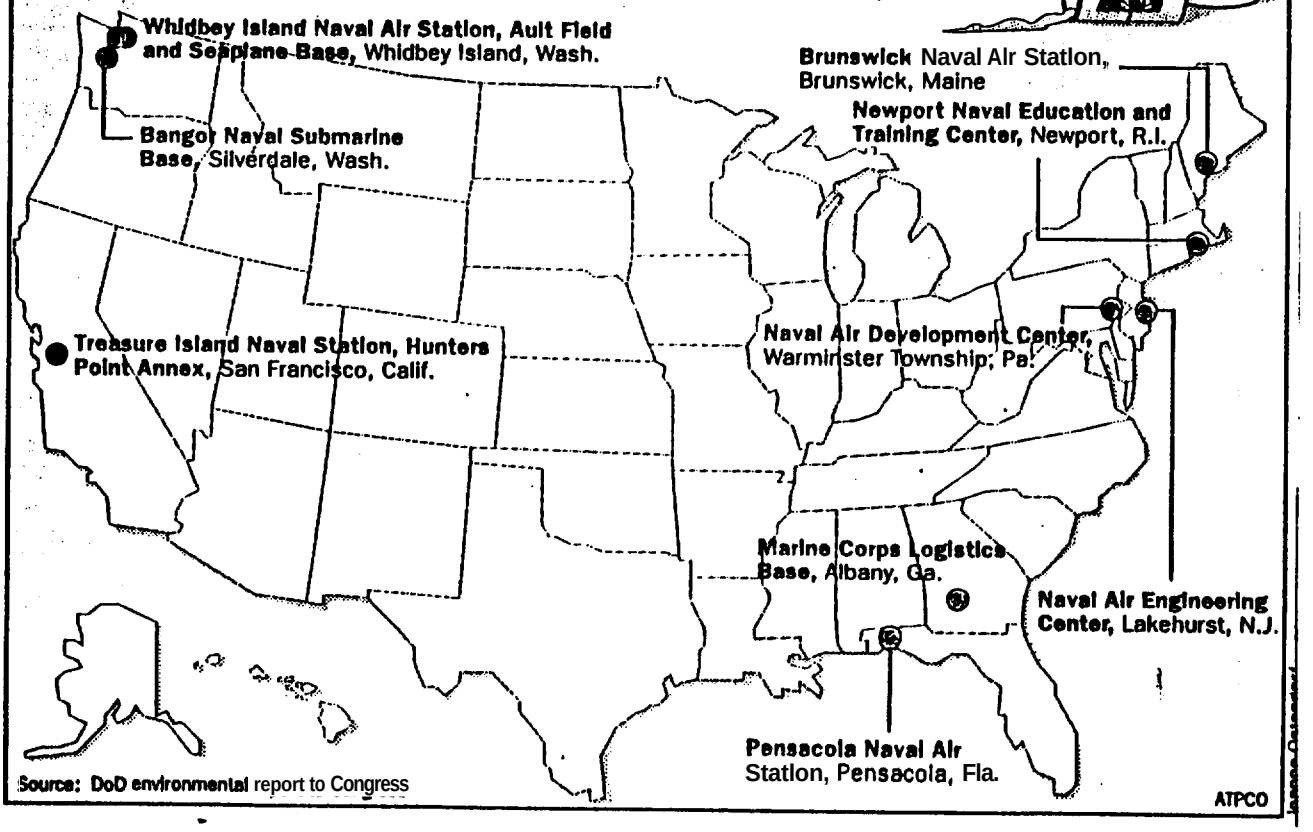
Toxic waste

Poison in the Navy's backyard

Top 10 threats

Here are the locations of the top 10 Navy and Marine Corps toxic waste sites that the Environmental Protection Agency says are a potential hazard to the public.



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By Marc Zolton
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WASHINGTON — From Bangor, Wash., to Brunswick, Maine, from Moffett Field, Calif., to Mechanicsburg, Pa., the Navy may be facing one of its greatest enemy ever — itself.

The opponent is thousands of highly contaminated toxic waste sites on or near domestic naval installations. The culprit and creator of this massive mess is the Navy, its personnel and their previously polluting ways.

The result is a hazardous waste challenge of huge proportions, which by all estimates, will take decades and billions of tax dollars to remedy.

Thus the Navy and the entire Deparbnent of Defense have embarked on perhaps their most costly battle in recent memory. A 1990 Defense inspector general report on the military's more than 17,000 toxic sites estimated the cleanup cost at between $100 and $200 billion.

Navy officials estimate the cost of cleaning up their 1,600 contaminated sites on 242 installations at $3.5 billion. Another 775 Navy sites have been inspected and determined not to contain hazardous materials or have already been restored. The toxic sites range from small spills from leaking underground fuel tanks, a common occurence at many neighborhood service stations, to far more serious contaminants leaking from storage areas containing obsolete weapons and machinery.

Navy cleanup strategies include pump and treat processes that send contaminated groundwater through carbon filters and back underground again, the incineration of contaminated soil and the injection of biological microbes that literally eat toxic waste. The Navy also is researching ways to reduce the generation of waste. A Naval Civil Engineering Lab is testing a system to reduce the volume of contaminated water generated at Navy shipyards.

The cost and scope of the Navy cleanup could increase, said Dave Olson, the director of the Navy's Installation Restoration Program under the chief of naval operations.

'We are still in the early stages of identifying the extent of the problem and how to clean it up. We haven't totally defined how contaminated these sites are and what cleanup method we will use," Olson said.

Only a handful of Nay sites, including the most contaminated ones already on the federal government's "Superfund" National Priorities list, have had any cleanup action. Cleanup operations are under way at 61 Navy toxic sites, less than 5 percent, at the start of 1992, said Olson.

Other Navy installations have signed agreements stating their cleanup intentions, but the great majority remain mired in the tedious process of developing plans that satisfy federal regulators, state officials and local public citizen groups.

'We want to speed it up," Olson said. 'We feel it is going much too slowly."

DoD's goal is to begin cleaning all its sites by the year 2000. But officials running the Navy's efforts wonder if that goal is attainable.

"It will be very, very tough," Olson admitted.

DoD's slow progress identifying and contracting to clean up its hazardous waste sites distresses national environmental groups. Program critics charge Congress with underfunding the effort and DoD with foot dragging in turning dollars into action.

They also argue that legal restraints on levying fines and filing lawsuits against DoD handcuff environmental regulators such as the U.S. Environmental Protection Agency in their efforts to gamer swift compliance from military installations.

With its more than 17,000 toxic sites, DoD is the nation's largest single polluter. Rut there are signs of progress as DoD moves From recognizing the problem to to solving it.

"They have a history of moving slowly, hut they are starting to pick up some steam," said Lenny Seigel, chief researcher for military toxics programs for the National Toxic Campaign Fund, a Boston-based environmental group.

Decades of dumping

The Navy's toxic legacy dates back *many* decades. Some toxic sites stem from dumping practices established 60 or 70 years ago, long before environmental awareness and federal environmental regulations forced the service to face the problem. The harsh reality is that a decades-old effort to arm the U.S. military and win wars exerted untold damage on the environment and now threatens air, water and soil near the dump sites that both the public and base populations rely upon.

Navy personnel, for example, routinely dumped paints, solvents, fuel oils and transformers containing cancer-musing PCBs into landfills that now leak from installations across the country. Flight crews dumped tons of unused fuel before landing. Navy firefighting crews sharpened their skills by burning aircraft on the ground and letting fuel and firefighting chemicals spill out onto the land.

"Nobody cared," said environmental engineer Lucy Bottomley, who heads the environmental engineering deportment at the Naval Air Engineering Center at Lakehurst, N.J., one of the Navy's most highly contaminated sites. "This was all normal activity."

To document the most serious hazardous waste sites, Navy and the other services have adopted the EPA's priority system, the National Priorities List, or NPL, to rank the public health and environmental threat posed by military toxic waste sites.

The number of military NPL sites has increased dramatically In recent years. At the end of 1989, there were 41 DoD installations on the list. By the end of 1990, that number hnd grown to 89 with six installations having two NPL sites each tu raise the total to 95.

The Navy's share stood at 25 sites as of February 1991. But those 25 each contain numerous contamination sites within

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their boundaries.

Here's a sampling:

- At the Nnval Air Engineering Center at Lnkehurst, inspections originally found 44 contaminated sites. Fifteen have been cleaned up. S i n others will be treated by a "pump-and-treat" process where groundwater is pumped through filters and then returned underground. One such plant is operating, three more are under construction. The four plants are costing $6 million to build and $500,000 annually to maintain as they run 24 hours a day for at least the next eight years. Crews have removed PCB-contaminated soil from other sites on base and are checking into possible groundwater contamination outside the base boundaries.
- At Moffett Field Naval Air Station, Sunnyvale, Calif., 19 potentially contaminated sites are under investigation as a possible threot to public drinking water wells three niiles off the base that supply water lo 300,000 California residents. Contaminants from the air station include PCBs, waste oils and fuels, organic solvents and pesticides.
- At Whidhcy Island Naval Air Station, Wash.. more than 40 possibly contaminated spill sites are under investigation as a threat to the groundwater supply for the island. Chlorinated solvents have been found in the aquifer near a landfill on the base and have migrated outside the base property line. Contaminants from the air station include volatile organic compounds, fuels and lubricants.

The military's effort to clean up its poisoned backyard, called the Defense Environmental Restoration Program, was formolized in 1986. It has two main components: the Installation Restoration Program, or IRP, for the cleanup of toxic contamination at military installations and programs to reduce the military's production of hazardous waste.

More than 90 percent of. the $1.25 billion appropriated by Congress for the program in 1992 will go to the IRP. Critics call the cleanup dollars wholly inadequate. They point out that in 1991, funds for the restoration program, then at slightly over $1 billion, represented only .4 percent of the total DoD budget.

"The failure to provide adequate funds is by far the greatest obstacle to the timely, proper cleanup of military hazardous wastes," Seigel and others wrote in a January 1991 National Toxics Campaign Fund report on the military's program. "Funding by itself will not solve the myriad of Pentagon contamination problems, but without it the Defense Environmental Restoration Program cannot even approach its stated goals."

But Olson believes DoD and Congress's commitment is solid.

"We've received good support from DoD," Olson said. "There is no question that this is a high DoD funding priority."

Funding for the Navy's cleanup program has risen steadily. It was $167 million in 1990 and expected to reach $250 million or mote in 1992, Olson said. About 90 percent of that goes to the IRP, and the rest for developing programs to decrease production of hazardous waste.

No health problems yet

Navy officials insist they have no evidence of any adverse health effects from contaminated sites, on either the public or Navy

"The horror stories you see sometimes are not the kind of thing you find on our bases," Olson said. "I am not aware of any Navy base where we've had any health problems."

However, Navy officials, along with outside interest groups, acknowledge the potential threat to public health and the environment is great, and there is documentation of several close calls.

- At Whidbey Island, Wash., omcials said contaminated groundwater has migrated off base, threatening private drinking water wells for about 30 to 40 families in a nearby trailer park.
- In Mechanícsburg, Pa., near the Navy's Ships Parts Control Center, the Navy wound up in court with state officials before cleaning a drainage ditch containing PCBs that had washed off the facility and onto a nearby baseball field.
- Near the Norfolk, Va., naval

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base, officials said. there is concern about contaminated groundwater migrating off base and into a residential area.

- At the Naval Industrial Reserve Ordnance Plant in Fridley, Mi., the Navy is building a facility to extract and reroute contaminated groundwater spilling into the Mississippi River only one mile north of the water supply intake for the city of Minneapolis.
- At Lakehurst, base officials moved quickly to treat groundwater flowing into a 17-trillion-gallon aquifer, the largest water source east of the Mississippi River.

Numerous steps to cleanup

The IRP process proceeds through preliminary assessment and site inspections, usually conducted by the U.S. Environmental Protection Agency and the Navy Facilities Engineering Command, to testing of soil, sediment and water to determine the extent of contamination. The most efficient method of cleaning the toxic site is then analyzed and an agreement, called a record of decision, is reached between the Navy, the EPA and local officials.

The nearest Navy engineering field divisions then design and plan the action and eventually contract with a private cleanup firm. The EPA must approve cleanup plans only for sites on the NPL list. For non-NPL sites, the Navy and ita private contractors work with state and local regulaofficials.

Navy officials complain that the EPA is often blamed for slowing their attempts to identify quickly and clean up toxic waste sites on Navy properties. The EPA often requires numerous tests be conducted and test wells drilled before agreeing to a cleanup plan with the Navy.

"The EPA tends to be conservative," Olson said. "It is not their money or their time, and we feel what they require is costing us time and money."

Olson said the Navy is ttying to convince the EPA to permit a "more reasonable" scope and effort when it comes to testing and cleaning sites. Olson said more flexibility would help the Navy more swiftly solve its contamination problems.

Outside critics say the relationship between the EPA and the Navy; as sister federal agencies, is too cozy. They point to the fact that the EPA cannot take the Navy to court for failing to follow federal environmental regulations and cannot levy fines against the military.

But in some cases the EPA has come down hard on the Navy for not meeting environmental standards. Recently, it conducted an unannounced inspection at the Point Lama, Calif., submarine base near San Diego and issued numerous citations for the Navy's improper handling and storage of hazardous wastes there. Earlier in December, the EPA cited Camp Pendleton for its failure to fulfill a cleanup plan agreed upon for the Marine Corps installation.

Environmental researcher Seigel believes the lack of regulatory legal hammers is countered by the political weight that *can* be applied to DoD concerning ita toxic sites..

"The military sites are not only regulated by the taxpayers, but funded by the taxpayers," Seigel noted. "The legal tools are weaker, but there is this whole other route — member8 of Congress. People in DoD know where their funding comes from."

Another problem slowing cleanup actions was Navy engineering field divisions' letting contracts for each phase of the process. To combat this, Navy Facilities Engineering officials have come up with what they *call* "CLEAN," or "comprehensive, long-term, environmental, action, Navy," contracts.

These CLEAN contracts allow one contractor to take the project from preliminary assessment through cleanup. The Navy signs a one-year contract with options for the succeeding phases and rewards contractors for speed, quality and *cost* control, said Ted Zagrobelny, director of the environmental restoration division of the Navy Facilities Engineering Command.

'We feel it will give us a leg up in *getting* the engineering studies done," Zagrobelny said of the approach.

Each of the Navy's seven engineering field divisions nationwide has the capacity to contract between $100 to $130 million worth of work for a total of *$920* million, Zagrobelny said. The Navy contracts about $220 million worth of work and that amount is on the rise, he said.

But the ability of the seven field engineering divisions to manage effectively the cleanup of hundreds of sites is challenged by some Navy officials. For example, at Lakehurst ,one of the Superfund sites, environmental engineem bypassed their field engineering division so they could contract and begin cleanup more quickly.

Bottomley said she *chose* to bypass Navy facilities engineers because she believed her *staff* capable of the work and more knowledgeable about the *specifics* of the problems at Lakehurst.

"[We did it] because we live here and we felt an obligation to get something done," Bottomley said of her group's decision to handle contract designs in-house.

While top Navy officials are quick to praise Bottomley and her staffs accomplishments, they are also quick to categorize the Lakehurst example as an exception.

"In most *cases* we don't have the people or the expertise to take that on and do it," Olson said.

Olson said it is more efficient for individual commands to rely on the engineering divisions for contracting and studies.

Zagrobelny said his agency is quite capable of handling the engineering needs and contract work for Navy facilities with toxic sites.

Seigel, of the National Toxic Campaign Fund, does agree with the need for an ovemding command structure to clean Navy facilities, in part because some commanding officers are not eager to push the environmental cleanup.

"...(W)hen the base CO wants to move quickly, then you want to give him more authority, but when he doesn't want to, you have to have that other authority," he said

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CO's Involvement

The interest level of individual commanding officers in their base's toxic sites is integral to solving the problem, said Lakehurst CO, Capt. David Riffetto.

"People [on base] tend to watch what the commending officer spends their time doing and then they pay more attention to it," Riffetto said.

Riffetto, whom Bottomley credita with supplying firm support for her controversial approach, also agrees that, in some instances, local Navy officials need more flexibility to attack and solve environmental problems.

"We have our own set of problem-," Riffetto said. "Sometimes we are able to see a solution and get there faster."

Groups like the the National Toxic Campaign Fund would like to see more citizen participation and pressure via technical review committees set up to review each installation's efforts, Seigel said.

"It seems to vary with the politics of the local community and the personality of base commanders," Seigel said. "It is those of us who have to drink the water who are most concerned."

The Navy's success in its war on hazardous waste will depend on many factors, but particularly continued funding from Congress. The speed of the cleanup will depend on the Navy's new contracting practices and whether it convinces the EPA to loosen some requirements, officials said.

Olson is confident that within 20 years, the end will be at hand.

"We've never seen this program going beyond [the year] 2010," Olson said "I think it is a realistic goal."

Recycling programs are now in place on most Navy installations and efforts are being made to design Navy equipment that does not pollute the environment.

The Navy meets hazardous waste standards set by the federal government for their ongoing operations, and environmental engineers try to instill in Navy people a new understanding of how to operate cleanly.

"These guys have to get environmentally aware," Bottomley said. "The mindset has to change. If it doesn't feel good, it is probably wrong. It won't be tolerated by the public and they'll be signing their own death certificate."

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