it would be accurate for me to say that my dismay over this whole thing is exceeded only by yours, I'm sure. And I, too, share the sentiments of the other members when they say that it must have been very difficult to come here. And that's a singular act of courage, indeed, for you to do so.

But I think you will understand why I must ask you other questions so that we can try to get as much information because this is a very important piece of information for those of us who continue to live on Guam.

Mr. GRANT. OK.

Mr. BLAZ. You mentioned the word "inhabitant" in your testimony. I am one of those persons that the Navy and others classify as inhabitant. Somehow when you come from Oklahoma, you are a resident. But you come from Guam, you're an inhabitant. [Laughter]

That's a subject of another discussion.

MR. SYNAR. I won't tell you what the American Indians call us.

[Laughter]

MR BLAZ. Well, the question I have for you is this. The chairman ask you a question as to where your water in Apra Heights, I believe or in New Apra Heights-

Mr. GRANT. New Apra Heights.

Mr. BLAZ. Yes. I know the location, as I am sure you understand. And he asked you where that water was coming from. And you said you weren't sure. Well, this morning in the document that was presented by Mr. Clinger for insertion into the record, which the chairman graciously accepted, is a report of the various water sources. on Guam. There are three primary water sources. And the one that your wife was likely to be drinking, given the location of your housing area, was from Fena Reservoir-F-E-N-A, Fena Reservoir in the southern part of the island, which is on the Navy base.

And I want to bring out that distinction because the subject earlier was on the contamination at Marbo Wells I and II in the northern part of the island. And I'm just trying to reduce these things down to specifics so that when we start looking at this, we want to be able to address the questions more specifically. So, I just wanted to answer the question for the record because what it looks like to me here, Mr. Chairman, if I may, is that may be useful to get the physicians in Guam, as well as Bethesda. It might even prompt us to look at what may be happening at Chanute as well because this is an issue that certainly has got to be one of the most alarming things that could happen to a community. And I'm asking these questions only to try to help narrow the scope here.

Finally, I want to express to you on behalf of my people how sad we are to learn that your wife Maria which is, as you know, a Guamanian as well-

Mr. GRANT. Right.

Mr. BLAZ (continuing). How sad we are to have learned of her passing. And I hope that we can eventually find what really happened here so we can all benefit from the great sacrifice that you all have made.

I thank you, Mr. Chairman.

Mr. SYNAR. Thank you.

Ms. SLAUGHTER. Mr. Chairman?

Mr. SYNAR. Yes?

Ms. SLAUGHTER. I want to echo what he said. I think it is important for us to get the cancer rates for that naval facility, and ask Bethesda to comment as to the kind of treatment that they believe that Mrs. Grant got in Guam. I think we need to have a thorough understanding of what happened in this case. In order to do that, we need to check and see if the cancer rate is extraordinarily high, both on the naval base and for the residents.

Mr. SYNAR. As the gentlelady knows, we have been pursuing the subject, and in order that we can encourage more people like Mr. Grant to come forward, it will be our commitment to do that as well as other things. We have been in this investigation with respect to defense installations across the country, and now we are taking ourselves outside our domestic borders in an attempt to try to get a better understanding of how severe the problem is.

If both of you all will sit here for about 2 minutes, we are about to hear what the Department of Defense has to tell us with respect to the whole system.

Mr. Grant, I think you can see the sincerity of every member of this committee of your attendance here today. We appreciate it very much, and we thank you very much for your concern and coming forth as a good American.

Mr. GRANT. Thank you, Mr. Chairman. And again, thank you to the members of the subcommittee for their attention.

Mr. SYNAR. Our next witness is Mr. Carl Schafer, who is the Deputy Assistant Secretary of Defense for Environment in Washington, DC.

Gentlemen, welcome. As you heard from the previous panels, we swear in all our witnesses in order not to prejudice any past or future witnesses. Do any of you have any objection to being sworn in?

Mr. ScHAFER. None.

Mr. SYNAR. I would ask that all those who could potentially testify this morning stand at the same time, and we will swear everyone in.

[Witnesses sworn.]

Mr. SYNAR. Thank you very much.

Mr. Schafer, welcome. As you heard from the previous panels, your entire testimony will be made part of the record. We would ask you to try to summarize here in the next 5 or 7 minutes. If you would, for the record, please identify each one of the gentlemen that are with you this morning.

STATEMENT OF CARL J. SCHAFFER, JR., DEPUTY ASSISTANT SECRETARY OF DEFENSE FOR ENVIRONMENT, U.S. DEPARTMENT OF DEFENSE, WASHINGTON, DC, ACCOMPANIED BY LEWIS D. WALKER, DEPUTY FOR ENVIRONMENT, SAFETY AND OCCUPATIONAL HEALTH TO THE ASSISTANT SECRETARY OF THE ARMY FOR INSTALLATIONS AND LOGISTICS, U.S. DEPARTMENT OF THE ARMY; COMDR. RICHARD H. RICE, DIRECTOR, ENVIRONMENTAL DIVISION, OFFICE OF THE DEPUTY CHIEF OF NAVAL OPERATIONS FOR LOGISTICS, U.S. DEPARTMENT OF THE NAVY; GARY VEST, DEPUTY FOR ENVIRONMENT, SAFETY AND OCCUPATIONAL HEALTH TO THE DEPUTY ASSISTANT SECRETARY OF THE AIR FORCE FOR INSTALLATIONS, U.S. DEPARTMENT OF THE AIR FORCE; AND WALKER BEDDOES, CHIEF, REGULATED PROPERTY DISPOSAL, POLICY SUPPORT OFFICE, DEFENSE LOGISTICS AGENCY

Mr. SCHAFFER. I will, sir. Thank you. .

It's a pleasure to appear before you to review our progress in the environmental restoration program since last we met.

Let me now introduce the service representatives who accompany me today from the Army, Mr. Lewis D. Walker, Deputy for Environment, Safety and Occupational Health to the Assistant Secretary of the Army for Installations and Logistics; from the Navy.

Mr. SYNAR. Let me say this. First of all, as we go down this panel, let me thank them at this point. Mr. Walker has just come back from Checotah, OK, where the Army has done a pretty good job in trying to solve the irate constituents' problems from another incident this committee was involved in which was the explosion of bombs on an Interstate highway. We get into everything in this committee. Thank you, Mr. Walker.

Mr. WALKER. You're welcome, Mr. Chairman.

Mr. SCHAFER. We have many opportunities for excellence.

>From the Navy, Comdr. Richard H. Rice, who is Director of the Environmental Division in the Office of the Deputy Chief of Naval Operations for Logistics; representing the Air Force, Mr. Gary Vest, Deputy for Environment, Safety and Occupational Health to the Deputy Assistant Secretary of the Air Force for Installations--

Mr. SYNAR. Let me interrupt you on that one and thank Mr. Vest. He was the one who at the Tinker Air Force Base removed the barrels which the Air Force denied were theirs and finally got it cleaned up off the base, which showed a commitment the Air Force had and, as I said last Friday, probably a model example.

Mr. Vest, we thank you for your efforts.

Mr. SCHAFER. And from the Defense Logistics Agency, Mr. Walker Beddoes, Chief of the Regulated Property Disposal, Policy Support Office.

With your permission, I am going to launch right into this and get quickly through it.

I'm sure you are aware that the Superfund amendments of 1986 reaffirmed the prohibition of the use of Superfund moneys for cleanup of Federal facilities and, therefore, the OOD funds its own cleanup program using appropriated moneys. The OOD Installation Restoration Program actually got started in the late 1970's, but the

funding in those early days of the national awareness of the issue was quite low and investigatory in nature. In 1984 the funding was consolidated into a centralized defense environmental restoration program in order to add visibility, control, and accountability to the program.

I am responsible for the overall management policy and oversight of the program and of the environmental restoration defense account. Each service retains the lead for environmental restoration activities at its own bases through normal command channels. The hazardous waste cleanup portion of the program, which we call the Installation Restoration Program, follows the same national contingency plan procedures that EPA uses in its Superfund program.

We have conducted preliminary assessments and site inspections in accordance with EPA's procedures and have identified now 4,611 sites at 761 locations for further study and cleanup.

As an aside, sir, let me point out that the numbers game here is very confusing. We have 3,874 properties or locations in the 50 States and U.S. territories. And of those, 871 were identified as major military installations. So, when I use the word "location," it means one thing, "installation" another. And I'm sorry about that.

All 871 major military installations have now been inspected.

Now, these numbers are increases of more than 900 sites identified for future study and cleanup at over 200 additional locations in the past year due to our inclusion of National Guard sites, Reserve centers, radar sites, and other properties not normally identified as "DOD installations."

These preliminary assessments and site investigations and reports have been provided to the EPA and to the States. And but for some filling in of data gaps to satisfy certain specific site scoring and evaluation factors, we believe that we are generally finished with this phase of the program. That doesn't mean that we insist we are finished. That just means we believe we are. And to the extent necessary to go back and review these various sites, we are quite willing to do so.

In cases where we discover an existing danger to the public or to the people at our installations, we act immediately to reduce that threat, and then we begin the necessary studies, the remedial investigations and feasibility studies under EPA's nomenclature, to determine the extent and type of contamination and the range of remedies available to be implemented. A great deal of liaison does take place with the local, State, and Federal regulatory agencies. But the Superfund amendments of 1986 have greatly expanded the roles of the public and the environmental community, both Federal and State, in our Installations Restoration Program.

Our most hazardous sites, as determined by EPA's evaluation using the hazard ranking system, have been listed on the national priorities list, and will be required to meet tight schedules for remedial activity. Executive Order 12580 delegates adequate authority to DOD to carry out the cleanup program, but the ultimate authority for selection of remedy rests with the Administrator of

EPA.

Following formal selection of the remedial action, we get on with the cleanup program. The final step then in this process includes

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the necessary engineering design and then implementation of that design. Some of these remedial actions involve major construction projects.

The costs associated with each of the steps leading to cleanup escalates dramatically as we move along in the process. The first step, in which we are searching for sites, is inexpensive. It requires records searches, some site inspections, and a very limited amount of sampling, and costs about \$100,000 per installation.

The remedial investigation step is where the bulk of our studies are now. That next step then requires more scientific and engineering expertise, as well as extensive analyses of samples. These costs are understandably higher than our early work, about \$1 million per installation. I expect that our level of effort in the study phase would peak in fiscal year 1989. This means that the more complex and costly remedial action step won't peak until at least fiscal year 1991 or beyond. And these individual cleanups in our experience as well as EPA's I believe, range from \$10 million for a rather simple cleanup to more than \$50 million for a more complex cleanup.

Because we don't know then the cost of cleanup until the studies are done, our best estimate of total program cost is presently between \$5 billion and \$10 billion. But I have a study underway to develop a more current and precise estimate. I expect that figure to come in at or in excess of \$10 billion.

To ensure that our resources are applied first to sites which present the greatest potential threat, we have developed a defense prioritization process. This is a mathematical model which tells us the relative risk presented by a site similar to EP A's hazard ranking system. This score, along with other information about a site, such as contract status, community concerns and program scheduling efficiencies, will be used by the services and by my office to determine priorities for remedial action and to allocate resources appropriately.

Now, our model and prioritization efforts do not replace EPA's hazard ranking system used to evaluate sites for the national priorities list. The OOD will also use the hazard ranking system scores developed by EP A to identify priorities for investigations of sites. So, we rely heavily upon EPA's program.

Once these initial investigations have been completed and we

have full information about a site, we will apply our model and these other factors to determine what its priority should be for actual cleanup, that is, for the remedial action.

Our model has been extensively reviewed and field tested, and we are prepared now to propose it formally to the public, including the States regulatory community for comment. We intend to actively solicit comments by publishing this in the Federal Register within the next few weeks.

I would like to discuss briefly our program for minimizing waste generation and the necessity for disposal of hazardous waste.

Mr. SYNAR. Mr. Schafer, about how much more time do you need because we've got a vote in progress?

Mr. SCHAFFER. Thirty-two seconds.

Mr. SYNAR. All right.

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Mr. SCHAFFER. The commanders of our industrial installations have already started aggressive programs and have set reduction goals to reduce waste generation by 50 percent by 1992. The costs of disposal are going up faster than the amounts we can offset by waste reduction initiatives. In that case then, these costs are not paid by the central Defense Environmental Restoration Program. The generators in DOD, the bases themselves, pay for waste disposal from their operating funds, and we believe this represents a very practical incentive for waste reduction. Our programs for waste minimization then are partially supported by seed money from the centralized environmental restoration fund for studies, pilot programs, and demonstration equipment.

In fiscal year 1987 the Congress appropriated \$375.9 million for environmental restoration. These funds were used to carry out required studies and remedial actions at more than 2,600 individual sites on 417 DOD installations. For fiscal year 1988, the President's budget request is for \$402.8 million. Our top priority continues to be cleanup of toxic and hazardous waste.

As a point of information, sir, we have not turned back money. Our obligations rate throughout this program have remained at 99 and better percent of obligation. I think you were misinformed that we have turned back \$175 million.

I believe that environmental quality is an intrinsic part of the military mission that provides essential benefits to the Nation as a whole. I am committed to carrying out our program in full cooperation with the EPA and State agencies, with public participation, and in full compliance with environmental laws and regulations.

Thank you, sir .

[The prepared statement of Mr. Schafer follows:]

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STATEMENT OF

**MR. CARL J. SCHAFER, JR.
DEPUTY ASSISTANT SECRETARY OF DEFENSE
(ENVIRONMENT)**

**BEFORE THE
COMMITTEE ON GOVERNMENT OPERATIONS
US HOUSE OF REPRESENTATIVES SUBCOMMITTEE ON ENVIRONMENT,
ENERGY AND NATURAL RESOURCES**

NOVEMBER 5, 1987

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INTRODUCTION

Mr. Chairman and members of the Committee:

It is a pleasure to appear before you and have the opportunity to review the progress the Department of Defense (DOD) has made in our environmental restoration program. I will also briefly discuss our program for management of hazardous waste from current operations.

The DOD believes that environmental quality is an intrinsic part of the military mission that provides essential benefits to the nation as a whole. Undertaking aggressive measures to prevent environmental degradation is worthwhile both in terms of protection of public health and environment and in terms of cost. The overview of the Defense Environmental Restoration Program which follows is based on testimony I previously provided to the House Armed Services Committee and the House Appropriations Committee during the Fiscal Year 1988 budget hearings. On March 17 we submitted our Annual Report to these committees: we have also provided a copy to your committee. I have updated that information and have added additional data so that you might have a clearer understanding of our programs.

DEFENSE ENVIRONMENTAL RESTORATION PROGRAM

The Defense Environmental Restoration Program was established in 1984 to provide increased emphasis and visibility

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for an expanded effort to cleanup contamination from hazardous waste sites.

The Department of Defense, like private industry, conducts a number of industrial processing and manufacturing operations which utilize large amounts of industrial chemicals to accomplish its mission. Although in the past, wastes from these operations were disposed of by the commonly accepted practices of the times, we have found that such practices may have resulted in environmental contamination and risks to public health and the environment. In response to that knowledge, programs were developed in the late 1970's by the Military Services to identify and assess the problems on active military installations.

With the passage of the Defense Appropriations Act of 1984 the Department's program was expanded to include sites formerly owned or used by the DOD and broadened to include removal of structures or debris which are unsafe or constitute a hazard. Additionally, the overall management of the program was centralized in the Environmental Policy Office of the Secretary of Defense to ensure a consistent approach and adequate allocation of resources.

The Superfund Amendment and Reauthorization Act of 1986 (SARA) provided continuing authority for the Secretary of Defense to carry out its Environmental Restoration Program in

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consultation with the Administrator of the Environmental Protection Agency. Executive Order 12580 on Superfund Implementation, signed by President Reagan on January 23, 1987, delegates authority to the Secretary of Defense for carrying out the Department's environmental restoration program within the overall framework of the SARA and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). The major goals of the Defense Environmental Restoration Program are:

- o The identification, investigation, research and**

development, and cleanup of contamination from hazardous substances, pollutants and contaminants.

- o Correction of other environmental damage (such as detection and disposal of unexploded ordnance) which creates an imminent and substantial endangerment to the public health or welfare or to the environment.
- o Demolition and removal of unsafe buildings and structures of the DOD at sites formerly used or under the jurisdiction of the Secretary.

The Defense Environmental Restoration Program consists of three major sub-elements:

- o Installation Restoration Program - a comprehensive

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program to identify, investigate, and cleanup contamination from hazardous substances and wastes on active installations and formerly used properties. This program is focused on cleanup of contamination from past activities.

- o Other Hazardous Waste operations -to fund studies and the purchase of equipment to minimize hazardous waste generation and properly care for the new wastes produced each year. Includes research, development and demonstrations related to hazardous waste, including unexploded ordnance detection and disposal and clearance of active and former ranges.
- o Building Demolition and Debris Removal -includes demolition and removal of unsafe buildings and structures at active installations and at formerly owned or used properties.

INSTALLATION RESTORATION PROGRAM

The Installation Restoration Program (IRP) is centrally managed at the Office of the Secretary of Defense and is carried out by the Military Services and defense agencies.

- o The Deputy Assistant Secretary of Defense for

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Environment (DASD(E)) provides overall policy direction and oversight for the program.

- o Each service retains the lead for installation restoration activities at its own bases. Any installation requiring support requests it from its major command, which in turn reviews the requests and provides management oversight.**
- o The Military Services have each established their own in-house management and technical expertise responsible for implementing the program. This responsibility for different phases of the program which include contracting for preliminary assessments, site investigations, remedial investigations, feasibility studies, and remedial designs and actions.**

In cases where we discover an existing danger to the public at our installations we act immediately to remove the threat, and then study how we can best address the risk we expect could occur in the future if we did not cleanup the contamination. This will often mean removal of poorly stored, or leaking drums, but it can mean placement of people on alternative water supplies if their drinking water is now contaminated. We take all necessary measures to ensure that people on or around our installations do not suffer today from high level of toxics while we study how to

best cleanup sites that often have very complex problems for us to solve.

Like the EPA's Superfund program, the DoD Installation Restoration Program follows the National contingency plan. Removal Actions for imminent threats are, of course, carried out immediately upon discovery. The cleanup of sites proceeds in the following major steps:

- o preliminary Assessment/Site Investigation (PA/SI) -The PA includes collection and review of available information (installation records, employee interviews, technical data, reports, etc). The SI comprises a physical inspection of the identified site, and in some cases, limited sampling of the environment to determine levels of contamination.**

- o Remedial Investigation/Feasibility Study (RI/FS) - These steps may be conducted concurrently. The RI consists of sampling and field studies whose goals are to determine the nature and extent of contamination at a site and the direction and rate of migration, if applicable. The FS is used to develop and analyze various remedial alternatives and recommend appropriate actions.**

- o Remedial Design/Remedial Action (RD/RA) -This includes**

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the engineering design, construction and operation of the cleanup alternative selected on the basis of providing the most protection to human health and the environment as well as permanence, reliability and cost. It may include groundwater cleanup, containment, or other structures to prevent migration of contaminants: decontamination or treatment processes to remove or detoxify contaminants: and long-term monitoring systems.

Our progress in the Installation Restoration Program based on preliminary data at the end of FY 1987 is summarized as follows:

- o Essentially all of the PA/SI studies planned for major military installations have been completed. Seven hundred fifty-nine (759) installations have been included in the program and have completed preliminary studies.**

- We are working with EPA to develop information for the Federal Agency Hazardous Waste Compliance Docket as required by the SARA. We will be**

collecting additional data at some locations to allow the EPA to complete their assessments and evaluations.

- We are also reexamining several preliminary

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studies that were completed prior to the passage of SARA to see if they merit re-evaluation on the basis of today's more stringent requirements.

- o From these PA/SI studies approximately 4,600 sites were identified as potential hazardous waste sites. The preponderance of these sites are relatively minor instances of small spills, leaks or other discharges, although the list also includes such sites as Rocky Mountain Arsenal, Twin cities Army Ammunition Plant, McClellan Air Force Base and others. We will provide detailed information in our next Annual Report to the congress, which we expect to issue early next calendar " year.

FORMERLY OWNED OR USED SITES

The US Army Corps of Engineers is the DoD Executive Agent for implementation of the Environmental Restoration Program at formerly-owned or used sites (FO/US) for the Department. Most of the effort to date has been in developing the inventory of sites and conducting investigations to determine if a DoD nexus exists. At present there are approximately 7,200 identified potential sites on properties formerly owned or used by the Department which require investigation as to the degree of DoD responsibility, if any.

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In FY 1987 we have completed inventory investigations at 645 such sites, and have 1,579 underway. We plan to start on 500 more in FY 1987. Of these we have completed or have ongoing remedial projects at 168 sites in FY 1987 and expect to begin

work on approximately 20 more in FY 1988. Once again, we will provide detailed information in our next Annual Report to the Congress which we expect to issue early next calendar year.

PROGRAM FUNDING

In FY 1984 the Congress consolidated and expanded DoD programs for cleanup of hazardous waste as a separate appropriation entitled the Defense Environmental Restoration Account (DERA) under the Defense Appropriations Act. This allowed us to accelerate our work and also to add the research and formerly-owned or used-sites components to our program.

The total funding of the DERA from FY 1984 through FY 1989 is depicted in Figure 1. The data represented for FY 1984 through FY 1987 represent actual amounts. The FY 1988 and FY 1989 data are the amounts in the President's budget. The FY 1988 and FY 1989 budget amounts represent the minimum levels that we believe are necessary to comply with schedules legislatively mandated by the SARA and for those high-priority sites for which we have enough data to make reasonably firm estimates and which, if not done, will lead to violations of legally-binding

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requirements.

There has been an increased emphasis and visibility in the installation restoration program since 1984. sites which have been addressed in a PA/SI and RI/FS are now leading to the identification of RD/RA work in 1988 and beyond, and it is clear that the bulk of the work still lies ahead. We have estimated the total cost of DoD installation restoration work at \$5-10 billion over the next 10 years. We anticipate that 400-800 sites will require some degree of remedial action (cleanup activities). The uncertainty of the total funding requirement is because we still have many RI/FS to complete and agreements have not been signed with EPA and state agencies. My office presently has a study underway to review these total program cost estimates and hope to develop a better estimate of future requirements. We expect to complete this study before the end of the year.

PRIORITY RANKING

The DoD must set priorities, select remedies and establish schedules at sites so as to take into full consideration the level of contamination and the impact on surrounding communities. Since each site presents a different risk to health and the environment and cleanup is costly, the department is assigning priorities to assure that funds are used in the most beneficial way and that sites are properly addressed on a "worst-first"

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basis.

The Defense Priority Model (DPM) has been developed for use in prioritizing remedial action projects conducted under the Installation Restoration Program. The DPM is not intended to replace the Hazard Ranking System (HRS) now used by the Environmental Protection Agency to identify and evaluate sites that warrant inclusion on the National Priorities List (NPL). DoD sites will be evaluated by the HRS after a preliminary assessment/site inspection has been conducted, and that score will be used to determine priorities for further investigation. A remedial investigation/feasibility study (RI/FS) , or other studies, will be conducted at those sites where appropriate. After a site has been fully characterized, the DPM will be applied for relative ranking of sites that require remedial action. This will assure that those sites that are of the most environmental significance are addressed first for RD/RA.

The DPM will be applied to individual sites, or an entire installation if appropriate, by technical program experts in the Military services. The DPM and the other factors will be used by the DoD components in developing the Interagency Agreements with EPA at NPL sites, or in dealing with State agencies at non-NPL sites, and to establish cleanup milestones, timetables, and funding requirements. The scoring results and other factors will be used to determine which projects the Services will submit for RD/RA funding in a given fiscal year. The DPM has been subjected

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to intensive review and field testing, and a public comment period will be announced in the Federal Register early in FY 1988. DoD recognizes the need for its priority system to be acceptable to regulatory agencies, the public and other

interested parties. Ample opportunity will be provided for review and comment prior to formal adoption by the Department.

The present assignment of priorities is an interim measure which has been used in FY 1987 and FY 1988. It comprises three priority tiers:

- o Priority A. Includes removal actions upon discovery of an imminent threat due to hazardous or toxic substances - or unexploded ordnance (UXO) 1 preliminary assessments and site inspections (PAfSI) at identified sites; and investigations (RI/FS) and remedial actions (RD/RA) at sites listed on the NPL.
- o Priority B. Includes remedial activity at sites not listed or proposed for listing on the NPL.
- o Priority C. Includes pre-remedial work for discovery and notification programs; inventory programs¹ non-site-specific work, such as program management, R&D and Development of innovative and cost effective cleanup technology. The R&D and Development effort for

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innovative and cost effective cleanup technology is carried out in cooperation and consultation with the EPA (SARA section 211).

RELATIONSHIP WITH EPA

With the enactment of SARA and EPA's recent promulgation of rules under the Hazardous and Solid Waste Amendments to RCRA, our installations are subject to many complex and often overlapping regulatory requirements which impact on the timely execution of cleanup investigations and remedial actions. A central issue has been the resolution of CERCLA versus RCRA authorities over DoD sites being cleaned up under the Defense Environmental Restoration Program. Since both SARA and RCRA delegate new regulatory authorities to the states, our cleanups must now also meet state standards.

To resolve these issues and move aggressively forward with our cleanup program, we have been vigorously pursuing meetings

with key EPA officials to develop a process for overcoming these issues as well as other obstacles which may impede the cleanup of our sites.

The Army and the EPA have developed an agreement for cleaning up the Twin Cities Army Ammunition Plant (TCAAP) in

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Minnesota which allows the Army to conduct the cleanup under CERCLA while satisfying the requirements of RCRA and all applicable or relevant state regulations. Negotiations for a similar agreement between the Air Force and EPA are underway at wright-patterson Air Force Base (WPAFB) in Ohio.

As mentioned above, SARA has expanded the roles of the public and the environmental community (both Federal and State) in the Defense Environmental Restoration Program. Our most hazardous sites as determined by the HRS have been listed on the National Priorities List (NPL) and will be required to meet tight schedules for remedial activity. Executive Order 12580, delegates adequate authority to DoD to carry out its cleanup program, but the ultimate authority for selection of remedy rests with the Administrator of EPA.

We are actively working with EPA in order to develop a closer relationship during the RI/FS process at our NPL sites so that an agreement on the recommended remedial alternative can be reached quickly. We are also extending this concept to our non-NPL sites. Our non-NPL sites must be addressed in compliance with appropriate state laws. It is essential for us to keep all concerned parties, particularly the public, fully informed at each step in the cleanup process.

HAZARDOUS WASTE MANAGEMENT

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Hazardous waste management challenges us to reduce the liabilities associated with the waste we generate, handle or dispose.

Our policy is to minimize our waste generation and needs for

disposal by using all available tools: hazardous materials controls, material substitution, process changes, recycling, and treatment (including thermal destruction). The commanders of our industrial installations have started aggressive programs and set reduction goals which are generally at 50% by 1992.

However, the costs of disposal are going up faster than the amounts we can off-set by waste reduction initiatives. In FY 1987 we spent approximately \$71 million for disposal of hazardous waste from our current operations. In FY 1988 and FY 1989 the planned amounts are \$97 and \$105 million, respectively. These amounts are not included in the Environmental Restoration account, but are funded by the services O&M budgets -i.e. the generators are paying for disposal. We believe this represents a very practical incentive for waste reduction.

Our programs for waste minimization are partially supported by "seed money" from the Environmental Restoration account. We fund studies, pilot programs, purchases of equipment and other

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initiatives that reduce the amounts of hazardous waste we generate or dispose. In FY 1987 we spent \$24.7 million from the Environmental Restoration account for hazardous waste minimization: and in FY 1988 and FY 1989 our planning levels are \$16 and \$12 million, respectively. These expenditures for waste minimization have positive paybacks both in environmental terms and logistics dollars.

Storage facilities are needed by the Defense Logistics Agency for temporary storage of items awaiting transportation, treatment or disposal. New construction requirements (MILCON) are projected at \$11.4 million in FY 1988 and \$9.3 million in FY 1989 for various locations. Other hazardous waste storage facilities are being modified using individual services O&M funds to meet requirements. We are working with the EPA and the States to expedite permitting for these facilities. These storage needs will not be significantly reduced by the waste minimization initiatives previously discussed because these initiatives mostly affect types of industrial wastes not normally stored in such facilities. We do foresee some incentives for our recycling efforts by allowing for proper storage of items during the reutilization screening process managed by the Defense Logistics

Agency.

ENVIRONMENTAL RESTORATION RESEARCH. DEVELOPMENT' DEMONSTRATION

The Defense Environmental Restoration Program also has

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provisions for carrying out a program for research, development and demonstration (R,D & D) with respect to hazardous waste. Included are: means of reducing the quantities of hazardous waste generated by current operations; methods of treatment, disposal and management (including recycling and detoxifying) of hazardous waste; identifying more cost-effective technologies for cleanup of hazardous substances; toxicological data collection and methodology on risk of exposure to hazardous waste generated by the DaD; testing, evaluation and field demonstration of any innovative technology, process, equipment or related devices which may contribute to the establishment of new methods to control, contain and treat hazardous substances. This work is to be carried out in consultation and cooperation with the Environmental Protection Agency.

In FY 1987 the Environmental Restoration account supported approximately \$11 million of R,D & D for cleanup technology hazardous waste minimization and toxicological information. Most of the effort was for demonstration projects. This work is being coordinated with the EPA and the Department of Energy. To stimulate far-sighted approaches to cleanups, particularly to avoid self-defeating land disposal, we have asked the military services to increase their efforts in R&D, and especially in demonstration projects, for permanent solutions to site remediation.

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CONCLUSION

We are proud of the progress we have made in our environmental programs, and our Environmental Restoration Program in particular.

In FY 1987 the Congress appropriated \$369.5 million for

Environmental Restoration. These funds were used to expand and accelerate studies and remedial actions at more than 2,600 individual sites on 417 DoD installations. In addition, we have completed or have underway investigations at more than 2,244 formerly owned or used sites and remedial projects at 168 of these sites.

For FY 1988 the President's Budget request is for \$402.8 million to continue the momentum. Our top priority continues to be the cleanup of toxic and hazardous waste sites.

We are committed to carrying out our program consistent with the intent of Congress and in full cooperation with the EPA and state agencies, with full public participation, and in full compliance with environmental laws and regulations.

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Mr. SYNAR. We will recess at this time and have questions in about 10 minutes.

[Recess taken.]

Mr. SYNAR. Mr. Schafer, let me begin with the first section of questions. In your testimony you say that at the end of the fiscal year 1987 DOD had completed a preliminary assessment and site investigation, previously called phase I or site identification, studies at 759 installations, and that "essentially all" such studies "planned for major military installations have been completed."

What I find interesting is that this is the same statement that was made in your fiscal year 1986 status report for last year, but the report indicated that such preliminary studies had been done on only 529 of DOD's 874 domestic installations.

My question is does this mean that you have done 230 studies during the last year that you had not planned to do?

Mr. SCHAFFER. We have gone back and reviewed some of the studies that were done in the early 1970's, and gone back over them and done more work there. We have also included more installations as the program has matured in our inventory of places to be studied. We are trying not to ignore anything that comes to our attention.

Mr. SYNAR. Well, do you plan to do all the DOD installations, " and if not, why not?

Mr. SCHAFFER. I do.

Mr. SYNAR. OK. Now, most of DOD's facilities have been in operation for many years, as you know, and for different purposes. So, you feel like going back and reviewing all of them will give you the

opportunity to find out what happened, what past activities may have contributed. Correct?

Mr. SCHAFER. That is correct. The criteria under which these activities are now included in our scope of interest is also changing. And we are responding to those new requirements.

Mr. SYNAR. All right. How many more preliminary assessment studies do you expect to do at the 100 or so installations which have not had them?

Mr. SCHAFER. Our experience so far is that ordinarily you can expect to find three or four individual sites on any given base that will be reported to you, anecdotally at the very least. And I don't see any difficulty in proposing that it could be 300 or 400 additional sites.

Mr. SYNAR. Again in your testimony and also your 1986 status report you state that you were examining several preliminary assessment studies to see if they merit reevaluation on the basis of today's more stringent requirements. Have you determined how many of these studies will need to be redone?

Mr. SCHAFER. I don't have the exact figures at my fingertips, but I would be glad to supply it for the record. I believe it is in the vicinity of 45.

Mr. SYNAR. Approximately 45.

In your statement you also state approximately 4,600 potential hazardous waste sites have been identified. Now, this is an increase of 1,100, if our numbers are correct, over the 3,500 reported for the fiscal year 1986 status report. Now, if we take into account the number of facilities at which you still plan to do or redo these pre-

liminary assessment studies, could you tell the subcommittee how many potential hazardous waste sites do you estimate will finally be identified at all those DOD installations?

Mr. SCHAFER. If I understand the question correctly and unless my arithmetic fails me, I believe that the--

Mr. SYNAR. The bottom line: What's the grand total? What are we looking at here?

Mr. SCHAFER. Probably around 5,000 individual sites at all locations including the Guard sites and Reserve sites, that sort of thing.

Mr. SYNAR. Now.. you said that the "preponderance" of the sites identified so far "are relatively minor instances of small spills, leaks and other discharges," if I quote you correctly. Now, what do you mean by a "preponderance"-90 percent, 75 percent, 51 percent?

Mr. SCHAFER. I think I can best illustrate that on the basis of EPA's evaluation of our sites with which we have cooperated actively. We now have 44 sites either on the NPL (29) or proposed for the NPL (15) out of the total that we are discussing here.

Our types of activities are typically called "vehicular maintenance activities." Normally these activities are electroplating, engine rebuilding, paint stripping and repainting, those kinds of things, at a number of sites. DOD's totality is impressive, and you've been told, I believe, that the 500,000 or so tons that we generate of hazardous waste per year exceed those generated by the five major chemical companies in the United States.

But, on the other hand, DOD only generates something like two-tenths of 1 percent, I believe, of the national total of hazardous waste generated. And furthermore, it would be more accurate to state that DOD generates a figure considerably less than the chemical industry.

Finally, I would point out that even in such isolated localities where we have concentrations of bases, such as San Francisco Bay and the Chesapeake Bay, the DOD impact has been identified and is agreed by all of the regulatory agencies as being relatively minor, a very small proportion of the actual impact on those water bodies.

Mr. SYNAR. Nice answer, not to my question, but nice answer. Let's go back over it. What does "preponderance" mean within your testimony? You say they are slight. Is that 91 percent? Is that 75 percent, or is that 51 percent?

The reason I'm asking you is that if most of the identified sites are so minor, as you are trying to make them, why is it that you've determined that out of the 3,188, or 91 percent of those, of the first 3,500, are going to require a remedial investigation study to determine the nature and extent of the contamination?

Mr. SCHAFER. The use of language there was meant not to preclude that. Rather, what we are finding out is that of the approximately 3,500, we currently have identified about 500 of those that require no further study. They are being monitored long term. There are about 2,000 of those in the process of being studied, the remedial investigation. And about 1,000-1,041-have gone forward to the need for actual remediation of one type or another .

And so, I'm not trying to be disingenuous, but what we are trying to do also is to be responsive and not hide anything.

Mr. SYNAR. Yes, but I didn't put it in my testimony that the preponderance of them were just minor, and then turn around and

show that they are not just so minor because they are taking a second level of action.

Let's go to your 7-86 status report, the remedial investigation and feasibility studies. And in that you say that those studies have been completed on 696 sites of which 462, or 66 percent of them, have been found to require cleanup, and that the cleanup work has been completed on 99 sites, if our numbers are correct.

Now, Mr. Schafer, does that mean that those cleanups are finished at those sites, or are they just getting underway?

Mr. SCHAFFER. Those figures indicate sites where the cleanups are finished.

Mr. SYNAR. Finished.

Mr. SCHAFFER. And there's updated figures, if I may. Where your figure says 462 identified for remedial action, our figure is now 1,420.

Mr. SYNAR. First of all, correcting the record, those aren't our figures. Those are your figures from the 1986 report.

Mr. SCHAFFER. Of course.

Where our figures had indicated 308 in progress, the number is now 1,043; and where 99 completions were identified, we now identify 207.

Mr. SYNAR. OK.

Mr. SCHAFFER. That report, sir, will be out in the next few ? months. ,

Mr. SYNAR. Good.

Now, somewhere in your report you note that in reporting those cleanup actions, you do not distinguish between "removal actions," such as hauling away barrels of waste or "remedial actions" requiring the cleaning up of the soil, ground water, et cetera. Now, of those 99 sites you've just spoken about where cleanup actions had been taken, and you say completed, how many involved removal actions and how many of them involved remedial actions?

Mr. SCHAFFER. I am not at all comfortable with my ability to break that out substantially.

Mr. SYNAR. Can someone who is on the panel here today do that?

Mr. SCHAFFER. And if I may, my understanding is that there are about seven very major operations listed there and the rest of them range all the way down to the single drum you identified. So, I would say seven truly remedial actions and the balance probably more typically are removal actions.

Mr. SYNAR. So, the preponderance of them are removal actions. Right?

Mr. SCHAFFER. We share EPA's difficulty in distinguishing between these.

Mr. SYNAR. All right.

The 99 sites at which that cleanup action has been taken repre-

sent only about 20 percent of the sites already found that need cleanup. And they also represent only 3 percent of what has previously been identified as your potential hazardous waste sites throughout the country. Now, that is the bottom line after 10 years

of operation of this program. At this rate, let me ask you if the same percentages hold true for the remaining sites under study which will require cleanup? Mr. Schafer, when do you expect that the task will be completed?

Mr. SCHAFFER. If I may, I would like to suggest that characterizing the program as having been in existence for 10 years is both a joy and a burden because, on the one hand, we are proud of having gotten that early start and, on the other hand, it suggests that we should have the thing licked by now. Unfortunately, the reality is that the program, in fact, obtained its current format and major emphasis as lately as 1984. In 1984 the program funding was \$150 million, and then I believe you are familiar with the subsequent history. And so, our progress can only actually be judged I think fairly from 1984.

Mr. SYNAR. Let me ask you this, Mr. Schafer. Are we going to clean these up in my lifetime or your lifetime?

Mr. SCHAFFER. The good Lord willing, we certainly will. This is not easy, and the issues that--

Mr. SYNAR. That, my friend, may be the greatest understatement that we have in this whole hearing and in the last 5 years.

Mr. SCHAFFER. Honestly, it is a hard, hard issue. And it's an evolving issue. The relationships between people whose quality of life is at stake is understandably very difficult. The very issue of siting for hazardous waste disposal facilities illustrates that.

Mr. SYNAR. Let me get on to some questions specifically in this area.

Now, with respect to the formerly owned or operated or used site program, you say in your testimony that an additional 7,200 potential hazardous waste sites have now been identified. How many of those properties have been surveyed and how many of them do you have left to do?

Mr. SCHAFFER. If I may supply precise figures for the record.

Mr. SYNAR. Can you give me a ballpark figure?

Mr. SCHAFFER. Certainly. I believe that we have approximately 2,000 of them currently surveyed and probably 500 in the process of being cleaned up and approximately 250 that have been cleaned up.

Mr. SYNAR. So, we're looking at about 5,000 more. Right?

Mr. SCHAFER. Yes, sir.

Mr. SYNAR. Now, you said that you anticipate in your testimony also that 400 to 800 sites will require some degree of cleanup, and that the total cost of the restoration you estimate will be \$5 billion to \$10 billion over the next 10 years. Now, these same figures have been quoted in your annual status reports for at least the last 3 or 4 years that we can find.

Now, in view of the fact that the 462, or 66 percent, of the first 696 evaluated were found to require cleanup action, with some 2,600 still undergoing evaluation, isn't it likely, Mr. Schafer, that the final figures will far exceed even the upper part of that range that you've estimated?

Mr. SCHAFER. I would not take exception to that.

Mr. SYNAR. Now, are installation restoration studies being conducted at the U.S. military bases in foreign countries? Are they being done there too?

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Mr. SCHAFER. There are some similar activities, but it's not the Installation Restoration Program per se.

Mr. SYNAR. Why not?

Mr. SCHAFER. There are a number of reasons relating to that, first of all, the technical past history of these sites.

We are not the first nation to occupy many of them. Second, agendas of our host countries must be taken into account.

And third, there is an understandable debate as to who should share the cost, and who should carry the cost providing the local infrastructure necessary to our presence in those nations. We are cleaning up those sites, and we are working very closely with our commands, but it is understandably a very difficult situation with respect to the high visibility and immense funding implications of this program in the United States.

Mr. SYNAR. But don't you agree that it is better for us to identify these problems abroad, to try to begin the cleanups versus waiting until they are discovered and being held accountable for something we may or may not even have been involved in, isn't it?

Mr. SCHAFER. I think that judgment is probably correct. But I would defer to the people on the ground in those countries and who have the relationships with their host governments.

Mr. SYNAR. Well, let's talk about those people on the ground. In 1986 in September, the U.S. General Accounting Office completed a report on hazardous waste programs at DOD's overseas installations. Now, DOD has classified this report as "secret." Can you tell us why?

Mr. SCHAFER. The reasons for classifying reports are generally, based upon the judgment that release of the totality of the information would jeopardize our relationships and especially our programs. The data individually is not all that outstanding.

Mr. SYNAR. So, you're telling me today there is no national security grounds by which this report is being classified.

Mr. SCHAFER. That's not what I meant to say.

Mr. SYNAR. Are you telling me it is classified because of national security?

Mr. SCHAFER. It is classified because of national security interests. And those judgments were made by people other than myself, and I must defer to that.

Mr. SYNAR. Has DOD responded to the recommendation included in this report as required by section 236 of the Legislative Reorganization Act?

Mr. SCHAFER. I believe we have.

Mr. SYNAR. Let's turn now--

Mr. SCHAFER. If I might add, sir, the substantial findings in that GAO study have been corrected.

Mr. SYNAR. You mean I have to take your word for that?

Mr. SCHAFER. Trust me.

Mr. SYNAR. Oh, trust you. You all have such a good record in this area.

Let's now turn to some questions about the contamination problems at particular facilities. Earlier this year, GAO issued two reports done at my request which found inadequate hazardous waste management and disposal activities at Anderson Air Force Base in Guam. As you know, there is a sole-source ground water aquifer

there that provides the drinking water supply for three-quarters of the island's population, and there is contamination by TCE, a solvent which has been shown to be cancer causing to laboratory animals.

In fact, that GAO study found that the Anderson officials had known since 1978 that some of the bases' own water supply wells had been contaminated and had attempted to deal with the problem by mixing water from contaminated wells with that of the uncontaminated wells. However, as the study points out, samples of the mixed drinking water tested over a period of 8 years showed that the levels of contamination frequently exceeded the safe contaminant level established by EPA of 5 parts per billion of TCE for drinking water .

Now, this report also found, Mr. Schafer, that the preliminary

assessment studies of potential hazardous waste sites for both Anderson Air Force Base and the nearby naval complex had failed to recommend further study and evaluation of many sites which in the opinion of the regulatory officials should have been done. Finally, the GAO report found that both bases had been in frequent violation of the RCRA regulations governing the disposal of currently generated hazardous waste and were disposing of such waste directly onto or into the ground in a manner which will cause further contamination.

Now, Mr. Schafer, since we do not yet have a response to these reports, can you tell us whether you agree with them and to what extent you do? And finally, what are you planning to do to rectify this situation?

Mr. SCHAFFER. If I may, what I would like to do is provide you with a preliminary comment on this, and then I would like to turn to those who are with me that have more experience in it than I. Generally we have identified a number of areas in these reports that we would like very much to be able to review with the General Accounting Office. In one case a barrel of grease was identified as a hazardous waste barrel, and resulted in six identifications of a violation. And that's unfortunate because it obscures the nature of the real issue.

With respect to dealing with the regulatory agency, we want very much to do the right thing. And during the early years of this program, it has been difficult for us and for them to be as interactive as we would like to. In that case the preliminary assessments of the cleanup requirements were provided to the regulatory agency, and it was 27 months before we heard back from them, by which time we had already decided to move forward.

So, my preliminary remark is that we want to fix it, and we want it to be right. And at the same time, we are not recalcitrants and we are not antienvironment. We are, on the contrary, determined to get these problems identified and fixed. We need a lot of help, and we are getting it.

If I may now, I would like to turn to the representative from the Air Force, Mr. Gary Vest.

Mr. SYNAR. Let me go back to the question again. I appreciate that statement of commitment, but I want to know do you agree with the report. To the extent that you do agree with the report, what are you planning on doing? That's what I'm interested in. I

don't want to hear about the problems. I want to hear about this

report and your response.

Mr. VEST. Thank you.

In direct answer to your question, we've submitted our response to Mr. Schafer's office. So, I need to defer to him on the final resolution of that. However, I will answer to the best of my ability.

Mr. SYNAR. At least we got all the people who are going to be passing this buck here at one table. [Laughter.]

Mr. VEST. Well, I can respond. I don't have it before me. I'll respond to as many of the issues as I can recall.

With regard to the matter of the noncompliance in terms of both RCRA and CERCLA, there have been, without any doubt, problems at Anderson Air Force Base. The exact nature and degree of those problems, as Mr. Schafer indicated earlier, are subject to discussion, and we would like to do that with the General Accounting Office.

However, in terms of the RCRA compliance, I am advised now by our staff and the folks at Anderson that we are currently not in noncompliance. We're in compliance, and that's with reference to information from both the Guam EPA and the Federal EPA. So, there seems to be some disconnect there. But I am advised that there is current compliance in terms of RCRA. "

The earlier testimony today regarding drinking water and the potential health threat must give anyone a great deal of concern. And I'm certainly not immune from that.

Shortly after the initial GAO report came out, I asked our people to go to Guam and based on that initial information from the GAO and to look at this problem very carefully and determine the nature or degree of the problem and determine what is needed to be done. And we can, of course, provide a great deal more detail to you for the record.

But, in general, what I was advised by our people who went to Guam to evaluate the degree of pollution, is that the contamination was in fact, first identified in 1978. The levels of TCE that were found through the sampling procedure, as I recall, did not exceed 50 parts per billion. I think the figure I was given, sir, was 39 parts per billion at least on one of the samples from the Marbo II well.

Mr. SYNAR. Mr. Vest, you would agree with what I showed earlier that the sampling has been sporadic and many of them have been broken and lost.

Mr. VEST. There is no question there was difficulty in the sampling procedures. And I earlier made note that this is one of the things that we will look at very carefully to ensure that we don't have recurrence of sampling problems because there is just no way to defend that.

Mr. SYNAR. Well, let me ask you this. You said 39 parts per bil-

lion?

Mr. VEST. In 1978, sir, I am told that the levels were ranging from 29.9 to 39 parts per billion in Marbo II.

Mr. SYNAR. Well, since the safe level is 5, that is substantially above the safe level whether it is 30 or 50.

Mr. VEST. I was just about to explain the significance of it at that time.

Mr. SYNAR. Yes.

Mr. VEST. The Department of the Air Force is, of course, not a standard-setting agency. And we, because TCE has been a great problem at more than one installation, have been very concerned about what is the acceptable or safe level of TCE. When I first took the position that I have now, the discussion at that time was up to 270 parts per billion. A year or so after that, there was a general agreement or I believe a working level understanding that 5 to 50 parts per billion was the appropriate level of acceptability. This was established with the safe drinking water folks at EPA. That, of course, has changed. I believe it was last year or the year before where it moved to 5.

The point I would make here, sir, is that during the 1978 time-frame and up till the time that the level was set at 5, the levels that were being found in those wells or that well at Anderson were within the 5 to 50 part per billion range.

Now, my point-and I think that it is a very important point-is that to the best of the Air Force's ability, it does try to insure through its monitoring and sampling procedures that we are consistent with whatever standard is in being by the standard-setting agency.

Mr. SYNAR. Aren't you overlooking one thing, Mr. Vest, which is that the reason it is between the 5 and 50 is that you diluted it?

Mr. VEST. No. The 5 to 50 was for across the Nation. This was the range.

Mr. SYNAR. No, no. The reason on Guam--

Mr. VEST. No, the dilution--

Mr. SYNAR [continuing]. That the reason that it was within the parameters that you said were known to be safe was because of dilution, wasn't it?

Mr. VEST. No, sir. No, sir. The sampling-I'm told the samples are wellhead samples at the 29.9 to 39. That's what I was advised.

Mr. SYNAR. You've been advised wrong.

Mr. VEST. OK. You're citing at the tap?

Mr. SYNAR. We have got the wellhead. We got 29.9,19.3,22.2--

Mr. VEST. At wellhead.

Mr. SYNAR. And the clinic, we've got 24, 15, 17.

Mr. VEST. OK. I'm sorry. I don't have it before me.

Mr. SYNAR. OK, go ahead.

Mr. VEST. Of course, I think the point is that during that time the levels that were being found by the Air Force were within those limits, and have continued to be. It was even just as recently as a few minutes ago, I was handed a letter from the Guam Environmental Protection Agency indicating that I think the earlier testimony says that there is no indication--

Mr. SYNAR. Let me move on to something else on Guam. Shortly after we got those GAO reports on the DOD facilities, I received a letter from Senator Ted S. Nelson of the Guam Legislature transmitting allegations concerning the Navy negligence in the cleanup of a PCB spill from a ruptured transformer at its powerplant in May of this year. I'll ask unanimous consent that that letter be made part of the record.

[The letter follows:]

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Committee on Governmental Operations
Ninetcenth Guam Legislature
P.O. Box CH-I. Agana. Guam 96910. Tel: 472-3428 29 30

August 23, 1987

The Honorable Mike Synar
Member
Committee on Government Operation
2441 Rayburn House Office Building
Washington, D.C. 20515

Re: Navy Negligence In PCB Clean-up at Power Plant and Contamination
of Plant Employees

Dear Mr. Synar:

This is to bring to your attention the Navy's negligence in its clean-up efforts after a power plant transformer ruptured in May 26, 1987. Twenty (20) gallons of PCB were spilled contaminating the operating area. On July 14, 1987, dioxin and furan were detected. This led to termination of the local clean-up efforts. I would like to point out that numerous employees were utilized in the PCB clean-up effort without being issued the necessary personal protective equipment (PPE). In other words,

these employees were directly exposed to the dangers of dioxin and furan contamination.

On June 23, 1987, the Navy conducted tests for PCB dioxin and furan. The test results were obtained on July 10, 1987 and were positive. The test results were discussed with the Pacific Division/Naval Facilities and It was decided that sufficient concentrations of PCB dioxin/furan warranted suspension of the clean-up until further guidance was received . from the Navy's Pacific Division. since then, the Navy has done very little to insure the protection of the plant employees and their families from PCB dioxn/furan contamination. To date, employees contaminated by dioxin and furan have yet to be informed so that immediate treatment can be arranged.

When the accident occurred in May, the Commanding Officer, U.S. Navy Public Works, Guam, designated a PCB/Dioxin Management Action Team on July 30, 1987. Months after the accident, employees were still using half-mask respirators, not enough to supply a total of 21 plant operators. The Navy admitted that they only had a three to six-day supply of filters for the half-face masks in use at the time.

My immediate concern is the need for personal protective equipment that should be made available to all plant employees, regardless of their responsibilities at the plant. The Navy also admitted that there is an immediate need to acquire 3-M HEPA filters and 3-M full-face masks. They even suggested that plant employees continue to use the half-face masks. In July, 1987, the Task Force was Informed that on December 16, 1986, OSHA promulgated rules and regulations which required specific off-site training for all employees exposed to hazardous substances, health or safety hazards and similar training for managers.

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There is an urgent need to commence training for about 50 to 60 persons, workers and managers, to achieve the proper level of training required. The OSHA regulations require that as much as 40 hours of training and 3 days of on-the-job training be conducted for these personnel. The guidelines of the new regulations are clear and I seriously believe that these regulations have not been complied with. The Navy has admitted that their present workload precludes them from providing the required hours of training.

As a result, chemical toilets are needed to replace toilet facilities which are not in use because they are in the contaminated area. The employees

are not required to shower before leaving the premises because of the lack of shower facilities. Moreover, the decontamination unit has not been completed. These facilities are urgently needed because the plant is continually being operated and employees are continually being contaminated without proper precautions being taken for their health and safety. How do you explain this to the employees, if work must continue and the power plant must remain operative? As of August 6, 1987, all the PPE items have not been fully identified. Admittedly, there will be a six to eight-week delay on the order for tank suits. In addition, the Navy has yet to receive the extra 24 respirators, plus cartridges and hepa filters.

Since the initial rupture of the transformer and detection of PCB dioxin/furan, the start of the clean-up is anticipated for mid-September, 1987. The Navy is currently constructing a new decontamination station, however, concerns have been voiced regarding the design of the ventilation and shower and dressing rooms within the proposed decontamination station. Questions are being asked by the operators regarding the construction of the new decontamination station as to its purpose and intent since there are no procedures in effect. In other words, these operators currently have no place to shower and are exposed to dioxin and furan by removing their work suits.

Navy has suggested that there will be 8 clothing changes per shift, and each operator is required to change once every hour. There is a need to train people on how the site safety plan works. Additional personnel will be schooled to train the plant workers. While all the rules and regulations are being examined, nothing concrete has been done to conduct a thorough examination on the employees and their families for contamination. Personally, I believe that the Navy Command on Guam does not have the technical and medical experts on-island to treat and effectively examine the employees affected. This is unfortunate.

As of August 13, 1987, Navy has not sampled for dioxin and furan levels in the air. This has prompted the employees at the power plant to inquire about the protective level of equipment now in use.

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Plant employees were allowed to work without communicating with other employees because the voice communication systems in their suits were not operative. Although tank suits, booties and gloves were critical items, the Navy did not have sufficient supplies and PPE required for utilization by plant personnel.

As far as medical screening and monitoring is concerned, these employees would have to compete with other employees for time slots for routine health and safety services. The question is why? Some form of priority has to be established to address the immediate needs and concerns of the employees and their families.

It is sad to say that employees affected have not undergone a thorough physical examination, nor have their families been afforded the same. I strongly believe that top priority should be given to the protection of these employees. The longer the Navy procrastinates in providing the needed medical attention (this we all know must be done off-island), the more these employees are subjected to continuous contamination. According to information received by my office, only 81 employees have undergone PCB Blood Tests out of a possible 200+ employees contaminated in one form or another.

The accident has serious implications on a community our size. The people of Guam have not been made aware nor has the Navy released in detail, to the people of Guam the accident and the contamination of employees.

Only on August 4, 1987 were the employees provided a "Site Specific Health and Safety Plan for Plant Operation and Facility Decontamination at Building 4910, Old Power Plant" to read. The Plan outlines a discussion and description of the site and the scope of work required. The Plan was also distributed to the Pacific Division, Naval Facilities Engineering Command, the Commander, Naval Forces Marianas. This plan is similar to that of an earlier one issued to the employees at the Norfolk, Virginia Power Plant. The Norfolk Plant was eventually demolished and a new facility constructed. I sincerely hope that this would not be necessary if protective measures are taken to insure the health and welfare of the employees.

In the interest of these employees, I am requesting that your office conduct an investigation into this matter as soon as possible. Upon request, I will provide a listing of personnel exposed to PCB dioxin and furan resulting from the May Incident.

Because of Mr. Ole L. Olsen's disregard for the health, safety and welfare of the personnel working at the Piti Power Plant. I am requesting that your committee seriously consider taking action against Mr. Olsen. Moreover, a transfer or reassignment would be in order. Presently, Mr. Ole L. Olsen serves as the Commanding Officer, U.S. Navy Public Works Center, Guam.

Lives are on the line. And because the potential dangers that hover over our island. I have decided to request your immediate assistance in this regard. Please give us all the attention and assistance that should be accorded a situation such as this.

Thank you for your time and attention.

Sincerely,

Ted S. Nelson

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Mr. SYNAR. Now, as you know, Congress banned the further use of PCB's in 1976 due to evidence that they were causing cancer and other serious disorders. But existing PCB containing transformers were allowed to continue in use if they were not leaking.

Now, I requested that GAO investigate these allegations, and they were pretty much confirmed by Mr. Conahan's testimony this morning. Now, you heard that testimony, Mr. Vest. Would you please tell us what DOD intends to do to rectify that situation?

Mr. VEST. I believe my colleague, Commander Rice, should respond to that.

Mr. SYNAR. All right. Mr. Rice.

Commander RICE. Yes, sir. The Piti Power Plant is a Navy powerplant. Just to put it into perspective, it provides approximately 66 megawatts of power. The entire island grid is only 170 megawatts of power. So, it is a significant part of the utility system on Guam.

There, indeed, was a rupture of a transformer containing PCB's. It was identified by the Navy and the command energized its emergency action plan, and took all steps possible to protect the environment and the workers.

We too have received a letter from Senator Nelson from Guam, and are in the process of responding to it. I do not have the information from the Pacific necessary to respond in detail as yet, but the Navy has tests which indicate that the environment has not been contaminated.

The entire spill has been contained within the powerplant. The area where the PCB spilled has been totally isolated, and all workers and other personnel that enter there have been properly equipped with personal protective equipment.

Mr. SYNAR. Any fires break out in that area?

Commander RICE. No, sir. There have been no fires; that was a concern of the Navy. There were no fires or smoke reported at the

time of the rupture. Some time after the rupture, based on our experience of a fire at Norfolk, the Navy decided we better check for the presence of dioxins and furans. There are no testing facilities on Guam for dioxins or furans.

Mr. SYNAR. I'm concerned about the personnel that are working in those areas. You heard Mr. Conahan's testimony this morning. The Navy's protection of those workers doesn't meet the basic OSHA standards, does it, according to his testimony? How would you respond to that?

Commander RICE. At the time the command in Guam responded, they felt they were in full compliance with OSHA standards. It now appears as though the coveralls, the brand name escapes me, but there are several different classifications of coveralls. They had full respiratory gear, two sets of booties, gloves, and all the other protective equipment, but OSHA has written us a letter after reviewing the situation and said that further actions in Guam should use a specific level of protection coverall, which was not used originally. I do not know why it was not used originally nor do I have any other information on that, sir .

Mr. SYNAR. And you feel that will meet the OSHA standards?

Commander RICE. Yes, sir. There is no doubt that the only specific thing in the OSHA letter, in the way of personal protective

equipment which they addressed was the coveralls, not the respirators.

Mr. SYNAR. It is your intention to meet the OSHA standard.

Commander RICE. Yes, sir; it is.

Mr. SYNAR. I've got a bunch more questions. I hate to hold you over. I have to go vote again. I should be back here in about 10 minutes. We'll recess till then.

[Recess taken.]

Mr. SYNAR. All right. Let's go to another site, Air Force Plant 44, Tucson, AZ.

In 1981, EPA discovered ground water contamination by TCE and other toxic chemicals in the vicinity of plant 44 in Tucson, AZ, which all of us know is a missile manufacturing facility operated for the Air Force by Hughes Aircraft Co. The facility is located over an aquifer which supplies the drinking water for Tucson's 517,000 population. Now, the preliminary studies of the State and local regulatory agencies concluded that plant 44 was the source of a plume of contamination which is 4 1/2 miles long and extends well beyond the facility boundary.

Now, subsequent studies by the Air Force, Mr. Vest, and by

Hughes confirmed that there was ground water contamination at plant 44, but they also concluded the contamination extended only a mile from the plant and that the remainder of the contamination must be from some other source. But, EPA and its contractor concluded that the entire plume could be from plant 44.

Mr. Schafer, when I asked about this situation during our August 1983 hearing, I was told by your predecessor and by Lee Thomas of EPA that they expected to resolve this disagreement quickly under a memorandum of understanding, and that that memorandum had been signed just a couple of days earlier. Now, will you tell me and the subcommittee why now, 4 years later, there is still no agreement as to the degree of the Air Force responsibility for cleaning up this contamination?

Mr. Vest.

Mr. VEST. There were a number of questions there. I was trying to keep track, but help me if I misrespond.

Mr. SYNAR. Now, hold it now. There weren't a couple of questions there.

Mr. VEST. I'm sorry.

Mr. SYNAR. There's one question.

Mr. VEST. OK.

Mr. SYNAR. You came in here in 1983. You told me that a memorandum of understanding had been signed a couple of days before and this problem was going to be solved.

Mr. VEST. I don't believe I did, sir.

Mr. SYNAR. Your predecessor, OK?

Mr. VEST. I don't believe I was involved at that time.

Mr. SYNAR. Somebody representing the Air Force. Mr. Schafer, was it you? Who was your predecessor?

Mr. SCHAFFER. Lt. Col. Peter Daly.

Mr. SYNAR. Mr. Daly came in here and told me that this problem was going to be solved by Mr. Thomas, who is at the EPA. He said, oh, we're going to kiss and we're going to have a memorandum of understanding. We're going to solve this problem. That's 4 years

ago. And as of today, as we sit here, there is still no agreement on the responsibility of the Air Force. Why? That's the question.

Mr. VEST. Up until very recently, I believe that the parties out there were in agreement or had acknowledged that there were multiple plumes, and that in fact there were multiple sources of the plumes. And I also believe that it was just within the last several months that we were--

Mr. SYNAR. Well, that's in conflict with what the EPA said, isn't

it, and GAO?

Mr. VEST. Initially that was true. The DOD/EPA agreement, which I believe you're referring to that Colonel Daly was speaking of, did in fact contain words that were actually driven by the situation at plant 44 so that we could deal with it. The parties at that time did generally reach a consensus.

And it wasn't until fairly recently that the EPA has concluded to the contrary-again gone back. This is my understanding which gives rise to what I believe the GAO testified to earlier that there is a determination to that effect and a request for a meeting fairly soon of all the parties to reopen that issue.

Mr. SYNAR. Is that based upon more recent studies?

Mr. VEST. I have not seen the studies, and I frankly am not aware of how EPA came to that determination. I am aware that our people out there have been advised of a different determination.

The agreement that was referenced I believe is no longer in effect because it was simply allowed to lapse.

Now, I will say that without any question that the Air Force will participate in those meetings. The Air Force will continue to operate the plant. And it wasn't more than a few months ago that in an extensive press coverage of the plant 44, the Tucson situation- quite frankly, the only organization that is involved that was complimented was the Department of the Air Force.

Mr. SYNAR. Well, let's talk about that. Let's compliment or criticize the Air Force.

The Air Force has determined, as Mr. Conahan told us this morning, that they are not going to require Hughes Aircraft to pay for the cleanup because they feel that Hughes disposed of the hazardous waste by practices acceptable at the time that it was done. Can you tell us how the Air Force made that determination?

Mr. VEST. As I recall, it was in 1984 that either the commander or the vice commander of Air Force Systems Command made a determination that these kinds of situations would be looked at individually and within the parameters of the contractual relationship and the specifics of the situation-

Mr. SYNAR. Pull that door, if you would please.

Mr. VEST [continuing]. Would make a determination as to whether there was liability or responsibility on the Air Force or the contractor.

The decision was made in the case of plant 44, that the contractor, Hughes Aircraft, was not liable, and that the response or remedial action would be funded by the Department of the Air Force. The testimony earlier this morning raises a very significant question, I believe it was put in terms of paying a profit.

Mr. SYNAR. Well, let's don't even go to that point.

Are you familiar with the Superfund, Mr. Vest?

Mr. VEST. Yes, sir; I am.

Mr. SYNAR. You are familiar with the point that people are not excused from their liability because they use methods which "were acceptable at the time of the disposal," are they?

Mr. VEST. That's correct.

Mr. SYNAR. Why did you all at the Air Force say that that standard was not good enough for you, and that you have now a standard by which you're willing to reimburse Hughes Aircraft which is different than the Superfund?

Mr. VEST. I can't answer that because I was not party to the decision.

Mr. SYNAR. Who was?

Mr. VEST. It was either the commander or vice commander at the Systems Command at that time.

Mr. SYNAR. But he gets his orders from up here in Washington with respect to how they are going to apply for reimbursement. I mean, he has to go through the sources up here. He doesn't make those kind of decisions.

Who made the decision here that you wouldn't follow the same intent and law on liability with respect to Superfund with the Air Force and Hughes Aircraft?

Mr. VEST. I do not know who actually made the decision.

Mr. SYNAR. Well, do you find that funny or different, peculiar?

Mr. VEST. Not really. In fact, we would have to-the only way we could answer that properly-

Mr. SYNAR. I mean, Mr. Vest, I'm from Muskogee, OK. Mr. and Mrs. Smith live on 14th Street in Muskogee, OK. What they are going to read tomorrow about Tucson is this. They're going to read that Hughes Aircraft improperly disposed of hazardous waste that they were under contract to with the Air Force. But the Air Force has decided that they're going to pay for it. Not only are they going to pay for it, they're going to pay them a profit for cleaning it up. And so, Hughes Aircraft is not being slapped on the wrist, is not being held accountable like Mr. and Mrs. Smith on 14th Street may be if they dump something in their backyard or some company in Muskogee. And what am I going to tell them why there are two sets of standards, one for Government contractors and one for the public? What am I going to tell them? What do you want me to tell them?

Mr. VEST. I can't answer that. I'm not qualified to answer the question in terms of the contractual relationship--

Mr. SYNAR. Mr. Schafer, what am I going to tell them?

Mr. VEST [continuing]. Between the Department of the Air Force and Hughes.

Mr. SYNAR. Well, what am I going to tell them, Mr. Schafer?

[No response.]

Mr. SYNAR. Tell me how I'm going to go to a small businessman on Main Street in Muskogee, OK, and ask them and demand that they meet a very heavy regulatory standard at great expense to themselves where they're not allowed to escape liability. But in your case, you're able to do that.

Mr. Walker, what am I going to tell them? You're handing notes. What am I going to tell them?

Mr. WALKER. To review a situation in a similar situation, sometimes you have to look at the contractual arrangement that you had for production and procurement of materials and items of equipment. So, it's tied to a review of the strict terms of the contractual arrangement.

Mr. SYNAR. Let me tell you. Nobody in a contractual relationship gets out of their liability under the Superfund. Why should Hughes Aircraft get out from that liability? You're telling me if you privately contract, you're obligated. But if you contract with the Government, you don't have any obligation.

I mean, I think this is crazy. Here we have a company that improperly disposed of hazardous waste that now we're going to pay them, plus a profit, to clean it up.

Mr. WALKER. Well, Mr. Chairman, you are involved in a complex procurement arrangement.

Mr. SYNAR. I don't care what the difficulty of the procurement arrangement is. I am asking you something different than that. I'm asking you why private industry is held liable and Hughes Aircraft isn't.

Mr. WALKER. Well, it is a good question of liability. I was just trying to explain the framework.

Mr. SYNAR. I understand the framework.

Let's go into another area. Let's go into the Chesapeake Bay.

Last year the subcommittee began an inquiry into DOD post and stations around Chesapeake Bay and what DOD had been doing to fulfill its obligations under the DOD's Installation Restoration Program. That program should alleviate DOD's contribution to the very large and very real threat to the Chesapeake Bay. Now, we suspended that investigation because of so many actions that were pending.

Now, this morning I would like to learn what has happened since then. Mr. Rice, I guess you're the one I'm going to address these questions. Is that correct, Mr. Schafer?

Mr. SCHAFFER. Yes, sir.

Mr. SYNAR. From the 1983 phase I Sewell's Point-Camp Allen study-Let me read this-site 1 at the Camp Allen landfill was- this is the Norfolk Naval Base. Site 1 at the Camp Allen landfill was found to contain some 400,000 pounds of paint stripping residue, 60,000 pounds of parts cleaning sludge, and similar large quantities of toxic wastes.

At site 3-let me read-a drum storage area, toxic material was found to be leaking into the Elizabeth River.

No.3, at site 4, oil, presumably PCB contaminated, was routinely being poured onto the ground.

At site 10, evidence was found that even fuel from the Apollo space program was leaking.

Now, according to the status report you gave us last week, only the PCB leaks at site 3 are actually being corrected. The other problems are still under study according to that report.

Now, I guess the question is, Mr. Rice, why are you moving so slowly?

Commander RICE. The Navy is proceeding with the RI/FS as diligently as possible.

Mr. SYNAR. All right.

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Commander RICE. None of those sites is currently believed to be a threat.

The specific site numbers were not given to me until this morning. I don't have definitive responses on each site.

Mr. SYNAR. All right. Let's go to the naval shipyard again where there is a leaking 10,000 gallon oil tank according to your 1983 phase I report. Two monitoring wells nearby show-let me quote this from your report-"samples contained more oil than water and as much as 1 million gallons of waste oil could be present." Now, as of September 30 of this year-this is 1987-you report no actual construction work underway to correct that problem.

What are you waiting for?

Commander RICE. Sir, I would have to provide that for the record.

[The information follows:]

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The Navy initiated an installation restoration program in 1980. We have done the equivalent of EPA's preliminary assessment/site inspection (PA/SI) at over 100 Navy installations. Our Phase I studies were to identify and assess sites posing a potential threat to human health or the environment due to contamination from past hazardous materials operations. The 1983 study at Sewells Point identified a total of 18 sites based upon information from historical records, aerial photographs, field inspections and personnel interviews. The study concludes that, while none of the sites poses an immediate threat to human health or the environment, several sites warrant further investigation to assess potential long-term impacts.

The Camp Allen landfill (site 1) was used for the disposal of wastes generated on the Norfolk Naval Base from the early 1940's until 1974. No information was available concerning the quantities of waste disposed ; however, the 400,000 pounds of paint stripping residue and 60,000 pounds of parts cleaning sludge were estimated based on current industrial waste generation rates. In late 1983, the Navy commenced Phase II of the Installation Restoration program at the Naval Base. At the Camp Allen landfill, this entailed installing of monitoring wells and sampling and analysis of groundwater, surface water, and sediment. Several rounds of sampling have identified small areas of ground and surface water contamination. The Navy is currently preparing to present these findings to EPA, the state, and local officials for comment. A feasibility study will be initiated to identify the best alternatives for site-cleanup based upon state input-Site 3, the "0" area dump storage yard, has been used to store mostly new petroleum products, solvents and paint thinners since the 1950's. The Phase I report noted numerous leaking drums in the area, as well as evidence of past spillage. This material could have been transported into Willoughby Bay or the Elizabeth River via stormwater runoff; it did not leak directly into the river. Preliminary results from our Phase II investigation confirmed oil and grease contamination in surface soils on a portion of the site. The top six inches of soil was removed in November 1987 and replaced with clean fill. Additional investigation will be required to determine the best method for dealing with the remaining groundwater contamination. The groundwater is not used for drinking water.

At site 4, a transformer storage area, transformer oil was

reportedly drained onto the ground. PCBs were confirmed in soil samples from this area and the extent of the contamination has been determined. The Navy plans to propose excavation of this material as the most cost-effective cleanup option.

This must be reviewed by a committee of EPA, state and local officials before remediation can begin.

At site 10, during the period 1967 to 1969, two or three recovered Apollo spacecraft capsules were off-loaded from aircraft carriers. Any remaining fuel was drained for subsequent disposal. Reportedly, three or four drums from each capsule were drained on the ground at two disposal areas at site 10. Visual inspections of both areas indicated that the vegetation was not visibly stressed. No additional investigation is planned for this site.

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Mr. SYNAR. Mr. Rice, did you not know I was going to ask about this today?

Commander RICE. I did not know until this morning, sir.

Mr. SYNAR. Who told you that? I mean, obviously we've been working with you all down at DOD. We told you these sites were going to come up today. I mean, this is unacceptable, guys. I got to tell you. We'll supply it for the record. We supply it for the record. I mean, we're talking about a problem here identified in 1983. Nothing has been done as of today in 1987, and you're coming in here and telling me you're going to have to supply it for the record. Why isn't there any construction underway, Mr. Rice? And don't tell me it's a complicated problem. It can't be that complicated to have waited this long.

Commander RICE. Sir, I do not have site specific information.

Mr. SYNAR. Well, does anybody with you have that?

Commander RICE. No, sir .

Mr. SYNAR. All right. In the 1983 report again, Mr. Rice, it says that at Paradise Island landfill there is "an estimated 7.8 million gallons of waste. These wastes include cyanides, degreasers, solvents and other toxic wastes."

That 1983 report continues by saying that because of the nature , and amount of these wastes, there is "significant potential for migration into Paradise Creek and the Elizabeth River ."

When are you going to decide whether that site needs restoration, Mr. Rice?

Commander RICE; Sir, each of those sites was contained in a phase I study. All of those are progressing through the RI/FS process. None of them are listed as remedial action yet because we

have not determined what the appropriate action is.

Mr. SYNAR. When?

Commander RICE. I do not know, sir.

Mr. SYNAR. Did you not know I was going to ask about that site this morning?

Commander RICE. I have been provided a great deal of information on the Chesapeake Bay. I was not told that you would be asking about those specific sites until this morning.

[The information follows:]

Since the 1983 phase I report, the 10,000 gallon underground oil storage tank (site

5) has been replaced. We have constructed a bermed containment area and an oil-

water separator in this area. In 1985, the phase II study was initiated at the ship-

yard. Preliminary results show that removing the tank did alleviate the ground

water contamination problem. Samples collected from monitoring wells indicate an

early reduced oil and grease concentration.

The site referred to as the Paradise Island landfill was titled Chemical Waste Pits

in the phase I report. These pits received a variety of wastes generated by the ship-

yard from 1963 to 1978. Total quantity of wastes disposed in these pits is estimated

at 7.8 million gallons. Much of the liquid evaporated over time; any remaining

liquid was removed and disposed of in 1981. The pits were then filled with earth and

the site was graded. During the phase II effort, additional monitoring wells were

constructed and samples were collected from ground water and Paradise Creek sur-

face waters. No cyanides or solvents were detected in Paradise Creek but some

metals were detected in very low concentrations.

The RI/FS is ongoing at this time. The State and Federal officials are being kept

apprised of the situation. The site is expected to require remediation once alterna-

tives are evaluated.

Mr. SYNAR. All right.

The 1983 phase I report shows that Craney Island fuel terminal to have a long list of leaking facilities, including one from tank 7 where the sludge shows 90 ppb of PCB's. Your report says these materials are still under study.

When will that studying phase be over, Mr. Rice?

Commander RICE. Sir, we'll have to provide that information for the record.

[The information follows:]

The phase I study of the Naval Supply Center Craney Island, completed in January 1983, identified 12 potentially contaminated sites. The study concluded that

while none of the sites posed an immediate threat to human health or the environment, five warranted further investigation to assess potential long-term impacts.

Groundwater sampling and chemical analysis in 1984 and 1985 showed that each site contained parameters that exceed the Virginia State Water Quality Standards.

A Verification Study, completed in February 1986, concluded that the permeability of the subsurface soils is generally low and the hydraulic gradient is relatively flat,

which would indicate the movement of subsurface contamination to be extremely

slow. However, some sites are 1000 feet or less from the installation boundary and

the potential does exist for contamination to move beyond the boundaries. A Reme-

dial Investigation/Feasibility Study conforming to the current EPA guidance is

being conducted to develop and evaluate appropriate remedial actions.

Mr. SYNAR. The Oceana Naval Air Station study from 1984 discussed site 7 where there is a landfill containing solvents, pesticides, electrical transformers, and 1,000 gallons of PCB-tainted transformer oil. Site 7, the report notes, is also the fifth green of the base golf course.

When are you going to fix the golf course, Mr. Rice?

Commander RICE. Sir, I will have to provide that information for the record also.

[The information follows:]

The Initial Assessment Study of the Naval Air Station Oceana, completed in December 1984, identified sixteen potentially contaminated sites. The study

concluded

that while none of the sites posed an immediate threat to human health or to the environment, several sites warranted further investigation to assess potential long-term impacts. Site 7, the fifth green landfill, was used as the base landfill between 1954 and 1961. A contract has been awarded and monitoring wells installed. The first round of sampling has shown no solvents, Pesticides or PCBs in the groundwater or surface waters at the site. The RI/FS is continuing and the State and Federal representatives will be contacted to discuss the results and determine necessary remedial action.

Mr. SYNAR. According to your October 30 update, you are also still studying sites 12, 13, and 14. The 1983 phase I report says that "the tanks have been leaking for more than a decade. There is ongoing contamination of groundwater by dissolved fuel. There are thousands of gallons of fuel oil floating on the water table."

When are you going to proceed on that cleanup, Mr. Rice?

Commander RICE. Sir, I do not have specifics on that site either.

[The information follows:]

Sites 12 and 13 are sites where tanks have leaked in the past. While petroleum products are not considered hazardous wastes in Virginia, we plan to cleanup the site around the tanks. A system of recovery wells will be designed this year. Investigation has determined that there is little potential for migration of fuel away from the sites, but that natural biodegradation will take tens of years. The recovery wells are expected to reduce this time significantly.

Site 14, the Fentress Landfill, has had preliminary sampling done on groundwater, surface water and sediments. Data suggests that contamination is negligible. The RI/FS is continuing and once finished, the results will be reviewed by all concerned parties.

Mr. SYNAR. OK. White Oaks Lab. Who is going to answer that

one? Who's in charge of that?

Commander RICE. It is a naval facility, sir.

Mr. SYNAR. Can you answer anything about that one?

Commander RICE. No, sir.

[The information follows:]

The phase I study of the White Oak Laboratory, completed in November 1984, identified 14 potentially contaminated sites. Based on an assessment of contamina-

tion characteristics, migration pathways, and pollutant receptors, the study conclud-

ed that seven of the 14 sites posed a potential threat to human health or the envi-

ronment sufficient to warrant further investigation. A phase II study, including sur-

face water, soil and groundwater sampling and analysis, was initiated in 1985.

A public hearing was held in December 1985 at the initiation of the study.

The

study was completed in June 1987 after being modified to conform more closely with

EPA's remedial investigation guidance. It was sent to EPA region III and the State

of Maryland. A second public hearing was held in June 1987 to discuss results of the

remedial investigations.

A feasibility study will begin soon to develop and evaluate remedial alternatives.

The scope has been fully coordinated with Federal and State officials.

Mr. SYNAR. Aberdeen Proving Ground/Edgewood Arsenal. Can you answer anything on that, Mr. Walker? Let me just give you the question. Let's move to the Army.

The Edgewood Arsenal area in the Aberdeen Proving Ground--the area of particular concern is "the O field" which is located on the Gunpowder Peninsula, which is a narrow neck of land which sticks out into the Chesapeake Bay. You're aware of a 1976 study by the Army Toxic and Hazardous Materials Command which includes a discussion of this area. Are you not?

Mr. WALKER. Yes, Mr. Chairman.

Mr. SYNAR. All right.

Mr. WALKER. We've been watching this--

Mr. SYNAR. All right. I found one of the appendixes particularly compelling. It was written by Mr. Dean Dickey and discusses how he went about trying to clean up the O field--listen to this--in 1949 and 1950. Without objection, Mr. Dickey's report will be " placed in the record at this point.

[The report follows:]

SUBJECT: ACTIVITY AT "OLD O FIELD" EDGEWOOD ARSENAL AREA. ABERDEEN PROVING GROUND, MARYLAND

Since there is a great deal of interest in an area known as "Old O Field" located on the Gunpowder Peninsula at Edgewood Arsenal and only a few individuals

are knowledgeable of the activities there I am recording all the facts that

I can remember from 1949 through October 1970.

O Field was designated in 1943 by Edgewood Arsenal as an area in which to dispose of dangerous chemicals and munitions. Two civilians, Mr. Harry Siler and Mr. Nig Ammond, were directly responsible to Range Control for the upkeep

and safety of the field. Mr. Siler died in 1972 or 1973 and Mr. Ammond died in 1975.

In 1949 Colonel Garland White (Deceased) became aware of the unsafe practices and activities at Old O Field and lodged a strong complaint with the

Safety Office about the conditions there. He offered to clean up the field provided that it would not be used again and that the new disposal field (J Field) would be monitored to assure a similar condition as O Field would not occur. I attended a meeting of inquiry in which Mr. Siler defended himself

by stating that he had objected on many occasions concerning the indiscriminate

"dumping" of every conceivable item imaginable in his work area at O Field. He stated that when he would attempt to turn some of the loaded vehicles back

that he was told by his supervisor that he had no other choice but take the items

since they couldn't be left at Edgewood Arsenal proper. Incidentally I was at Old O Field on such an occasion. The truck driver after being denied permission to enter the field called back to Edgewood to report Mr. Siler would not accept his load of munitions. Mr. Siler was called to the phone and told that he would accept the load of munitions. His comment to the truck driver was "Dump them anywhere you can find the room." The truck driver did exactly that. He dumped a load of unfuzed 75MM rounds in one corner of the field.

I first worked at O Field in September 1949. I was Officer-In-Charge and originally I had a seven man team. I actually walked to the center of the field on 4.2 bursters and boosters and thousand of fuzes from artillery rounds. Regardless of how carefully I avoided one fuze or burster I would soon find I had stepped on another. Of course I consulted with every imaginable expert that I could find. My first task was to carefully screen the top of the field so that I could get equipment, myself and my men into the field without walking or driving over explosives. In about three weeks of careful screening (sometimes on our hands and knees) we had cleaned out an area large enough to drive a vehicle into and turn it around without the fear of striking explosives setting off a possible detonation. We placed the fuzes, bursters and boosters into 55 gallon drums, filled the drums with water as a tamping agent and detonated the entire mass. It worked exceedingly well for it left only small fragments of metals.

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Stacked in the middle of Old O Field was a mass of drums contaminated with Mustard, Tear Gas and Adamsite, barrels of Fog Oil And Molasses Residuum and barrels containing leaking White Phosphorous rounds, igniters and grenades which were stored under water. I took every barrel of Molasses Residuum that I could find and took them over to the Gunpowder River and after puncturing the top of the lid allowed the Molasses Residuum to float away into the Gunpowder. I saved all the drums. I would estimate approximately 300 gallons of Molasses Residuum were poured into the Gunpowder. I used these, now empty, barrels to continue destroying fuzes, bursters and boosters. I also utilized the large steel packing/shipping boxes that the 4.2 bursters and boosters were packaged in. On many occasions we discovered that they had been brought out on the back of dump trucks and literally dumped onto the ground damaging the steel boxes to the extent we couldn't get the lids off in order to pour water into the storage or packaging boxes. Properly placed explosive charges were utilized to detonate these also. As we began to move some of the items and barrels from the top of O Field we were constantly plagued with White Phosphorous. It was literally impacted

into the soil to the extent if we moved something it would drag chunks of WP out and on contact with the air it would immediately begin to sputter and burn.

But we did manage to continue removing the fuzes and bursters. As we would uncover a bomb, or other type of munition we would attempt to place like items in stacks. I soon had segregated approximately 1500 MSO magnesium bombs and

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a lesser number of H69 and H70 Napalm filled bombs. There were also many yellow smoke and tear gas grenades and FS filled bottles. Someone also had brought glass jars filled with nerve agent and placed them in Pit 11. In September there was an explosion in Old "O" Field at approximately 1400 hours. We had just entered the field at approximately 1330 when one of the pits exploded. We ducked down behind piles of barrels and bombs until all the fragments had stopped falling. We then left the field and gave it a week or two to "settle down". I went back into the field and examined the pit that had exploded. What I saw was a huge hole in the ground lined solid by bombs, some had detonated and some were intact. White Phosphorous was still seeping out of the hole and a strong odor of Mustard was noticed near the pit. We decided not to bother the pit but to continue in the work area where we were. To get more working room I took every barrel that was uncontaminated, hardbacks, metal storage boxes and smoke pot can to the salvage yard as scrap metal. In fact we soon filled many boxcar loads and after two months I could actually see all the way to the back of O Field. Then it became a matter of screening the rest of the field for bursters, boosters and fuzes. Approximately at 1100 hours one day in December 1949 a series of tanks were passing O Field. We were on break time and had gone down to watch the convoy of tanks come by. It was lucky that we did for we had another explosion in the back of Pit 1. We left for the day and closed the road off. On Saturday the pits really exploded and threw munitions everywhere. When I got

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to O Field it appeared someone had placed a smoke screen down for White Phosphorous was all over the place and some of the woods were burning. All we

could do was to see which way the fire was heading and try to keep buildings from being burned down. Decon trucks filled with water were used in order to avoid the loss of fire trucks.

ON Monday the policing up began. Munitions were scattered everywhere, AND ADDITIONALLY SO WAS MUSTARD AGENT. I FOLLOWED THE TRAIL OF MUSTARD ALL

THE WAY TO WATSON CREEK AND TO THE GUNPOWDER RIVER. I AM ABSOLUTELY CERTAIN

MUSTARD AGENT WENT INTO THE RIVER AND THE CREEK. I also suspect that there are munitions still in the River and the Creek, thrown there by the detonation.

We began our clean Up by pouring DANC (Decontaminating Agent Noncorrosive) and lime on all the Mustard we could find. The DANC (approximately 1000 barrels)

was out there for disposal. We then scooped up the contaminated 80il and brought it back into Old 0 Field. To get the contamination off the tree tops I placed TNT under cans of lime and detonated it. The lime settled on the Mustard on the trees and set fire to the dried leaves and the trees.

Incidentally

some of the Mustard was not destroyed until January of 1950. The trees died and are now burned .

In January of 1950 I tackled more CN filled drums from Pit 1. We must have recovered 200 or 300 drums which we washed out with caustic and sent to the Edgewood Arsenal Salvage Yard. In March we had made a great deal of progress again and we continued to clean off the top of the field. I found more

smoke pots, bombs, also 75MM and 76MM rounds filled with Muatard. (I never ONCE SAW A LEAKING 75MM or 76HM round.) We now ran into a section of the field filled with 4.2 mortars. Some were clearly identifiable by their color coding and I cavity charged all of the AC, CK, and CG filled ones and allowed the agent to dissipate into the atmosphere. Many were sand filled. I must have recovered about 2,000 Mustard filled 4.2 rounds which I placed in

Pit 5 and burned. I would lace the bottom of the pit with four or five feet of lumber, place the munitions on top the lumber and wire WP igniters and C4 explosives in series and then pour Napalm all over the entire mess. It made a substantial fire. This is how we destroyed most of the Mustard filled 4.2 rounds. As soon as that was over I directed my attention to the 250 KG and 500 KG German munitions filled with Mustard. I destroyed these in the same manner. Then I incinerated all the Fog oil and smoke pots. Afterwards I collected all the WP rounds and in about six weeks time I had all of them opened and burned. I had several bad moments in dealing with WP since some

of the WP would "scab" over, smoulder for days and build up pressure on the inside. Once the inside pressure was great enough they would detonate. I was particularly pleased when the White Phosphorous was gone although we still ran into it on occasions.

My next job was to burn all the 100 lb M47 Mustard filled munitions. We did this the same way that we had done the 4.2 (incinerating on pits). Occasionally I would make an error in judgement and place. photoflash bomb

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on the pit. It would scatter Mustard everywhere when it detonated. I soon learned not to destroy any munition unless I was absolutely positive of its contents. That took some doing for most of the color coding was missing from the munitions body and the munitions were rusty. If the contents shook like water it could be detonated. If it didn't shake, it vent onto the incinerating pit. To my dismay, I found some filled High Explosives and it also scattered my pits.

The foreign munitions were the most difficult to dispose of, for on several occasions I found the Japanese munitions loaded with both WP and Mustard in the same container. I learned to really be careful with Japanese munitions. They were exceedingly DANGEROUS for many used picric acid as bursters and once picric acid began to deteriorate it would form picric salts which were shock sensitive. Occasionally there were High Explosive filled Japanese munitions. Perhaps the most dangerous of the Japanese explosives were hundreds of metal boxes filled with fuzes. I believe most of them were mortar fuzes. One box was accidentally dropped and detonated. Fortunately no one was injured. We also found many United States and Japanese floating dye markers. They were usually wooden bodies filled with red smoke and burning mixes.

Old O Field activity was closed for about six months during 1950 due to other emergency jobs. When I returned to O Field I discovered everyone was still using it as dumping ground. Even though the gate had been locked and

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everyone had been notified not to dump there any more. I found about 200 Mustard filled 115 lb M70 bombs, wing tanks filled with test material, and hundreds of small bomblets filled with Bacillus globigii. Someone had also unloaded some M47 100 lb Napalm bombs on us which I immediately put to good use in destroying the Mustard. I was also informed that sheep and goat carcasses which were initially buried in J Field had been brought to the field and buried. I was told that some of the carcasses were slightly radioactive and not to dig near them. Several days later dead horses from experiments were buried in this same area, but in shallow graves. All of

the bodies of the dead animals were removed at a later date for animals were digging up the carcasses and several dead foxes and raccoons were found near the shallow graves. I did not ask, nor was I told where the dead animals were taken. I was told that Mr. John Roche of Safety Office had requested their removal.

Stored across the road from Old 0 Field were approximately 100 ton containers to be destroyed. Some were empty, some partially filled, and some were full. The empty ones were cavity charged with explosives, incinerated and after checking to assure no agent was present were sent to the salvage yard.

Some of the full ton containers which did not have leaky valves were sent to J Field. The Mustard and Lewisite agent filled containers with leaky valves were drained at 0 Field into flat steel pans and the agent destroyed by igniting it with lime. The Lewisite was mixed with Mustard. Positive air pressure was utilized to remove the agent from the ton containers. All ton

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containers were turned in for salvage and sold. During this operation several

minor explosions occurred in the pits. After two years of daily operation in a hazardous area it was decided to burn the pits and their contents. But first we prepared a site adjacent to Old 0 Field. It was called "New 0 Field."

Prior to burning the pits the road was closed and we had to screen the area for loose WP. The entire surface area was hand raked and all the fuses, igniters, bursters and boosters collected from this operation and detonated. Hundreds of gallons of fuel oil was then pumped from tanks into the pits. Then the entire field was sprayed with fuel oil. Forty-five minute time fuzes were placed in the pits and all personnel took cover under the "Prototype" building at H Field. The operation was a spectacular one. The pits and the entire area burned for two days. One explosion after another

for awhile and then tapered off to an occasional explosion. Three days later we went back. We had to police up materiel all the way from Watson Creek to the Gunpowder and all the area where new 0 Field is now located. I didn't have an opportunity to complete the job for I received orders to Korea. I returned to Technical Escort in 1965 as commander. Even though much work had been done in the field and the entire Old 0 Field area was fenced in there was work left to be done.

I made Old "0" Field an Explosive Ordnance Disposal training area and continued to recover and destroy munitions around and in Old 0 Field. This work is still going on under present Technical Escort Commanders.

In my opinion there are still munitions in Watson Creek and in the Gunpowder River in the area near O Field. I would not be

surprised to find contaminated soil in and around O Field contaminated with Mustard, Lewisite and White Phosphorous.

DEAN M. DICKEY

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Mr. SYNAR. Mr. Walker, the report describes a lot of hard and dangerous work in trying to clean up the area, and to get rid of the unexploded ordnance, high explosive artillery shells, the mustard gas and radioactive goat carcasses. The last lines of this report were prophetic. It says: "I would not be surprised to find contaminated soil in and around the O Field contaminated with Mustard, Lewisite and White Phosphorous."

He was right. You are aware of the 1985 ground water samples from the edges of the O field. They were also referred to in the draft of ICF Technology, Inc., which was given to us.

Now, did they show that the samples contained 400 times the maximum permissible EPA levels of benzene?

Mr. WALKER. The samples that were taken from that area?

Mr. SYNAR. Yes.

Mr. WALKER. As I recall, it was probably that high-

Mr. SYNAR. 400--

Mr. WALKER [continuing]. Percent in the soil samples.

Mr. SYNAR. 400 times the maximum permissible EPA levels of benzene.

And did the report also show 1,500 times the maximum level of vinyl chloride?

Mr. WALKER. The soil samples did show those levels.

Mr. SYNAR. And did they show 250 times the maximum for TCE?

Mr. WALKER. Some of the soil samples did, yes.

Mr. SYNAR. And did they show, as well, high levels of carbon tetrachloride and 40 other compounds?

Mr. WALKER. There were a great many chemicals disposed of in the O field, Mr. Chairman. I'm sure that--

Mr. SYNAR. I'm just asking. I mean, this is not controversial. Did the report show that?

Mr. WALKER. Yes, they show very high levels in the soil samples.

Mr. SYNAR. Thank you.

Now, these tests were conducted in 1985, and they confirmed what Mr. Dickey suspected in 1950, the year I was born, and what was contained in an Army report in 1976. Now, today the current draft report says that the creek and small bay next to the O field are probably already contaminated, and that the surface ground waters in the area around the O field empty into the Chesapeake

Bay.

Now, it doesn't make sense to me to let this kind of contamination continue unabated on the shores of the Chesapeake Bay at the same time we are spending literally millions of dollars to try to clean it up.

When, Mr. Walker, are you all going to take action?

Mr. WALKER. Mr. Chairman, as you have noted, we have studied all of the sites at Aberdeen Proving Ground, and we are very concerned with the location, that being at the headwaters of the Chesapeake Bay. But the particular reference of O field-it was used for disposal of many chemicals, as well as chemical munitions brought from other countries. Aberdeen Proving Grounds is where chemicals were tested. This was a place that they thought would be safe and wouldn't present any threat to the waterways.

Our studies and everything that we have shown to date-we found high levels in the local ground water very near the site, and

then in the soil samples. As the water moves down Watson Creek, we have not found any materials in the water above drinking water standards. Our main concern is that we are not letting anything go into the bay.

I have taken a particular interest in the problem at Aberdeen in the past several years to make sure that we are not contributing to a larger problem. I have walked around O field to observe the situation myself. We will have a hydrology assessment finished by June 1988 and some alternatives of how we deal with that situation. But we have not found anything migrating in the ground water into the bay or into the surface water.

Mr. SYNAR. That's probably because of dilution, isn't it, Mr. Walker, as it moves down and mixes with other water?

Mr. WALKER. That happens, but we have not found anything in Watson Creek alarming except the soil sediments. Soils bind the arsenic, which is what we found. We have not found any chemical agent in the waters but only the high level of arsenic. In the surface waters, we have never found it above drinking water standards.

But I assure you we have given this high priority and are moving forward because we are concerned since it is in the headwaters of the Chesapeake Bay.

Mr. SYNAR. Mr. Walker, I celebrated my 37th birthday less than a month ago. That's 37 years that we have known about this problem. And your show of concern-

Mr. WALKER. Well, Mr. Chairman, I've been out there.

Mr. SYNAR [continuing]. Is just not--

Mr. WALKER. It's very unsafe to even deal with the materials there. We have to be extremely careful.

Mr. SYNAR. That s fine, Mr. Walker.

Mr. WALKER. I am concerned with their safety.

Mr. SYNAR. We all agree it's a serious problem. My question is when are we going to get some action on this. If it is as serious as you are making it out to be, obviously immediate action is necessary. Wouldn't you say?

Mr. WALKER. I agree with you, sir, but we have to complete the hydrology assessment. It's scheduled for completion by June 1988. And we are constantly checking the waters in our monitoring wells, to make sure that nothing is moving into them.

Mr. SYNAR. Mr. Walker, let's go back to Mr. and Mrs. Smith on 14th Street in Muskogee. What am I going to tell them about the Army that has known about a problem for 37 years and you come in here and say we're studying the hydrology? We're going to do a study. I've been out there looking at it, and all this stuff.

Mr. WALKER. I wish there was a quick fix to it, Mr. Chairman.

Mr. SYNAR. Thirty-seven years? I'm not even looking for a quick fix.

Mr. WALKER, Over time, our analyses have never shown that contamination has been going into the Chesapeake Bay. The problem is if you do dig it up-and I can order it dug up immediately-what do you do with it after it is dug up? I would rather find the solution to treat it there in place than to have the problem transferred elsewhere. So, it has been a safety problem, as well as a contamination concern there, of how to handle it once we remove it.

Mr. SYNAR. All right. Mr. Schafer, let's come back to you.

On July 17, 1986, the DOD Inspector General's Office issued a report on a review of hazardous material and hazardous waste management within the Department of Defense.

Now, the conclusions were-and I want to read them-that the Department of Defense is not in full compliance with the Resource Conservation and Recovery Act and other environmental laws and regulations; that the Department of Defense overall management of hazardous materials and hazardous waste is unsatisfactory; that minimization programs of hazardous materials and hazardous waste are fragmented and ineffective; that the management of conforming storage construction program is unsatisfactory; that the hazardous waste disposal contracting procedure is inefficient and at times ineffective and costly; that the hazardous material infor-

mation system is antiquated, ineffective, and duplicative of other systems; and that training and education of hazardous material handlers, supervisors and commanders is inadequate.

Mr. Schafer, do you agree with those conclusions? And if you don't, to what extent are they wrong?

Mr. SCHAFFER. At the time that the report was issued-and it was issued by a study involving professionals from within the Department of Defense-I believe that the report was largely accurate.

Mr. SYNAR. What have you done to correct those problems listed in that 1986 report?

Mr. SCHAFFER. In whatever way you want to handle it, we will identify corrective measures taken on each and every one of those points.

Mr. SYNAR. You're not prepared today to testify to that?

Mr. SCHAFFER. Certainly I am.

Mr. SYNAR. All right. Instead of going back through that list, we would ask you to provide for the record on each one of those.

Mr. SCHAFFER. I don't mean to be uncooperative.

[The information follows:]

Corrective measures taken on problem identified in the DOD IG Report of July 17, 1986 with regard to hazardous materials and hazardous waste management within the DOD are as follows:

(1) Problem: The DOD is not in full compliance of the Resource Conservation and Recovery Act and other environmental laws and regulations.

Corrective Action: It is basic DOD environmental policy to comply with the letter as well as the intent of all applicable environmental laws and regulations. A military officer is assigned as DOD liaison to the USEPA Office of Federal activities to facilitate access to compliance data for all environmental media and improve responsiveness to instances of non-compliance.

(2) Problem: The DOD overall management of hazardous materials and hazardous waste is unsatisfactory.

Corrective Action: DOD policy for hazardous waste management has, since the DOD IG Report, been revised to reflect new legislative requirements and increase flexibility to Military Services in achieving compliance. Policy implementation working groups have met to deal with major issues and guidance has been issued on the definition of hazardous waste, disposal funding,

used oil management, waste minimization, and permits. The effectiveness of the new policy and guidance on the overall hazardous materials/hazardous waste management practices within the DOD is under DOD IG continuing review.

(3) Problem: Minimization program of hazardous materials and hazardous waste are fragmented and ineffective.

Corrective Action: Hazardous waste minimization policy guidance has been issued. DOD components have prepared hazardous waste minimization plans. A detailed report to the Congress will be provided by March 31, 1988 to fulfill the requirements of the FY 1988 House Committee on Appropriations Report No. 100-410.

(4) Problem: The management of conforming storage construction program is unsatisfactory.

Corrective Action: The requirements for construction of storage facilities for hazardous materials and hazardous wastes has been reviewed in detail and was reported to the Congress on March 8, 1987 in response to a request contained in the FY 1987 Defense Appropriations Conference Report 99-1005 and the FY 1987 Military Construction Bill, Report 99-648. The analysis concluded that conforming storage facilities are required, are cost-effective, and support efforts to protect the environment. A further analysis of the impact of hazardous waste minimization

corrective measures taken on problems identified in the DOD IG Report of July 17, 1986 with regard to hazardous materials and hazardous waste management within the DOD are as follows:

initiatives on conforming storage construction needs will be provided to the Congress by March 31, 1988, in response to a request in the FY 1988 Military Construction Report 100-209.

(5) Problem: The hazardous waste disposal contracting procedure is inefficient and at times ineffective and costly.

Corrective Action: Contracts have been established to provide continuing hazardous waste disposal services at all major DOD installations. Contracts are awarded on a competitive basis to assure lowest cost. Contracting procedures include pre-award surveys and surveillance to verify compliance with environmental

requirements. Contract management and oversight procedures have been put in place to ensure timely response to generator needs for disposal services.

(6) Problem: The Hazardous Material Information System is antiquated, ineffective, and duplicative of other systems.

Corrective Action: The Hazardous Materials Information System (HMIS) has been updated and placed on line (computer dial-up accessible) for DOD users. Also computer tapes and microfiche copies of BMIS data are distributed to users without computer access. The system was redesigned in FY 1987, to comply with Occupational Safety and Health Act hazard communication standards. There is a continuing program to upgrade the system to satisfy emergent requirements. There are over 200 databases on hazardous materials in the public and private sector. No one system is totally satisfactory. Most are based on generic chemicals. The BMIS is the only DOD item-specific database and continues to serve as a valuable resource to DOD users.

(7) Problem: Training and education of hazardous material handlers, supervisors and commanders is adequate.

Corrective Action: Military Services and Defense logistics Agency have developed courses of instruction to provide training for personnel assigned to hazardous materials handling and management. Training requirements have been identified for these positions and review processes established to verify that individuals receive training. The Defense Logistics Agency has, in particular; identified training of hazardous materials handlers as a subject of specific command interest and oversight.

Mr. SYNAR. No, no, no. I know.

Mr. SCHAFER. And I am prepared.

Mr. SYNAR. I understand.

Did you tell these other guys to be prepared? Did you all meet?

Mr. SCHAFER. Sir, we did meet, and there are so many areas of interest that it is difficult to know what to be up to speed on.

Mr. SYNAR. Well, you got one Air Force and one Navy, one Army. And where are you from?

Mr. BEDDOES. Defense Logistics.

Mr. SYNAR. Defense Logistics. I mean, if each one takes their individual category and the sites within the potential sites that we've

been talking to you about, it seems like everybody could be prepared, don't you think, Mr. Schafer? I'm not trying to be tough. But I mean, I don't want to have to bounce you in here every month. I mean, the reason we have these hearings is to do it now and not to have to come back over and over and over again. Let me go on. The inspector general report states: "The issues preventing the Department of Defense from achieving the pro-active HM/HW program are: fragmented policies; lack of effective structured management; lack of communication at all levels. Nearly every installation commander and staff visited indicated that they believed that they were not receiving adequate guidance and support."

Mr. Schafer, do you agree with that statement?

Mr. SCHAFER. I will not take exception to it.

Mr. SYNAR. All right.

Mr. SCHAFER. Those people meant well, and they did their homework, and they brought back the answers. That doesn't mean that I have to subscribe to the thrust of them. If I may, I would like to respond to that.

First of all, no system is going to be perfect, and yes, we are working these issues.

Mr. SYNAR. What have you done? What have you done in this area? Tell us what you've done. Give me some things you've done.

Mr. SCHAFER. The policies are emanating from my office, and those policies are resulting in derivative policy being issued by the services.

Part of the problem is that this program does not fit especially well over the decentralization that is-

Mr. SYNAR. Mr. Schafer-

Mr. SCHAFER [continuing]. That is necessary.

Mr. SYNAR [continuing]. I don't want to hear that.

What are you doing? Tell me: Tell me what you're doing. Don't tell me about the problems you are encountering. Tell me what you are doing to overcome this problem. "The issues preventing the Department of Defense from achieving the pro-active HM/HW program are: fragmented policies; lack of effective structured management; lack of communications at all levels. Nearly every installation commander and staff visited indicated they believed they were not receiving adequate guidance and support." What are you doing? Don't tell me about the problems. Tell me what you're doing.

Mr. SCHAFER. We are doing everything that we can. We have issued policies--

Mr. SYNAR. What?

Mr. SCHAFER [continuing]. From my office on each and everyone of these subjects.

Mr. SYNAR. Policies?

Mr. SCHAFER. Yes, sir. That's my function.

We are pulling together the policy on these things. We have issued policy. It is easy to say it is fragmented, but camels can't fly. And we have to issue it as we generate it.

Communications are inevitably difficult especially on a technical subject as complicated as this and in a chain of command so complicated as the one we enjoy.

The installation commander is the guy on the line. My heart goes out to him. He has the responsibility, and it is difficult to get the timely information to him that he needs.

Furthermore, when he gets it, his needs are related to mission accomplishment, and he is well staffed to that end. They are being staffed up to handle these environmental program needs.

But I think that to say that our management structure is inadequate, that our policy is fragmented, that communications are inadequate and the installation commanders are not getting the word they need is perhaps more relevant 2 years ago than it is today.

We are doing the right thing by these people, and we are taking actions. I believe the services would agree with that.

Mr. SYNAR. Yes. Let me ask you something then. Last week I had the good fortune of going down to Oklahoma City and releasing that GAO report with respect to Tinker, as I've said on a number of occasions here this morning. The GAO report, which you're familiar with, indicates that Tinker has developed what could be in my opinion a model program for other facilities. It includes better coordination with EP A and the State regulatory agencies through what we call a technical review committee which they set up. It also involves a waste reduction program. It involves increased recycling and reuse of hazardous material and other elements.

To me that is very meritorious. The question I have is that we have no evidence in reviewing for this hearing today that that experience which was gained at Tinker is being put to use elsewhere.

If it were, very frankly I don't think we would have the severity of the problem that we see at Anderson or Tucson or other areas.

Now, to me what that suggests is that the Department should develop a much more highly structured hazardous waste management program similar to what we have in the Installation Restoration Program, and which would require each installation to examine and report on its own activities which involve the generation, storage, treatment, disposal or transport of hazardous waste and to

determine what changes should be made in order to develop a more rational and effective hazardous waste management program.

Why don't you just take the model at Tinker and apply it? I mean, what's so difficult about that?

Mr. SCHAFFER. I'm not going to quibble issues with you. I think your idea is a good one. The performance of Tinker is, however, only one of many fine performances by the military and all of the services. The most obvious things that come to mind are the per-

formances at McClellan Air Force Base. The entire Air Force Logistics Command has been an absolute leader in this field. But I think as well the Navy has its excellent, excellent programs out there on waste minimization and hazardous waste management at their individual bases. For instance, I was briefed 2 weeks ago by a gentleman who has been sent forth by the Naval Sea Systems Command to monitor the condition of compliance and identify the needs to bring things absolutely up to a leadership role in every particular by the Navy. And that's an excellent program. Similarly, the Army has programs that are second to none.

DLA in their waste minimization programs are taking the concept of avoidance of purchasing materials that will become waste back into the procurement system.

Sir, we're not doing bad. We're doing good. And the example set by Tinker will be expanded.

Mr. SYNAR. Let's talk about minimization.

I was disappointed, I think like a lot of us who have been working on this, to hear that DOD plans to reduce its expenditure for the hazardous waste minimization from \$24 million to \$12 million over the next 2 years. Apparently this is related to your statement, Mr. Schaffer, that the costs of disposal are going up faster than the amounts that we can offset by waste reduction.

Studies, however, by the Office of Technology and one done in Santa Clara, CA, show that every dollar spent on waste reduction returns many dollars in savings. Now, if that is true, wouldn't hazardous waste reduction be one of the best methods for offsetting the rapidly rising cost of hazardous waste disposal?

Mr. SCHAFFER. You're absolutely right. And it is. It will not completely offset it, which is what I meant to say, and there is no connection between the apparent diminution and the funds that I am devoting to this and this other statement.

In fact, I walk a thin line between trying to solve all the problems of the world and trying to engage the operations folks in my program interest. What I'm trying to do-and what all those num-

bers reflect-are the current levels of seed money for providing demonstrations of just how great a program this is and how much money can be saved by it. If we rounded up the dollars being spent by the individual services at all their installations on this program, you would find a very highly active program and a great deal of money being spent on waste minimization.

I have about eight specific examples here and some other information that, with your permission, I will provide for the record. The waste minimization program is probably the best in the Nation for an organization of a similar size.

[The information follows:]

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Waste Minimization

(The information follows)

(1) Ft. Benning, GA: All chlorinated solvent use has been replaced with non chlorinated solvent which can be recycled as boiler fuel supplement.

(2) McClellan AFB, CA: Use of electrostatic paint spraying system reduces solvent cleanup by a factor of 4. Plastic Media Blasting paint stripping facility just completed (no results but see Hill AFB below).

(3) Mare Island, CA: 6,500 gpd chrome wastewater eliminated by plating process change. 3,100 gpy of freon redistilled and reused.

(4) Sacramento AD, CA: Washes oily rags and crushes cans eliminating need to dispose as hazardous waste.

(5) Robins AFB, GA: Has redistilled a variety of solvents since 1982, saving an average of \$500,000 per year.

(6) Long Beach NSY, CA: Abrasive blast residue is used as feedstock (raw material) for a civilian cement manufacturer saving \$1M in disposal costs for 8,000 tons per year.

(7) Hill AFB, UT: Has used Plastic Media Blasting for removing paint on F-4 aircraft for several years. Has just begun use on F-16. Saves 2-300 gallons methylene chloride and 15-20,000 gallons wastewater per aircraft for a cost savings of \$2.6M per

year.

(8) Defense Reutilization and Marketing Service, headquartered at Battle Creek, MI, achieved a 1986 cost avoidance of \$42M due to a Reutilization, Transfer, Donation and Sales Program. Hazardous material sales proceeds of \$1.5M were returned to the treasury .

Mr. SYNAR. DOD and its component services make use, as you know, Mr. Schafer, of private engineering firms to help them deal with the hazardous waste cleanups. Now, are these contractors provided indemnification to cover risks beyond the available insurance?

Mr. SCHAFER. The subject of indemnification has been muchly confused. The subject of indemnification, as I understand it, deals with the notion that someone simply by acting as our agent and following our instructions, but by handling our waste should not accrue a liability. They are, of course, responsible for their own competence and for adherence to the contract terms. Within that sense then, yes, they are indemnified.

Mr. SYNAR. How often is that used-that indemnification authority?

Mr. SCHAFER. Frankly, I'm not aware of it having been used.

Mr. SYNAR. Could you provide that for the record?

Mr. SCHAFER. I will.

[The information follows:]

DOD has made no use, to date, of the idemnification authority contained in CERCLA 119 to indemnify response action contractors.

Mr. SYNAR. Does the failure to provide indemnification, if that's the case as you think that is, make it difficult to obtain services from qualified firms?

Mr. ScHAFER. My understanding is-and I have inquired into this-that it has not.

Mr. SYNAR. Mr. Schafer, let me thank you and the other gentlemen who are on the panel today. I have to say very frankly I'm very disappointed in your preparation. I'm not amazed by the way you skirted around the questions. This is what we found throughout this investigation. It seems like every time we do this we have a new panel, new people.

Let me tell you what we are trying to do here. I mean, we are not picking on anybody. We have had each one of the services. Each one of them had their day in this hearing room. But not to overuse the example, but I am haVing a very difficult time as a U .S. Congressman asking private industry to meet a standard and

a set of rules and regulations which in many cases are exceedingly tough when at the same time my own Government is not meeting those standards and rules and regulations.

I mean, what we are learning here today is not only are they not meeting the same standard and rules and regulations, but those contractors that created the problem are being rewarded with profits to clean up the messes they created, that we have two sets of rules. And gentlemen, that is just unacceptable. And if I was a small businessman or individual in this country, I would be outraged that my Federal Government doesn't see fit to meet the same standards and rules that I have to meet.

We will continue to pursue this. We are going to keep the record open to try to get answers to some of the questions we had today. I'm particularly interested in site-by-site. As you know, we have GAO studies going on throughout this country. We are not going to leave this issue until we get some indication that DOD has made this a priority.

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Where you're wrong, I'm going to come right down on top of you. But where you are right and you have a success story, I'll be the first in line to praise you, as I did last week. Tinker Air Force Base is a success story. After we got over the hard-headed military personnel down there who decided that first they were going to deny the problem existed, and secondly that they were going to not deal with it off-base, it was amazing what kind of a network was set up to solve that problem. That's a model program that can be used in any of the areas, any of the services.

And I hope that you'll know that I want to work with you on this, and that we will continue to pursue it until we are convinced that there has been a level of performance in all the services that can insure the safety of not only the inhabitants around the base, but the people who serve on the base.

Gentlemen, we thank you for your participation today. And we will leave the record open for other questions which we may have under unanimous consent.

Our final witness today is Dr. J. Winston Porter, Assistant Administrator for Solid Waste and Emergency Response at EPA.

Dr. Porter, do you have any objection to being sworn in?

Dr. PORTER. I do not.

Mr. SYNAR. Is anybody else with you today?

Dr. PORTER. Yes.

[Witnesses sworn.]

Mr. SYNAR. Thank you very much.

Welcome again, Dr. Porter. Glad to have you back. Your entire testimony will be made a part of the record. At this time we would ask you to summarize in about 5 minutes.

STATEMENT OF DR. J. WINSTON PORTER, ASSISTANT ADMINISTRATOR FOR SOLID WASTE AND EMERGENCY RESPONSE, U.S. ENVIRONMENTAL PROTECTION AGENCY, WASHINGTON, DC, ACCOMPANIED BY LISA FRIEDMAN, ASSOCIATE GENERAL COUNSEL, AND CHRIS GRUNDLER, DIRECTOR, FEDERAL FACILITIES TASK FORCE

Dr. PORTER. All right. I'll try to summarize and be as brief as possible.

I am pleased to be here, Mr. Chairman. I have with me Lisa Friedman on my right, who is associate general counsel at EP A, and on my left, Chris Grundler, who is the Director of our Federal Facilities Task Force, which I've established.

Today, I will very briefly discuss the DOD program, emphasizing some of the authorities we have and how we are applying them. I will also use a few examples to illustrate these points.

First, as you are well aware, there are many complex DOD facilities with many thousands of sites that require action. Today, I will address these actions in terms of the RCRA program, that is, the ongoing management of hazardous waste, and Superfund or CERCLA program dealing with past problems of releases.

I might say at the outset this is a big challenge. This past year I've spent more time on Federal facilities than any other issue. I hope that doesn't cause any great consternation in the hazardous waste universe, but it has been a big issue. I've spent a lot of time

on Federal facilities this year, with many hearings, agreements, and so forth.

I think we've made some progress. Today, I will discuss some of that progress and some of the problems that I can foresee.

First, let me talk about Superfund. As you know, section 120 of SARA states that Federal facilities are subject to the law in the same way that private companies are. It lays out a roadmap which I think is going to be very useful. The statute requires EPA to establish a docket of Federal facilities that are potential Superfund sites. We intend to publish that docket of about 1,500 DOD facilities later this year: Then every 6 months EPA will update the docket which will be available to the public. It will show the public the universe of potential Superfund sites, and I think it will be very useful.

The second requirement, that DOD must do by law, is work with

them on it. They've got to do preliminary assessments for every site on the docket by April 1988. We have given them guidance on how to do these. Some preliminary assessments have to be redone at particular facilities, but we are going to push very hard for them to meet that deadline of April 1988.

We then have to evaluate the sites on the docket and do the necessary scoring to see if they should become Superfund sites by April 1989. So, this is all on a pretty fast timeframe.

The DOD then must actually begin the study for any NPL site within 6 months of it being placed on the national priority list. Finally, they have to begin, again by law, remedial action within 15 months of signing the record of decision.

So, that gives us a fairly good roadmap through this whole process, and we are trying to superimpose that roadmap on their activities. However, we certainly don't want to delay cleanup activities.

Most critical with respect to Superfund is the interagency agreement process pursuant to SARA. We are to develop interagency agreements with other Federal agencies that address this process.

We have been fairly aggressive on that in saying that we want to see the study in that agreement, as well as the remedial action.

Some people read the law to say, well, it's just the remedial action part. That is, once DOD has made the decision of what action will be taken, EPA will then enter into an IAG. Since EPA has the ultimate responsibility for making the final record of decision, we want to be involved in the RI/FS, and in fact have been successful in that opinion.

Community involvement is an important component of the IAG, or interagency agreement. Full public participation is required the same as it is for private facilities. State involvement under SARA section 121 is also an important component. We are able to award technical assistance grants to local citizens. They will be available in a couple of months and we will begin entertaining applications. I think these grants are going to be very helpful to the citizens.

The interagency agreement can also cover RCRA liabilities. Mr . Chairman, there is a specific interagency agreement which you've undoubtedly heard about that we're using as a model.

The Twin Cities Army Ammunition Plant in Minnesota, or TCAAP , is a successful SARA section 120 IAG which incorporates both RCRA and Superfund provisions. It has a number of features

that we're intending to use as a model. First, it has all the provisions that I just discussed that are called for by law.

In addition, the agreement has a dispute resolution process that

moves a dispute through the chain of command quickly, and makes it clear that the EPA Administrator is the final decisionmaker .

The IAG has citizen and State enforceability where citizens in the State of Minnesota can go to court to enforce this agreement if, in fact, the various facets of it are not followed.

It further stipulates penalties. If the Army does not meet various requirements, there are stipulated penalties in the agreement. Finally, in an overarching way, the TCAAP agreement established and clarified EPA and State roles. That was very important because this was a tough agreement not just between ourselves and Army, but with the State of Minnesota. They wanted to be sure they reserved all of their rights or as many as they reasonably could. We had quite a donnybrook in terms of negotiating that agreement, but I think it was successful.

This fiscal year, we have 25 more interagency agreements planned. We are moving briskly. We have sent this model out to other facilities, and we are trying to negotiate IAG's at these other facilities. We have told the other services that we really do believe that this should be the model. There certainly will be some components of future agreements that will be different on a site-by-site basis in terms of the details, but we don't want to spend a lot of time renegotiating dispute resolution language, or the final decisionmaker, and so on. We've won that battle, but we need to continue to work hard on it.

That's a 2-minute sketch of Superfund. Let me talk about RCRA, which also applies to Federal facilities. We are working primarily through the permitting process. One of the good news stories during my tenure is that we are moving smartly toward the RCRA permitting deadlines: By November 1988, all 320 land disposal facilities in the country that handle hazardous waste need to be permitted by law. It looks like we are going to meet that deadline or come very, very close to it. A year later all the incinerators have to be permitted.

With respect to DOD, there are 50 land disposal facilities; 37 are going to close. Rather than get permits, DOD is going to close those land disposal facilities. This is also fairly typical of private facilities. Many are closing. These are often smaller facilities that don't want to go through the process of getting a permit. It is difficult to get a permit. There are a lot of requirements that must be met and many landfills are going to close. Five landfills have been permitted and eight remain to be permitted. They seem to be on track to meet the 1988 deadline.

With respect to incinerators, there are 17 incinerator permits.

Two have been permitted. The 15 remaining permits are on track for the 1989 deadline.

Regarding enforcement under RCRA, we also are moving aggres-

sively on that. And at DOE's Rocky Flats facility in Colorado, which is a huge nuclear weapons plant, we were able to get an enforceable agreement with the Department of Energy under RCRA with State enforceability, and citizen enforceability. That was a landmark decision too, earlier this year .

Similarly, at INEL, Idaho National Engineering Lab, again a DOE facility, we were able to achieve a 3008(h) consent order with DOE for corrective action, in addition to some Superfund cleanups. Again, I think that was a good order. In addition to having enforceability language, it also had good dispute resolution language with the EPA Administrator as the final authority.

Finally, with respect to RCRA, a very important tool that we can use and intend to use is issuing orders to GOCO's-that is, the contractors that operate these facilities. We have the ability. That was extremely useful to me at INEL where I basically stated that the facility had 3 more days to negotiate an agreement or I would go after the contractor. That got DOE's attention and they signed the agreement. I may be oversimplifying a little bit, but not too much. In closing, we want to work through the RCRA permitting process to use corrective action authorities as necessary, and also to use our CERCLA authority. We must assess each and every facility, particularly the major ones, to determine which law should be used. We are trying to spend more time on each facility so that we use each statute appropriately.

The major remaining issues I will summarize this way. Obviously I have a huge problem in terms of prioritization and other issues. There are 760 DOD facilities. They are not all equally bad. I plan to go after the major facilities first. We are trying to deal with all of those major facilities, the Tinkers and the TCAAP's and the McClellans and others on a priority basis.

The other issue that has been difficult, but where we have made some progress is in coalescing RCRA and CERCLA into the old DOD approach. DOD had an approach that is 8 or 10 years old. However, the process was not similar to that called for in RCRA. The approach they use for CERCLA is somewhat like it, but we had to coalesce those together .

The other thing that has been important is to work with the States. Every State wants to go about this a little bit differently. On the other hand, it is very important that we involve the States. These facilities are within their bounds and we need to work with them.

Finally, I'm a little concerned about inconsistency with the serv-

ices. I intend to take the TCAAP model and the other models and work very hard to reach similar agreements within the services. If we get any resistance that says, well, that was just Army talking and not Air Force, for example, I'm going to elevate the issue very quickly within the Department of Defense. I think I have Justice's backing on this. This is the model which the Department of Justice and the administration believes makes sense. So, I don't want a lot of internal wrangling on a site-by-site basis.

At the same time we are not going to be totally arbitrary in the sense that these are different facilities. We have to look at them, look at the scope of work carefully, look at what the State wants to do carefully.

But in closing, Mr. Chairman, I think we have the tools. We made very good process this year on some of the procedural aspects. We have a huge job in front of us.

I'll be happy to answer your questions.

[The prepared statement of Dr. Porter follows:]