

US EPA ARCHIVE DOCUMENT

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Office of Water and Hazardous Materials

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EPA Interviewer: Today is September 28, 2005. We're in the Crystal Gateway offices of the EPA Superfund program, and we're interviewing former Assistant Administrator Mr. Thomas Jorling. Thank you for being with us. Just to begin with, I was hoping you could start off with some of your career...how you began and came to EPA in the early '60s.

Jorling: OK. When I graduated from law school, I first took a job with the Department of Interior in the Solicitor's Office. At the time it was Stuart Udall, the Secretary. It was kind of an interesting process. I was coming out of law school and wrote one of those idealistic letters that you write occasionally when you're young, and waited for an answer, and finally got an answer from the personnel office at Interior Department saying we found your background interesting, but we don't have any positions for you. We recommend that you go to work at Weyerhaeuser or someplace like that. But I persisted, and my file came into the hands of two special assistants to the Solicitor at that time; one's name was Gary Weatherford and the other's was Gary Hart, and they found my persistence, if nothing else, intriguing. So [they] wound up inviting me down, and I finally joined the staff of the Solicitor's Office at the Interior Department. That was 1966. I stayed there basically a year, because I found the bureaucracy stifling. There were some good people at the top and some good people at the bottom, but there was what I call the "hard pan" of bureaucrats in between. And so I had an opportunity to go to the Smithsonian Institution's Counsel's Office. I stayed there a short time when an opportunity came up to become minority counsel to the Senate Public Works Committee. That was in 1968. I spent the next several years with the committee staff, from '68 to '72.

EPA Interviewer: Ed Muskie was the lead?

Jorling: He was the Chairman of the Subcommittee on Air and Water Pollution. At that time, it's hard to believe, but there were only four staff people on the committee: two minority, two majority. We had a very productive period during the late '60s/early '70s period, some of which is very relevant to the final emergence of Superfund, following Senator Cooper's announced retirement in '72. He was my patron; Senator John Sherman Cooper was the Ranking Member of the committee at the time. I went to Williams College and joined the faculty there, where I stayed until the Carter Administration began in '77, when Doug Costle, who was nominated to be Administrator, asked me if I would come down and be an Assistant Administrator. His initial request was for me to become the Assistant Administrator for Air. I had enough presence of mind to say no, that was not where I would like to serve, and that I would like to serve in Water, at that time was called Water and Hazardous Substances, which some people thought was redundant. I served as Assistant Administrator

from March of '77 to the end of '79. Then I went back to Williams College and spent the next several years there before I went over to Albany under Governor Cuomo to become Commissioner of the New York State Department of Environmental Conservation. I stayed there for seven years, and that brings us up to 1994. Following that I went to serve as Vice President for Environmental Affairs for International Paper, which I retired from in May of 2004. That's my current status—retired.

EPA Interviewer: I bet you're enjoying it.

Jorling: Yes.

EPA Interviewer: Talk about some of your time, if you would, when you were on the Minority Committee. You were instrumental in creating the Clean Water Act and Clean Air Act, correct?

Jorling: Well, actually, during that period, there were a number of statutes that moved through the process. Actually, the first one became RCRA [Resource Conservation and Recovery Act]. The reason it became RCRA was because the committee was having difficulties enacting the Clean Air Act, and at that time, RCRA, or at least burning waste, was part of the Clean Air Act. We thought we had to have some product out of the committee and split out the solid waste part, and enacted the Solid Waste Management Act of 1970, I guess it became. Another statute that came up at that time was the Water Quality Improvement Act. That was a specific piece of legislation that was directed at basically two major items. One was oil spills, which were prominent because of several spills from ships and from oil platforms at that time, and the other matter that was addressed in that legislation was thermal pollution. The reason that was very important was because that's the first enactment that included the concept of joint and several liability, and the basic structure of liability relative to the owner-operator of activities that resulted in spills. Then the committee was successful in moving the Clean Air Act in 1970. In the end, it was enacted on December 31, 1970.

Then it turned its attention to a comprehensive look at water pollution. That occurred in 1972, just as I left the committee. That statute took the oil spill program and took it into the organic structure of the Water Pollution Act, and broadened it from just oils to include chemical spills, and the same basic structure of liability and joint and several and absolute liability was included. Then, as I said, left the committee staff and went to Williams.

EPA Interviewer: When you first became Assistant Administrator of the Office of Water and Hazardous Materials, what did you think you were going to be focusing on?

Jorling: At the time, Doug Costle said to me, "It's appropriate for you to come back and try and implement some of the statutes" I, as a staff person, had worked on the Hill. So we came together in 1977, following an administration, which had had some success with environment, and some people would call—especially the NGO [non-governmental organization] community—would call no success. The expectations were high as the Carter Administration came in; that there would be some significant environmental orientation to the Administration. We did know right away that the first activity we would engage in would be major amendments to the Clean Air Act and the Clean Water Act. Both of those were accomplished in 1977. The focus of the amendments on the water side was the construction

grant program and then the control of toxic pollution in the water waste stream, and the concept of best available technology was codified. A number of other major features were accomplished, including in the municipal wastewater side of the issue. That was the first real driver that we focused attention on. I think it's noteworthy that within the first six months of the Administration, both those statutes were enacted.

Then, obviously, implementation issues became very important. But at the same time, there was emerging through sort of the various routes of all these things—political, media, just learning generally by state and federal agencies—that waste was going to become a much more significant part of the EPA portfolio than it had been. The RCRA statute that added a hazardous waste regulatory program had been enacted right at the end of the previous Administration in 1976, and so implementation of that became a driving force within the program I was responsible for. And it was not easy. There were very difficult conceptual issues even beginning with some delicate issues dealing with federal/state authority, and generally, the extension of federal responsibility into an area, which previously had been considered—if any government involvement—the state government's, because it was dealing with land, by and large, and dealing with private property—areas that the Federal Government was entering sort of for the first time. That made life quite difficult. There was also a lot of learning that had to go on in just the dynamics of waste management, especially hazardous waste management, to determine how the regulations should be crafted. So that became a very strong driver.

What I think would be helpful would be to touch on a few of the roots that ultimately converged to become the tree of Superfund, I guess. I already mentioned one, and that is sort of the legislative history that created and tested a bit of the structure that was ultimately incorporated into Superfund. That was the Water Quality Improvement Act, then the '72 amendments, and continued with the '77 amendments to the Water Act, the concept of liability and owner-operator responsibility, the ability of governments to act and then charge back. All of that has its roots in the Water Quality Improvement Act—the oil spill and then the chemical spill.

Another thing that happened during the period immediately preceding the Carter Administration was [that] a number of industry groups filed a challenge to the chemical spill regulations and the oil spill regulations that had been promulgated by EPA. They filed that action in a nicely forum-shopped case in a place that been in the news quite lately, Calcasieu, Louisiana, where a federal district judge enjoined the entire program of spill response. That required us to figure how to overcome those objections. One option was, of course, to appeal the case through the federal court system. Another option would be to rewrite the regulations to overcome the federal judge's perceived defects in the regulation, and the third one was to seek legislative relief. We chose to pursue that avenue and succeeded in getting Congress, on the last action of whatever number Congress that was, to enact a fix, what we called the 311 fix. By that time, the spill program was Section 311 of the Clean Water Act.

That was an interesting story, because it was nip and tuck as to whether the Congress would enact the fix. It actually was enacted through the Herculean efforts of [Senator] John Breaux from Louisiana. We had to make a little bit of a trade. The trade was [that] we issued a water dredge and fill permit for the Calcasieu River, and he assisted us in getting the 311

fix through Congress. He stayed up all night long in order to bring it up right before the Congress adjourned. That was a very important step, because it locked in that structure of liability that now was back in motion, or back in law. That was a very important set of roots to Superfund.

Another root was the result of a number of things, not all of which anybody will ever figure out, and that has to do with the discovery—the disclosure—of this newly emerging problem of contaminated sites around the country from the practice of disposal of waste, especially chemical waste. That disclosure was assisted by a number of things, including sort of the regulatory development for RCRA, which began to both list chemicals and set criteria for what constituted a “hazardous waste.” That fed into analytical methods that were developing at that time, and—I’ll come back to some of the dynamics of this in a moment—but the disclosure and discovery of these, the media attention that was drawn to them, and then they became quite symbolic and characteristic of an area where government action was lacking.

Which leads to another root, and that is sort of the question of authority, or lack thereof. As I mentioned, there are some really delicate questions, especially at the conceptual level, about the Federal Government entering the field of the regulation of disposal of waste on land and disposal of waste on, often, private property. What was the Constitutional basis for addressing that? That became an issue. As these things unfolded—as I’ll come back to—the first thing that always happens in the beginning of Congressional hearings is what was the government doing to respond to these circumstances.

Then another root was resources. All of that ties a lot of these themes together, but the question of “If you were going to do anything about these, where were you going to generate any of the financial resources to support that activity?” [was answered through] identification and then cleanup of these sites.

So those are sort of the themes, and there was a tremendous amount of dynamic activity around each of these themes, and it might be helpful to touch on some of those. And starting with the discovery, disclosure. There was, obviously, the activity that is now often called just the Love Canal experience.

EPA Interviewer: Was that the first one that you remember that really got some attention?

Jorling: That’s the first one that drew regional, national media attention, and one in which many of these hurdles were identified. Money was obviously one. How to address it, how to investigate it, how to judge its risk, and how to judge what steps should be taken in response to it. All of that cauldron of questions revolved at Love Canal. It had, obviously, all of the ingredients that make a very attractive media case, starting with its name. It became a real focus of attention for government, for media, for NGOs, community groups, and the whole gamut of the sort of the political process in the United States. But it was not alone. The disclosure of Love Canal then caused others to begin looking at their landscapes and identifying issues and problems, and there were a couple of others that became very important, both for symbolic reasons, but [also] because there were serious issues.

EPA Interviewer: Do you remember the first time you realized this was really becoming a national issue that had to be addressed?

Jorling: Well, what we did—and some of this is fuzzy—we immediately began to survey the regional offices and say: “What do you know, and survey your states, and find out what they know about sites on the landscape that are problematic by whatever definition of problematic you could come up with.” Either they smelled bad, looked bad, whatever you could come up with.

EPA Interviewer: So did you have 10 different definitions?

Jorling: It really was very generic and subjective problems. Do you know of any of these issues? Do the states know of any of the issues? And begin to inventory these things. At the same time, there were a lot of limitations on monitoring, sampling, analytical. In fact, one of the cases produced a tremendous example of how the state of play was at that time. At that time, Congressman [Al] Gore had a site at what became known as Toone, Tennessee. It came to the attention of the Federal Government after a sequence of events occurred at first the county/local level, and then the state level, and then, finally, Gore asked EPA to investigate.

What happened—this isn't sequential because it all gets sort of jumbled together—but what happened is that a pesticide manufacturer in Tennessee, when it had bad batches of product, would dump them in a site in Toone, Tennessee, in a “landfill.” That practice had been going on for a number of years. How many years? I don't know whether we ever actually even empirically established, but a number of years. As you move through time, residents in a road frontage nearby began to complain that their wells were causing rashes, taking showers produced rashes, the water tasted bad, lots of different complaints. And they took them, as most Americans take issues, to their county health department. And the county health department came out and sampled the wells and reported back to those residents that their wells were perfectly clean. That satisfied them for a period of time, but the problems grew in their dimensions, and more residences became affected. That went, then, to the state health department. The state health department came out and sampled the wells, and they reported back that the wells were perfectly clean. And at this time, then Gore calls EPA. I called the Athens lab.

EPA Interviewer: This is [former Vice President] Al Gore, not his father, correct?

Jorling: This is Al Gore; he was a Congressman at the time. We called the Athens lab, and they sent over a team and took samples, took them back to the lab. They called after they had run the analysis, and they reported that the chemical content of those wells was extremely high with bad-acting chemicals. At that time, there were not many labs that had GC/MS [gas chromatography/mass spectrometry] systems, but the Athens lab did.

So I quickly called Gore, and the wells were then condemned by the state. But the reason the other two health agencies reported clean wells was because they sampled for pathogens. That was the state of knowledge at the health community at that time, and it wasn't until a broad-scan array of chemical analysis was performed that it was discovered that these wells were contaminated. That then led to a standard—what became more

standard—investigation of how the plume moved from the site to these contaminations, and there was even a lot of difficulty on that because some of the geological maps had the groundwater gradient going the other way. It wasn't until some really intensive drilling could show that the state of geological knowledge in that area was so poor that it was misleading, and therefore, make that causal connection. That was a tremendous learning experience for the whole community.

Another one was... As a result of this sort of survey of sites, we knew we had to invite a great deal of criticism from the political establishment, both from Congress and from the media, if there was ever going to be enough political support generated that there should be something enacted to respond to this issue. As these things would come along, we would try to find some that would attract criticism of us and highlight the issue. One that was quite important in that regard was the Valley of the Drums. It was in Kentucky, outside the Louisville/Fort Knox area. It had lots of attractive features for that purpose. It had visual, messy characteristics—goo and gunk flowing out of half-buried barrels, a littered landscape.

At the time, one of my Deputy Assistant Administrators, who was at that time Mike Cook's boss, Jack Rhett, had been—he's a retired Army engineer, worked on the Manhattan Project—in that class from West Point that was consumed by building the atomic bomb.

And he said—you know, he still had some friends in the military—and he could arrange for some helicopters to take us from Fort Knox to the Valley of the Drums. So we said, well, we need to invite some Congressional staff on this trip, and we need to have a lot of media attention, and we know that the result of this is that the Agency is going to be castigated, and we're going to be called up for hearings, and, indeed, that's in fact what happened.

One of the interesting things that happened is in the Congressional staff, in the committee that I used to work for, a new, young, counsel on the minority side had been appointed, a former Marine named Curtis Moore. On the plane ride down, Curtis said you are basically contriving this issue and, in effect, accusing us of being even irresponsible because at that time Curtis was—I will say this, he may not—I will say his political leanings were quite conservative and suspicious of government. But he went on the trip, and I think it began a process of learning for Curtis that then caused him to become one of the more active advocates for government intervention on these problems. There were other Congressional staff on that trip, and we had a number of EPA staff, and we had some Kentucky officials. And again, one of the things I remember distinctly is we went out to the site and the head of the Kentucky agency who—I cannot remember his name. I had had some work done before we went on this trip about what was the state of Kentucky's regulatory programs and activities, and what had EPA done with its state grants, and what have you. I had learned that EPA had given grants that Kentucky used to purchase two GC/MS systems. That was another thing that we began to do right away, is give the states some capacity to...

EPA Interviewer: And GC/MS stood for?

Jorling: Gas chromatograph/mass spectrometer. It's the only way, really, to take a broad array of organic chemical compounds, primarily, and determine what they are. So we started

that process, and I can remember, sort of as an aside, that equipment manufacturers would come into our offices and they'd say, "Are you guys serious about this stuff, because we can make equipment that will give analytical capability for this, but we're not going to invest in that unless you tell us that you're going to, in effect, create a market for us." We indicated that it was a serious issue and, yes, we're gonna need the equipment.

So all this is sort of moving along together, but I had learned that EPA had provided them with the grant to buy two GC/MS systems. When we were on the site, and I'm walking with the Kentucky—I don't know whether he's called Secretary or Commissioner or what in Kentucky—I asked him, "You know, we've given you these two instruments. What have you done with them?" Because everybody said nobody knew what was in any of this stuff that we were observing.

And he said, "Oh, they're in crates in Frankfurt, because we don't have any staff that can run those instruments. So they've just been sitting there."

It turns out, that was characteristic of most of the states. They just had no capacity to move from the pathogen world into the chemical world. That was going to be a requirement for the hazardous waste program—the regulatory RCRA program—as well as for whatever was going to happen with these sites. And at this time the principal focus was what became later known as orphan sites, just sites that no one really had any responsibility for or lacked any financial capability to do anything about them.

So, in any event, as these kinds of examples were identified, the Congressional hearing process did start on both the House and Senate side. I don't know how many times I testified, but a number of times, and we took the approach of laying out the problem, and laying out that the Federal Government did not have, and EPA specifically did not have, authority or the financial resources to respond to it, but that within a short period of time the Administration would make a proposal to address the authority question, the financial question, and we, then, undertook to do that. There was a task force created in our office—in the AA's [Assistant Administrator] office—and a number of really good, solid, bright people were involved in that.

EPA Interviewer: Any names come back to you?

Jorling: Yes. Andy Mank and Mark Tippermiss were two special assistants I had in my office under the leadership of Jim Smith. Swep Davis was the DAA [Deputy Assistant Administrator] for Water Planning and Standards. Stefen Plane—I believe it was Stefen—he was the head of the [Office of] Solid Waste. He was the DAA. Gary Deitrich was on his staff and was assigned to this task force. Jeff Goodman was another special assistant we had. Some people came from Bill Drayton's shop—planning and policy, whatever it was called. And I can't remember specific identities there.

EPA Interviewer: That's fine.

Jorling: And then some people from enforcement. We put together this staff, and we spent a lot of time meeting and discussing how we were going to create this thing that was going to provide the authority, provide the money, and give the capability of responding to this

continually unfolding set of issues. To their credit, Congress basically said, “OK. You’ve got some time to come back to us with a specific proposal.”

As we started this process, the question was what kind of a mechanism can you use? And the experience we had had with the spill programs pointed the way. There was not going to be any capacity in government to do this job itself, and we needed to create mechanisms that shifted, to the maximum extent possible, the responsibility back to those activities and actors that created the problem in the first place. We started with that principle, used that basic structure. It’s one Congress was familiar with; it’s one that we had then had some implementation experience with.

EPA Interviewer: And this was basically [the Section] 311 [of the Clean Water Act structure]?

Jorling: The 311 structure. But we also knew that this problem was a lot larger. By now, we’re starting to have a pretty long list from the regions and states about the number of these sites, and we knew that it was going to be a lot of money. The question then became: how are we going to generate that money? The result of that inquiry was to develop a couple of criteria. I remember distinctly the discussions around financing.

We didn’t want to create an Internal Revenue Service apparatus, so we had to be able to generate significant amounts of money through a very efficiently applied collection system. That then led to the next analysis: “How you do that and still relate the money that you’re generating back to the issue?” We discovered, among other things, that almost all organic chemicals are built from natural gas, petroleum feedstocks. This group did some very great analysis of how the chemical industry moved from the millions, well, hundreds of thousands of products it makes back to the feedstocks, and learned that there were only about six collection points that we needed to have in order to generate several billions of dollars. So that became the basic structure of the fee system to generate the “Superfund” that would give the government real ability to act, because we began to sense that, at many of these sites, identification of responsible parties was going to be a difficult process, and that the best way to do it would be to have the government clean up and then go after people for recovery. And that feeds back into the liability system. So we worked through a proposal inside the Agency, had some opposition within the Agency, but I kept reminding my peers and Doug Costle that we had made this commitment, and if we didn’t satisfy Congress in coming up with a proposal, the Agency was going to suffer greatly.

We got this basic thing and then began the interagency process inside the government, whatever that budget circular was then or is now. As we moved into that process, with OMB [Office of Management and Budget] sort of running that process, [we] quickly realized that every federal agency opposed, but one. And that one was OMB itself. So we had a situation in which all of the federal agencies, and I think there were 24, 22 opposed Superfund as we had crafted it, and it was an iterative process, it wasn’t a single... We did learn things from other agencies like the Coast Guard and what have you about some of this stuff.

In any event, we were going through this process, and repeatedly the Agency process produced 22 votes against, two votes for: EPA and OMB—which was enough to move it

through the process. It got to the point where the President had on his schedule a press conference to transmit Superfund to the Congress. A number of us, the night before that, were up in Doug Costle's office, at that time Waterside Mall, on the 12th floor there, and we were preparing for this press conference, probably 7:30 to 8:00 at night, and Eliot Cutler called.

EPA Interviewer: And he was?

Jorling: He was the Associate Director of OMB responsible for all the natural resource and EPA. He said, "Doug, I've got bad news. It's now 23 to one. I got rolled by the Director." His name was McIntyre, the OMB Director. So that quickly led to the press conference being cancelled, and we sort of had to revisit what the next set of strategies was going to be.

Purely by coincidence, EPA had its budget review with President Carter scheduled for the next week. We're sitting in the Roosevelt Room with Doug, myself, and a couple others, Bill Drayton and I'm not sure who else from the Agency were there, and the President was sitting next to Doug, and across the table from us was the Director from OMB, and Eliot, and then a whole bunch of the analysts. Eliot, to his credit and courage, said, "Before we begin on EPA's budget review, Mr. President, I have an apology to make. You had on your schedule, and this was a week ago, a press conference to transmit legislation dealing with waste sites to Congress."

And the President said, "Yes, I noticed that, and it got cancelled. Why did it get cancelled?"

And Eliot said, with his Director sitting right next to him, he said, "Well, EPA developed this proposal, and it went through the interagency process, and up until the day before the press conference, we at OMB supported it, but Director McIntyre reversed that position, and all the other federal agencies were against it. And so we concluded the best thing to do would be to cancel the press conference."

And the President said, "What was the issue?"

And Eliot said, "Well, the basic issue that caused the Director to overturn my recommendation was I supported the fee mechanism to generate resources necessary for the government to respond to it. The Director said general appropriations should."

And the President said, "That's crazy."

And the Director then said, "Mr. President, it was a close call. If that's the way you want to go, we'll go that way." It was put back on his schedule, and we had the press conference, and the measure was transmitted. I'd have to go back and reconstruct dates, but it seems that it was sometime in the summer of '79 when it was transmitted.

EPA Interviewer: I think so. Do you happen to remember what some of the other agencies' concerns or issues were? I've heard you were really in the middle of a lot of those meetings and shepherded things through there.

Jorling: Yes, I had to use a technique that I learned from Muskie, which was you had to blow your cool several times in order to get people's attention. Each agency had its own kind of perspective. There were some themes. One of the themes was from the Energy Department and from the Treasury Department—the financial types—that they didn't like the fee mechanism. They didn't want EPA in the business of collecting money. We actually had worked it out so that the actual collection would be done by our... I think they were repelled by the idea, that you couldn't raise money that simply. They didn't like that. And it was so fail-proof.

I recommended that that team get a Rockefeller [Foundation] government award, and nominated them. They didn't get it, they should have, and they still should because it really turned out to be a good system.

So the Treasury Department, the Commerce Department, Energy Department, all took the side of the oil industry, basically, because that's the industry that was involved in the chemical industry. Transportation, Coast Guard, some of the Interior Department folks did not like to see EPA entering the land arena. They considered it their turf, to the extent that there was any federal turf for getting at land-based pollution issues. It was a mixed set of things. The Coast Guard—which I had some really strenuous meetings with—did not like to see the spill program structure extended into this area. I'm not sure, intellectually, what all their reasons were, but it had to do with... They considered themselves, at least with the real navigable rivers, the lead agency on the spill response program. And, in fact, they are under the implementation plan. It was just a mixed bag. It was new. New things always generate opposition.

The OMB—especially Eliot and Jim Tozzi, who was the guy we dealt with every day, day in and day out, on this—they liked the idea of the fee. They didn't want to tap the Treasury. If you go back into that economic climate, it was not a healthy one. You know, the years of the Carter Administration were budget-cutting years, and inflation was very high, and the idea of general revenues just really meant, if that would have been the direction, there wouldn't have been a Superfund, because there wouldn't have been any resources. They supported that, and they also became enamored of the way of protecting the federal purse using joint and several liability.

And I think this is sort of opinion more than anything else—those of us who worked on the basic structure that became Superfund envisioned an implementation quite different from what happened, with the very high transaction costs going into the process long before you ever got to cleaning up anything. Our vision was the government would clean it up, and then you would go into the transactional processes, but you'd go in having a set universe of liability that you were going to go back and charge these people with and that fear. They would settle early rather than let those costs continue to build up. Or they would say, "We can do this cheaper. We'll clean up and displace the government and save a lot of money."

But we envisioned a very different implementation than the beginning of the Reagan Administration pursued, which was try to get everyone together, agree on how to clean up, and that led to huge amounts of money going into transaction costs—private and public monies going into transaction costs.

So getting it then to the Hill was a significant step. But then...

EPA Interviewer: So this is the press conference, it went to the Hill...

Jorling: It went to the Hill, and then that started the legislative process, and EPA gave a lot of testimony. There was significant testimony given by NGOs and others, but some very... There was still tremendous opposition within the Congress. Some of that opposition I knew was going to come early because of my experience back in the Interior Department 'cause when I was at the Interior Department, I realized that the Interior Department was then, and is now, an oil industry department. It runs that department. You know, you have the Park Service and Fish and Wildlife, and I was in the Fish and Wildlife lawyer's office. They were sort of gnats on the skin of that monster, but the real power was the oil industry.

So you had opposition in Congress from some likely sources, and it was important to continue to generate demonstrable need and why that demonstrable need was satisfied by this proposal that the Administration had made. Some interesting things happened in the industry at that time. The trade association opposed the legislation, especially the chemical manufacturers at that time, as the pressure continued to build from the media, the NGO community, and others.

It didn't happen quite this suddenly, but one major development sort of freed it up. And it was the fact that Shapiro, the CEO of DuPont, said he supported the legislation. He broke from the industry phalanx and said this industry has to face up to this issue and this proposal was one that he could support. When that happened, it provided a lot of cover for many of the Congressional people who were either on the fence or in outright opposition. And that was a very instrumental break in the political dynamics associated with it. Then [it persuaded] some other industries to soften their objection and ultimately [worked] to actually weaken it enough that it could get through.

There were some interesting dynamics that I'm not privy to because, as you know, this law was enacted after the election, and the ones that I'm not privy to because I think if they would have wanted to, the incoming Administration could have killed it [the legislation]. Whether President Carter went to Reagan and said, "This one is extremely important and you've got to let this one go," or how that hiatus between the election and the enactment...how that dynamic worked its way through. I simply have no idea.

EPA Interviewer: Why do you think you couldn't get it through before the election? Was it because it was the election and there was a lot of attention diverted from it?

Jorling: Yup. And attention diverted and Congress always uses elections as a barometer. If Carter would have won, then, clearly, it would have been enacted in a heartbeat, because that was an issue. Not in many quarters at the national level, but it was an issue in many of the sort of Washington/inside-beltway dynamic. And also industry would have said, basically, "We'll get a better reception from the Reagan Administration if they win." So it became sort of a target of delay: "If we can get it past the election."

So there are some activities that occurred there, and maybe it just didn't get onto the radar screen, although I can't believe that of the Reagan transition team. They may have

concluded that, “We can’t, let’s not stop this. We’re going to implement it so we can deal with our constituents by implementation.” A lot of different possible interpretations, but the fact is [that] it was enacted after the election and signed by President Carter before the inauguration.

EPA Interviewer: What was that day like?

Jorling: It was a very happy day for a number of us, but it really didn’t get a whole lot of attention nationally. President Carter now says Superfund was one of his four major accomplishments, but it didn’t play out that way at that time. I think, again, that period was so dominated by the Iran hostage crisis that for any substantive domestic issue to penetrate that didn’t happen. Every night the news had Day 261 or -2 or -3 or whatever, so it was very much dominated by that, and was there going to be a deal to get them released before. Muskie had become Secretary of State by that time. So just a number of factors. But some allies on the Hill, including Senator Stafford—and he may have had a big role with the Reagan Administration—persisted in pushing it through. So it’s an interesting story, and it’s one of those unknowable stories.

EPA Interviewer: Before we move on, I just wanted to see what were your perceptions/ideas of President Carter, because I’ve heard different stories about how involved he was with this or how knowledgeable he was about Superfund. What was he like to work with?

Jorling: Well, he certainly had the right instincts. Let me preface this with a more generic response before we get specific. President Carter was a very detail [-oriented] President. But he gained his detail inside the White House. There was not a whole lot of interaction with his Agency leadership and Agency personnel. The assumption generally was OMB was the spokesperson of the President. What they were saying was the reflection of the President. So you didn’t. The Agencies, except for Doug’s on mostly budget matters, and there was also another... The Clean Air Act issues were dominating because the economic arms of government were really hostile to EPA about that and to the extent that there were chips used by EPA inside the Administration by Doug, it was mostly on clean air.

So with respect to Superfund, the President wasn’t engaged until that very fateful and extremely important insight that he brought to it and rolled his OMB Director. He did become more involved and knowledgeable as the package was prepared for transmittal, and then I think in sort of the final stages of the Congressional process. But at the beginning, from our perspective, we just assumed that OMB was working inside the White House to assure that....

I say that he was very detail-oriented with some sort of peripheral knowledge. Our daughter was a classmate of Amy Carter’s at the school over on Foxhall Road, public school. And they became good friends, and so our daughter Julie would go out to Camp David a lot, and we’d go to the White House to pick her up. Little vignettes like, “Well, did you have dinner with the Carters?”

“Yes.”

“Who was there?”

“Mr. and Mrs. Carter and Amy and I.”

“Well, what’d you talk about?”

And Julie said, “We didn’t talk.”

“What do you mean you didn’t talk?”

And she’d say, “Mr. and Mrs. Carter were just reading notebooks the whole time during dinner.”

So they were very driven in that regard. The other feature is that—I’ll make this point with a contrast. Political appointees in the Carter Administration had very little... There was just no social interaction with the Administration. In contrast, the Reagan Administration had a computer program that assured that, twice a year, every political appointee would spend time at a social occasion in the White House. So that built tremendous loyalty from his Administration, whereas Carter’s personal loyalty equation was not that strong. You had very little contact with them. You know, we had more contact through Julie than we did in any official capacity.

Another example of this is when the Clean Water Act of ’77 amendments were enacted, Chuck Warren—he was the Director of legislation here—he urged that the White House would have a signing ceremony. And they wouldn’t schedule one. Chuck said, “My God, you can’t not have a signing ceremony with the members who are responsible for bringing this legislation through.” And they still chose not to do that. So there was no signing ceremony, no pens to distribute, no photographs. 30 seconds, the President says he can’t even afford thirty seconds for that. It indicates how isolated he was from the very essential part of the governing in Washington, which is social interaction. It continued pretty much through the whole term, and that’s part of the reason, along with a lot of others like Iran, why he did not gain reelection.

I remember another example. Kevin White was the Mayor of Boston. Kevin is a Williams graduate, and he was on the Board of Trustees at Williams, and I used to see him regularly. He was on the board at Williams when he was Mayor. He knew—after I left—he knew my background, and he said, “I picked the President up at the airport and I had my stack of 3 x 5 cards, and I said, ‘Mr. President, at this event you’re going to see these people, you need to say hello to these people.’” He said Carter wasn’t interested. He was looking out the window, saying, “What’s that building?” [*Laughing*] He had some limits that prevented him from being reelected.

So the legislative process was an intensive one, and it had a lot of quiet heroes that took it forward, John Breaux being among them, an unlikely person. Good work by Chuck and his staff too. And then the briefings that were held with committee staff, primarily by our task force—they stayed together during this whole process—explaining the fee system, how it would work, how efficient a collection system it was, how little overhead costs there would be, how the liability system worked, pointing again to the spill program for sort of the nuts and bolts. All of those things that contributed very importantly to setting the stage for Congress finally doing what it did do.

You know, I've never done—especially lately—a line-by-line comparison of what was enacted versus what was transmitted, but the basic core, in every major way, was the same. So it really withstood a tremendous amount of scrutiny. A number of well-paid lawyers and lobbyists—shooting at it every which way they could—could not find serious enough holes. That weakened Congress's resolve.

EPA Interviewer: One last question about the legislation. You often referred to “the fee.” When did it come from a fee to a tax?

Jorling: Well, that was a little bit of semantics. If you look at some definitions of tax, it's any way government collects money, but a way that politicians try to hide that is they call them fees: license fees, permit fees, what other kinds of ways you do. But they're all taxes. I mean, they're all methods of collection of resources or revenues from other parties. But we used the word fee to make the substantive, political connection that this collection was attributed to this problem. So it's a fee that's to respond to that problem. It's not a tax that goes out there into the nether land of the Treasury and then somehow it's blended with all the other money. This one is related specifically to that. The “polluter pays” principle, we used that a lot.

Another feature I know that the chemical industry tried to use is... The petroleum industry—the oil and gas petroleum—said, “Wait a minute. You're collecting the money from us, and yet it's those chemical producers out there that are responsible for turning these molecules into those molecules, and that's not fair.”

And so we said to them, “Can government make that analytical chain and collect the money out here at the end of that chain better than the market? You know which of these customers out there are creating the problem. So you collect it from them. And the market can do that a heck of a lot better.” And I kept using that line: “The market can distribute this to its responsible parties much better than government can.” And that's why we don't tax out here; we tax back here where it's very efficient 'cause we're not nearly as good as the marketplace in assessing that chain from your natural gas molecule to those very complicated organic molecules that are out there in these landscapes.

There's some calculated language to help create the context that you succeed in. The media context, and, by and large, the media characterized it as this is money that is going to be used to solve this problem, and it's appropriate and fair because these are the chemicals that are creating the problem. I'd say that in the public at large, the effort to create Superfund, which was immediately apparent, created a sympathy in the media that that was the case. That we weren't engaged in some kind of arbitrary gimmickry. That the logic of it made sense—common sense. And that was another one of our buzz words in our task force at the beginning. This has to be understandable by people, because if it isn't, it'll get too damn complicated and it'll fall of its own weight. So simplicity and efficiency of collection—all of those sort of principles we used to say when we were talking because it became a pretty complicated statute. You're talking that complicated statute, you'd always say, “How simple is this? Can you understand it? Can you explain it to your spouse? Can you explain it to your kids?”

And some of that came because both Chuck and I had worked on the Hill. He worked for Senator Javits, and he and I were both Democrats working for Republicans at that time. But we understood what some of the basic ingredients are of a successful legislative effort. And overcoming what agencies, left to their own devices, will do have overcomplicated the damn thing, make it so academic in a... We used to have pissing matches all the time with Bill Drayton's people. It was like they were grading a Ph.D. thesis. And we said, "No this is not a Ph.D. thesis. This is a piece of public policy legislation that, if it doesn't work the first time around, you can fix it the second time around, but we gotta get something enacted." "You can't create perfection, and we can't let perfection become the enemy of the good." That was another phrase we used repeatedly with different commenters on this, both in the interagency process and in our own internal process.

In the Costle Administration, we had AAs and their programs who were accountable. We were getting called up on the Hill all the time to explain why we were or weren't doing this or that. This was from the RCRA regs [regulations] to the water to the water reg implementation, you know, BAT, translating that into the pre-treatment program... All of those things were getting a lot of scrutiny from the Hill, and so we were spending a lot of time up there. And yet back here you had these gnomes who never saw the light of day. They didn't even know what a human being looked like. They were sitting there with their pen and pencils creating perfection, and we had to overcome that inside the Agency. Sometimes it wasn't a pretty process; it was pretty vigorous. I think it's natural in all bureaucracies. You have people that are very externally driven and deal with people all the time, and deal with local, regional, state, federal political figures all the time, and then you have people who can stop things because of the position that they hold within, but they never have to interact with anybody and deal with the real world. We had situations that were absolutely bizarre. But we had to overcome them.

EPA Interviewer: So, moving to the implementation—and by now you go back to Williams College, correct?

Jorling: Yes.

EPA Interviewer: And were you also the Chair for the Natural Resources Defense Council?

Jorling: I was on the board, not Chair.

EPA Interviewer: What were you seeing as the implementation occurred?

Jorling: Well, there were a couple things, if I go back now and critique some of the weaknesses in the legislation, or at least that the legislation did not sufficiently accommodate the context in which it was going to be implemented. A couple things were happening at this time. One was the NGO communities becoming extremely sophisticated. They started in 1970. By '78 to '79, they're very well-staffed, with very highly competent, typically young people who had very strong, idealistic visions. So they're gaining power and strength in the processes. Secondly, the analytical capability was moving extremely fast, so that at the beginning of this legislation, if you could sample at parts per million, you really had something. By the time this legislation was enacted, we're getting into parts per trillion and parts per quadrillion. So that, then coupled with the public response to chemical exposure,

produced some situations that it's taken a long time to deal with, and we still haven't dealt with them completely, and that is: "What are you cleaning up to?" The legislation doesn't address that cleanly. And so it was left to the regulatory process or the record-of-decision process to define what you cleaned up to, and that process probably had to be gone through, but it wasted immense amounts of money. And especially when you couple it to the analytical methods and the desire of the consultants that were sucking on this beast by then to drill more holes and do more analysis and continually suck up white-collar resources as opposed to cleanup. Part of that was, I'll call it, a weakness in the legislation, or at least insufficiently addressed in the legislation; part of it was because the context really was creating a situation in which the legislation didn't anticipate.

In my view, if Congress would have said—and I thought this even before enactment, but it was too late to make this kind of a major change—that if Congress would have said, "Cleanup is satisfied when you're within 10 percent of background," that would have solved immense issues, because now we're chasing molecules down to angels on the head of a pin, and that has created its own kind of dynamic. And that is the public's not satisfied until you've done that, even though any kind of comparative risk assessment would show that that kind of cleanup isn't ever going to produce any harm. It's a tough issue, and given the sort of orientation of the incoming Administration, giving them the benefit of the doubt, they were paralyzed by those issues. They didn't know how to extricate themselves from it. There was no leadership on the Hill. There was a lot of demagoguery on both sides on the Hill. It led to this learning process that continued for a very long period of time, and huge, huge amounts of money were spent.

We're still, in the environmental area, that's still a paralyzingly wasteful set of issues we're facing, not just in Superfund but in everything. I can give an example from... Fast forward to IP [International Paper]. The Agency promulgated the "Cluster Rule" for the pulp and paper industry. The word "cluster" came because Bill Reilly started to include air, water, and waste in the regulation. It wasn't promulgated until five years into the Clinton Administration. But it was a BAT, and it affected the company I worked for, IP, and required us to spend \$600 million. I made the first presentation to our Board of Directors to get the first slug of money, and it was, I remember distinctly, \$137 million. One of the members of the board asked me, in the way the sort of board members, in their generic way, ask, "\$137 million is a lot of money. What are you going to get for that?"

And I said, "Well, it's sad to say that no fish, fowl, human, bird, any critter will know the difference from before spending to after spending." I said, "It might make some very small change in the margin of safety, but it won't really change the environmental outcome."

Another member of the board who had served with me in the Carter Administration, Don McHenry, who was the Ambassador to the U.N., said, "You know, for \$137 million we could clean up the drinking water for most of Africa." And it's not like IP's going to send \$137 million to Africa, but it was just a hammer-blow about how wasteful we are with money. Spending it on things that really aren't making a whole lot of difference, and we're continuing to do that. We're spending money chasing molecules when there are big problems. And, you know, every survey that's made of EPA staff: "What are the top 10 problems and what are you spending all your money on?" Not on the top 10 problems, but on the bottom things.

I think I'm responsible for participating in a lot of that original legislation. It did a wonderful job of going from zero to 90 percent removal of sort of solid waste streams, hazardous waste streams, air, water waste streams, but it is not the vehicles we need to go after the remaining environmental problems. We've got to make some changes. The problem is the political arena is so poisoned now that it's now been 16 years since major environmental legislation has been enacted, and I don't see it changing. So something needs to be done.

But going back to implementation, the cleanup issue became a real hurdle, and we haven't really solved it yet, although we're getting much more pragmatic records of decisions made, some of them for interesting reasons. It's not a Superfund example, but it's a state Superfund example in New York. You're probably not familiar with New York—but up the Hudson River about 50 miles is a community called Croton. It's an area on the Hudson where all of the historic, first of all, coal-fired and then diesel-fired engines came to, and then the trains were converted to electricity to go the rest of the way into the city. They had this huge train yard there, and all of that fossil fuel-powered stuff was cleaned there. They basically had diked a lagoon in the Hudson River and filled it with these degreasing agents and oil. Just a mess.

We went through an elaborate record of decision in the state, and we came up with a proposal. Our preferred option was to bring in two very high-tech portable incinerators, run everything through them, and in six months we had it so you could build a kindergarten on it. But the people didn't want those two incinerators. I had briefed then State Senator Pataki on our conclusion, and he looked at me and he said, "You know you're right on the merits, but I gotta oppose you." I thought my background as an educator, we'd overcome this so we had done some really hard work on comparative risk. And we were going to have a public announcement of our choice at the train station. Well, 2,000 people showed up with black shirts with skull and bones in opposition to our record of decision, and the difference was this: we could bring those two machines in, run all this both sort of contained material in this lagoon, but also all of the crap that been contaminated around it in six months at a cost of \$22 million. The option B was to excavate and ship it to Texas to that licensed incinerator down there. Cost \$48 million. The cleanup would be so bad that we'd just have to cap it and just prevent anything from ever being done with this property. And that's what transpired. But I went to this and I started my spiel. I said, "People are concerned about the emissions from these two incinerators. Well, here's the comparison. The emissions from those incinerators equal three cars, and there are 4,000 cars in this parking lot with commuters, and when they turn on those 4,000 cars, the emissions are..." And we had graphics showing the risks associated with that. We didn't make a nickel's worth of difference to the political dynamic.

Now you've got a situation in which this concern over chemicals has become sort of focused on certain things to the exclusion of other things. I mean, smoking, diet, all those major things. Those had to go off the table, because we all do those things. So you need to avoid adding... IP's facing one now, we're trying to get a permit, which I'm still working a little bit on, to burn tire-derived fuel at one of our boilers at a paper mill. We've got nine paper mills burning it now, but Mr. [Senator James] Jeffords and the State of Vermont say we're going to poison all the Vermonters.

EPA Interviewer: What was your view of Superfund when you became the head of the Department of Environmental Conservation (DEC) for New York?

Jorling: I often joke that even now people will say, “Well, what did you learn from working at the Federal Government, the state government, and the private sector?” When I was with the Federal Government, I said the only thing to improve the environment was get rid of the states. When I went to the state government, I said the only thing necessary to improve the environment is to get rid of the Federal Government except send their money. And then when I went to the private sector, I said get rid of both.

The relationship between state government and the Federal Government waxes and wanes, and it waxes and wanes for a number of reasons. Some states have very little capacity. Some other states have tremendous capacity, and I’ll put New York in that and I’ll put California in that, and a couple of other states really have equal capacity to the capacity that’s here in terms of resources, talent, and legislative base, and the whole gamut of things necessary to create a competent regulatory agency. By the time I got to DEC, which was 1987, EPA had grown immensely. When I left EPA in the end of ’79, I believe it was 7,800 people. And at that point, at least in statute, most of the programs were to be delegated to the states, and therefore EPA was going to be just sort of be a grant making oversight kind of organization.

Superfund was a little bit different in the sense that there was direct federal responsibility for NPL sites. By ’87, the money had declined considerably and the bureaucracy had multiplied tremendously. We had our own state Superfund based on some bond act money that New York had enacted, and we felt our program was much more nimble and rapid in its ability to deliver, so we kept trying to get the federal Superfund site brought into that program. OK, you can oversee us, but let us get on with it.

Interestingly, in 1990 I was the Dean of State Administrators when Carol Browner was appointed, and she had her first meeting with state Administrators out at Dulles Airport. The state Administrators, especially those who had some longer service than others... You know, there’s a state organization and you talk a lot, but I was sort of nominated to be the spokesperson, and one of the issues was the huge transaction costs that are occurring between the state and the Federal Government in terms of submissions and grant applications and all of the program descriptions that go to EPA and the major permits that go to EPA. We had calculated—I can’t remember the numbers—but the number of pages that New York DEC transmitted to Region 2 in New York was greater than 100 people could read in 20 years. It was just volumes and volumes of stuff. On the other end, they were receiving all of this stuff, and so one of the statements I made to Carol was New York would volunteer to be a demonstration of an alternative way of proceeding. I said, “You send 100 people up to Albany, put 10 in each of our regional offices, and your staff go to every meeting, they can review any document, they can participate in everything that they want to participate in. And at the end, they all get together and they say, ‘What’s the grade we’re gonna give New York?’ If it’s an A, we get 110 percent of the state program grant, if it’s a B, we get 100 percent of the state program grant, if it’s a C, we get 90 percent, and if it’s a D, we get 75 percent. But no more of this massive shift of your resources and our resources to just paper filings between the two agencies.”

Obviously that... She thought it was an interesting idea in Dulles, but nothing ever happened to it. And it's actually gotten some worse. And part of it has to do with—and again, at least in the competent states—in the competent states their resources are out there on the landscape. They're dealing with people, they're dealing with communities, they're interacting with the issue in a very direct and real way. Every action of government is ultimately a kind of negotiation. Whether it's a regulation, a ruling, a permit, it is the result of some kind of a negotiation. If you take a permit and the state agency sort of says, "Here's the result of our negotiation. We have made the judgment," like Kodak, "that this set of things is the most important result, environmentally, that we can get." It goes then to Region 2, and it goes into an office where a person sits there with sort of a check sheet and says: here's the requirement, and here's their permit—no, yes, no, no, no, yes, yes, yes. And it doesn't reflect any of that dynamism.

So what we had to do in New York a lot was enter these things, but instead of treating them as permits, we'd treat them as consent orders. In the case of Kodak, I made a deal with Kodak that we would assemble a team of people in DEC that—and we did this ultimately with a number of major sources—assemble a team that would become very familiar with your processes, with your facilities, and all of the issues that you face, and you will have a dedicated team, and they will sit together. Once a year, they will produce what Kodak is going to do in the succeeding year to improve the environment. Essential to that was a commitment that Kodak made that they would spend \$90 million a year. The first several years, nothing that they did was statutorily required. The consent order protected them from enforcement because they didn't do things that were statutorily required, but what we did there, we concluded along with Kodak, that every bit of their chemical management infrastructure needed to be replaced. And they took what they learned were—Kodak Park was—it's not anymore because film is on its way out—but Kodak Park was the largest chemical facility in New York state. It's huge, and it's old. Its roots are old, but on one hand it's high-tech. But they had hazardous chemicals—listed hazardous chemicals—going through wooden pipes underground that go back before the turn of the last century. So we concluded with them that they would spend \$100 million replacing every bit of chemical management infrastructure. The outcome of that environmentally was immense. But nothing—in fact EPA opposed it because they said they're not complying with these several things, but it succeeded. But you had to use a bit of the Rube Goldberg of a consent order to protect them from enforcement.

When I came into...we didn't have a very good state Superfund program. It had a lot of money, but it wasn't what I'll call really high-quality professional, both in its process and some of the people who were there. So we created a group of people, some of who had federal experience and devoted a lot of attention to addressing it. I think it became quite good, and the only reason I'd say if you could blend them, there's a lot of savings.

EPA Interviewer: Blend the state and federal components?

Jorling: Efforts, and either manage them together or somehow, but not have one program proceeding down this kind of process leading to records of decision which are contrary to others. I think there's a serious issue associated with fairness and evenness. You know, what's good enough here in some other places isn't good enough or vice versa. To have some continuity and consistency in the application of the process and sort of know-how. You're going to deal with responsible parties that aren't participating. All of those kinds of

things I thought could be improved. I didn't think there were many states that could serve in that role. But I thought there were some, and certainly I thought New York could do that. And I also thought that the state Superfund program had a similar process to federal in the identification of a list and priorities and a risk-based kind of thing; that some of those sites were more serious than some of the sites on the federal Fund.

There's another sort of coloring figure, and that is the state initially and then the feds sort of took over the Superfund of the Hudson River. I still have my qualms about the outcome of that. To spend \$600 million destroying a river to save it is not, to me, a very good outcome, especially given the fact that the difference between dredging and not dredging is seven years. The conditions in the river will be the same in seven years, and it's been 30 since the contamination occurred. In any event, that's an aside.

EPA Interviewer: When you eventually moved to International Paper, were you still doing some Superfund issues there?

Jorling: Yes. IP has a very good system. It has on its active inventory something like 110 sites in which it's either the responsible party or a responsible party. Of those 100 plus, I think 11 were federal Superfund sites.

EPA Interviewer: What's the private perspective from your end of working on Superfund?

Jorling: Tremendous waste of transaction. We had a staff of four professionals and four lawyers dealing nothing with Superfund. And we had \$180 million in reserves ready to go, and you couldn't get it spent because you couldn't get the apparatus of government to say, "OK, we're there, go do the work." And so you'd have... Most of these people would spend their time in meetings all over the country, and I'd get a report back. "Well, how did the meeting up in Minnesota go?" "Slip backwards. We're further from cleanup now than we were before the meeting."

Now that's a more negative characterization. There are some that move beautifully. And to the extent I could find differences, it was in project management. If you had a really skilled project manager who could make judgments and wasn't afraid of his backside all the time and "Oh, I'm going to be criticized if we don't do this and that," and said, "My job is to get something done here"...good success. People would come back and say, "Jesus, we just ran into some EPA people that really wanted to get the job done." [*Laughing*] You'd say, "Oh! Amazing!" There was also an advantage. The pulp and paper industry didn't deal, historically, with a lot of bad stuff, so the issues really were mostly legacy issues from that portion of the business that dealt with treated wood. In those areas—let me just think now—I think the California region [Region 9] was really good to work with, and Region 10 was. These are facilities that had been shut down or bought by IP and shut down that had not been operating for decades and trying to get them off of our book, to get them cleaned up. Those were good. But we had some in—what's Missouri? Region 6?

EPA Interviewer: Seven.

Jorling: Seven, where you just couldn't get decisions made. So there was that kind of variation. We had a curve, and I don't know where it is now because I've been gone for a

year. When I first joined IP, the curve was still adding sites and adding reserves. Then we sort of crossed that threshold, and I think we had a projection that by 2020 IP would be out of any... Well, there were some that were going to have continuing monitoring obligations beyond that, some groundwater monitoring. But we hadn't added a new site in the three or four years preceding my retirement, and we were clicking off cleaned up sites with some. We were trying to get five or 10 off of our list.

EPA Interviewer: If you look back over the years, what do you think are some of Superfund's greatest successes?

Jorling: I think the greatest success was in the sort of feedback it produced on the way waste is managed. It stopped bad management. That's probably the single most... It made people say, "Hey, before we follow this course of action, is it going to produce a liability down the road?" So I think, coupled with the RCRA regs, but the RCRA regs wouldn't work nearly as well without Superfund. So it stopped bad practices. We have a horizon out there that is pretty chemically tight, and Superfund is very instrumental in producing that outcome. Most chemical companies now are in tertiary containment in their manufacturing operations. Not because that's what the RCRA reg says, but because they don't want this liability. Even if they put a quart of something in a landfill that somebody else puts a million tons, they're on the hook. I think that's a very important contribution.

A second important contribution was it did force a process in which we actually looked at the legacy of the past and sort of sorted it, and have done well in identification. We still have some work to do to move from identification through some kind of remediation outcome, but it did lead to... I don't even know what the record of you folks is now on adding sites, but it's gotta be reducing in number per year. And the kind of sites being added are different from the kind of sites that were added in the first go-around. So I think that process of identification and analyzing has gone quite well. We now have, I think, a pretty good grasp. I think we're probably at the 95 percent "know" level. Maybe I'm being much too optimistic there.

EPA Interviewer: Where do you think some of the weaknesses have been over the past 25 years?

Jorling: I think it's partly a fault of the statute—inadequate addressing of the issue of either risk or cleanup standards. What's the minimum obligation of government to put something right? Is it to make it edible, at the extreme? Or is it to make it usable without further contamination occurring? Insufficient guidance there, and so the program has struggled with that, and will always struggle with it until we somehow come up with a way of dealing with a problem that's not limited to Superfund.

It's a problem of all the statutory programs. And that is, how do we make judgments? Let's say you have the Clean Air program, the Clean Water program, you've got the RCRA program, you've got the Superfund program, you've got the Safe Drinking Water program, you've got a whole array of programs. Somehow we need to collapse them and say, "We've got this much money. Which of these things, in all of these areas, should we address first? And second and third and fourth." We don't have any vehicles to do that. And for me, it would be better to—this will be a non sequitur, an almost sounding stupid kind of example—it would be better not to spend and to put some Superfund sites in a sort of suspended animation and

get rid of coal burning than it would to keep burning coal and clean that thing up to the nth degree. Somehow we've got to put these whole sets of things into an analytical framework that says next year we're going to have "X" millions of dollars, and we can achieve the best environmental benefit, the best public health protection, by spending that block of money on these things because right now, to me, the exposures that we need to address with the most energy are energy exposures, are fossil fuels, both mobile sources and... I mean, that example that I gave you about burning that waste at Croton and the comparison of the health risks associated with those 4,000 cars that start up every afternoon and arrive there every morning was just staggering. It's not a weakness of Superfund. It's a weakness of the whole arena.

I'm not sure how we're going to address that, but as far as the sort of specific weakness of Superfund was—and its implementation—was the unwillingness to unleash the cleanup of the feds and charge back rather than try to get agreement before the cleanup. Some well-targeted examples of cleanup and charge-back would have accelerated the program tremendously. It would have broken the back of a lot of this transaction cost. Right now there is no pain to a firm or public authority to delay. So you go through these transaction costs. You pay your lawyers hundreds of thousands of dollars as opposed to spending tens of millions of the cleanup. Present value of money that makes a great deal of sense. So there's no real reason for people to move past that endless negotiation, endless question, and some of the record of decision stuff feeds into that. In this sense, if you go through a multi-party negotiation and you allocate out responsibility, you come up with an idea, and then it goes to the public process, and then people say, "Oh, it's not clean enough."

You've gotta go back through the cycle again and say, "Well, we've gotta reallocate," and then people are saying, "Well, now you mean the money that I had allocated, the \$8.61 million that I've allocated from my firm could rise to some number I don't know? I've gotta revisit the whole thing within the company." It just creates an outcome which is favorable to not spending. I would like to see more outcomes that drive the process.

Speaking for myself, I would be willing to use a 10 percent background cleanup standard than a 100 percent background cleanup standard. I think it's part of Superfund's problem, but it's also part of this... It could have been implemented differently in the beginning, and I think if it would have been implemented differently in the beginning... One of the things we were preparing for was to create a bunch of—not a bunch, but some—really capable project management to go to a site and say, "We've got X amount of millions out of Superfund and we're going to clean this site, and we know of several PRPs [potentially responsible parties], and those PRPs are going to pay the whole cost that we're going to spend under joint and several liability or they're going to sue their other PRPs and get some recovery, but it's going to get cleaned up." I think that would have changed some of the early dynamics and produced some different directions than we've gone.

EPA Interviewer: A quick look at my notes before we really get done. I realize we didn't talk much about the question of the fairness of Superfund. There's a more "infamous" meeting of industry groups saying this is not fair and EPA responding, "It's not supposed to be fair." Was that in any of the thought process in its development or your perspective since then?

Jorling: Yeah. It wasn't that it was inherently fair. We always said it's more fair than the taxpayer being charged with it. So it was a relative fairness question. Is it more fair to charge people who engaged in lawful activity at a point in history but who engaged in the benefits of that activity, than it is charging the taxpayer for that? In that relative fairness, it was more fair to charge these people than the public at large for that. The charge we used to articulate wasn't just the charge of cash (revenue), but the charge of bearing the risk. We never made the claim—at least I don't think I ever made the claim to anybody associated with the development—that it was a fair process to charge people who engaged in lawful activity for repairing the costs of that activity. It was only that that was fairer than charging the taxpayer or the public.

EPA Interviewer: Is there anything else you would like to talk about?

Jorling: I think I've covered pretty much of it.

EPA Interviewer: So then my last question for you is where do you think Superfund is going in the next 25 years?

Jorling: I think in some ways I've at least addressed parts of that. I think Superfund has to be brought into a general equation of general comparative risk, [using] monies to repair or remediate sites made where that comparison shows that's the best investment. But in other cases it would be in another arena. So I think that's one aspect, and that's a problem of the Agency; the Agency has to start. If I were—pray God nobody'd ever ask me to do it—but if I were Administrator and I came into the Agency, I'd say we've got to do this. We've got to figure out a way to recommend to Congress a way of taking the body of law we have and figuring out how to implement it so we spend the money the most productive way first and move down the list. It's going to be very challenging, but I think it could be done conceptually. Politically right now off the table. That's one feature. Within its sort of own universe, I think it's gotta get some additional money. I think the program is going to suffer politically if more rapid progress isn't produced in lopping off sites, and—what's the term for the...

EPA Interviewer: Deleting [sites from the National Priorities List, or NPL].

Jorling: Yeah. I think, politically, it's going to become increasingly vulnerable unless it can show that, and I think that political vulnerability is exacerbated by the current and growing perception of what's on the country and the global plate. I have a suspicion—although I have no way of knowing this—that the NGO community is going to drift away from this issue and move to climate change and to mercury. They're as guilty of fad-ism as every one of us are. Foundations are going to move that way. And it probably doesn't need to generate as much as it did the first time, but just some secure, reliable supplies so that you...

Then I would argue to put the pucker factor into the system. I would pick a site where the PRP community has been unable to agree and say, "We're cleaning it up," and go ahead and do it, and then go back to them and say, "OK, we spent \$90 million. Here's the charge. Each of you are going to pay \$90 million," or "Each of you are going to pay until we get \$90 million." And we're going to go after the biggest pocket first. Just something to jolt the system again. [We would] have to be very careful to pick sites that merit that.

The worst thing that could happen is for some group of analysts on the payroll of the other side to say there's no health risk associated with this. But there are still some out there that I think merit that kind of response. But I do think, ultimately, Superfund's success is going to be the success of the Agency's statutory base. It's gotta be rationalized into a way of saying: "How do we spend?" That's hard.

If you asked me one of my learnings about looking at the regulatory structure from the regulated side, the silos have become too entrenched. A paper mill is a big, complicated beast, and our staff knows, "You can do these things to it, and then the outcomes are these things." The air inspectors would come in, and they'd go through their thing. Then the water inspectors would come through, and you'd say, "Wait a minute. The two things are related. Here's what we think."

And they'd say, "Well, we can't. We have to think only in terms of water, air, waste." And that produces a lot of inefficiency. And that's back to that Kodak experience. Bringing together people who understand how a paper mill works, not just how the paper mill generates air emissions, but how it works, so you know what the relationship is to water emissions and to waste generation, although none of IP's mills are... What's the word in RCRA? You get under a threshold. It's a minor generator. You're outside of the regulatory structure of RCRA, see.

So I think right now I'd say the biggest challenge to Superfund is how does it fit in the overall scheme of environmental protection, and then sort of crafting it in a way that...and the others have to be crafted too. It's not just the burden of Superfund, but somehow the whole complex has to somehow become rational. I've even said that if I'd have known... One of the things with the history of this period since I worked on it in the mid-'60s is in the beginning, I had—and I'd clip every case—every scientific article that dealt with environment, and it wouldn't be that thick in a year. Now it's gone the way of the IRS. Each of the programs has specialties and subspecialties and paragraphs and subparagraphs, and what has happened is the state government has grown up with silos, so there's a program in the state that matches the air program, a program that matches the water program. They don't talk to each other. Their grant programs work within that silo, and they've become very elaborate, and very big in each of these silos. The NGO community is exactly the same. NRDC [Natural Resources Defense Council] has a water program and air program, and they don't talk to each other. So what you've got is sort of each person, because every one of us wants to do the best professional job we can, says, "My thing is the most important, and I'm going to do it regardless of its impact or consequences on others," or what have you. That silo effect has become so strong. The only place it doesn't exist is in the private sector.

The analytical, or the sort of technical, staff at IP, or DuPont, or General Motors understands how a mill works across the board. They then go back into government and they have to introduce each other and that kind of thing. I think we've drifted into that circumstance. It's very understandable historically. But somewhere now we're going to have to figure out an alternate way of proceeding.

And I said, if I'd have known I was going to stay at DEC for seven years, because I have an aversion to reorganization as a governmental policy, I would have reorganized. I would have reorganized so that there would have been a division of industrial waste

management and municipal waste management, and that's it. There are differences between those two that require different sets of skills and capabilities, so that if a DEC official went out to a site, they knew the water, the air, the waste, the whole dimension, and they were capable of issuing a permit that covered them all. We went through a consolidated permitting here in our era. Actually, there was a regulation promulgated on it, but it didn't really change the dynamics that much. It became a consolidated permit only for the programs in the water program, so we couldn't pull in the air program.

EPA Interviewer: I want to thank you for sharing your knowledge with us. We really appreciate it.

Jorling: I'm glad we had a chance... [*tape stops*].