

Army Environmental History Project

Interview with

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Conducted by

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MOORHUS: I'd like you to begin with your career and your experience with the military, and be sure to weave in all of the environmental aspects.

HERWIG: Well, I started out in the Medical Service Corps [MSC], even though I had been at the University of Illinois [Champaign] for four years of engineer ROTC [Reserve Officer Training Corps]. When it came time for commissioning, it turned out, at the time, that the Corps of Engineers did not permit—since it was a combat arm—people that wore glasses. Now, you would have thought that people would have known this in the four previous years, although I was lucky to have been in this anyway, being in the Civil Engineering Department of the school.

So when it came time to be commissioned, I was commissioned in the MSC Corps, the Medical Service Corps, which is one of the Corps in the Army Medical Department (AMEDD). The Medical Service Corps is composed of four different groups, one of which was Sanitary Engineering. These were all people that had studied sanitary engineering. There were very few places that you studied environmental engineering at the time, although in retrospect, we were well versed in the environmental side.

MOORHUS: And what year was this?

HERWIG: It was in 1954. I was commissioned in 1954. I went to the AMEDD Medical Field Service School (MFSS) down in Fort Sam Houston, San Antonio, Texas. From there, I was assigned to Germany with the Medical Company 22nd Infantry Regiment, which was a part of the 4th Infantry Division, 7th Army, USAREUR, and I was assigned, if you can believe it, as a medical platoon leader and the battalion surgeon, which is what the preponderance of Medical Service Corps officers were. Attached to an infantry line battalion, you ran the medical platoon, which was the one that gave the—you had 36 troopers (medical aid men) and one civilian German doctor working for you, and they took care of the first echelon of medical care. In war time, you would have a young captain, medical corps, with that group, but in peacetime, you don't want to waste doctors' time out in the field, so they would be back in one of the station hospitals but assigned to you on orders so that, if something happened, then they would come up and take your place with the medical platoon.

Well, as it turned out, I had no intention of ever staying in the service, but my experience was just so fantastic with the line unit—the battalion aid station was always attached to the tent of the battalion commander, so by the time I had finished my year and a half with them, I felt like I understood what the infantry was all about and had wonderful experiences. My company commanders during that period were 1/LT James R. Ford, MSC, 1/LT Eugene O. Bein, MSC, and 1/LT Leonard K. Buell, MSC. From there, for the next year and a half, I was assigned to the 58th Evacuation Hospital, part of the 31st Medical Group, which is located behind the M.A.S.H. [Mobile Army Surgical Hospital] in the field. That was a field hospital with 400 beds in tents, capable of expanding to 1,000 beds, so your whole life, for a year and a half, is dealing with tentage and handling mass casualties, where they would bring in 1,000 simulated casualties in Germany and test run them through the hospital efficiently.

MOORHUS: What part of Germany were you in?

HERWIG: The 4th Infantry Division was in and around Frankfurt. Initially we lived in Bad Nauheim, which was the famous spa that Franklin Delano Roosevelt used to go to. Actually, we were stationed about a mile or two away from there. We initially lived in Bad Nauheim and later Butzbach Ayers Kaserne. The 22nd Infantry Regiment was at Kirch-Gons, Germany, which was south of Giessen, Germany. The 58th Evacuation Hospital was down near the Saar at Idar-Oberstein [Goettschied Airfield, Germany], which was where the big field

hospitals were located at the rear of the combat zone. Our commander was Lieutenant Colonel Thomas Lane, Medical Corps, a paratrooper who had won the Distinguished Service Cross (DSC) in World War II. That, again, was a wonderful experience, and I met wonderful people.

When I came back to the States, I was assigned to Fort Sill, Oklahoma, and again, being a Medical Service Corps officer, they assigned me as the staff medical officer assistant adjutant and assistant personnel officer with the 17th Field Artillery group. After four months I was reassigned to the U.S. Army Hospital at Fort Sill. I had responsibility in the hospital as assistant to the Chief of Surgical Services. I was also the detachment commander. I ended up also being the personnel officer, and I had responsibility for all medical coverage of all of the artillery ranges, putting troops out in the field as the aid man out there. I also ran the hospital motor pool. My office there had been the jail where Geronimo had been held as a prisoner. I was at Fort Sill four years. About that time (December 1960), I had a visit from a Medical Service Corps officer, Colonel Jack Lewis, who was visiting Fort Sill from Fort Sam [Houston].

He found out that I was a sanitary engineer, and he wondered what an engineer was doing with this typical AMEDD [Army Medical Department] type of work that ostensibly anybody's background could handle. He said, "Well, I think you ought to switch to the Sanitary Engineering section of the MSC Corps," which is what I did and then went to the AMEDD Advance Course down at Fort Sam. Then after that, being the new guy in the field, I got put into what everybody else would have considered to be the worst assignment, which was to go to Vietnam. But I knew two officers who had served in Vietnam in the late 1950's and was delighted to get the assignment.

So I went to Vietnam in 1961 with MAAG (Military Advisory Assistance Group) on the staff as the environmental health engineering advisor. In that assignment, I really got into both environment and environmental health. I was sanitary engineering advisor to the Vietnamese Army and to the Vietnamese Surgeon General's office. They had a preventive medicine officer, Captain Phong, in the Vietnamese Army, and I was responsible for being available to him to provide advice and help. He had a degree in Public Health from Yale University [New Haven, Connecticut], so what you were doing for him was trying to do the politicking, more than anything, to get him the resources that he needed to really do his job. But it was a fascinating assignment, and I traveled all over South Vietnam visiting both Vietnamese and American facilities.

MOORHUS: What were some of the issues over there?

HERWIG: Well, I got an Army commendation medal for helping control the endemic plague epidemic by doing sanitation and environmental control, malaria control, water treatment, getting the Vietnamese Army to do that. With the American troops, it was protecting their health. There were small detachments all over the country at the time, little detachments of anywhere from five to ten people, usually commanded by a major. From 1961 to 1963, I briefed every single American that came into the country, between 16,000 and 20,000 people. That was one of my jobs, along with my boss, Lieutenant Colonel Bob Quinn, who was a Medical Corps officer.

Between the two of us, we provided a briefing on health and sanitation, and then we would visit all these detachments. We would fly out, visit them, and look after their health. I would work with the Corps of Engineers person, if there was one on site, and looked after their water treatment, their sewage disposal, treatment with pesticides, food preparation, and the whole gamut of environmental health. This function was later done by the 20th Preventive Medicine unit, after the buildup of troops after we were gone.

I also worked with the AID [Agency for International Development] people, the sanitary engineering people, specifically Mr. Joe Haratoni, and they had a program for drilling village

wells, building water treatment plants and waste water treatment plants to build up the infrastructure of Vietnam. They didn't have enough people to do that, and through the office of the Army Surgeon General, I was able to get help over there—five MSC officers, sanitary engineers in my specialty—on a TDY [temporary duty] basis six months at a time, to work with the AID people. These people—most of them had masters degrees in Sanitary Engineering, and they could work with AID personnel and Vietnamese authorities, both in the design of these plants as well as in the operation of them. We also had several enlisted preventive medicine technicians in our office. That was an extremely interesting time.

When I came back to the States in 1963, I was sent to the University of Michigan [Ann Arbor] to get my Master of Public Health, specializing in Public Health Engineering or Environmental Health Engineering. I was selected to both Phi Kappa Phi and Delta Omega Public Health honoraries and was awarded the William C. Gibson Award for Public Health Engineering. That was really the beginning of getting more into the environmental side. After Michigan, I went to the Advanced Preventive Medicine Course at Walter Reed Army Institute of Research [Washington, D.C.]. The reason they sent me was that the class was made up of seven doctors and one nurse, and they wanted an engineer in there to expand on their sanitary engineering knowledge, since they were going to be the preventative medicine experts in the Army for the next twenty years. There were two German officers (doctors) in the class. They wanted somebody with a little bit different background to bring a different perspective, so I got to meet a lot of interesting people through that.

After that, I was assigned to USAEHA, U.S. Army Environmental Hygiene Agency—a name which I never did like—located at Edgewood Arsenal. I always thought it should have been the U.S. Army Environmental Health Agency. The word “hygiene”—most people didn't understand it. But the scientific director at the time, Dr. Robert H. Duguid, MC, who had been involved in the founding of the agency himself as a major during World War II (1942)—this organization was founded as the Army Industrial Hygiene Laboratory (AIHL) and stationed at Johns Hopkins. It was located at Johns Hopkins University [Baltimore, Maryland], and in 1945 they moved it up to Edgewood [Maryland], because that was close to Baltimore, and kept it on and enlarged it after the war.

It was initially an occupational health and industrial hygiene organization, with all of the munitions ordnance building, tanks, all of that kind of thing, and all the industrial hygiene problems going on at these facilities during the war. So it evolved out of occupational health and industrial hygiene, but then they added the Water Quality Division and Air Quality Division. I was initially assigned to the industrial hygiene engineering division and as assistant for Air Pollution to the Director of Engineering Services. I think AEHA was unique at the time in that it brought all of the specialties of what we now think of as environment all together, from radiation, entomology, industrial waste—they brought this all into one organization, and I think, at the time, before EPA [Environmental Protection Agency] and before any other, they were the premiere, multi-disciplinary facility probably in the country and probably in the world. And people were so well qualified. All the engineers had masters degrees from the top schools in engineering. It was a pleasure to be out there.

Since I had not done much industrial hygiene, to round out one's background, I was initially assigned as an industrial hygienist, which was not what I thought I would be doing, but it did get me into all of these Army ammunition plants, and other industrial facilities, to see what those facilities were like and what the industrial problems were, not only from an occupational health point of view, but say, from an environmental view, all of the chemical waste that was coming out of these places, both air and water.

Well, since I was there, I suddenly got a call one day that said, “We've selected you for a special project. The Air Force has got a lot of hazardous chemical waste that's stored out at

Dugway Proving Ground [Dugway, Utah] . It's mainly from laboratories, but it's an explosive waste, and it has beryllium in it. We're very concerned about it, and everybody in the U.S. Public Health Service [PHS] is concerned about this and what is going to happen to all this. We've selected you to be the project manager for this," [chuckle], and it was a most interesting experience, because I had to come up with a protocol for the disposal of that stuff.

It was a major project, and it cost millions of dollars. You wouldn't think it would be. You'd think you would just go out and get rid of it or bury it or something, but by that time, the environmental awareness was coming along. This was 1965. There was an engineer at the Public Health Service that was the expert on this, a man named Pope Lawrence, and if you can go online and put his name in, you'll see that—he was just a wonderful guy, but he was a world expert on beryllium and other industrial chemical wastes—he had been in the Army, I think, during World War II. He was like a professor emeritus type individual, and here I was a young major. I was very impressed by him.

But anyway, my job was to go out and dispose of this beryllium waste. It belonged to the Air Force. We didn't have sufficient equipment for measuring any of this stuff. In the Army, we were very weak on that, at the time, in our air pollution division, so I had to go out and borrow equipment from the other services and coordinate with the Air Force. The protocol had to be signed off by the Air Force Surgeon General. It had to be signed off by the Surgeon General of the Public Health Service. The operation depended on—the wind had to be blowing in a certain direction. The meteorological history was that the wind would only blow that way 10 percent of the time in August.

So I got all the equipment arranged out there, and we're talking about a large monitoring area—40 miles across Dugway that way [indicating] and 20 miles this way [indicating] and having [unclear] from the burn site all of these instruments. Then out on the periphery, we had all of these other instruments. We had to fly out to some of the sites. It just went off very smoothly. By chance, we happened to get one day—I was watching the weather, and we were working with the local meteorologist with great intensity. We could see that the wind might come the way I wanted. Otherwise I was going to be out there for two or three months [chuckle]. As it was, I was out there for a month doing all of this. The burn went off. We disposed of it. We wrote the study. It went into the literature, and I still, every now and then, get a request for a copy of this study.

I guess because of that, it brought me to the attention to the people down in the Surgeon General's office, and they assigned me then—I wanted to stay up at Edgewood. That's a wonderful place to live and to have a family, and instead, they said, "No, you've got to go down to Washington and go into the Surgeon General's office." The Surgeon General's office was expanding. The Office of Preventive Medicine in the Surgeon General's office had expanded in 1964-1965.

There had always been a sanitary engineer in the Preventive Medicine office. As a matter of fact, the Preventive Medicine office was created right after World War II, this more formal structure, and it always had a sanitary engineer in there. But they expanded to four people. There were two colonels, Colonel John Redmond and Colonel Bernie Goldstein, and a lieutenant colonel, Lieutenant Colonel George Taft. They took me down there as a young major, and that was my first experience at headquarters. Now, I had only been in the field for a couple of years, really, because I had been in Vietnam, and whether or not that really counted toward that kind of experience, I'm not sure. But anyway, because of the way I coordinated all of this, that's how I got selected to go to the Surgeon General's office.

MOORHUS: So you became the fifth person in the office?

HERWIG: I was the fourth person in that office. Later Major Jay D. Gensler joined the staff. My responsibility was sanitary engineering. I helped with the development of field water purification equipment which was developed by the Corps of Engineers Mobility R&D lab at Fort Belvoir, Virginia, and the Medical Research and Development Command at Fort Detrick, Maryland. I ended up rewriting Army Regulation [AR] 40-5, which is the preventive medicine bible, bringing that up to date, and overseeing, then, a lot of the stuff that [was] going on out at the Army Environmental Hygiene Agency by the people who were doing all of their studies in water, air, and all of that. A lot of this was just coordination with the Department of the Army staff.

At that time, we were located in the old munitions building down on the Mall. We weren't actually in the Pentagon. That's where the Vietnam Memorial is right now. [There were] two buildings down there, Main Navy and the Munitions Building, and that's where we were located. So that's where I began to learn my staff experience at the headquarters DA [Department of the Army] level.

MOORHUS: The focus of preventive medicine was on personal health. Is that correct?

HERWIG: Not totally. I mean in some respects, I suppose it always was. I mean if you're in the Medical Department, you are going to be concerned more with the health of people, but because of the way the organization had been during World War II, through the people that were out in the Army ammunition plants and that kind of thing, the focus really was much broader than that, and it was because of this group of people.

They were engineers, so they could have been Corps of Engineers-type people. So their experience, their interest, and everything went beyond just pure public health. They were concerned about how the sewage treatment plant operates. How is it being operated? Is it the best practice for it, and because of their competence and everything, when they would do these studies, surveys and one thing and another, it took on a much—I mean there's no doubt in my mind this was the beginning of an interest in environmental protection. I don't recall, in all of that time, that it was not that. It was broader than just public health.

Within the Medical Department, to get resources, you had to express your program in terms of public health, preventing people getting disease, and that kind of thing, but on the other hand, it went beyond that. From a professional engineer's point of view, how is that facility being operated? How well trained are those people? What is the equipment? Are these designs adequate? That kind of thing. It went way beyond simply—I mean public health was obviously the concern, but it was a concern of people not just with the military but the people down stream and the health of the community around Army installations.

That was when I first began to realize, I guess, that one of my themes has always been how difficult it is to make change in a bureaucracy, because if you think about it, the environment at that time—nobody ever really talked about environment per se outside of the people in the profession. There was no Army organizational structure to deal with this stuff. Here we were, a group of officers extremely well-qualified in the Medical Department sitting in the Surgeon General's office. Over in the Corps of Engineers office, there are one or two officers and civilians in the facilities section that were responsible for utilities. Again, I can't remember the man's name, but I think he had been one of our fellows (in the Sanitary Corps) during World War II. He had been on the public health side.

But here you have, in the Department of Army, four people in the Surgeon General's office and two or three people at the DA headquarters level responsible for this. If you can remember at the time, nobody had heard of Planning, Programming, and Budgeting. I was entranced when I first began to read about Program Management. I mean things were just sort of done. There was a system within the Army, and none of us at our level had financial control

of anything, really, money-wise. So you find a problem at an installation, and it's got to be solved sort of at the installation. Well, who is responsible for that kind of thing at the installation level? Most water treatment and sewage treatment at that time was run by people that started out as plumbers. There were very few people that were—maybe the one guy in the utilities section. The Facilities Engineer, no matter how well trained, had too many other problems. You have to understand how difficult it was to get things done.

The way that we tried to get them done, at that time, was mainly through the Army Environmental Hygiene Agency doing surveys and studies. Every three years, they had a cycle where they would go out to facilities and do these various analyses of a treatment plant, an industrial waste treatment plant. Different divisions within AEHA would do these studies. Then what happened to those studies? Well, the Army was not organized very well at that time from an installation point. There was no one individual head responsible for Army installations. At that time, the Army had technical services, so that there was a Signal Corps, an Ordnance Corps, a Chemical Corps, a Medical Department, and a Corps of Engineers. Each one of these had control of their own facilities. Those facilities then reported to that senior general that was within their Corps.

This wasn't the organizational structure [where] you could say, "Well, let's do this. This is the right way to, say, design a sewage treatment plant and a right way to"—and it would be done everywhere instantaneously. No. That was not done. There were too many organizational layers. Everything was done on a one-to-one basis, and the best resource that the Army had at the time was in the Medical Department [chuckle], because there was no CREL [Cold Region Engineering Laboratory, Hanover, New Hampshire] or CERL [Construction Engineering Research Lab, Champaign, Illinois] or USAMERDC (US Army Mobility and Research Development Command, Fort Belvoir, Virginia) any of those kinds of labs directly supporting installation environmental problems. Those labs were very specialized. The Cold Region Lab did do research. USAMERDC designed field water treatment systems. They did research. They were not involved in doing these environmental surveys at the installation level at the time.

There was no chain of command for solving environmental problems, and the Medical Department is run by physicians. They've got a lot more things to worry about than—well, I would say even more than preventive medicine that was not always that big a deal at the time. It was on the lower end of the totem pole, too—day-to-day, yes. If you have an epidemic of malaria or influenza and that kind of thing, then the average physician that's running a hospital might care, or if you have some other kind of an epidemic kind of thing, but the people that you have, say, at the installation level on the [unclear] side are not particularly interested in it.

There were officers and preventive medicine techs assigned to the installation level. There were some sanitary engineers, but he would be a very junior man. It would be a second lieutenant or a first lieutenant that was in our group. As a matter of fact, the sanitary engineering section was made up of about three hundred Medical Service Corps officers that were in the sanitary engineering section. Most were in headquarters or at AEHA, and remember, we were organized by Army area so that we had the First Army, Second Army, and Fifth Army Headquarters and all of that kind of thing. It was fine for the times, but if you had a program that needed to be centrally managed to get the money to make change, it was very difficult. These studies would be done by AEHA. Then they would be sent back to the installation to the commander as a recommendation, but there was no firm requirement to really do anything about it, and at that time who knew anything about environment?

It took another twenty years, I think, before we finally got commanders at all levels knowing that bad things would happen if you didn't take care of the environment. This was sort of the environment at the time. It was rewarding from a professional point of view, but it wasn't

particularly rewarding in that, having done the professional study, having thought about it, and having tried to make things work to get the money to make these changes—that was rather frustrating and when I began to think there had to be some other approach.

We needed somebody in the Army—I'm not sure about the date on that. You've talked to Dee Walker. I'm not sure what the date was that his office was created. I'm rather foggy about that right now, but I can remember, as early as 1968, 1969, thinking, "We need somebody in Headquarters, Department of the Army, that can have some visibility. There has to be a program that people can feed this stuff into." Whether or not that was done right then or not, I'm not sure. I'd have to go back and research that.

MOORHUS: I think it wasn't until 1980, maybe even '81.

HERWIG: It was just so obvious that that was the requirement. Here you had four guys in the Surgeon General's office and a couple of guys up in the Corps of Engineers office with no clout whatsoever. This turned out to be true later on. I found out this to be true everywhere throughout government when I ended up over at EPA trying to get Department of Interior, the Coast Guard, or anybody—the Department of Transportation—anybody that had facilities to try to get them to do—it was the same thing. There were no environmental coordinators at the installation level. Army, Navy, and Air Force had maybe this one MSC sanitary engineer who worked for the hospital commander, who was a very junior officer, but that was about the extent of it.

Anyway, there was a lot that went on. The other thing is there were few appropriate laws at that time. There had been a Clean Water Act, but everything in the legislation revolved around the state—remember, it was states rights time at that time, and everything revolved around the states, so a lot of what we did in the Army was try to find some state law that required somebody to do something we wanted to achieve [chuckle], and there weren't many of those out there. Then there was the Clean Water Act and things like that, but number one, they weren't very forceful in what they did. They were mainly giving grants for sewage treatment plants, that type of thing, or grants for water treatment plants, that type of thing.

So we had no legal standing for doing a lot of things. It was just our professional recommendation, and there was nothing wrong with that. People hire consultants all the time to come and just tell us what we ought to do [chuckle], and that was a good thing, but in the end, when the budget officer for that installation had to be confronted, or the engineer was confronted with his commander wanting a new this or that related to that mission, getting big money for upgrading of a sewage treatment plant or something like that was not going anywhere. I recognized, at the time, that we needed somebody at a very high level or at the installation level. I'm not even sure there was a Department of Army installations office at that time. I'd have to go back and check that, because I'm a little foggy on that.

I went off to Command and General Staff College (CGSC) then. I was fortunate to be selected for that, and so that was the year '68. I graduated '69 and came back to the Army Environmental Hygiene Agency. The nice thing was I made a lot of Army friends, the people that were going to be battalion commanders, brigade commanders, and installation commanders, which paid off in later years. By understanding these folks, what made them tick, and what they believed in—later on, I can mention some positive things that came out of that, because if you could go into the installation wearing your CGSC school tie, and you're now doing a staff visit, an inspection, a survey, or project as a consultant, and you say, "Hey, Colonel Joe, you need to clean this thing up," it certainly would get more priority than if he didn't know you or he thought, "Well, you're just another one of those Medical Service Corps staff people that visit and promise you everything and don't accomplish anything for you."

I also made the Commandant's List at CGSC. That's where my experience as a second lieutenant with my medical platoon came in handy by being with that infantry battalion commander during my first years in the Army. I could understand what was on the commander's mind. The other thing is I didn't have many fixed opinions about how tactics and strategy ought to be done, so I followed—whatever the school told me, I gave back to them on the test. One of the guys, who was one of the most qualified guys in my course, was just absolutely outstanding. You knew he'd be a four-star general, and he refused to give the school solution, because he didn't think it was necessarily right. He was thinking forward, and so he deliberately would be the devil's advocate on everything. So he wasn't the Honor Graduate, which he could have been had he just decided to do what I did, which was just I'll give them the answer they wanted, the school solution [chuckle].

However, when the commanding general (the four-star) came out from Training and Doctrine Command, which Fort Leavenworth, the Command and General Staff College, is under, who do you think they put on to give the briefing the day that he was up there? They put him up on the stand to give this "thinking beyond, thinking outside the box" and all that, and he would do a—he was a [U.S. Military Academy] West Point [New York] graduate—masterful job and just completely snow everybody, but after the general was gone, why he'd go back to his other role.

MOORHUS: What was his name?

HERWIG: I can't think of his name at this time. I'd have to go back and look in my Leavenworth yearbook. I often wonder whatever happened to him. But again, that was a great experience. I guess the thing I learned from that, in addition to making all these friends, was how important it was that the people that were younger than me in my program (MSC sanitary engineering), as I got more and more rank within the sanitary engineering section of the Medical Service Corps, that these officers ought to have field (command) experience beyond what they would normally get as a professional sanitary engineer. So whenever I had an opportunity later on, I had them volunteer to compete for these medical battalion jobs, and that ended up paying tremendous dividends for them later on. But that philosophy kind of grew out of that experience.

Then after CGSC, I was assigned again up to AEHA, which we always called the Mecca of sanitary engineering. That's kind of a joke, in some respects, but it still was the premiere—this, again, is before EPA was established. I once (years later) made a statement to a guy over at OMB [Office of Management and Budget] when he was—this is a little aside. He said the military didn't know what they were doing in the environmental area, and I said, "The Army has more professional engineers and more qualified engineers in the Corps of Engineers and the Medical Department than the entire EPA has now or ever will have, and they're more qualified than EPA." The guy got so mad at me for saying that, but it was true. At that stage, in the beginning, it was true. So when I went back to AEHA, I was chief of the Water Quality Division, which was responsible for doing the water quality surveys. I was following on in a long line of other highly qualified people that had been doing this. But it was a premiere consulting and surveying study group.

One of the captains that was there had just gotten his Ph.D. from, I think, Rensselaer [Polytechnic Institute, Troy, New York] or somewhere and named Chuck Sorber. He was a very aggressive young officer and had built up a mobile laboratory that could be taken out to all of these installations to support water quality and industrial waste studies. They had two trailers. One of them hauled equipment, and the other one was a mobile lab that had all this outstanding equipment in it. I don't believe that very many people at a time had that kind of a capability. I inherited that, which was a good thing, so we went out and did surveys, some at sewage treatment plants—not so much at sewage treatment plants, more at these industrial plants, the

old ordnance sites. For about three years—well, I guess maybe a year and a half—that was my responsibility.

We also did surveys of streams. There was an ongoing study at a stream, Winters Run near Edgewood, Maryland. Again, one of my predecessors, Colonel Bob McCall, had dreamed this study up. We were about 18 miles north of Baltimore, and he knew that that area was going to build up. There would be houses and everything going out that way, so he said, “It’d be a wonderful thing if we could just study this stream. “Right now, it’s rather in a primitive state. We’ll get the background water quality there now, and every year, we’ll do studies out there and just watch the change in water quality as it develops over time.” That’s the kind of forward thinking that I think was going on. They made tremendous water quality studies, and I think they—I don’t know for a fact, but I’m sure they’ve continued to do this.

Another one we had, since we were at Edgewood Arsenal [now Edgewood Area, Aberdeen Proving Ground, Maryland], which was the old Army Chemical Center—they had been disposing of chemical munitions and ordnance and everything since World War I. The question was what was the quality of the waters around that join that part of Chesapeake Bay? So we did studies of that.

One of the first big things that came up, I think when EPA got founded, was mercury in the water. That was a big concern to EPA, one of the first big concerns, and it turns out that sewage treatment plants—you would think, well, how could they generate mercury? It turns out that these spray devices that spray to treat wastewater float on a web of mercury as a ball bearing, so it can, through bad maintenance practices and that kind of thing, get into the waste water. Also, some munitions had had mercury in them. They were under the gun, so we did studies in support of Edgewood Arsenal environmental personnel.

We also began doing fish studies. AEHA had a tremendous capability looking at the effect of toxic wastes on fish. We had the capability before EPA was founded. So I did that for—I’m sure I can think of some more interesting things that we did—about a year and a half. Then I became the—there were three divisions in the Directorate of Environmental Quality, and when the director retired, then I was promoted to being the Director of Environmental Quality (DEQ). As DEQ I had responsibility for the Water Division, the Air Pollution Control Division, and the newly created Solid Waste Division.

About this same time, Colonel George Taft, who had been in the Surgeon General’s office when I had been a major, assumed command of the Army Environmental Hygiene Agency. He previously was the deputy commander. Then when his boss, Colonel Ross Daniels, retired, he became the commander. This is another story that I can’t exactly say how it happened. But I think it was Colonel Bernard Goldstein down in the Surgeon General’s office, managed with EPA coming on, and also Colonel Kenneth Ports, who had the Air Quality Division—they were on top of that in anticipation of EPA coming into existence with all these laws that they could see coming down the pike.

Somebody in the Surgeon General’s Office (OTSG) picked up 100 spaces, which was unbelievable. The Surgeon General actually got 100 brand new spaces. I mean you couldn’t get spaces. That’s the hardest thing in the world in a bureaucracy to get, and to pick up that many spaces was just unbelievable. Colonel Taft, the Commander, asked me to take 100 spaces and do what needed to be done. Now, if you think that isn’t a fun thing to do [chuckle]—you spend all your life trying to get one space, and suddenly you have 100 spaces.

What I did was—we needed to reorganize the agency in a way. It was pretty well organized, but we split—I gave up my Water Quality Division laboratory and gave that to a new centralized lab, and the air pollution people did the same thing. We continued to do the field work, but all the sampling—we made more spaces for the lab. We built up the Water Quality

Division and the Air Pollution Division. We also created, in anticipation of RCRA and CERCLA [Comprehensive Environmental Response and Liability Act]—you knew it was coming—we created the Solid Waste Disposal Division, which also had the capability of dealing with hazardous waste and hazardous medical waste, and we could sell it. You always have something to sell. You have to have a reason to sell something, and it was sold on the basis of hazardous medical waste—we needed this division.

But of course, they ended up being just the right primary tool for when CERCLA came along and they had to go out to undo all these hazardous waste sites. As I recall, I think we created, also, a hospital sanitation branch to deal with medical waste. So that was a very rewarding time.

I was at AEHA from 1969 to 1972, three years, first as the Chief of the Water Quality Division, and then later on as the Director of Environmental Quality. Then the opportunity came up for an assignment in Hawaii. They wanted somebody out with the Surgeon's Office, U.S. Army Pacific [USARPAC]. We had never been able to get a space out there, and suddenly, we did get one. Then of course, you get your hopes up that you'll be able to do this. You would be on the Army Staff out there in the Pacific. By this time, I was a lieutenant colonel and would be on the staff in the Office of the Surgeon of the U.S. Army Pacific.

There was some question about whether it would happen or wouldn't happen, go or no go, but finally yes, we ended up going, and I was able to take my family with me. We went over by—you had to work at this—a ship, a wonderful six-day trip from out of L.A. [Los Angeles] to Hawaii. We could ship my car right on the ship we were on. This is just an aside, but when you arrive in Hawaii by ship, which is the way it had been for 100 years, the whole USARPAC Surgeon's Office met my wife, Mary, my son Conrad, and me down at the dock. The ship docks. They meet you with leis, and they take you out for lunch. Then after all this greeting and all that, they find quarters for you. Then they take you down, and your vehicle comes off the ship. We drove it off the ship [chuckle]. It was a wonderful introduction to Hawaii.

I was the Sanitary Engineering Consultant. By that, it meant that I was responsible for—to a small degree, Vietnam was still ongoing in late '72. We had a preventive medicine staff and sanitary engineers in Korea, Thailand, and Japan. My job on the staff was to make sure these people had adequate personnel and adequate funding. Well, being on the staff of the Surgeon, you were able to do this kind of thing, as well as give—when you would go out there, you would give technical advice, also, because they were younger officers with less experience.

But the best part of it all, in Sagami, Japan, (later moved to Okinawa) we had an organization. It was a mini AEHA for the Pacific that could go around and do all of these environmental studies of everything similar to that which AEHA did. They could do industrial hygiene studies. They could do drinking water studies. They could do sewage studies, noise studies, and industrial waste studies, and they would go TDY around the Pacific. They would go out for a couple of weeks to the various posts around the Pacific, and they would do these studies and make recommendations that would go directly to those commanders. I would sort of supervise in general.

Kotuk Phull and Tom Broadwater were two of these guys out at this EHEAPAC [Environmental Health Engineering Agency, Pacific]. It was amazing how many of those young guys stayed in the service. Of course, they loved being in Japan for their very first assignment in the Army and then doing professional work and feeling like they were accomplishing something. I would make a staff visit about twice a year—well, each member of the staff, depending on what your specialty was—I mean if you were the general surgeon on the staff, why you would go out and visit your surgeons out at each command, and I would go out and visit the engineering people. So that was a wonderful experience going out there.

Also, I made contact with my Air Force counterpart, which I think was—I don't know—5th Air Force Pacific or something like that, and I would also visit Air Force installations to see how they operated their facilities and how their equivalent of our sanitary engineers, how their people worked. I learned a lot that later on, I think, helped us improve the way we did things, too. They learned they could use our—we had this tremendous capability in this EHEAPAC out there, and the Air Force could also use that backup.

Then after about a year and a half, the Army, as Vietnam was winding down, began to—as communications improved, the Army decided that there wasn't any need for a U.S. Army Pacific, that these Pacific commands could handle themselves, and that this was just a—all these cutbacks were ongoing, and so people—even though they might want you to be there, they have so many spaces, so they eliminated the whole U.S. Army Pacific. It just went down the tubes. They couldn't see the value added as communications improved, and you could directly talk to all of the rest of the world. There was no real need for it, and so they abolished it. A small staff was retained to coordinate with the Navy and Air Force.

I was able to pull it off to stay over there in Hawaii. I'd been there a year and a half or two. My son was in high school, and so we were able to stay. We ended up staying five years, because they organized—there was a U.S. Army Support Command Hawaii [USASCH] that ran all of the facilities in Hawaii. We became triple-hatted. I ended up still keeping my U.S. Army Pacific [USARPAC] hat as part of the reduced staff, doing some of that that had to be done, but then I became essentially an installation type of person. I was concerned with all of the Army facilities on the island of Oahu there, because I'm thinking we really didn't have too much else. Well, we did have a facility over on the Big Island, also. So I kept involved with just local, down-to-earth kinds of things more than the staff—than you would at the esoteric at the Army level.

Well, about this time, EPA began being more forceful about stuff, and states—the environment was coming on. Well, one of the big things in Hawaii was endangered species. Hawaii has more endangered species than the whole rest of the United States—by species, not by numbers—combined. So my job became, from the medical side, the staff environmental person, and I'm not sure we even had a Corps of Engineers environmental staff person yet. Somebody had to have the job as an additional duty.

But then, environmental issues began to take tremendous pressure on the Army facilities. We had this artillery range in the Makua Valley on Oahu, and live fire exercises would start fires and create major noise and vibration effects. There were community meetings and hearings. It just got to be really a big, big thing, and it just took a lot of education on the part of everybody to get commanders, who ran the live-fire exercises that they felt were necessary, with the firing over the troops as they maneuvered—they were small units. They were more company size units, and maybe some battalion exercises, but never big, never really big, but they would start these fires. So we had to deal with that and try to protect the endangered species in the valley by putting in breaks, only fire under certain—and there was noise—there were just all these environmental issues that we began to deal with.

Of course, finally the Corps of Engineers just had to get an environmental coordinator. That was one of the first times, I think, that—installations had never had that position before, and they began to get those, and we did the usual sampling of drinking water and the waste treatment plant. I brought back the guys from EHEAPAC Okinawa, and we actually did a study in Honolulu Harbor for the State of Hawaii. They weren't treating their waste. We did a study in Honolulu Harbor to see where it was going. The State of Hawaii did not have an environmental office. Mr. Pope Lawrence from EPA was loaned to the state to run their program. We helped him in many ways by doing air, water, and noise studies for him.

We also did community noise studies. Oahu is a small island and military helicopters were flying over the roofs of civilian housing areas and disturbing everybody, so we worked on plans for where the helicopters could go and what time of day they could go. I'm trying to think. I had something else in my mind, but it was just a lot of interesting things like that.

The doctor, Colonel Bob Nitz, who had been my boss in the USARPAC Surgeon's Office, was in charge of preventive medicine at Tripler Army Hospital [now Tripler Army Medical Center, Honolulu, Hawaii]. He was transferred to Thailand; he had been there in Hawaii so long, and they needed a command surgeon in Thailand. He was an expert on preventing diseases. He was sent to Thailand both as the command surgeon and as the staff preventive medicine officer. With one of my three hats, I was working for him at Tripler. I was also the hospital environmental engineer. So I replaced him at Tripler and became the first Medical Service Corps officer to ever hold a doctor's position as the Chief of Preventive Medicine for the hospital.

I had people (Captain Art Mabbott, Major Phil Perkins, and several civilian specialists, including Gordon Ishakawa) who were doing all the industrial hygiene surveys, water pollution studies, and general sanitation inspections that you can do locally. I always had EHEAPAC from the Pacific come back whenever I needed it, and I also knew that the people at AEHA liked to travel to Hawaii, so I requested every study that could ever be thought up that we might need. We had the people come in from AEHA on TDY. I never got turned down for that [chuckle]. So for the entire three years that we were doing that, we had a very comprehensive program. In 1974 USASCH won the Army Environmental Quality Award as having one of the best and most comprehensive environmental programs in the Army and DOD.

In addition to that part of it, the environmental program, I also had staff community nurses. I had two or three nurses that did community health as well as industrial hygiene and occupational health work. We also had the usual hospital activities—preventive medicine, doing contact interviews, and that kind of thing. It was a really interesting. I realized, from that, how important it was that our organization at all Army installations needed to have really a comprehensive program to have visibility. So we began to push, over the next years, to try to duplicate that kind of thing at other installations. We found it difficult to do. We got three, four, or five installations going into it, and we got some nurses into the program as managers, and we would say whoever's senior would be in charge of preventive medicine, the program, if there wasn't a doctor. Usually, if the doctor was there, he'd been in charge of it for the rest of us.

I think that concept, this preventive medicine team, may have led to the fact that later on AEHA became CHPPM [U.S. Army Center for Health Promotion and Preventive Medicine] in the sense that it was such a comprehensive thing beyond what we had always wanted AEHA—it became this health promotion, and that kind of thing got into it, also. I won't say that I had anything to do with it, but some of the things early on, maybe ten years before that, that I had done had opened some people's eyes that might have been otherwise closed, that doctors have to run this, or if a doctor isn't there, then the MSC has to run it, but by then it was open to anybody.

I ended up spending five years in Hawaii. My son was able to graduate from high school there. I came back. As a matter of fact, I was being reassigned back to the Office of the Surgeon General as the Sanitary Engineering Consultant. The individual whom I was replacing (Colonel William Golley) retired in January, and they wanted me in OTSG in January. I knew that, if that happened, my family, since I was in military quarters right on the golf course at Fort Shafter [Hawaii], they would have to move off post, because they would stay, and then I'd be gone for most of that senior year, at least half of the senior year.

We were able to make arrangements. I went to the commander of the U.S. Support Command Hawaii. They don't like families to stay in quarters if the husband isn't there, if the sponsor isn't there. I said, "What date would be a date that they could stay until my son graduates in the summer?" and he said, "Well, if you could stay January, February, March—to about April 15th, then"—by that time, I was an O-6 [colonel]—"I want to save quarters for a full colonel, so I think I can get by with that without the housing people being around my neck," so then I worked a deal with the Surgeon General's office to come back April 15th. I flew directly from Honolulu on the red-eye express and got off. They met me. I was so appreciative of this [chuckle]. I came right off the plane flying overnight from Honolulu.

So now, I'm in the Surgeon General's office again, and I was responsible for, as well as sanitary engineering, the industrial waste. I had five lieutenant colonels working for me. One was the entomologist, and he was the senior entomologist in the Army. I had the senior radiation guy in the MSC that was responsible for radiation throughout the Army. I had another officer for sanitary engineering, also, but more for the field aspects. Having been to Command and General Staff College, I understood that, if we wanted to be a real player in preventive medicine, and also, this went back to my experience in Vietnam—I was the first person to realize that we had a malaria resistant to the drugs at the time.

Nobody believed this. I had done some reading, and I knew it was beginning to happen down in Central America. This lieutenant colonel was a rather adventurous kind of a guy. We wondered how he ever made lieutenant colonel, but he was a really nice guy. He was always doing something, and wouldn't you know, he'd be the guy that came down with malaria. He swore up and down that he had been taking his chloroquine. My boss, a lieutenant colonel, Medical Corps, was an outstanding officer. His name was Bob Quinn. He was rotund back before the Army cared much about your physical appearance.

He was a very, very well qualified preventive medicine officer, and the Vietnamese loved him, because he was so chubby, and he was, again, gregarious. They called him "*Bac Si Bob*." *Bac Si*, I think, is doctor. "*Bac Si Bob*" instead of calling him Colonel Quinn. I told Dr. Quinn, "This guy swears up and down that he's been taking chloroquine, and I really, really believe him." He said, "Well, we'll notify Walter Reed Army Institute of Research then. We'll let them know about this." As a result of that, they began to think about it, and they sent teams over. Then it began to pop up more and more, and this was after we were gone, but they were able to get a grip on it.

I swore when I went to Vietnam, because there have always been public health disasters everywhere in wartime, that it would not happen on my watch. So that's why we got on top of malaria and the plague. There was very little incidence of preventable disease during Dr. Bob Quinn's [chuckle] and my tenure over there. Of course, we only had the military advisors when we arrived—we were there during the MAAG period—and by the time we left, we had 16,000 troops, and we really drove it into them. When I got to the Pentagon then, I decided that the Army's previous failure in preventive medicine was that, well, number one, we weren't participating in the development of all of these contingency plans. Preventive medicine support has to accompany the first contingent of troops. Most medical problems are greatest at the beginning of a campaign.

At the Department of Army level, there were plans to go everywhere in the world, and indeed today, we've got people probably in 100 different countries, little teams of people. So again, my experience reinforced, I think, at Command and General Staff College, in knowing how commanders and potential commanders think, that we would make sure that, if they sent 10 guys, the 10th or 11th guy had to be somebody that knew something about preventive medicine. Unlike any time before we—I had this one officer, Major (later Colonel) Charles Kennison, that concentrated on field preventive medicine and field sanitary engineering, and I

think we just made tremendous improvement in the Army's understanding. Along with that went the training of commanders, which was the whole idea—training the rest of the Army of the importance of this.

That paid off later on when we got into the environmental program. Until you could convince every single commander out there that it was important, you were just spinning your wheels. I mean you can make progress here, progress there—he gets a new assignment. The unit gets a new commander. It falls by the wayside, and that's when a lot of this stuff that you see around—I mean that was sort of the beginning where there were little pamphlets and that kind of thing being published. We were really making a push. Our emphasis was on health, but it also went beyond that, and the emphasis that you had to change the mindset of the commander began to get permeated through the staff there.

Part of my job at OTSG was personnel. I made the assignments of all of the sanitary engineers and environmental science officers around the world, putting them in the right places, which again, one of the things that you realize is that, if you don't have somebody on the staff of an important command or installation day to day, nothing will get done. I mean it's likely to fall through the cracks. That's when I had a friend of mine, Lieutenant Colonel (later Colonel) J. Earl Herndon, Jr., coming back from Europe where he had been staff environmental engineer. He came back, and we got him assigned [unclear]—I'm not sure we ever got the official position—but down in the ACE's office, the Assistant Chief of Engineers, for somebody to be actually down there.

Somebody who had spent his whole career working with engineers previously and understood the engineer mindset and what needed to be done, had been very good at this and all his other assignments—we got him actually assigned down there. He was down there. Whether he had a legitimate space, I've never been sure. I was able to pull this off in a number of places, getting people assigned to somewhere that they should be that you couldn't get the space for with the hope that, once they got on board and saw the value of it, they would find a space for them.

I did the same thing at DARCOM [Development and Readiness Command]. They assigned an individual over there, and I can remember they didn't want this particular individual. They just felt he was just not the right person for them. By this time, I had done enough assignments that I had kind of put the people in about five, for general purposes, categories. One of them was a person that had a scientific mind. The one I just called in—I'd better be polite about it. He was the kind of guy that just was argumentative. He would never take no for an answer, and that's why they didn't want him. I said, "Just trust me. If I assign this guy over there, he's going to be the person that's going to do you so much good, you'll really thank me later on."

Well, I assigned him over there. Within six months they said, "Thank you, thank you, thank you," because they had these other commands underneath DARCOM, like out at Aberdeen Proving Ground [Maryland], and they had TCOM [Training Command], I think it was, and all of these other places. People don't follow headquarters just because—this guy did a beautiful job on environmental matters by being so persistent and knowing what EPA was up to and what was coming, and they didn't ever want him to leave.

So we were getting these people in these key places. By this time, EPA had come along, and it really meant keeping track of what the legislation was going to be, the new laws. That was really the beginning of it, I think.

MOORHUS: Did you skip over the Army War College?

HERWIG: Well, when I was in Hawaii, I was selected to go for—I went to what was called the AWC Corresponding Course, which from the standpoint of your military records, is the same as going there the entire time on site for a year. I think it was harder work. Fortunately, I had a friend who was the Deputy Chief of Engineers for USARPAC [U.S. Army Pacific]. At the time, we were both lieutenant colonels. We were both rewarded by going to this Corresponding Course at the War College, which meant we had to study at home during the year for two years, and then two summers you went out to Carlisle, Pennsylvania. The way we got through it was with both of us having each other to work together, study together, and do our work together. That, again, was what was so helpful about having a Corps of Engineers officer that you could work with and were friends with to get things done. If you said, “We need to have this done,” why he would assume that you knew what you were talking about, and he would go get it done. So that’s why I kind of passed over that.

It, again, was extremely rewarding. I couldn’t believe this, but you had little work groups at a table like this of ten people. Everybody in there is super and had tremendous experience. Indeed, some of them were Vietnam war heroes. I couldn’t believe that, after the first year, I get a call from Carlisle, and they want me to be the team leader for that summer session. I said, “I’m a medic (MSC) . I don’t know anything about this stuff,” [laughter]. They said, “Well, we think that you can deal with these personalities better than anyone,” [laughter]. I felt quite honored to be able to do that, so yes, that was great.

So much was going on in Public Health and Environmental Policy at the time I was in OTSG. That was from 1977 until 1981. At that time, four years was the usual tour of duty in that job. I was assigned as the Sanitary Engineering Consultant to the Surgeon General. One of the other interesting things I had—it shows you the bureaucracy—was you’re on all kinds of committees. It’s hard to say, “Well, what did you accomplish?” One of the things I was on was a committee of the National Sanitation Foundation out in Ann Arbor [Michigan]. I don’t know if you’ve heard of that organization, but again, the Army was a leader in this. We helped establish that originally in the basement of the School of Public Health at the University of Michigan in the ‘50s. The Army helped fund that for years.

The idea was that somebody needed to set up national standards for food service equipment that the Army could use in its procurement policy. I don’t know if you remember growing up, if you went into a burger stand, how atrocious they were, the equipment that they had. I mean the sanitation was terrible. The NSF [National Science Foundation] had all kinds of testing equipment, not only food service equipment, but also water and wastewater treatment, like *Consumer Reports* does. They tested equipment for the type of materials and looked for ways—representatives from the Army sat on those committees for years, and that was really interesting to be able to do that. This was to participate in those discussions that set the standards. Now, you can’t go into any restaurant, any burger place in the whole United States, that there’s not a little NSF logo on the equipment, and it was our early years that the Army supported that when they didn’t have much money or anything.

Another interesting thing—again, it’s not particularly on the pollution side, but it was in the public health engineering arena. I participated in evaluating food service facilities in the Army, giving their award for the best mess hall, best field mess, and all that. I also was a member of the DOD Food Service Equipment Board. We traveled all over doing that. We were able to do a lot of interesting things that way. I’m sure I will think of more environmental things along the way, too, that we did. Mainly, we would do it, again, through AEHA, through the Army Environmental Hygiene Agency, and through the staff, writing regulations, and that kind of thing.

At the end of about '80 or 1981, I had four years left to go to get my 30 years in, and now I’m done with the—I can’t stay any longer in the Surgeon General’s office. I was afraid that I’d end up being a commander of a field medical unit down in North Carolina. I was getting ready

for or thinking about retirement, and Catholic University offered a course on how you'd go out and—they trained military people on how to go out and get a civilian job. You actually got college credit for it, and you could use your GI benefits. The only thing the GI Bill ever paid for me was one course, because Congress ended it. There would be two hundred guys up in the Pentagon taking this course on how to dress, how to interview, and all that, and I happened to be having a cup of coffee in a break.

I met a guy and started talking to him. He was a Navy commander. For the life of me, I can't think of his name right now. I said, "Where do you work?" and he said, "I work in the DOD [Department of Defense] Environmental Quality office." I'm not sure I was even aware that—at least looking back, I'm not sure when I realized that they had such a thing. Now, why I wouldn't know it is beyond me. It's something I should have known, and maybe I did know it, but it didn't mean too much to me at the time. But then I said, "Who's your boss?" and he said, "The name is Donald K. Emig." This is a guy that I would hope you would interview some time. I've got to find him. I'm on his trail now to find out where he is right now. [NOTE: Emig lives in Las Cruces, New Mexico.]

He actually had worked out at AEHA in the Water Quality office and as head of the environmental program at Army Materiel Command (AMC)—just an extremely intelligent guy, and he ended up getting that job. I guess he'd be Dee Walker's equivalent at the DOD level. He had this Navy person that was not really on the staff. There was no position for him, but he got him assigned up to his office. This guy was about ready to retire at 20, because he was so well qualified it was unbelievable. He had about five degrees. I think he was a chemical engineer, a sanitary engineer, had an MBA [Masters in Business Administration], and all kinds of stuff.

But his job was DOD liaison to EPA, and he said, "I'm leaving." I thought to myself, well, I know Don Emig, because he used to be out at AEHA, and indeed, he had moved along and stayed in the Reserves, and he had actually come on active duty up in our office at some point in time. I wrote his efficiency report and got him promoted to O-6, so I said, "I think Don owes me one."

So I went up there, and I said, "I don't have any job after I get out of the Surgeon General's office and anywhere to go but [unclear], and that just sounds like an ideal job for me. It'd probably be a good leap for me out into the consulting field and going there for a year or two." So we arranged it, and never again—there never was officially a slot there, I don't think, but the Surgeon General's Office thought that would be a great idea for me to do that and began to coordinate this.

I went over to EPA, and I walked in there. Their program for federal facilities at EPA headquarters, at that time, was one civilian and the DOD Liaison Officer. They also had one Federal Facility Coordinator of the ten EPA regions responsible for federal facilities. I was there and overlapped with this Navy commander for the one week and began to look around. What should we be doing to improve federal facility compliance, and how should we go about doing it? How do you make the compliance system really work, because it wasn't working at all.

I mean most of the federal agencies didn't know how to work with EPA. Who was EPA? What responsibility did they have for us? The question really was, in the beginning—the states did not have the authority to sue the government, so who does what? Most of the states didn't even want to bother going out and inspecting them. They did if they thought they could sue them, and some people still believed that they could. Most people, when they read the executive order (Executive Order 12088), believed that, well, maybe they can't, so if we can't sue them, we don't want to fool with them. They didn't understand the system.

I walked in to all of this. The civilian there was a very sharp and dedicated guy named John Chase, but he didn't quite understand how the federal facilities budgeting system worked. He had come up as an administrative specialist of some kind, I think from the Department of Interior, and he didn't really understand this. Then about a year later, he retired, so I started working on it.

The basis of the entire program was Executive Order 12088, and to me, that is a major milestone in this whole environmental movement, when they got that executive order, which required federal agencies to—you have to remember, in this day and age, information is so available. In the old days, you couldn't even get a copy of that. If you tried to get a copy of an executive order, you didn't know where to go to get it. Now, you can just go online and get anything.

Executive Order 12088 tells you what federal facilities were supposed to be doing. Basically, what it amounted to was they were supposed to consult with EPA. The words are very, very vague about what you're supposed to be doing. But you're supposed to come up with a plan of some kind, and it does not specify what the plan is. I think that's probably why I didn't understand all about what was the mechanism for complying, because it was all so vague.

Federal agencies were supposed to be reporting their environmental projects to EPA annually, and then our EPA Federal Facilities Coordinators out in the ten regions were supposed to review their projects. When it came in from the federal agencies, we broke it out by EPA Region and sent it out to them. They were supposed to review it. They were supposed to talk to their Regional EPA inspectors and states, and see how well are they doing this, or are they not doing it? Well, not much, in my opinion, was being accomplished. I mean not that the regional coordinators weren't sharp—I think everybody was trying, but they just didn't understand how the federal agency bureaucracies work.

The DOD facilities were beginning to get, I think by this time, command and installation environmental coordinators. The Army began to get some environmental coordinators as the pressure came. Once the pressure got too hot for the commander, who was spending a lot of his time dealing with local people over the environment, people demonstrating, and all of that,—and his attorneys are probably the ones that are dealing with it—they finally said, "Maybe we ought to give the engineer down there a position to handle this stuff," [chuckle]. I think that's basically the way it happened.

This is just an aside, but I can remember on the first Earth Day, to show how the Army can botch something up, the demonstrators showed up at Edgewood Arsenal. They looked like a bunch of hippies. For some reason, I was outside the gates, so I actually could see this happening. At least in my mind's eye, I see it happening this way. It's conceivable I might be remembering it on television, but I think I was there in person.

They, a hundredfold, take this little potted pine tree—and number one, the demonstrators wanted to climb over the fence. They had shut the post down. They shut the gates, and so the demonstrators tried to start to climb over. The MPs [military police] are out there, maybe ten MPs and a few MP vehicles. So they wanted to climb over the fence to demonstrate at the Army Chemical Center—remember, all this time now, we had that Vietnam thing in the background, everything about Vietnam, everything about chemicals, and everything about Agent Orange all in the background of all of this. I've got some other stories about it. This was a good one.

This guy hands an MP this little potted pine tree. The guy takes it, and he sets it down on the ground. The next thing I saw—it was on TV, or I actually saw it in person—he takes his vehicle and drives it right over the pine tree [chuckle], smashes it, and drives off. Of course, it made all the news then.

My thought was what we should have done, and what we could have done—here we had this marvelous laboratory at AEHA. We should invite them in, which we did all the time; we always had high muckety-mucks coming in. Whenever they'd visit Edgewood, they always would get a tour of our lab, and we would try to impress them with everything that we were doing in the environmental area, health, and everything else. By the time they'd spent 25 minutes walking through the lab, they'd generally be pretty well sold that we were doing something professional. My idea was bring these people in, ten at a time, take them through our lab, and show them everything that we're doing for the environment. We had these mobile labs. We're out surveying everything and studying, and we're on top of it more than anybody in the world.

That's the way we reacted, and that's the way we reacted for many years, extremely negatively. "We don't have a problem." "The law doesn't apply to us." And indeed initially it didn't. It took some rewrites along the way, some amendments, and maybe a changing executive order, as I recall, to sort of make it—but still, it went on for ten years as to whether or not federal facilities really could be sued by states and by EPA. My position, or reading of it, was that we couldn't, and this could have been wrong, but I always felt like it was making problems for yourself, because you didn't get anything done. The answer is education and to get a structure in place where we can budget for this stuff. Define the problem. Get the money. Do it, and don't spend all this time fighting the problem and paying fines, which just took a—it came right out of the environmental budget.

There was just so much that had to be done, and slowly—I spent four years as the DOD liaison, and gradually—they didn't even replace the civilian. Here I was a full colonel in the Army running EPA's Federal Facilities Compliance Program [FFCP]. They were happy for me to do it, and I loved it. So I tried to bring all of my skills to bear on how you solve this problem. Now, the momentum is growing. We have Dee Walker in his office getting environmental coordinators at all commands and installations, so now the issue becomes more of a programming and budgeting thing. How do you get that done?

It took a combination of the AEHA people being out and the Corps of Engineers started to get involved in stuff. CERL, I think, got started. I went out and visited CERL [Construction Engineering Research Lab] a couple of times, particularly if I could go to Champaign where I graduated from. I was impressed with them. Then the issue, over time, became just how does EPA get this information out to federal agencies? How do they determine what has to be done? So we created a monthly meeting at EPA of all federal agencies and their coordinators—well, first, we had to get them to get coordinators. Number one, you'd have to go out to the federal agencies and talk to their engineering staff to say, "You need somebody to do this. Send somebody over." And just to keep people informed as these laws and regulations were coming up—next week, this is coming out. You'd better get it into the budgeting cycle. You'd better be putting money in for this. You'd better be doing that.

So slowly, we were able to—that became a monthly thing, year after year, informing all agencies of upcoming requirements. Of course, while I was still on active duty, I would spend about two or three days a week visiting Army, Navy, and Air Force environmental staffs. I'd go over to the Navy and the Army Environmental Office and go out to some of their field commands and just keep them informed. At the DOD, when we'd have the DOD staff meetings with Don Emig, why he would have me—there were only two or three of us at any one time anyway, even in that office. They included Ms. Christina Ramsey, Navy Commander Tom Laboon, Air Force Lieutenant Colonel Pete Daley, and Army Lieutenant Colonel (later Colonel) Tom Magness. Now, Dee Walker also never had more than a couple of people, I don't think. Just keeping people informed of what is happening, what is EPA thinking, what are they going to do. You

can't stonewall on this, because they're going—everybody up on the [Capitol] Hill, the Democratic Congress, was just merciless. There were just terrible.

Again, that was the anti-Vietnam still going on, and also, when the first [George H.W.] Bush was in there, it was still—

MOORHUS: That's quite a bit later then, right?

HERWIG: Yes. This was from—I'm thinking from '81 to '84.

MOORHUS: Yes. So Bush was the Vice President then under [Ronald W.] Reagan.

HERWIG: I guess it was Reagan that was the President, but the Democrats came over and raided the office that I was in—not my office, but the office of the Assistant Director of Federal Activities, a Republican political appointee. There were some environmental people over there. I think I may have printed it out [looking through papers]. No, I guess I didn't print it out. I just saved it online. Anne Gorsuch, I think, was the head of EPA.

MOORHUS: Yes.

HERWIG: Federal agencies just took all of this beating all of the time. You couldn't do anything that they wouldn't want to have a hearing on. We ended up going up on the Hill, and it was just merciless. Nobody would ever say, "How much money do you need? We'll give you the money." No, it was just the attack mode. Gorsuch was anti-environment. Reagan's anti-environment. Everybody's anti-environment, and they don't want to do anything. That was just the mode that we were in, so it's understandable that people were reluctant. No one knew how to approach it. If you admitted you had a problem, then they jammed it down your throat, or they tried to interfere.

In the press—I mean everything. Every day there was something negative in the paper, and of course, the answer was going to be you've got to get the commanders knowledgeable about what they've got to do, and you've got to get the money. That's where Dee Walker at Department of the Army and Don Emig at DOD started to come in. This was after CERCLA was in. We still weren't getting any breakthroughs, and I think by that time I had retired. I retired and ran the EPA program as a civilian.

MOORHUS: Oh, yes.

HERWIG: That's why I get a little bit confused time-wise on some of these. But I was four years on active duty running that office as the DOD liaison, and then from '84 to the end of '95, I was there as the Director of Federal Facilities Compliance as a civilian.

MOORHUS: I'd like to stop for today and then plan what we're going to do for the next time. Is that okay?

HERWIG: Okay.

[End of session; new session begins]

MOORHUS: Do you have anything you want to add to what we talked about last time?

HERWIG: I think I'm pretty well straight. I may come back into some of those things later on as I've thought about it during the week, but to take off from where we're at, leaving my thirty years in the Army behind, in which the last three or four were over at EPA, as the liaison from DOD.

MOORHUS: You started that in 1981, right?

HERWIG: Correct.

MOORHUS: So my question, to start with, is who was the Deputy Assistant Secretary for the Environment?

HERWIG: In '81. Well, I thought that, in '81, Dee Walker was the Deputy Assistant Secretary for—there are so many layers—

MOORHUS: Right. He was for the Army, but what about in DOD?

HERWIG: Well, it seems to me, by that time, I think Mr. Bob Stone was the Deputy Assistant Secretary of Defense (DASD) for Environment, Energy, and Safety. I have a picture and citation from Mr. Stone when he presented me with my OSD badge. He signed it as Deputy ASD for Installations. There was the under secretary and the assistant secretary and the deputy assistant secretary. Anyway, it was the Office of Environmental Policy. I think that was the name of it. Don Emig was the Director of Environmental Policy from 1980 to 1983. Air Force Lieutenant Colonel Pete Daley took over the job at DOD as Director of Environmental Policy after Don Emig left.

I don't know if I have mentioned that I had known Don from the fact that he had graduated from the University of Pittsburgh Pennsylvania and, I think, Rensselaer, and had been out at the Army Environmental Hygiene Agency as a young man. He had been in the Reserves, and by that time, he had moved up in the Reserves to, I think, being a lieutenant colonel. He had been head of the environmental program at Army Materiel Command (AMC) and had met George Marienthal at DOD-Service meetings. I believe that's how he got the job.

So that's how I happened to know him, and that's how I happened to get my liaison job, because I had met the person that I was the replacement for, a Navy commander, informally over in the Pentagon at the snack bar. You know, you start up a conversation with a guy, and the next thing I knew, he said, "Well, I'm the DOD liaison to EPA." That was about the time I was getting ready to retire, and I thought to myself that might not be a bad job for me. I wanted to stay in my full 30 years. I had no intention, from the day I came in, really, of getting out. So that was a great opportunity for me. I went to see Don and was able to get that job, and that's how I ended up over there.

MOORHUS: Dee Walker started with the Army in 1980, the spring of 1980, and he said that one of the people he consulted with and talked to about the job before he took it was a man in OSD [Office of the Secretary of Defense] named George Marienthal.

HERWIG: George Marienthal. He must have been the first Assistant Secretary for Environment, Energy, and Safety. He was really was the first one in DOD that we would look to for environment. I frankly am having a hard time recalling any dealings with him myself. I don't know when Mr. Marienthal first assumed the DOD position. It may have been as early as 1975-1978. Another individual in that office had come from within the Army. Again, I knew him and had worked with him. I can't recall his name, but I believe he had been the Army Safety Director.

Of course, as you know, those jobs at DOD and Headquarters, Department of the Army, were rather overwhelming—to be in charge of the environment, Army safety, and occupational health. All three programs were absolutely blossoming out, and I thought to myself one of them would be overwhelming, much less to do all three of them. I had done some industrial hygiene work, so I was pretty familiar with occupational health and safety, and indeed, when I was in the Surgeon General's office, from '65 to '68, I had been the Army Medical Department safety officer as an additional duty [chuckle], a job that I did I didn't particularly feel qualified for.

My only qualification was they had sent me to school up at NYU [New York University, New York City] for three weeks to the Army Safety Course. To think that all those named Army hospitals are out there, and somehow, I have some responsibility for them, but it's like everything else in a bureaucracy. The people on the ground have the real responsibility, and you may say, "Well, I'm over eight or nine major hospitals," or something like that, but the truth of the matter is most of that is being done on the ground. When I first found out that Dee was coming and replacing whoever these other people were there—either George Marienthal or Bob Stone was at DOD.

If Dee wasn't the first one in that job, then I was so happy to see him come in in the sense that he was coming with the background in water and had the [unclear] in safety. I felt like the people in safety—and they were outstanding people, but by that time, I'd had about 15 years of experience in the environmental area and didn't know but a little bit of it, and I just felt like somebody needed to come in that had the broader picture, and Dee brought that to it. Indeed, for the next—when did he retire?

MOORHUS: '95.

HERWIG: '95, see, so that was another 14, 15 years that Dee Walker was the guy that we looked to in the Army. Of course, at that time, the Army wasn't organized right for what was to come. When I look back now, I think of it as—we were a bunch of people that were individually well qualified for what we did, from an engineering, sanitary engineering, and industrial hygiene occupational background. But there were so few of us, and here's a tsunami in the next 15 years of stuff that's going to come, and we were so poorly organized. In those days, you can't believe how hard it was to get information and how hard it was to collect data. It was hard to know precisely how many installations there were out there, that kind of thing. Just to put it all together was very difficult.

We felt that it was a breath of fresh air when Dee came in, and now, he was sort of the godfather for us, and we could begin—if you had ideas, you could begin to take stuff to somebody. Before that, you were buried in the bureaucracy, and you didn't really know where to turn. Certainly within the Medical Department, it's very difficult, because their focus is so different, even though you have preventive medicine, which is the environmental engineering, sanitary engineering, and public health engineering. That is basically what it is, and that's the focus. Even preventive medicine in those days was not a big thing with doctors either. People that are taking care of injuries, disease and everything—treating people—preventive medicine did not get the resources.

So here you have an organization—and I think there were only one or two people in the facilities branch of the Chief of Engineer's office that dealt with all the installations, all the sewage treatment plants, and the water treatment plants. Solid waste disposal at that time simply was collecting garbage—that was it—and burying it. All those regulations of hazardous waste and everything were to come. It was poorly set up for it. Anyway, when Dee came, that was really a great, great step forward.

MOORHUS: When you were responsible for federal facilities, that meant more than just the Army facilities.

HERWIG: Well, that was the interesting part. When I went over there, I didn't know what—I hadn't paid that much attention to other federal agencies and installations, other than I knew about the Department of Interior, the Public Health Service, and the public parks and this kind of thing as a tourist. But I knew nothing about their internal organization or anything. When I went over on active duty, by that time, there was one individual in EPA that was responsible for the Federal Facilities Compliance Program, so I was just a hired hand, basically, to help him. But fortunately, my background was ideally suited for it.

We started with DOD—well, I started with the Army. Then I knew all the Air Force and Navy people, too, and of course, I knew Don Emig. So my role, initially, as DOD Liaison to EPA, was just finding out where EPA is going, what they want to do, and taking that information back to people. We were just about ready to see all these regulations coming down the line. Later, when I retired and became an EPA employee, we broadened this out to all federal agencies. That took place over a five or six-year period.

What might have seemed difficult with DOD or Army was almost impossible with other federal agencies. They just were not set up. Indeed, the whole environmental movement, which had started—now, when I say environmental movement, I'm not talking about the professionals in the field, but the public awareness of it—sort of started in 1969 or 1970 with NEPA [National Environmental Policy Act] and EPA getting started in 1970.

With the limited funds that federal agencies had to do their primary mission and with no previous public information out there about these acts that were coming down the way, people just had no intent on spending any money on this. There was a very negative attitude on the part of senior people in federal departments as each of these acts began to roll out. Most of the original legislation was pretty innocuous in the first place. What they were, were grants to states for the states to do things. Then another major aspect that got—it took years to finally get worked out, and I had been on both sides of the issue—was to what extent can people sue the federal government?

Federal sovereignty—up to that time there had been so much discussion about federal sovereignty in the area of environmental compliance. I was a true believer in federal sovereignty, that people should not be suing the federal government, that we could get our act together. We had to get the funds, and we could do our job. When you sued somebody, it just took people's time away from what they were doing in the programming and planning—and then you could no longer coordinate. Once you got sued, you could no longer coordinate with anybody openly. It was under duress. The same thing is sort of true today for anybody that ends up having a lawsuit thrown at them.

I don't know what Dee said about this, but I think he probably took a great deal of time, in his 14 years, dealing just with that aspect of it. Fortunately, it was good to have somebody within the Department of the Army at that level that that's what really became the focus of their job. Incidentally, just to mention another name, a name that Dee had working with him—I'm sure he was in the legal side (Judge Advocate General)—was Captain Barry Breen, who was the Army's environmental law expert. He had graduated from Harvard and had run the *Harvard Law Review*, so that can tell you how great a guy he was, not only was he a great guy but what an intellectual he was.

Now, he was a captain in the Army, and he was Dee's advisor. The reason I mention him is because years later, he came over to EPA and was the—after he got out of the service, I don't know what he did initially, but he came back and worked for EPA. He ended up being my boss later on [laughter] and running the Federal Facilities Enforcement Office.

We were in good hands that way, but what we needed was an organization. There was really no Army staff to really deal with it. It was sort of down in the Assistant Chief of Engineers' office. It seemed to be that any responsibility for the environment [was] down there in the ACE's office. Indeed, before I went over to EPA, I was able to—one of the things I did in the Surgeon General's office was I was able to assign an individual down into that office, a Medical Service Corps officer, Lieutenant Colonel J. Earl Herndon. I was able to assign him down there, which meant that you begin to get a nucleus of people that know something specifically about all these problems that are coming down due to all the new legislation.

MOORHUS: Did you deal with specific projects? Did you get involved with specific problems?

HERWIG: Well, yes and no. I am digressing from my EPA years and discussion Army experiences. A couple of the problems that I did get involved with along the way that were specific problems—I mean once you get up at that level of lieutenant colonel and colonel, you end up being more involved with policy, planning and programming, budgeting, and that kind of thing, writing regulations. Earlier in my career, as a major, I wrote Army Regulation [AR] 40-5, or was responsible for revising it. That had to do with preventive medicine and had the public health aspects of environmental engineering in it. Then later on, when I was in the Army Environmental office, I was able to write some of the policy things and what later became AR 200-1, which has subsequently been revised many times.

If you want to find out what the Army environmental program is, AR 200-1 and DA Pamphlet 200-1 lays it out in absolutely tremendous detail. When I look back at it now, it's so overwhelming to think what's behind every paragraph, behind every sentence. There was something that had to be done first at the headquarters level that meant going to DOD to get things done and going to Congress to get programs.

Then the other thing, as I have mentioned before, is there were few people in the field at the installation level to really deal with this, either. It fell to, basically, two people at an installation level. It fell to somebody in the colonel's office that commanded the post—the post engineer, who was responsible for water treatment, sewage treatment, and waste disposal, and that young Army sanitary engineer that was in the Medical Department, the Medical Service Corps—he was the one that would do the inspections and surveys and try to keep things rolling. There were basically two people at the installation level to handle all the environmental problems.

I would bring my experience. When I was in Hawaii, I was triple-hatted. I was on the U.S. Army Pacific staff initially. When the U.S. Army Pacific went away, there had to be somebody to coordinate with the Navy and the Air Force, who didn't do away with their Pacific staff, so I had that job. But I also was the—I'd say I was responsible for the environment at the local level, that is to say, for all the Army installations in Hawaii. That's when I learned how to get things done at the installation level.

What it takes is a very, very active environmental coordinator. It took years before that position got to be routine at Army installations. Until that happened, it was an ad hoc job. Even in some of the regulations as late as the early '90s, it was not mandatory that there be an environmental coordinator. Getting spaces in the Army, getting additional personnel authorized spaces, is one of the most difficult things in the world.

MOORHUS: Was that a uniformed position?

HERWIG: No, it would usually be a civilian position. One reason why it worked in Hawaii was the Deputy Engineer for the U.S. Army Pacific, Colonel Ed Mixan, as well as the local command, which was the U.S. Army Support Command Hawaii [USASCH], was the, say, post for Hawaii. He happened to be a friend of mine that I played golf with every Wednesday and Saturday. That's how things got done, and environment became a command emphasis.

Then the other thing that happened was NEPA, the National Environmental Policy Act, Endangered Species Act and all of that. When the public began to take a crack at the Army over there, then that began to attract a lot of attention. That's when you found that the senior Corps of Engineers officer in the theater or at that installation really got involved, because when you had to write an environmental impact statement [EIS] for some activity or for something you were going to do, and you knew from the papers he was going to take a lot of flack, you couldn't

send the number three guy. You had to send the engineer himself, who took the brunt of all of that, as the Corps of Engineers officers have taken for the last 25 years, being on the floor answering the public's questions and doing that work.

Then when he's taken the brunt of that, then he begins to think maybe he needs an environmental coordinator to keep him up to speed, to brief him every day. Whatever his main job was, time is taken away from that getting into all these environmental issues and all these environmental laws that are coming down. I found that to be, I think, the case everywhere. Probably every installation was very similar to what my experience was in Hawaii.

Also there, we learned that, because so many of the Army environmental problems are operational with the troops, the infantry, the artillery exercises, and all that, we formed an environmental quality committee from every staff agency and troop unit on the post to come meet once a month and brief us on what they were doing and how they were going to mitigate the environment. That became a learning experience for these people, and there was high turnover. The guy that came this month might not come back next month, but this was the beginning. We had some people that were G-3, S-3 operations-type people that were top line. You began to see them becoming interested in the environment from a personal point of view and recognizing, "We've got to get ahead of this thing."

One of the things that happened regularly in Hawaii was the over-flight of helicopters. That was when the Army first came up with the strategy or the tactic of the helicopters flying nape of the earth (low to the ground) immediately overhead to avoid getting shot at, and they had to practice this. Well, you can imagine in Hawaii, at 7:00 o'clock in the morning, when 20 helicopters fly over Oahu at rooftop level—the whole noise program had to be dealt with. That meant studies to be made. Then the commander gets involved, the engineer gets involved, and the operations people get involved.

The other thing was over on the Big Island with all the endangered species. Again, I can remember the big issue other than community noise for Hawaii was with the nene geese—the n-e-n-e goose, which is a Hawaii-only type of bird. The only place in the world it's found is on the Big Island, and it's an endangered specie. Helicopters fly over nape of the earth, and the little birds are scared out of their nests. They only breed very rarely, and so you have a bird that has been disrupted. So what we had to do was, for training exercises, we had to study and find out when the birds breed, and what time of year can we do this exercise? The Army had to practice nape of the earth flying, and you have to practice it somewhere. Our ecological studies resulting in a win-win situation.

This is just how all these issues have to be resolved. In Hawaii the Army conducted live-fire exercises where troops would move out and the artillery fired over them. Well, we had to have fire breaks so that if fires got started, they didn't go up into the endangered species in the Makua Valley [Oahu, Hawaii]. There are probably more endangered species collectively there than anywhere in the rest of the whole entire continental United States. You can imagine the locals' concern about that.

We had to satisfactorily deal with that. I can still remember that, even though by this time the commanding general was on my side, and I knew him almost on a first name basis. Let's say he knew me on a first name basis. His subordinate brigadier general that was in charge of running these operations was absolutely livid about any environmental restrictions. Now, where there is so much awareness, and that was part of the program over the years, it was tough getting all of this training accomplished but still meeting environmental objectives.

MOORHUS: When you say he was livid, was he just annoyed, irritated?

HERWIG: Absolutely annoyed that we would limit the way he wanted to fire, where he wanted to fire, and how he wanted to bring this operation off, which was extremely important. If the troops didn't get that training in, they were going to send them into Vietnam without that training. I must say at that time there was just not an awareness of environmental requirements throughout the government. It wasn't just the Army.

I mean later on, we would see that every department head, everybody that's got a major job in the whole government—that's the last thing they wanted to hear was something in the environment that was going to stop whatever they—or impede or interfere with their basic mission or objectives—somehow they would have to plan for the environment. I think it took 20 years for people to—finally the younger generation—we could see it come about as the young majors came up through the Army, and the other people in other areas of government, as they came up, were more aware of it and realized that you can plan around it. The environmentalists always said, "If you plan around it, it'll be cheaper than if you didn't plan at all." Well, that wasn't exactly true either.

We went, in the environmental budget for DOD, from about zero to \$2 billion to \$4 billion over a period of five or six years. It took a lot of resources, and it took a lot of money to solve these problems. It was people like George Marienthal, Bob Stone, Dee Walker, and the reorganization of the Army that got this thing solved. But like I say, it was a tsunami. In '69 or '70, it was just a wave of legislation and things that had to be done coming up.

MOORHUS: Did you work with the Navy, also?

HERWIG: I always did.

MOORHUS: How did the Navy compare to the Army in terms of attitude?

HERWIG: Well, that was always something the EPA enforcement offices would try to do. They would try to compare, and I think they did it to kind of irritate people, to try to say one service is better than the other. My own opinion of it—of course, I was somewhat biased being an Army officer, but every program, all three of them, when we started, were different. The Air Force was strongest at the installation level because of the—when they had broken off from the Army right after World War II, their Medical Department environmental engineers had more clout at the installation level than the Army Medical Service Corps officers did initially. So they were very strong at the installation level.

The Army was strongest with its Corps of Engineers and Medical Department research facilities and because it had CHPPM or what was known as the Army Environmental Hygiene Agency at that time. It was extremely strong. The Air Force had some capability out of San Antonio [Texas], too, but I don't think it was quite as large as AEHA. They were initially stronger in hazardous waste, air pollution, and noise because of the very nature of what they're doing with aircraft. The Army had far more facilities. They had all of the ammunition plants, all the industrial plants, and all of that, so they were stronger in industrial waste water monitoring and control and that kind of thing.

The Navy did not have the strength in its Medical Service Corps. They were strong on public health but didn't play much of a role with their installation engineer, so they were weaker there. But the Seabees, the Navy civil engineers, were extremely talented and were extremely good. They had many, many good parts of their program. I think the services were all different, and I think it paid off in the end when everybody adopted some of the strengths of the other department. As these regulations began to be written, as DOD began standardizing some of these programs, I think we took the best out of all of these departments.

I would never fall for that. EPA people would always like to get you into an argument and get a competition going between—and to some extent we did do this. We did count notices

of violation when our regional people or our people out in the region—some of them were EPA federal facilities people, and others were from EPA media programs (air, water, hazardous waste) who would go out. We would keep track of that, but I would never really get into saying which one was—I think we all would have some feelings about it or some ideas about it, but I don't think I'd want to make a statement as who was the better program. Dee might have had some feeling about it, but I don't think I ever really did.

MOORHUS: I was interested that your predecessor was from the Navy.

HERWIG: He was an extremely qualified individual. He had a degree in Chemical Engineering and then a Masters in Environmental Engineering and a Masters in Business Administration. He was an extremely well qualified commander. I don't know how he got that job. He was around for just a couple of weeks when I took over from him, so I didn't—I was really impressed by the guy, but how he got that job, how somebody from DOD ever got that, because again, I don't think it was ever an officially recognized position. Maybe George Marienthal, who was originally from EPA, arranged for it.

When I went over there, I was on orders, but my orders showed that my commanding officer was out at the Army Environmental Hygiene Agency, so I never—for the entire time I was there, there was never really an official position per se. It was sort of these are the ways things get done. Otherwise, you would never have had that happen. Then it wasn't long before the civilian that was there, Mr. John Chase, retired, and I was left as an Army colonel running the EPA's Federal Facilities Compliance Program, and I brought my own ideas to that.

Now, that Federal Facilities Compliance Program had been in effect since EPA had taken over, and it had been a fairly strong program at one time. But because of federal sovereignty—they said that's why it got set up separately from other EPA enforcement offices, because of federal sovereignty. Many authorities believed that, like the states, the EPA regional inspectors were not able to write notices of violation, weren't able to sue, and that kind of thing.

So in each of the ten regions there was a Federal Facilities Compliance Coordinator, but it was a single individual who coordinated inspections with the regional media offices and counterparts at the state level. The ones that were really outstanding would make a lot of inspections themselves. They'd be on the road quite a bit, but obviously, they would try to pick out facilities they felt needed to have an inspection that were a problem. They would go to their water office or their air office, and they would get inspections scheduled for that year. They would get these inspections done at those installations they felt most needed them. But there was always a shortage of resources.

By the time I came over there, that program had become somewhat weakened in the respect that the rest of EPA had slowly turned from being engineer oriented and—this is a broad generality and probably, in effect, really not true, but the attitude that had been there initially, when the people had been from the Public Health Service and the Department of Interior—those senior people (engineers and scientists) were very pragmatic about getting things done, from an engineering point of view. But it slowly became more and more a relationship of attorneys and an attitude that we'll sue people and legal action was the solution. Well, the attitude of federal agencies, and indeed of mine, was that's just a problem. If you sue them, as we've mentioned earlier, they'll just get wrapped around the axle.

I felt the idea is we need to do all the inspections we can do. We need to make our presence felt in a massive—indeed, I spent my entire time at EPA always trying to get more and more inspections, to get inspections of Army facilities particularly, because once they went and left a notice of violation of some kind, then there was an impetus for that commander to go in and get the money to program for a solution, particularly if you had an environmental coordinator to get on top of it. That was my theory the entire time.

MOORHUS: Who did the inspections?

HERWIG: The inspections were done at the regional level by the Federal Facility Coordinator or EPA Regional Media Offices.

MOORHUS: By EPA.

HERWIG: By EPA and by states. Now, at the same time, the Army, Navy, and Air Force all were doing their own environmental inspections internally. In other words, they had their own priorities for where they thought their major problems were going to be. So in that respect, that was no change from what it had been in the Army 20, 30 years ago—or after the end of World War II. It was always, “Don’t go out and inspect. Do these surveys,” but the problem, as we mentioned earlier, was that when they were doing them internally originally, they didn’t always have much force behind them. They were recommendations, and they didn’t have any force behind them.

So you needed the legal aspect behind it, and you needed an outside agency behind it, but by the time the EPA inspector came around, somebody from an internal service organization such as AEHA had probably already been there once or probably repeatedly over the previous years, and they already knew what they had to be doing. But that notice of violation began to trigger command action. Slowly over the years, the Army Environmental Office, Dee Walker—everybody started tracking these by command. Where are these notices of violation? What kind are they, and that kind of a thing.

MOORHUS: Who decided where the inspections would be held, what would be inspected? Was it decided in EPA?

HERWIG: No. Within the Army, internally, it would be someone like myself when I had to run the Water Quality Division out there. I would decide where we needed to go based on history, where I thought problems were, and listening to whatever. So that’s where I would decide that we would go. Well, I knew what my capability was. I had, I think at the time, about 30 people working for me. I had a laboratory and different expertise, young officers, and we would decide that, well yes, this year, we will hit five Army ammunition plants. We’ll do one Defense logistic agency facility, within our capability, and we would go to ones that seemed to be having recurring problems and not getting things fixed.

In the EPA regions, they would do it on the basis of, again, their expertise of where they thought there were problems, where public was clamoring that—maybe Aberdeen Proving Ground [Maryland] wasn’t doing something, then the Region III up in Philadelphia, that federal facility coordinator who was later one of my guys in the region, would decide, “I’ll go out there and visit Aberdeen myself this year.” So he would make a schedule. He knew, within his capability, he could make two per month, and then he was able to go to the air pollution office or water pollution office within the region or the various media offices within the region and maybe get one or two inspections, out of everything that was being done in the country, and get them aimed toward federal facilities.

That was sort of my job as the manager later on—well, even then, it was to try to get the most number of people out to inspect federal facilities that you could get. Now, I’m sure if I was talking to Dee Walker, and I told him, “I’m going to try to have forty facilities inspected this year.” “Oh, my Lee, what are you doing to me?” But it’s the only way things could ever get done, and that’s how we eventually built the program. Before that, as I said, by the time I got over there, even though that had been about ten years, the interest on the part of EPA for doing this—the region didn’t want to do them, because they wanted to really sue people, and that was the philosophy for about fifteen years.

Later on, [William] Ruckelshaus, Lee Thomas and all of the people that had been EPA administrators during that time recognized that suing federal agencies was not all that productive. Indeed, the most money I think in any one year they ever got out of anybody was about \$800,000 for all of the activity. What it did do was scare everybody, and maybe that was the good thing. When people were being sued, and they picked it up in the paper with all of that publicity, that got department heads' attention, so that was the good part about it, that plus what we were doing internally within all the federal agencies to get the programming, budgeting, and all of that going.

You had to have some fear on the part of—you're going to wake up—I mean I suppose Dee Walker had this dream a million times. You wake up in the middle of the night. I wonder what bad is happening to me tonight that I'm going to wake up in the morning, I'm going to walk into my office, and the public affairs officer and the judge advocate general are going to be in my office [saying], "What are you going to do about this place?"

MOORHUS: He did talk about some of the apparently more serious cases, and they tended to be emergencies. But he talked, for example, about Rocky Mountain Arsenal [Commerce City, Colorado], which is one of the big, really serious—

HERWIG: The problems at Rocky Mountain Arsenal started in the 1950s, and it had been a—Rocky Mountain Arsenal was one of these industrial plants that made chemical weapons, and in the early days, everybody always knew how toxic it was. That was not a problem. Everybody understood that. We've got to get rid of this stuff. We have to treat it, and the way they disposed of it out in Rocky Mountain Arsenal was deep well injection. You would think that, if you could just put it down thousands of feet back down in the ground, and then it would slowly decay—I'll use that word. Radiation decay is—chemicals don't decay, but maybe they become less potent, and you would treat them. They would be treated—that that would be a good way of doing it.

Some people at EPA would say, "Well, that's out of sight, out of mind." That wasn't exactly the case, because what happened with deep well injection was some people soon found that there was a correlation between earthquakes in the Denver area and when they were putting this liquid into the ground. That's when people began to realize that an earthquake could be started by rocks sliding around down there as the fluid got into the ground in between strata and would cause these earthquakes.

For the next twenty years, the entire time that Dee was there I'm sure, that was a major problem. There were some ponds there. Well, I mean the good news story—it cost, I think, hundreds of millions of dollars to clean it up, but eventually that facility was turned back over to the State of Colorado and the City of Denver, and there's more wildlife now around the Denver area in that area than any place else. But it was just a constant—I felt that Rocky Mountain Arsenal was very significant, because that was really the first major Army environmental problem that took so much attention and took so much money, and it began to influence organizations. Indeed, the U.S. Army Environmental Center traces its history back to that initial program at Rocky Mountain Arsenal, which is—I say it went back to the '50s. By 1972 they had created what they called the Project Manager for Chemical Demilitarization, and that was the idea to find better ways to destroy these toxic wastes.

Well, that was the beginning of what evolved into the—even before laws were passed through the CERCLA, the comprehensive law dealing with this, the Army had already established, then, the Installation Restoration Program. That was the first one for evaluating all of these toxic and hazardous wastes at all of these industrial plants. That was the beginning of it, and that was originally assigned to DARCOM, which became Army Materiel Command [AMC].

So now, we have the beginning of a great program with a lot of money, but it was in Army Materiel Command, which was just one of the major commands. It's not being run by the Corps of Engineers, so it doesn't have an overall Army emphasis. It's not being run by the Medical Department. It's being run by just one command. So it's beginning to get a lot of money, and yet there were needs for equal amounts of money in other places.

That was how that all got started, and the Army Environmental Center evolved, step by step, from that. Then in 19-what? That was 1975 that the Installation Restoration Program went to—it had been a separate program in the Department of Army itself at one time, and then they assigned that to Army Materiel Command. In 1978, they created the U.S. Army Toxic and Hazardous Materials Agency, USATHAMA, U-S-A-T-H-A-M-A. You're probably familiar with that.

MOORHUS: Yes.

HERWIG: That was, in my opinion, an absolutely great move, because now, we had something dealing more Army-wide. It still wasn't perfect, but it was the beginning of a great organization, and they staffed it well. Once the dollars got big, then you could begin to get personnel, and you were going to get big dollars for things. It wasn't necessarily just for that alone. I think that Dee is right. That was a major starting point for—that part of the environmental program that wasn't the part that I came out of, which was the industrial waste, sewage, and water treatment, the classic sanitary engineering—the whole idea of chemicals being a problem in ground water, Army disposal, started in the late fifties, early sixties.

Classic engineering really didn't deal with this aspect, because people had for years—there's a lot of discussion. People have gone back historically and looked at [unclear] that what I'm going to say now isn't true, but I felt it was true at the time, and I still think it's pretty well true, even if people can show me otherwise. People just did not get training. You did have chemistry courses. You did take organic chemistry and all of this, but people were not trained as chemists, and whenever we sampled—we believed that, if you put something in the ground, it didn't go but about a hundred yards, and all the public health regulations in the world [just dealt with what was] organic waste. So people just did not believe it got into the ground water.

The first study I can remember that that happened was in the late fifties, early sixties. It was on Long Island [New York] where something got into the ground water, and the next thing you knew, people's wells were polluted. But this kind of information moves very slowly, and the idea that chemicals everywhere—that if you spilled gasoline out on the ground somewhere that it would end up in an aquifer somewhere, just didn't ring with many professionals at all. So these things were very slow in getting started, but once it got started, once we got USATHAMA, then the focus—by that time, we had these different laws that came in for toxic and hazardous waste—once those came in, then dollar-wise, they just overwhelmed everything, so the whole emphasis shifted to more of a chemical basis.

MOORHUS: There were some of these chemical problems in Triana, Alabama, a problem with DDT [Dichlorodiphenyl-trichloroethane] in the water.

HERWIG: Right. We all thought probably we got through World War II by using DDT to treat for malaria control, plague, and these kinds of things, and indeed, when I was in Vietnam, I did a lot of spraying with DDT. The whole malaria control—that's a major issue today. Can you still use DDT? Well, when Rachel Carson exposed DDT in *Silent Spring* in about 1961 or so [1962], about that time, a lot of people really didn't believe it. Again, that was another beginning of this idea of chemicals in the environment.

So yes, it was just used really indiscriminately, because it did a lot of good, and indeed, the issue today is can you spray in Africa? If ten million people are going to die this year from

malaria, can we not spray if we can do it effectively? By that I mean what I did in Vietnam was we'd spray inside houses. You didn't go spraying outside. You sprayed inside those houses, because malaria—the anopheles mosquito, after it bites you, rests on the wall, absorbs the DDT, and dies. Therefore, if it's picked up the parasite from the individual, the parasite dies because the mosquito dies, and I would say to this day, I would allow the spraying of DDT indoors.

The only thing is, it's like anything else. How do you control it? People start using it then. People would be out spraying the surface of dumps outside, not inside, to keep down the fly population and that kind of thing. I'm sure in Alabama that was the case, that it just got sprayed so much, and there was manufacture of it down there, so it got into that stream down there and poisoned the fish.

MOORHUS: I mentioned a couple of these projects that Dee mentioned, because I'm wondering whether you got involved with individual problems like that that the Army was having or whether you were more involved with the larger programs and the larger policy issues.

HERWIG: Well, I would say probably the latter, but I had two notable projects while I was on active duty. I have two instances that I got involved on an individual basis where they just needed your expertise. They were major problems that I was able to personally participate in. Again, it brings some degree of reality by having your feet on the ground, not just sitting writing these regulations as you go back and read AR 200-1. They send you there to solve a problem, and you try to bring your whole expertise into that kind of thing.

The first one was actually in—I believe it was 1971. It was on Okinawa. The Army had pentachlorophenol [PCP] that was used in industrial processes and for cleaning during the Vietnam conflict. So when they found that had this excess—all federal agencies have excess and they get rid of it by selling it to civilians, so they sold this pentachlorophenol which was in five-gallon buckets. They sold it to a local private individual—I say it was Okinawa. It was the Island of Okinawa, but it was still owned by the U.S. after World War II, the Ryukyu Islands. We actually had an American governor on Okinawa at the time.

Whoever bought the pentachlorophenol bought it for the buckets, and went out and started dumping the chemical into a well and in a ravine. It got down and polluted all of the drinking water on the southern half of the island of Okinawa. The Japanese and local Okinawan press got a hold of it and were making a big to-do about it. I guess maybe about half of it had been gotten rid of when people realized, "We can't let these people come along and do that kind of thing. We have to be more careful." We still had 60,000 gallons of it, plus we'd had places where it had polluted the ground. We had taken what's called the bagasse—I think that is something to soak up what has been spilled in some places. Anyway, I got a call that we had to go out and do something about this. It was a major diplomatic issue with the Japanese and local Okinawans.

MOORHUS: About what year was that?

HERWIG: I think it was 1971.

MOORHUS: So that's while you were on active duty.

HERWIG: That's when I was on active duty, and that's when I was out at the Army Environmental Hygiene Agency. So we went over there and spent a couple of days looking at it. Well, we went several times. I think we made two trips over there. One day I was going along, and I saw this power plant. I said to myself—I had with me a world class air pollution expert from AEHA, Bob Bartell. I said, "Bob, what is the temperature inside power plants generating electricity?" He said, "Well, it's about 2,000 degrees or something like that." I said,

“What is the temperature that pentachlorophenol would be burned and not have any residue?” and he said, “That would be well over it.”

So we came up with a solution that saved—I mean there were plans to make a treatment plant for this thing that would cost millions of dollars. That was the first solution. What we did is we went to see the manager of this power treatment plant, and we said, “What do you burn?” “Well, we burn fuel oil.” A large part of pentachlorophenol is just basically fuel oil. I said, “What would happen if we mixed some of this in with that, burned it at that high temperature and just got rid of this stuff?” He said, “I’d be able to do it. It would save me—if you’ve got 60,000 gallons, that’s 60,000 gallons of fuel oil I don’t have to buy.” So what they did over the next month, when the temperature was right and the wind was blowing out to sea, just in case—it’s not too hard to blow out to sea on Okinawa—they mixed all this pentachlorophenol in with the fuel oil at a rate of four percent, so it was very, very, very diluted. End of problem.

I got a nice commendation from the governor of the Ryukyu Islands, the American governor, for that. It was a nice, practical solution. Well, as a result of that trip, I discovered they also had a lot of other chemicals. People were stewing around how to get rid of them and what to do. We happened to have—which is now part of AEHA—there was a laboratory, the U.S. Army Environmental Hygiene Agency Pacific—USAEHAPAC or something like that. Now it’s a part of AEHA and it’s in Camp Zama, Japan, or at least it was when I left the service.

They had all of this other stuff stored out on hard stands. They had this chemical, they had that chemical, and they had this chemical. I mean there were chemicals stored everywhere. Everybody was messing around and trying to decide what to do. I went to the commander, who was a lieutenant colonel, of our AEHA agency. I said, “I know he’s a Ph.D. in Chemical Engineering. I know you can come up with a plan for these, say, sixty chemicals that are out here that you can dispose of them in a way that would be acceptable to everybody.” You’ve got four pounds of that, and you’ve got three cans of that. What was happening is, every time they’d have a typhoon, this stuff could or would wash out. By not doing anything, you were creating more of a problem.

So he came up with a plan. He went to the base commander and got this swimming pool assigned to him so that he could dilute some of this stuff in water, which was all you needed to do, get the parts per million down below a certain level. He would treat it and then make it innocuous into a salt. Then you’d dilute it in the swimming pool and then empty the swimming pool. There are two examples of pragmatic stuff that, if you haven’t gotten into court and don’t have somebody suing you, you can go ahead and do stuff and never do any harm to anyone. That literally saved millions of dollars.

MOORHUS: When you were at EPA, did you have an opportunity to get involved with specific projects like that?

HERWIG: Off the top of my head, I don’t remember any in particular. The other one I was going to mention was that while I was—in 1965, there was, again, a major disposal thing, and that was the disposal of Air Force waste out at Dugway Proving Ground. This was beryllium waste, and the Public Health Service was very concerned about this, so we had to set up a program. We open burned it, but we monitored it. I had monitors all over the place. We successfully disposed of it without any harm to anybody. I was out there for several months at Dugway Proving Ground. We took measurements around fifty, sixty miles out, and then I had monitors all around the burn area.

Again, it was a very practical kind of thing. I had five guys working for me, five young lieutenants, setting up all of this monitoring equipment. It was a tremendous coordination problem. We didn’t actually have enough of the monitoring equipment, so I had to borrow. It was basically an Air Force project, since it was their waste, where their research lab had these

little motors with beryllium in them and one thing or another. So we successfully had to coordinate with the Public Health Service, with the states, and everybody.

The meteorology of the thing was unbelievable. We had to be blowing a certain way. We had to catch the wind just right. In July and August, the wind was 90 percent of the time blowing the other way than the way you wanted it. I sort of made my reputation by calling the meteorology—as a matter of fact, on a Friday afternoon about 4:00 o'clock, I became convinced, locally, that we would have a little front. A minor front would come through. Otherwise, we would have to burn it then, or I'm going to be out there for months until the prevailing winds changed. So we called all the high people up in the Public Health Service and the state, Army and Air Force Surgeons General and everywhere and said, "We're burning Sunday or Monday morning, whenever we get the wind just right." Talk about nervous. I probably had fifty people in the stands out there watching this thing as we lit this thing off to dispose of this.

MOORHUS: Now these incidents that you've mentioned all occurred before EPA was established.

HERWIG: That's correct. My point is that things were going on in the Army, a lot of good stuff, but as more and more of these laws piled up over the years, you needed more and more internal expertise. You needed a lot more people, and you needed a lot more money. Dee has to have been in the forefront of that the entire time. In 1969 I graduated from the Command and General Staff College and came back and was the head of Water Quality. The commander at the time gave me the responsibility of—we got 100 spaces for AEHA in 1970, just the end of it. As a result of EPA coming into existence we got a lot of spaces out there.

We created a Solid Waste Disposal Division before EPA was even formed. We had expertise and equipment for monitoring and drilling into ground water to monitor for hazardous waste, before EPA was even founded.

MOORHUS: Once EPA was established, did EPA have input in or oversight over the way problems like that were solved?

HERWIG: No. They found the problem, and it was basically up to you to do it. But on the other hand, as I said, initially there was a period of a few years where EPA was helpful. When EPA first started, I think it was pretty much helpful, because the people came from Interior and from the Public Health Service. These were people that you knew professionally. You went to the same conferences, and you did all of this professionally.

Over a period of time, this began to fade out. As more and more of the people that ran the various branches and divisions and directorates were attorneys and people who had come up through the compliance side, they became less helpful. But then about five years before I retired, it changed again. I've seen speeches by some of the directors of EPA that said, "We've got to get them the money. They have to have the money, but they have to know what they're supposed to be doing." So then it became a whole emphasis on seminars and training. I would say, today, EPA is as much a training agency, an information agency, and a tracking agency for problems. Of course, EPA personnel learned a lot on how CERCLA and RCRA sites should be cleaned up. The headquarters certainly doesn't do any inspections. I think it's shifted now back out to where it was before EPA, back out to the states, but with the federal laws, the federal backing, all the back up, and everything. It's come full cycle.

It never could have worked without doing it that way, I'm sorry to say. I think in one respect I was wrong. If I thought that the few people that we had, knowing what we needed to be doing, were going to make any change in the world, I wouldn't have done it without the authority and the backing from the legal process that went along with it. You needed all these

laws. You needed public pressure. You needed all these organizations out there, whoever does the studies that show these problems on a grander scale. It just needed a grander organization all the way around on the part of everybody.

MOORHUS: Did you see changes in the time that you were at EPA in the relationship between EPA and the Army?

HERWIG: I personally thought that we had an extremely good relationship. I would say I did see a change, and that was after the RCRA [Resource Conservation and Recovery Act] and CERCLA laws were passed. Those people had not ever been with any other federal agencies and didn't understand, themselves, probably how programming and budgeting worked. I would say that period was very hostile toward everybody. That hostility worked. It was so bad.

Again, I'll just mention one other thing. That was when we got the Defense Environmental Restoration Account [DERA]. I was still on active duty. I think it was Don Emig at the time who said Senator [Ted] Stevens had a problem. He didn't think the Corps of Engineers was doing a good enough job in cleaning up all these little waste sites up in Alaska. Well, I think most people felt that those waste sites were in pretty remote areas. They didn't affect many people, and it really wasn't much of a problem.

Well, you don't tell Senator Stevens that, so he said, "Somebody's got to go up there." I'm sending—again, I wish I knew his name, because he was one of the most—another Navy officer that was absolutely outstanding. Joe, or whoever, has got to go up there and talk to staff and explain what we can do and one thing and another, so he asked me to go up with him, so I just tagged along. I really didn't have anything to do but to come. We got up there, and Senator Stevens wasn't there, but his staffer was there. Now, you had to be very careful with the federal government. When you go up from an executive agency and go and talk on the Hill not to a formal thing, you're not supposed to be soliciting funds for anything. I mean that's how a lot of people get into trouble if they don't know that, like that—well, anyway people get in trouble. I knew that.

Well, the conversation's going on, and it's obvious that this staffer wants something done up in Alaska, and he's willing to put money in it. We were doing a lot of [unclear]. I'm not sure that this was the worst problem that we have. I can think a lot of a lot worse problems. I mean we had Rocky Mountain Arsenal. We had all these other things ongoing. By the time we walked out of there, he said, "I think we need to line item for you guys to solve some of these problems," and as I recall it—other people may recall it differently, but as I recall it, that was the beginning of this separate account for this so-called Environmental Restoration Account, and that was before CERCLA.

You remember when Superfund came out, Superfund was funds that came from industrial companies, from oil companies, Dow Chemical [Midland, Michigan], DuPont [E. I. du Pont de Nemours and Company, Wilmington, Delaware], and others. That money wasn't for DOD. Here we were sitting being treated like civilians firms, and we didn't have any account to do this, no money to do it. So once we got this account, I'd say that was the beginning of the really big bucks, other than going back to Rocky Mountain Arsenal. Rocky Mountain Arsenal was big bucks on its own, but this account—I mean now, we're talking years later, and then things took on a life of their own. Once you have dollars, then you've got to have people to do this and that.

MOORHUS: You mentioned the ACE, the Assistant Chief of Engineers in the Pentagon. Who were some of the ACEs that you worked with?

HERWIG: Well, I'm trying to recall [chuckle]. The last one was [Brigadier] General [Gerald] Brown. When he retired, he gave me a paperweight. Step over here a second, and I'll show you. He gave this to everybody. He gave us a [indicating]—"Gerald Brown"—really nice.

MOORHUS: Oh, very nice.

HERWIG: I don't know if anybody showed that to you before.

MOORHUS: No, I haven't seen it.

HERWIG: It was thanks for working with him.

MOORHUS: Very nice. What year was this, about '92, '93?

HERWIG: It must have been about '92. I was going to say the other person that signed an award that I got when I left as a liaison was—I don't know if we've talked about that or not—after being the DOD liaison, then as a civilian, I ran the EPA program. Then I went back over to Army as EPA liaison to Army.

MOORHUS: Oh, and when did you make that change?

HERWIG: That was—I'm trying to recall my timeframe here. That was from 1991—

MOORHUS: To '95?

HERWIG: To 1994. That was from 1 June 1990 to 9 September 1994, so I've had four phases in the environment. First, I was on active duty in the Army during the classic Medical Service Corps stuff. Then I was the DOD liaison to EPA, then ran the Federal Facility Compliance Program at EPA, and then at the end of that time, I went back, as the EPA liaison, to Army. Then my last year, I went back to EPA in a non-managerial role, which was really one of the more fun times in my life.

The other people that I know of that were in—General Brown was the Director of Environmental Programs at ODEP [Office of the Director, Army Environmental Programs]. The guy that signed this in the Army Environmental office, this award, was Colonel Tom Brady. I don't know if anybody has mentioned him at all.

MOORHUS: No.

HERWIG: Before General Brown, I know there was Colonel Tom Magness and other people. I'm having a hard time remembering.

MOORHUS: The first assistant secretary of the Army whose responsibility included the environment, was Susan Livingstone. Did you have any contact or relationship with her? She was there from '89 to '92, appointed by [President] George Bush, the First. That's who Dee Walker worked for then.

HERWIG: Not really personally. I mean that was, as they say, one notch above my pay grade, because I worked with Dee, and that was the level that I would work with.

MOORHUS: She had worked with him on developing the Four Pillars of the Army Environmental program.

HERWIG: Oh, yes. I worked on that myself. That was later on with the Army Environmental Policy Institute, which started out in Champaign [Illinois]. It was to look way ahead—well, the study was to look into—well, it was before [President Bill] Clinton, The Bridge to the 21st Century. It was looking to the 21st Century, so they created this, and why they did it, I'm not exactly sure. But they wanted to bring academia into giving them advice. I'm sure Dee and Susan felt like they needed top thinking, so they created this Army Environmental Policy Institute. They had to have a place for it, and it started out in Champaign at CERL, Construction

Engineering Research Lab. I'm sure you're familiar with them. It was out there, but they knew that that wasn't going to be the final home for it.

Later on, they moved that office to Atlanta, and they staffed up, I don't know, six or seven people, but they had money for a lot of outside, like adjunct type, people. They came up with those Four Pillars. I thought that was—we sat there on those four pillars. We had a chance to look at that, think about it, and we thought that the Four Pillars was a fantastic concept, because you could take that drawing—have you ever seen the drawing of it?

MOORHUS: Oh, yes.

HERWIG: The first one was done from an engineering point of view. If you looked at it closely, there was one of those blocks that was in the wrong place, and it would fall down if it was actually built [laughter]. But that was a great concept and a big public affairs kind of gimmick that really made people divide this program up into components. I think that's what happened. This program just grew and grew and grew, and then, there would be more than any one person could manage or handle, and then you had to have—if you had one, now you had to have four. Pollution prevention came along as a new item in the middle of '92, and conservation. Then they started bringing the Corps of Engineers, the Civil Works side of it, into the real Army. You never knew, when you'd say Corps of Engineers, whether they were talking Civil Works or who exactly you were talking about, so that was eventually brought in.

I consider that as a public relations thing. I see it still mentioned in AR 200-1, so I guess it's still around. I thought it was a great way of organizing things, and it gave you an opportunity to show, even at the installation level, how much is ongoing in environment. When you start talking about conservation, you're talking about a whole new ball game. You're no longer talking about that guy that could run the sewage treatment plant and the water treatment plant or maybe even handle the hazardous waste. Conservation—now, you're talking about biology and botany and ecology.

You began to see people on the staff, even at installation level and certainly in all these major commands, that did nothing but deal with that. One of the first places that the Army had, again, that was a real leader was when they established that out at CERL [Construction Engineering Research Lab]. I think it was in the early '70s. The big program there, which we spent a lot of time on, was at Fort Irwin, California, with the National Training Center [NTC]. I mean you're suddenly going to be running these tanks and armored carriers all over the desert, and you're going to squash the desert tortoise and all this flora that's just for this one area.

They created a group at CERL that no one else had. USATHAMA, at the time, certainly never was thinking anything about conservation, and I wouldn't say AEHA was particularly, either. We had some people that were competent in that area, people particularly from an entomology point of view. So the conservation pillar was important. It gave another whole new focus, and I think the Army was a real leader in that.

I remember CERL going out and running a surveying line, marking it off, and then going along and counting all of the various flora and fauna—whatever was within a foot of that line. Here's this plant, and there's that plant. There's that little earthworm, and there's this little thing. Well, EPA loved that, because we had people in EPA—one of the branches at EPA was the people who dealt with environmental impact statements. Federal agencies would put that kind of money into this kind of—then what they would do is they would count all these, write up your study, wait a year or two, come back, and do it again and see what's there. Now, you have your operation, and after the tanks have been through there and all that, then you see what damage have we done. I think the Army was a real leader in that. I'm sure it had been done by some places else, but I can't imagine anybody doing it with the degree that the Army does it.

MOORHUS: When you left active duty and began working in EPA, then you were an employee of EPA. Is that right?

HERWIG: Correct. They asked me to stay on at EPA, and I said, "Well, I will if—I'm going to have to give up part of my retired pay to do this. Now, I happen to love what I'm doing, but I've got to at least be a GM-15," so eventually, they worked that out. So I ran that program from '84 to 1990, six years. Now, we were in that role—the Office of Federal Activities (OFA) is the overarching office. It's separate from enforcement, separate from all research, and separate from everything else. OFA was under the Office of External Affairs. The reason it existed, initially, was primarily because of federal sovereignty, but some programs were strictly federal in nature. We had to have some organization that could deal with all of this and deal because of federal sovereignty. We couldn't just allow the states to do it.

The office consisted of three branches of which my branch was one, the Office of Federal Facility Compliance. Another one, the Federal Agency Liaison Division, dealt with all federal agency policy, including 404 wetlands permits and worked with the Corps of Engineers every day on the Civil Works side—not just military stuff, but they permitted the civilian stuff, also. Special Program and Analysis was the environmental group that dealt with review of all environmental impact statements (EIS) and National Environmental Policy Act (NEPA) reviews, Indian lands, and international issues.

For six years, that's what we three branch chiefs did. We worked together. Dr. Alan Hirsch was director of OFA when I first arrived. Later, Dick Sanderson was director. Dave Davis, Bill Dickerson, and Anne Norton Miller were chiefs of the other branches during my tenure. The programs were pretty separate entities, but we met together every day and talked about federal agencies. Indeed, my office initially was one man. I had no staff whatsoever at this time.

Before I went over on active duty, there had been a staff there, and that had just attrited away, so I was the only individual. Well, over there six years, I built that up to a staff of, I don't know, about twenty. I would get a position here and a space there. Somebody would have an employee they didn't want, and they'd give them to me. If I would just take them [chuckle], they'd give them away to me, and inevitably, I could deal with it. It turned out that the other people that were giving them away that had the problem, not the individual had the problem.

One lady that I got was excellent. Her office, and people wouldn't believe it—she just would get sick going into her office, and people felt that she was malingering or having—so I said, "Well, I'll take her. She's just got a wonderful background, a great record, and everything." She came over and worked for me for a while, and she seemed to have a little bit of a problem in the office. She thought it had something to do with the environment in the building, and lo and behold, eventually they had to take the entire carpeting out of that building. We actually put her in an apartment working. Waterside Mall had apartments around there, and they leased an apartment next door for people like that to work in, because they literally got sick. It's called Sick Building Syndrome, and you read about it now, but people would never believe it.

So slowly through this, I got people. Now that I was the civilian employee, I got military guys to come back over and work for me as the liaisons. I had some Medical Service Corps officers over the years. I had one or two of those. I had one or two Corps of Engineers officers come over, just anything to do to build up your staff to do the job. Now, what we did was we wrote policy. It was our job to write policy and coordinate with the other EPA offices, Water Quality Office and Air Quality Office. Where are the problems? Where are the federal facilities—identifying all these federal facilities.

One of the last things I was working on when I retired was GIS [Geospatial Information Science]. People didn't know anything about GIS, and I wanted to be able to call up on the

computer any federal facility anywhere in the country and get a picture of—not a picture of it. That was too much. I'd just like to get a map of it, and boy, that was way out. We didn't quite get it done. We almost got that done. Well, now, you can see your own house on their computer. That's one thing we did. We developed policy.

But the big thing that we did—well, I shouldn't say the big thing. The biggest thing we had was we had people in the ten regions, so we gave them instructions on what they should be doing. What were the federal stipulations and all of that? We would meet with them twice a year. We would have a semi-annual meeting out somewhere in the region usually. Well, we alternated. One meeting would be out in one of the ten regions, and the next one would be back in Washington, just keeping them up to date on all federal agencies and what they ought to be doing giving them instructions. EPA's decentralized. It has ten regions, each with a regional director.

I'd say that was the major part of the work. I'll come back to another important thing, but the other was education. Now, if you really believe that federal agencies will do the right thing if they have the money, then they have to know if you—if somebody's working on writing laws and regulations that are going to come down two years from now—to get into the federal budget, you need a two-year headway, and the people that are out in the federal agencies, including even the Army people, are not experts on programming and budgeting. I mean it takes people like Dee Walker to pull it all together and force it to come together, because they're just not—I was not expert in this myself, but over the years, I become more expert in this. Indeed, PPBS [Program Planning and Budgeting System] didn't even exist in the early years.

When President [Jimmy] Carter came in, he talked about managing by objectives, and I mean now, it just seems ridiculous that we didn't do that. Many offices just took last year's budget, marked it up, added 10 percent, or maybe you marked it up to 20 percent figuring, well, you'll get half of it, if any. The way we worked at EPA was try to tell people precisely what you should be doing and then budget for it.

We would have monthly meetings at EPA, which I chaired, with environmental personnel from other federal agencies. When we started out, we'd have ten people come, and we held it every month for the entire time we were there. I actually got an award for setting this thing up, because by the time we got done, it became a major, major operation. We would have fifty to seventy-five people from all federal agencies show up each month. What we were trying to do was stiffen their backbone, because here they are, some technical person not understanding much about anything in the environment, and we'd try to get them to go back, see their boss, and make sure they knew or were alerted to what was going to happen with environmental legislation and regulations.

I'd say that turned out to be very successful, and indeed today, I would say a large portion of what EPA does now is just exactly that, working with people everywhere, working with the public, working with the federal agencies, working with everybody to let them know. Of course, there are just so many ways of getting information today. It was really tough for us. We really had to be prepared for that monthly exercise, to have stuff laid out. You'd have to have handouts, all of this, but it was one of the most rewarding things that we really did. Two people on the staff, Jim Edward and Don Franklin, deserve a lot of credit for the success of this effort.

The third aspect of it, and this was the one that had a legal basis, was compliance with the Executive Order 12088. It was dated October 13, 1978, so it existed a couple of years before I went over to EPA. It had a number of things that were extremely important, and it is still valid today, although it's been modified to make it stronger. This was the issue. They issued this executive order because of federal sovereignty, and this was a tightening up from all this previous rather loose stuff. When all these acts would come out, none of them really dealt

specifically with federal agencies. They would be giving states grants, telling states to do something, and then federal agencies were supposed to do something, but the federal agencies didn't know what they were supposed to be doing. Just because the State of Minnesota is getting a grant for a publicly-owned treatment work, what is a Department of Interior guy, who has a treatment plant required to do?

This was the first requirement. "The head of each executive agency is responsible for insuring that all necessary actions are taken for prevention, control, and abatement of environmental pollution with respect to federal surveys." I'll give you a copy of this.

MOORHUS: Great.

HERWIG: The second thing it said is, "The head of each executive agency is responsible for compliance with applicable pollution control standards, including those established"—and then it listed all the acts and everything like that. These are all ones prior to 1978, and this changed over the years as just a wave of stuff came out. It said, "Each executive agency shall cooperate with the administrator of the Environmental Protection Agency and cooperate with states and interstate and local agencies," and all that. So this is what Dee, as head of a department environmental program, is supposed to be doing, cooperating. Then it says, "Each executive agency shall consult with the EPA administrator." He should cooperate, and he should consult, and you wonder what are the best techniques and the best methods.

So that's what agencies are supposed to do. They're supposed to cooperate and consult. Well, that doesn't say too much, really. I mean it says a lot, but it's all on what you interpret it to mean. But then it says, "The administrator shall provide technical advice and assistance. The administrator shall conduct reviews and inspections to monitor compliance by federal facilities."

Then, "Each agency shall submit to the Director of OMB, through the Administrator of EPA, an annual plan for the control of environmental pollution. Provide for design, construction, management operation, and maintenance of federal facilities, and activities that shall include annual cost estimates. The administrator shall establish guidelines for developing such plans." That is the mission. That had been the mission since 1978. The mission before, between 1970 and '78 was really loose. This is still pretty loose, but it's whichever you want it to be. If somebody is in a federal agency, you can make this into something. So that's what we did.

We began, through this education and through issuing NOVs [Notices of Violation], we began really making this into probably more than it really is. This annual plan, then, was that people had to submit individual projects, from the installations, through us, to headquarters, and so we began. In the first year, we had some plans, and by the time we got done, we had thousands of projects. My idea was to scare the heads of agencies, get their environmental people that came to our monthly meetings, have our regional people go out and inspect, and write NOVs.

MOORHUS: And that is Notice of Violation?

HERWIG: Notice of Violation so that they would turn around, and once a year, they would submit a plan of what needed to be done. Whatever needed to be done—we'd put it in some kind of a—we had a little bit of a format for it. It was pretty loose and not very complete, but it should identify a problem and put some estimate on there of the dollars required.

When it came in, it would come in to us. I had a contractor to organize all of this stuff. Then we would break it out by region, send it back out to regions and say, "You wrote an NOV at Fort Polk [Louisiana]. Did Fort Polk put what you recommended in here?" Well, you can imagine—it was sort of a nightmare, really, because probably the coordinator or whoever was supposed to do it at Fort Polk had never seen OMB Circular A-106. They'd never seen the

executive order and one thing and another. So it took many years before this became rather potent, and eventually, it became so potent that OMB [unclear], and fortunately, all federal agencies began to adopt all of this kind of thing internally through their own internal mechanisms.

Eventually, and this was after I was gone, by 1999, the process itself of going to OMB sort of disappeared, but other things took its place. I'm not exactly sure what, but we were just getting—the plan—there was just so much money being required to be done and everything. OMB just began to decide that this thing was out of control, because people were putting in stuff that, from a professional point of view, probably was great, but there was probably not an NOV behind each one of these things, which it should have been in the first place.

The biggest day of my whole career at EPA became the day I took this circular, and we'd had some loose papers that had been sort of the EPA guidance to federal agencies. I took them and re-wrote them over about a year's time. This is the way you make policy. I got them all printed up, and I went down and got a yellow cover for it. All of the regional administrators from EPA were coming in for their semi-annual meeting, and they took a break. I was to be the first speaker after the break, and there happened to be, down in the Waterfront Inn Hotel conference room—they had green table cloths on the tables. I walked in over the noon hour, and I put in front of each person in that room this yellow book, that yellow against that green.

People walked in—it wasn't entirely new to people, but it pulled everything together in one place. I got up and gave this, and of course, people said, "Well, we just can sue them." I'm dealing with political appointees and everything else. "That's fine. The next speaker will address that issue." I had gotten the lady that handled the environment over at DOJ [Department of Justice] to come over and follow me. She got up and affirmed everything that I said. So for the next two or three years, the basic philosophy was work with the federal agencies. Go out and inspect them, and one thing or another, but federal sovereignty still existed.

Well, that only lasted for about three more years [chuckle], and then a new executive order came out that, in the area of hazardous and solid waste, the federal government gave up its sovereignty. It explicitly gave up its sovereignty. It didn't give it up totally. It still was rather nebulous, and whether or not it's been totally given up, I'm not sure. But it really didn't matter, because by that time, everybody was pretty well doing the right thing, I think, getting funding, and just—the whole thing had become totally institutionalized.

We got environmental coordinators out in all of the federal agencies. Everybody had one. We got them promoted so that most of them were up to GS-14s and GS-15s. Once you get up to that level, then you begin to get people that have clout with their own administrator. There were three aspects to the thing. This was certainly one of the big ones, and if you go in—the Yellow Book still exists. Jim Edward, who followed me after I retired, totally rewrote it. It doesn't look anything like the original. It's a lot more legal information, a lot more compliance oriented and all of that, and it's a lot more comprehensive, a lot more acts and a lot more stuff in it. But I would imagine anybody that's been in EPA in the last 25 years would know—you put in EPA and Yellow Book, and you'll get five hundred hits.

MOORHUS: So that's the Yellow Book on your resume.

HERWIG: That's it. While I was at EPA, I got three commendations, and I think one of them was for the Yellow Book. Another one was for that monthly training that we did, and indeed after we started it, everybody started trying to do that kind of thing, monthly training sessions with the people that they were responsible for.

MOORHUS: How did your office deal with overseas military bases?

HERWIG: Just peripherally, although we did have—as a matter of fact, when I was liaison back to Army, I went with the staff from USATHAMA before it became the Army Environmental Center. I made several trips, and on the last one, I think it probably was as the Army Environmental Center. They had to participate in all of this process. They had to send in their environmental through Executive Order 12088 system, but it was a lot looser. They said that they had to comply with their country's standards, and sometimes, they were so loose that it really meant not doing anything. So yes, we trained all the environmental coordinators from all the bases in Germany. I trained them on this system. By this time, we'd really gotten into doing this computerized and all of that. The Army Environmental Center just has superb computer people up there, information management people. They initially adopted my system and then added to it. When they added to it and something looked good, I would bring it back into EPA. The EPA system got out of control, also.

Yes, indeed, we did deal with overseas, but personally, EPA had no permanent staff over there, except that we did send a couple of people over. The Office of Federal Activities does have an international Division that deals with issues along the U.S. border.

MOORHUS: Dee said that he arranged the assignment to USAREUR [U.S., Army Europe, Heidelberg, Germany] on kind of one-year appointments.

HERWIG: Well, the guy that went over there—Armand LePage— Europe needed somebody over there, and he was a branch chief in OFA in the Office of Federal Facilities at EPA. He went over to USAREUR and was over there two or three years. He got extended over there and helped them develop their environmental program.

When we went over with this group I was telling you about, where we were meeting with all of their coordinators, we actually met with him, and we had dinner with him and his wife. He had the most beautiful quarters that you would want for a temporary quarters for three years. It was pretty large for Germany. He looked right out at the castle in Heidelberg, and at night, he looked right out at just that classic view over the bridge. He didn't ever want to come home [chuckle], and I didn't ever want to come home either from my job with USARPAC. But eventually, you have to come—you can only get extended for so long. People said, "We've got a position here, and somebody's occupying the position." Of course, I tried to do that by, when I was gone, bringing over Army people, so it worked out even-steven.

MOORHUS: Did you have anyone from EPA assigned anyplace else overseas, for instance Korea or Japan?

HERWIG: Not that I know of, although the Office of Federal Activities (OFA) has an Environmental Division that deals primarily with U.S. border problems. I mean it could have been, because by that time, other EPA offices were doing—there were a lot of other offices with general environmental stuff. A lady that had been in my carpool actually went over—it seems to me she went to Eastern Europe some place from EPA. EPA was willing to send people almost anywhere. EPA also, just by its very nature, always had people, like I was there from Army—there were commissioned Public Health Service people.

You couldn't tell them, except that eventually—Dr. C. Everett Koop, the doctor that headed the Public Health Service and made everybody wear a uniform once a month—anyway, the Public Health Service blended in so much you couldn't tell an EPA person, and there were probably a hundred Public Health Service commissioned officers in EPA, but you didn't know who they were. You wanted to know who they were, but you frequently didn't know who they were. If you knew who they were, they were sometimes easier to work with than just EPA attorneys [chuckle], because they weren't attorneys. They were scientists and engineers, so they were easier to get information from if you wanted to find out information and stuff like that.

When Koop was head of the Public Health Service, he was kind of a heavysset guy, but he wore his Public Health Service uniform—today, it's basically a Navy uniform. He had them wearing their uniform, which was a good thing. So at EPA, once a month or once every two months or something, they had to wear their uniform. We had so many people that were freebies working at EPA—EPA was always the most lenient about giving up people to go do some specific project somewhere. So, yes, I did know of one or two people—what exactly they were doing I can't, off the top of my head, remember, but it was something generic.

MOORHUS: Do you have any comments about the various administrators of EPA that you worked under?

HERWIG: Well, I happened to like them all. I thought they were all exceedingly outstanding. Of course, Dr. William Ruckelshaus was the first one.

MOORHUS: Anne Gorsuch would have been '81 to '83.

HERWIG: She and I got along. Ruckelshaus came back, though.

MOORHUS: Right.

HERWIG: After that, in '85, we had Lee Thomas. He was a great guy. I could deal with him. I mean, at that level, you don't have too many opportunities to just go in and sell something to him, but he was extremely, in my opinion, good about working with the Army and DOD, really good, and very pleasant. So when Ruckelshaus came back for the second time, it was really a breath of fresh air for the EPA people, because Anne Gorsuch did not get along internally with the EPA people at all. I was able to brief her four or five times, and she was always very friendly to me personally, and part of it, I think, was the fact that I was in the military, and I think she thought, "Well, if he's a military officer, maybe he's a conservative," or something [laughter]. So she was not hostile, and none of them really ever were.

MOORHUS: And then William Reilly.

HERWIG: I never had much—I think I was gone most of the time that he was there.

MOORHUS: Yes, '89 to '93 he was there.

HERWIG: I can't really remember much about him. The others I would have some really more vivid memories. I thought that they had outstanding people. I would say that, during Gorsuch's time, people may not remember now how tough the Democratic Congress was on the Republican president. There were some Republican appointees, just like today, that have some very positive ideas about things, and—I remember we had a Deputy Chief of the Office of Federal Activities that the Congress—how this happened I don't know, but a Congress committee sent people over with security people, went into his office, and took some of his papers, and later, he just resigned rather than create a problem for the President. But I didn't think he had done anything wrong. He just wanted more scientific proof of EPA requirements.

A lot of people used to say EPA doesn't necessarily do things on the basis of science. A lot of it was not—the science wasn't there. Some of it needed to be done, whether the science is there or not probably, some things just going a little bit too far. That was always coming to the deciding line. How much do you have to prove something before you write the law into regulation? It was bitter during her term, but internally, I didn't have any problem either way, and I would stay extremely neutral. But that was easy for me, because military officers—in my entire military career, I never said anything—nobody could ever have known my politics, nor did I ever know anybody's politics, even socially. So it wasn't hard for me to do, but I did sit where I could learn people's attitudes, and EPA was highly politicized.

MOORHUS: Oh, yes.

HERWIG: At one time, I didn't have my own office, and I was in a cubicle. I sat with a lot of people that had a lot of opinions about a lot of things [chuckle].

MOORHUS: Did you think there was enough money available for the Army to do what they needed to do?

HERWIG: Well, early on, absolutely not. I mean we were so—nobody knew it at the time, but even on the classic things of sewage disposal and water treatment, there was never enough. It never approached what needed to be done, and it was only in the—now, does anybody ever have enough money? I'm not sure, but later on, I felt like they were getting pretty fair requests and getting pretty well honored, so well honored that I think even DOD eventually stepped in and began to—when they began to get cuts, everybody's got to take cuts. I think there were some years when, if you asked, you got it, and it was pretty—that kind of thing doesn't go on forever.

When they tightened up, I was afraid that DOD would no longer even request in this system that we had to Executive Order 12088 going to OMB, and I think OMB eventually thought that maybe we were using the system too well, and that people were putting in stuff they would like to have done. It probably needed to be done at some point in time, but everybody wants it now, and they put in for it, and those environmental budgets just got really big, really big.

MOORHUS: Did you have any observations about the way the Corps of Engineers executed its responsibilities?

HERWIG: I would say, in the very early years, we were always at odds with what we thought was the Corps of Engineers but was really a command responsibility. I'm talking about in the '50s and the '60s, and we didn't really understand it either. I mean our people would go out from AEHA and do these studies, and frequently, nothing would happen. There were recommendations. They'd go to people and didn't—the guy who was responsible for the Corps of Engineers—the post engineer. The post engineer has got a million things to do, but he's utilities. We're dealing with a utilities guy, and these utilities people frequently were people that were not engineers. They were people that had grown up in the utilities section, maybe sewage treatment plant operator, water treatment plant operator, and they get promoted up. They don't know anything about programming and budgeting, and if they do, and I learned in Hawaii how to deal with that system, you had to know how to get money at the installation level. You had to know how to use the system.

The Corps of Engineers had a system. There was no question about it, but again, there's more—everybody wants everything done. I mean you need roads done. There are a million projects. A mess hall needs a new fan for over the cook's stove. I mean there's just—they have a budget, and just no way do you bring in a new program like the environmental program, and you're going to just get what you need.

Well, now, you've gone out and done this study. You did that in March, and now—well, I'm not going to get into the timeframe, but you did it six months ago, and now, the guy has got to take that and convince somebody that that's got to go in. By this time, he's pretty well forgotten about it, and one thing or another, so the things didn't get done. What I found was you had to—there was a system. The Corps did have a system. It's not that this was totally lax, but the people at the local level had to know how to work the system. When I was in Hawaii, I got more than my share of the money for the local environmental program, for the surgeon, for public health, and all of that. But I learned how to cooperate and how to do staff work ahead of time.

There's an installation review board [IRB], and this board is made up of one representative from everybody on the post. Well, the guy who's just come over there is not the boss. He's some major, or some civilian that comes over there, and he's never been there before. Somebody else was there last year, and everybody votes. Everybody's got one vote. I had two votes, because I voted as the environmental guy and as the hospital guy. I had two votes. I would call up ahead of time. Of course, by this time, I had a little rank, too. First, I was a lieutenant colonel, and then a full colonel.

I would call up the department head and say, "The IRB [independent review board] board is going to be meeting for all the projects next year, and what is your thing that you just feel that has to be done, and I will support that." So through my contacts, I'd find out what they thought was really important, and I would write it down. Then I'd say, "Well, now, I would ask your guy to support my project on a couple of things, too," so by using the system that way, by having some votes in your pocket—usually, nobody cared. They wanted their project, and that was it. I mean, unfortunately, that's the way it's done, by using the system.

I tried to teach this to our Medical Service guys that were out at installation level, how to go about this, and we were successful somewhat at a few places, but some posts had—our representative out there was a second lieutenant that had just gone to Basic Course. He may have a masters degree in something, but until he builds his own authority, you're not going to get much.

In the early years, I would say no. I just felt like we could have gotten more done. Even before all these laws came in, we felt like we could get more done. But as time went on, and when the Assistant Chief of Engineers got control of the program, taking it away from the utilities people and all of that, and was designated, then I felt like they really did a pretty good job, and we could work with them. We had our representative down in the ACE's office, too, which helped. As time went on, I felt it got better and better.

However, I did agree that the best thing that ever happened was when Dee Walker created the Army Environmental Center and put in—when things were consolidated in the Chief of Staff for Installation Management, ACS(IM). When that came in, now you had somebody that just focused on managing that installation to the nth degree. Even though, down at the installation level, things remained the same, you had a staff up here that could deal with that. Then when they took the USATHAMA and put it reporting directly to ACS(IM), I mean then you really had it. So it eventually evolved into what I would consider just a superb organization, but it just took many years. We're looking back through hindsight. I'm looking back through forty years.

I was very frustrated the first time I was in the Surgeon General's office responsible for the environmental issues for the Surgeon General. I was very frustrated. I had just been promoted to major. I was very junior, and then I was dealing, basically, with civilians in the Corps of Engineers office there, the Chief of Engineers office. These guys had been in World War II. These civilians had been in the military, and you have to understand not everybody believed that all this had to be done.

From a professional point of view, we believed that, in the '50s and '60s and up until about 1963 maybe, we believed that, if you diluted sewage enough in a stream, there was a carrying capacity of the stream. They believed that you could dump stuff into the ocean, and it would just go away somewhere. I mean I'm talking about professional engineers. So when EPA comes along with attorneys with new laws and all this stuff and people that are not engineers telling you that you ought to be doing this and that, it didn't go over really well. I mean they just didn't believe it needed to be done. But we raised our standard of what we expected and what we'll do. I mean I can remember a world-renowned professor at an

institution in Maryland talking to us one night up at Aberdeen Proving Ground and just not believing that what we were doing was the right thing, that all these new clean water acts were not needed.

MOORHUS: Not needed?

HERWIG: That it was not necessarily needed. They were going too far too fast. So you just got a lot of factors—lack of information, the old way of doing things, having been taught one thing and everything changing. It just came along really fast. It kind of overwhelmed people, but in the end, I think the Army came up with absolutely a superb program.

MOORHUS: It's interesting that you're very positive about the ACS(IM) and what, from your perspective, it accomplished.

HERWIG: Yes.

MOORHUS: The Corps of Engineers fought that.

HERWIG: Yes, they did. I thought it was just—I mean there were some other alternatives. What's interesting, even in the Medical Department, is that we started out—I found a list of the names somewhere that I'd like to get to you of all the people that preceded me at OTSG, all those Medical Service Corps and from the Sanitary Corps and all of that, actually outstanding people. [Pause] I've lost my train of thought momentarily. Would you ask me that question again?

MOORHUS: I was asking you about your observations that the ACS(IM) worked really well. On the medical side, you said they didn't have the same kind of organization.

HERWIG: Well, what I was going to say is, when we started out, we had the expertise, but we didn't have the authority. Then over time, we had just a tremendous ability to do a lot of things, and then when the Army Environmental Center came in, they took over a lot of that role. Then when AEHA went away and CHPPM came in, it's come full cycle now—not full cycle, because CHPPM does what we should have been doing all along, and the Army Environmental Center is doing what they should have been doing.

In other words, they shouldn't have been having to be done within the Medical Department, except from the public health. We were going far beyond—when I was, as Chief of the Water Quality Division, doing surveys for mercury in the Chesapeake Bay—there was a health aspect to it, of course, but I mean I was doing what, basically, the Army Environmental Center eventually would end up doing, hopefully. So they've come full cycle, and the Medical Department now, with CHPPM, is back to where it was before, which is strictly public health. I mean half the people over at the Army Environmental Center came from AEHA over there and vice versa, shifting back and forth.

If there's not a major health aspect of it, we're not as concerned as we were in the middle years where there was no one to do that, so our people picked up and did that role. It didn't matter. I mean we stretched it, and that's probably why we didn't always get all the resources we wanted, because people in the Surgeon General's office that handled programming personnel couldn't see precisely what the health aspect of it was. I mean, yes, it's healthy, but it's not—why are you doing that? Why isn't the Corps doing that? Well, the Corps wasn't set up to do that. It didn't have any lab that was set up to do that.

They could have set up one. They had CERL, CREL, Vicksburg, and all of that. They could have set up something like that, and whether or not the fact that AEHA existed sort of prevented them from doing it, I don't know. That wasn't their thing. Construction was more their thing.

MOORHUS: Since you were enjoying your position as liaison, why did you leave the ACE's office and the Army Environmental Office in '94 to go back to EPA?

HERWIG: Because my time ran out [chuckle].

MOORHUS: Oh.

HERWIG: I mean I'd been there, what, three or four years.

MOORHUS: Yes, four years from June of '90 to September of '94.

HERWIG: Yes, so eventually—as a matter of fact now, I mean I had so many people protecting me.

MOORHUS: Oh.

HERWIG: Back in EPA, I had Dick Sanderson initially protecting me, because they could see the benefit of—I mean everybody could see the benefit of it, but you're just gone so long. In the mean time, the Office of Federal Activities reorganized, also, and the Federal Facilities Compliance Program split out of the Office of Federal Activities, and they created a separate enforcement office within EPA just for hazardous waste, and that's when the budget on CERCLA and RCRA got so big that the Office of—I didn't think it should be done, but the Office of Federal Activities was kind of glad to see it go, all that enforcement stuff, because those people, at that time—they were more interested in the NPOES, 404 Wetlands permits and environmental impact statements, working with Indians and working with general stuff—not general stuff, but it seemed more general to me.

I didn't like it at first, either. I wasn't there, but I thought that office should become—there should only be one federal facilities enforcement. But it got so big on the hazardous waste side. It was so big, and it took so many people that it overwhelmed the little group of people I had out in the region. It just took on a life of its own. But they didn't subsume my group under them. They just kept the two of them separate, so there was still a compliance, basically, other than hazardous waste [that] stayed as a separate—but they split it out of the Office of Federal Activities.

MOORHUS: So when you went back—

HERWIG: I went back into this—it was under enforcement.

MOORHUS: So you were head of the Environmental Management and Environment Management Information System.

HERWIG: Right. I was happy. When I came back, I was no longer a manager.

MOORHUS: Oh.

HERWIG: Before, I'd been a GM [general manager] manager. When I came back, now, I had to give up my general manager rating, and I was so happy to do that. Now, I just worked on things—basically, I worked on the things that I wanted to work on, and at that stage of the game, it was how you get all this data, and it's tracking all of this money and everything. How do you make that work? Using my contacts up at U.S. Army Environmental Center, the Air Force, and all that—that's what we worked on and pushed that.

Then, also, tracking systems to try to—by that time, there must have been a hundred different EPA tracking systems that had evolved over twenty years, and you couldn't easily get the information. Basically, you couldn't get it out. They could get out what little bit they needed, but you couldn't get this cross information out. So that's what I was working on at the time, trying to get absolute—what I wanted to do was, you name a federal installation, and I'll tell you

exactly their status on every last inspection within the last five years, and what all the projects are that they have to correct it.

MOORHUS: So you stayed there about a year.

HERWIG: And then retired.

MOORHUS: What stimulated your decision to retire?

HERWIG: Well, I was almost turning 65 [chuckle], and remember, they had a buy-out program which turned out to be basically worthless. You got \$25,000, and you gave up half of it for taxes. If I had it to do all over again, I probably would have stayed on a few more years. But on the other hand, by that time I had narrowed myself down to something—it was extremely interesting working with programmers and trying to get the right data and that, but they just pretty well—

MOORHUS: It was time.

HERWIG: Also, I needed time for my garden and everything here. This is a full-time job back here, and I was still young enough then that I really enjoyed that. It's gotten to the point now where I still enjoy it, but I'm just not capable of doing it all. So we're trying to not do so much out here. I'm trying to redesign things to make it less of a requirement for day-to-day activity. My nemeses out here are the deer. When we moved out here the first few years, the deer weren't that bad, but they've just gotten worse and worse and worse until this—for a while, I would try to chase them away, although it didn't do any good. Now, I've gotten to the point where I don't even bother to chase them away. If you look out there, you'll see I've got little netting fences around everything, which makes it extremely difficult to garden, because if we can get in there to weed, to prune, or do anything like that, you've got to take it down and put it back and all that. I still love it, and blowing leaves—I love to blow leaves [laughter]. I've got enough leaves to blow.

MOORHUS: That you do. Well, I think I don't have any more questions. Is there anything we didn't talk about that you want to be sure we cover?

HERWIG: I can't think of anything. I guess not. If I think of it, I might send you something.

MOORHUS: Okay, very good. Thank you.

[End of Interview]

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