

US EPA ARCHIVE DOCUMENT

BERNIE REILLY

Industry Representative



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EPA Interviewer: It is September 23, 2005, and we're about to interview Bernard J. Reilly. We are here in the Crystal Gateway I Offices of the U.S. EPA in Washington, D.C. Bernie, thanks very much for participating in our project.

Reilly: It is my pleasure.

EPA Interviewer: Just to get us started, would you please tell us about your current position and what you do and how long you've been there.

Reilly: My current position is the group leader of the environmental attorneys at the DuPont Company. I came to DuPont in 1977 right out of law school. I've been doing environmental work pretty much ever since I've been at DuPont.

EPA Interviewer: When did you first become involved in the Superfund Program?

Reilly: I became involved in 1980 when Superfund was pending legislation. It drifted into the lame duck session in 1980. There were some companies that felt as though it should not be passed into law and that the new Administration might be willing to kill it. I'm proud of DuPont for having had a role in assuring it became law.

EPA Interviewer: Then I'll definitely have to ask you a few more questions in that arena. Had you had experience in environmental issues prior to working in CERCLA [Comprehensive Environmental Response, Compensation, and Liability Act]?

Reilly: When I came to the company in 1977, most of the issues were regulatory, air and water. The initial RCRA [Resource Conservation and Recovery Act] rules were not yet promulgated. We didn't have a huge site like a Love Canal or a Valley of the Drums—those were some of the big sites getting into the news at time. But we were aware that there were contaminated sites out there that weren't being addressed. We also were aware that the public was very impatient with these sites and that there didn't seem to be any program directed toward how you deal with them. There was no program that indicated to the companies that were involved in Love Canal that there were responsibilities retroactively, for instance. So there was a need for a program to address historic contamination. It didn't have to necessarily be precisely what was passed, but there was public impatience and it was making industry look irresponsible.

EPA Interviewer: What were your expectations when you first got started in? I guess I need to back up a little bit in terms of what kind of work you were doing, or DuPont was doing, in terms of trying to get the original legislation passed and what your expectations for that were.

Reilly: We were supportive of Superfund. We were an externally oriented company. We were trying to gain trust with the American public, which has always been a chore for the chemical industry. It's easy to vilify chemicals, even though they are the substance of life. We had strong leadership in the company. We could see that there were some sites that needed to be addressed. Superfund was an imperfect solution, but it was a solution. We testified consistently in favor of Superfund.

EPA Interviewer: What was your role as an individual in pursuing the legislation or dealing with sites that afford lives like that?

Reilly: We were broadly aware that there probably were many contaminated sites. During the '70s, we had really tightened up a lot of our waste practices. In earlier years, if you had something you considered fairly harmless, like paint waste or common solvents, you would give them to a fellow that went around in a truck. His value was in the drum and he would pick it up for free. As we became aware that simply burying chemicals did not necessarily contain them or make them go away, we changed our practices. We also came to realize that some of the materials we were sending off to be recycled were going to less than reputable places. As they became shaky, they tended to bring in a whole bunch of drums that they couldn't process because their permits were lapsing or their equipment was failing, but they needed the cash. Many created a huge inventory of drums and then abandoned them. So we could see the writing on the wall that waste practices needed to be addressed. We had played a role in the Clean Water Act amendments and the Clean Air Act amendments, as well as RCRA. It seemed like the missing piece was what do you do with the sites where dumping had occurred and there was not ownership by a responsible entity. So we were proponents of Superfund.

EPA Interviewer: You've already alluded to it probably several times, but I wanted to ask more exclusively: What were the issues that you thought were driving the legislation in 1980?

Reilly: There was no common law or mandate from Congress either to EPA or to responsible persons that someone must deal with these sites. The company that was involved in Love Canal was Hooker. Its land was taken for a housing project in the '50s—it was not clear whether or not they still had responsibility. They were probably getting conflicting advice from their lawyers saying if you try to step in and help, even though it might be the right thing to do, you may be assuming responsibility that never should be yours. There was an absolute lack of clarity or ownership on that issue. The states didn't have the resources; EPA didn't have the mission or resources. Somebody had to address these sites, especially the really horrific ones where you had a subdivision built on top of a chemical landfill. That was unacceptable to anybody with any common sense.

EPA Interviewer: And that actually enabled you then to do cleanups knowing what your future liability might be. Although you might not necessarily know that but....

Reilly: That's right. You may not have been real happy with it, but at least with Superfund somebody was going to be held responsible and DuPont would not face the quandary of inviting liability if it did the right thing. The number of sites that were out there was very unclear then. You find the number 400 in some legislative history, and that became the size of the initial National Priorities List [NPL]. There was the expectation that those 400 sites would be done in some timeframe, and then there would no longer be a need for the Superfund program. Of course, it was stunningly naïve, but no one really had an inventory. The law also gave us the comfort that if we were responsible, so were the other parties that used the site, and if we spent money to clean it up, others should cover their share of costs. We could see the public expectations that the "polluter pays." You can't change that perception...may as well make it clear in the law.

EPA Interviewer: Clearly, at that time the public was just upset at what was going on, and I'm sure there was a lot of anti-industry sentiment among the public. What was the mood in Congress like and obviously you were for the legislation....

Reilly: As I recall, Congress paralleled the public—the "polluter pays." Politics will reflect the popular view, even if it's a lynch mob. But you hope it doesn't turn into a lynch mob, and that if Congress addresses the public concerns—like who is going to clean up Love Canal, who's going to pay those families that have got their life savings sunk into their homes—that is the fair solution. I think Congress did a credible job on Superfund given what was known at the time.

The law also created a new tax on chemicals. Not only are the companies responsible for individual sites, but if more monies are needed for overhead or orphan sites, it would come out of a tax on our industry.

EPA Interviewer: Well, notwithstanding how the law was implemented in the early years—we'll get to that in a moment—what were the imperfections that you felt were encompassed by the original law?

Reilly: One of the imperfections was just an absolute ignorance of the number and scope of contaminated sites. Another was the notion that you name, whether 400 sites or 2,000 sites, and feel that was the heart and soul of the problem, that there would be such a small number. And if we just put resources on those sites, then there would be no more Love Canals because you got them all. We now understand there are hundreds of thousands of contaminated sites; everything from the gas stations to any warehouse where chemicals have been stored and spilled, to the much more complex sites that go all the way through refineries and chemical plants and paper plants, sediments in harbors, mining sites, etc. There may have been some perception even early on that there would be a range of second-tier sites where possibly some short-term action, like removing some drums or hooking up a water supply, was all that was needed. At such sites you might not need an elaborate process where you completely studied the site and various remedies.

EPA Interviewer: It seemed like it was strictly the large scale projects.

Reilly: Yes. The assumption was that we're going to find some Love Canals, maybe 300 to 400 of them, cure them, and that was really the heart and soul of Superfund. And

Superfund wouldn't be needed after those sites were done.

EPA Interviewer: I recall reading about the size of the original Trust Fund. There was a lot of discussion whether it should be \$600 million or more than a billion. Folks just didn't realize how much this was going to take.

Reilly: Right. Nor do I think there was real[ly] even clear thought about, "If I can put this many sites onto private industry, then I only need this much money for the program to run." I don't think there was even clear thinking on that. There clearly was, in the law, the notion that if there are responsible parties, then that's not going to have to come out of the tax. But exactly what that left for the tax—very unclear—probably isn't clear completely today, but it certainly wasn't clear then.

EPA Interviewer: Even in the middle '90s, I recall folks trying to define what the universe was of remaining sites. Even then, they were very optimistic projections that we really covered it all. Then, on the other side, of course, there are hundreds of thousands still out there that we haven't explored at all yet. Do you think it's still an important aspect of the program to try to collect that kind of inventory?

Reilly: Yes. A good inventory is essential, because Congress must be aware of what remains so they can determine at what level these sites should be of national concern versus state or local. How many of them are smaller sites, bigger than a gas station but nonetheless not tremendously large, and how many really big sites are out there that reach—the Kate Probst *Resources for the Future* study called them the mega-sites—those that might cost over \$50 million. Of course, when you just list a site, you don't really know exactly what it'll cost, but you can be pretty sure if you list a harbor or a river system or a mining site that is square miles or more, it's going to be very expensive. I think the triage of listing is still an imperfection in the process, how the Agency decides which sites merit government resources, and at what level. The sites are unique, like snowflakes—no two the same—and site information is still far from complete.

EPA Interviewer: I'll probably get back to that a little bit later with respect to what the Agency is doing with respect to Superfund alternatives sites to keep them off the NPL—the Brownfields program. They may be doing some of what they're suggesting, whether or not you think they're going far enough. I'll come back to that.

Reilly: I agree it's worth getting back to the problems Superfund liability has created for brownfields.

EPA Interviewer: After CERCLA first passed, you kind of knew what you were going to get into as the imperfections you saw built into the law. What were the significant issues that you really had to deal with, with the Agency, after the law got passed?

Reilly: There's no question during the '80s the issue that was of most difficulty for me personally was getting the rest of industry to agree the law had been passed and indeed liability was retroactive. A couple examples here: Kramer Landfill came up in the mid'80s. It was a 70 or so acre landfill in Jersey, used by Philadelphia, and it clearly needed to be closed properly. Nobody knew exactly how much—\$50 to \$100 million—it was going to cost. EPA

Region 2 came to some companies, and DuPont was not one, and asked if they wanted to do the work. These companies declined, on the hope EPA would do the cleanup and that would be it...

A couple years later Region 2 started the process for GEMS [Gloucester Environmental Management Services] Landfill, also in New Jersey, also fairly close to Philadelphia. Philadelphia sent a lot of its trash to New Jersey in the old days. Upon challenge by New Jersey, the Supreme Court said trash is part of commerce. DuPont got invited to the initial meeting with EPA. We were offered a chance to do the remedy, and I put a tremendous amount of energy into pulling industry together to do the work. I noted EPA was doing the Kramer landfill at great cost and that some of us would get that bill. Plus, I said we can do things better and more cost efficiently than EPA. I had a hard time convincing my fellow brothers and sisters in industry. We got there. It helped a lot to have good outside lawyers. In that case we used Jack Lynch as common counsel, and we used the “train is leaving the station” metaphor. Some of us companies will do the remedy, the rest are with us or we will seek to get EPA to enforce more of the work onto you. We put the cover on GEMS Landfill and the pump-and-treat system. The cap at GEMS was grossly more expensive than was necessary. That was back in the old days when EPA insisted on clay caps, a nightmare to install and maintain.

Anyway, industry spent \$50 million putting the cap on, the gas collection system on, and the pump-and-treat. EPA, that managed the cleanup of Kramer, spent \$160 million for a roughly similar site. There are several reasons for that. One is government contracting—I think government contracting is always more expensive. It’s hard to get the most effective contractor given all the government procurement rules. But also, as Kramer unfolded, even after the remedy was picked, EPA decided to put a slurry wall around the site. It was absolutely not needed; indeed, it was counter-productive given the hydrology in the area. EPA also decided it wouldn’t move a little stream that was next to Kramer. It agreed with the Corps of Engineers to spend \$30 million to put a concrete wall along one edge of Kramer to avoid moving a stream that the ROD [Record of Decision] said could be moved for less than \$.5 million. This experience confirmed my feeling that industry could do things far more cost effectively. It is very difficult for EPA to do a couple things, but maybe the most important is to manage contractors, given government procurement rules.

The Corps of Engineers is a great organization. When I was a young man, I was in the Corps of Engineers, but it has a hard time spending money cost effectively. Also, I think there’s a dynamic when EPA does the work that, “Well, the money will be there whatever we decide.” Whereas in industry the only way we stay in business is to watch how we spend money.

You asked me the challenges of organizing industry. Surely getting past the retroactive liability was a big point. One of the national law firms had a seminar in the early’80s. I recall going there and hearing Superfund is unconstitutionally retroactive. They placed a copy of the Constitution on everybody’s chair at the seminar. But my instincts were right. Retroactive liability—it may be unfair or arguably unconstitutional—but that is where the public is and the courts are going to find a way.

Anyway, lots of energy went into twisting arms at the sites to agree to do the cleanups while some still wanted to fight retroactive liability. The other big chore for industry at that time and ever since is, how do you whack the pie up? If industry does the work, we have to agree who pays one percent, five percent, adding to 100 percent. I think we've gotten smarter on that process, but it always has been a challenge. In those early days we'd have these huge meetings—25, 50, 100 lawyers—and we'd spend the whole meeting complaining about who's going to pay what share. As our thinking evolved, as we got smarter at this. We decided that if we have a big meeting, we will not talk about who pays what share. We will talk about progress at the site—remedy selection, risk, everything but allocation. That is in that bucket over there. If you want to talk about allocation, we have a separate meeting, a separate allocation committee. That advanced the way we could make the decisions. It allowed us to keep our eye on the ball, work with EPA, do as much of the studies as allowed, fully understand the site, do the risk assessment, help select a protective remedy, and then doing the work .

EPA Interviewer: How is it possible that you could actually move forward on addressing a site when all the other issues regarding liability and allocation of costs weren't settled?

Reilly: You had to have faith, "field of dreams." Keep allocation at bay, promise eventual fairness when the facts and costs are known. Early at the sites', cash needs were small; often we would raise money per capita. When serious money is needed, we would allocate based on available information. If some threatened not to join, we would threaten right back a contribution action. As to contribution, the courts were very receptive to case management orders under which all discovery would be stayed except as to the liability of the defendant recalcitrant.

EPA Interviewer: Does mashed potatoes ring a bell with you?

Reilly: Yes. That was highlighted in some of the Superfund reauthorizations hearings in the '90s. I've never been in a PRP [potentially responsible party] group where we sued Mom and Pops, because I think it's not wise. As I recall, Mrs. whatever her name was, was a restaurant owner...

EPA Interviewer: Barbara Davis.

Reilly: Barbara Davis apparently was sued for mashed potatoes and whatever, apple pie. I've seen PRP groups do stupid things. To me that was a stupid thing. Normally, when I'm in a PRP group and I see things going off the radar screen or I see that there's been an unfortunate choice of counsel that thinks this is all about litigation, I've tried to get it back on track. If a municipality should be paying a share, it is OK to bring them into the process, maybe even a small business with chemical wastes, but not a restaurant.

EPA Interviewer: It was really a chore for you to make sure other members of the steering committee weren't...

Reilly: Right, doing something dumb. I think in most cases, if you put fair minds together, you're going to find a solution. Neither side should expect a complete win. You shouldn't be trying to make winners and losers. Contentious litigators are not welcome in PRP groups.

DuPont was a large-share party in a site called Silsonix up in Irvington, New Jersey, early '90s. It was a silver reclaiming facility. This fellow would take in silver film, used film from old X-rays, whatever, and get silver out of it, and that was his trade. He went belly up, for good or bad reasons—tough part of town, his building burned, etc. EPA went in and did a removal—couple million dollars—and sought cost recovery from about 10 parties. One, DuPont, pretty sophisticated. These other were little silver people—they collect silver film, so they are really out of water when it comes to Superfund liability. Nonetheless, we pulled them together. It did help that DuPont had a pretty good-sized share. We've been in the film business for a long time. But these poor people, they felt completely victimized wondering why EPA's doing this to them. In fact, they asked DuPont, "Why don't you just pay the whole bill?" We found a way to settle, everybody paid some, but the poor small businessmen still were shaking their heads, and they certainly had my sympathy.

EPA Interviewer: I'm hoping to come back to that as well, because you had been an advocate of the proportional liability scheme during the reauthorization period. So we'll hopefully get back to that as well, as we progress more chronologically.

You'd mentioned that you'd use outside counsel and that was helpful to you. I remembered reading that, in some cases at least, outside counsel wasn't as helpful, because they were more interested in challenging the law rather than helping the companies deal with the situation. What was that like for you?

Reilly: DuPont normally would not hire our own counsel because we had—we still have—in-house environmental counsel. We would go to the initial meetings, often hosted by EPA, where someone like Walter Mugdan of EPA Region 2 would say, "You companies are all on this site and will pay one way or another. Don't you really want to do the remedy?" And then leave the room full of people. Many, if not most, companies would send their outside lawyers to these meetings. The challenge for DuPont would be—and we usually had some allies to rely on—to form a group and decide how to address this site, instead of taking the easy route, litigation. Baby steps at first, like let's at least meet among ourselves.

Many companies and counsel are timid in taking a leadership role. They think it might give them a bigger share, which I think is totally wrong. DuPont would always push to form a group, get the right common counsel. Do not get a common counsel that wants to fight World War III. I've seen PRP groups where that's happened. It's very unfortunate. The best common counsel use moral suasion to keep the more hawkish members of the group from going off the reservation, and subtle reminders that companies who do the work will seek contribution from those who do not, and the courts will be on our side.

Some of those with a great track record as common counsel include Jack Lynch, Bill Hyatt, Rich Ricci, Lou Destefano. Rand did a study in the late 1980s on transaction cost and said that on average of the total site costs, roughly 25 percent is going into transaction costs. Even at sites where we were making good progress, like GEMS, you've had meetings with 25, 50, 100 lawyers. All the leadership at a site like that would be the common counsel and the common technical resource. Great way to meet people, nice friends and all that stuff, but really, Superfund was very over-lawyered in the early years.

Nowadays, the experienced companies recognize that early organization with common counsel and common technical is smart, efficient, and gets the best results, but first time fliers still go through the stages of denial.

EPA Interviewer: What was the mood at EPA in the early '80s toward industry?

Reilly: I believe early on EPA felt it should do the work, even if there were viable parties. At BROS [Bridgeport Rental and Oil Services]—it's right inside of New Jersey along the Delaware River, halfway to the airport from Wilmington—EPA decided it needed an incinerator. It was a pretty bad site, a nine-acre lagoon and sandy soil. It had been used by an oil reclaimer, and he'd dumped everything in that lagoon under the sun. It smelled when you drove by on Rt. 295, a very organic odor. EPA could have pressed the group to do the work, but it decided it wanted to put the incinerator in that site. By the time EPA was done, it had spent \$400 million on that remedy. There was a permitted RCRA commercial incinerator five miles away. EPA probably should have used it, could not have cost more. EPA told a group of us early on it was going to build the incinerator and we were going to pay the bills. EPA did not give notice to the United States Navy; it had a shipping yard at Philadelphia. By the time we got through tracking down records, especially PCB [polychlorinated biphenyls] wastes, the Navy was responsible for 80 percent of the site's costs. As the '80s wore on, I think EPA decided it was not good at managing contractors—the Corps was very expensive. It was better to put pressure on industry to do the remedies, and I think that was a good development.

EPA Interviewer: I was about to ask you what could have been done differently from that period.

Reilly: I think EPA should have leaned on industry from day one and said, "We know you folks can manage contracts more efficiently than we can. Instead of us spending the Fund money, then trying to get it back, it's the wiser choice for you industry to do the remedies."

EPA Interviewer: How aggressive was EPA on the enforcement side at that point?

Reilly: In the '80s, EPA was aggressive on cost recovery, but as noted, wanted mostly to do the work itself. I remember when the bills came in for Kramer, late '80s early '90s; EPA by then had spent its \$160 million on the cap, the slurry wall and concrete wall, and pump-and-treat. Among hundreds of liable parties, EPA sued about 25. New Jersey sued a different 25. Those who were not sued, to include Philadelphia, felt they should either have no share or less of a share that the records indicated. It was really a very unfortunate dynamic.

In the end we sorted that and it didn't make a difference if EPA named you or New Jersey named you. Our quarrel with EPA is not being that it just named initially a subset of the parties, because normally information is imperfect. But once we bring information to the Agency, we expect EPA to name all the parties. That pretty much is the practice today and a clear benefit of the administrative reforms. Also in the '80s—it may or may not fit here—the industry did a couple things to form organizations to be better able address Superfund. One was Clean Sites and one was Superfund Settlements Project. It became clear to everybody we had to organize, even if we organized just to oppose the remedy or defend the cost recovery.

EPA Interviewer: I'll ask you more about that later if it comes up. Everything that you've been talking about—assigning liability to multiple parties and the lack of clarity regarding those folks' roles—was the fact that the original law didn't even have explicit mention of strict joint and several liability in it, did that have an impact? Did the '86 amendments clarify that for you?

Reilly: You don't find the words "strict joint and several" in the law. Nor the word "retroactive." You're an owner, you're liable. Your waste went there, you're liable. That liability is strict. Whether it is joint and several, it's probably not worth debating. I think EPA has tried to inject some fairness into the system with orphan share and all that. We did spend a lot of time in the '80s arguing for orphan share, trying to get some of the Fund—more time than we probably should have because EPA didn't have a pot of gold either. Some groups spent a tremendous amount of time seeking a large orphan payment, but I don't think industry got a whole heck of a lot of money back from the Fund.

Municipalities added to allocation complexity. Rarely did EPA name them as potentially liable, so we would have to bring contribution actions. In nearly all cases they paid a fair share. At some point hard-headed industry stopped fighting retroactive. The courts were unanimous.

EPA Interviewer: What was the impact of SARA [Superfund Amendments and Reauthorization Act]?

Reilly: The original tax raised about \$200 to \$300 million a year. The SARA tax raised \$1.5 to \$2 billion a year. The most challenging part of SARA was prescriptive remedy selection. Remedies need not merely have to be protective, but there was added a preference for treatment, preference for permanence and ARARs [applicable or relevant and appropriate requirement]. I think remedies should be based on risk. If the remedy protects the public, that should be acceptable. If you introduce on top of that other considerations like ARARs—there are PCBs, and in some cases TSCA [Toxic Substances Control Act] requires incineration of PCBs at 50 parts per million. So even though PCBs are not mobile, certainly not if under a cap, we must dig them out and burn them because of the ARAR. That can drive costs in a way that in a lot of cases doesn't benefit anybody. ARARs also sweep in state groundwater classifications, even though the site may be downtown where countless sites have made the groundwater unusable or there never were sufficient volumes available in any event. As a practical matter, it's impossible to restore some groundwater to drinking water with any technology. Despite this reality, often pump-and-treat is mandated because of the ARAR.

As for the preference for treatment, preference for permanence—similarly, if they will not reduce any risk, it is not a wise mandate. There are many sites out there. We should be putting our priority on addressing risk at all of them. Some of the remedy selection criteria on SARA focus resources on the few sites that get listed.

EPA Interviewer: Did you realize at the time that SARA was being passed what the new language was actually going to result in?

Reilly: Yes. It was predictable. The words were there. The nine factors were there. Some of the factors we certainly have no quarrel with: public acceptance we knew was important,

protective remedies we knew were important. The words cost-effective weren't there but cost is [important]. EPA interprets it to mean: If you have two remedies that are equally protective—and of course sometimes that's a metaphysical question—you could pick the one that costs less. But SARA does not seem to require a review to determine whether spending the next million dollars and getting almost nothing for it is wise.

EPA Interviewer: How did your relationship with EPA change after SARA?

Reilly: To me SARA did not seem to impact how we dealt with the sites. As noted, there was ever more pressure from EPA for the industry to do the remedies, and that was fine by me. There was an attempt in SARA to have an allocation scheme, the non-binding allocation of responsibility, but we had enough problems with allocation without help from EPA, so it was rarely used.

The few times that EPA has gotten into allocation, it has been divisive. EPA has done *de minimis* settlements that let parties out of the mix—taking their money while expecting the remaining parties to do the work even if they feel the *de minimis* shares are not fair. The work parties would object, saying there is not enough information to calculate shares, or the impoverished parties have insurance, etc. The system works far better when EPA lets the parties doing the work do their own allocation.

EPA Interviewer: So do you still think it's a good idea, then, to allow EPA to identify the main players, albeit bring to the table others who you might identify and let you pull all the actors together rather than EPA pursuing them?

Reilly: There's always imperfect information at the beginning of these site histories. So EPA, even in a perfect world—and there's never a perfect world—isn't going to know everybody that could be linked to that site. I don't have any problem with EPA naming the parties of whom it's aware early in the process, as long as, if those parties identify others that are similarly responsible, the Agency is willing to add them to the list. I think Passaic right now, running out of Region 2, is a good example of EPA being receptive to adding parties as we bring them to the Agency. EPA should be willing to review the information that we bring to them and say, "Yes. I'm going to send that party a notice letter."

EPA Interviewer: I guess that goes toward the next question about how the steering committees have changed over time. You talked about trying to divide up the responsibilities of different subcommittees, one toward progress, one toward allocation. As time has gone on, clearly PRPs have become much more sophisticated in understanding the law and how it all carries forward. Has the mood changed? Has the level of organization or cooperation within those committees changed?

Reilly: Yes, group organization has improved for a couple reasons. Nobody can say with a straight face anymore that there's no such thing as retroactive liability, so that helps. You allocate as best you can for interim costs with the promise to true-up in the end. Keep allocation out of the middle of the room, focus on getting a cost-effective remedy, focus on working with EPA. If a couple want to be contentious, we tell them to go away. We're going to clean this site up and deal with you later. [We have] no time for companies who say they are not liable for sending empty drums. We've already cleaned up other sites where we sent

empty drums. I think we've just gotten a lot more efficient, more blunt with the inevitability of the chore. You're still going to get some first-time fliers and you have to feel sorry for them. But all the big companies—you just don't fight liability anymore. Although whether NRD [natural resource damages] should be joint and several [is] still open to question among all companies.

EPA Interviewer: It can fit anywhere you're interested.

Reilly: Aside from allocation, we are getting more organized on how to deal with the technical side, to include remedy selection and working with EPA. Several entities have evolved, among them De Maximis. It was formed by Mike Miller, who used to be in house at GE. At most sites you have scores of companies, maybe 10, who have really good remediation people. But everybody feels like, "It's not really my site. I'm just a small piece of that." So you don't get enough of the company remediation people to spend the time. Mike Miller has hired some really good people and it's their job to work the technical issues. Normally they're supervised by some of the in-house technical people, like from DuPont. But they're the ones that really dig into the site. They go to the meetings with EPA and they're fully up to speed. De Maximis has a lot of experience and a great track record.

EPA Interviewer: Does a group like De Maximis and their experience, does that facilitate or does that kind of ease the interaction with the EPA?

Reilly: In my experiences the Agency respects them. They're bread and butter people that do their homework. They present the information honestly. They present the options honestly. I believe—and I don't want to speak for EPA—that there's mutual respect there, and so when De Maximis puts together a package like a work plan for an RI/FS [remedial investigation/feasibility study] or comments on a ROD, I believe it's viewed by the Agency as a credible document.

EPA Interviewer: What you've said previously is so much of the success is based on relationships, personalities, people having that trust for each other. Has that improved over time? And also, how does the community fit into that picture?

Reilly: I believe Agency relationships have improved over time, although you still get some tension—just personalities are really important and every now and then you get a big personality clash. The Agency's got some personalities; industry's got some personalities. It is not good if you get people that want to vindicate an issue on principle instead of compromise or getting to "yes." Over the years, most smart companies have delegated the programs internally to people that are problem solvers. And I think EPA is largely there. Give or take a personality on each side.

EPA Interviewer: Sure. So many of the issues that you're identifying here are part of these forms of the 1990s; some still not there yet, although getting close. In fact, the lead into that area was President Clinton in the mid-1990s, [who] was recorded as saying Superfund is a disaster. And I think you said the same thing, maybe in slightly different words, at that time. Was it really a disaster? What was going on that made you say that and made him say that?

Reilly: I hope I didn't use the word "disaster." I do think public support for Superfund was waning in the early '90s. Efforts to reform the law were unsuccessful. Superfund just didn't have the same urgent need it enjoyed in 1980 when you had the Love Canal and you had the Valley of the Drums. When Congress feels the political pressure, it can make things happen. Superfund was losing some support. I can't tell you exactly why. It probably was the combination of things, like there were no more poster child sites. There was not a big responsible party there being recalcitrant. That really adds fuel to the fire. Small business and the insurance industry had highlighted the unfairnesses. And there were other societal needs that were becoming obvious. How do you compare the need for a Superfund versus the need for national health care?

The reauthorization hearings were chaotic, with squabbling from all sides. The environmentalists wanted tighter remedies and industry wanted more flexibility. The insurers wanted a fix and were willing to pay for it, which was quite a story all by itself. I think the fact that the law wasn't reauthorized may have sent political signals that it just wasn't [the] number one or two issue on the public radar screen. Hopefully, I never said it was a disaster. I could always see that there were plenty more sites out there of varying degree of concern, and that probably new sites were going to crop up.

If I had a gripe it would just be we shouldn't be spending money on a site where there's not a gain. We shouldn't put in a pump-and-treat system just because we can. If a landfill needs a cap, let's put a cap on it. Let's put three or four feet of soil on it, but don't bring in that clay just because we can. Clay is expensive and tends to shed the next time you have a big rainstorm. Why add a complex liner on the top of a landfill when it's sitting in wetlands? So any gripes in the early to mid '90s would involve cost-effective remedies.

And a request that EPA please name all the parties. There was a time-window when EPA did not trust the PRPs to do the risk assessment. I don't know where that came from. I really disagreed with that because I think we do risk assessments as good as anybody else, and EPA has the ability to rewrite the risk assessment if it doesn't like it. But the perceived lack of public support for Superfund in the early '90s was one of the engines for the reforms.

EPA Interviewer: I guess some of the big issues that I know were the focus at the time were proportional liability and...

Reilly: Fairness—the F word.

EPA Interviewer: Right—faster, fairer, more efficient. Those were the key words at the reform movement. In terms of the reauthorization aspect of it though, industry prospective for proportional liability was...

Reilly: In the law.

EPA Interviewer: That obviously didn't make it. Well, nothing made it. There was no reauthorization. Is that still something that's important? Or, as you were describing earlier, let's let the PRP group assign...

Reilly: At virtually every site there's an orphan share, and that's just life. Some company will be defunct; most owners are defunct at these Superfund sites. In fairness, the money for that share should come from the Fund instead of tapping the parties that just happen to be unfortunate enough to be at this site and still viable. The site next door could have had very similar facts, very similar costs, but this site—it happens that 80 percent of the liable parties are missing—over here there's only 20 percent. There's a sizable fairness issue. Given the pressure on the national budget, I don't expect that will be addressed, but industry has a legitimate gripe.

EPA Interviewer: Something else that was of interest to you at the time was land use considerations, and you mentioned this right now kind of in terms of cost-effectiveness of remedies. But I think it's more than that with respect to what are your plans for the site in the next 30 years.

Reilly: We believe remedies should be driven by risks, and of course the key element in risk is exposure. So you should have a different remedy if children will play on an area versus a future as a trucking terminal that's paved and buildings are all over the site. You should have a different remedy if the aquifer is needed for drinking water and it's restorable—some cases it can be, some cases it's not—versus an aquifer that's basically a shallow aquifer in downtown Camden, downtown Newark, whatever, where there are not usable quantities of water, but even if there were, 150 years of industry have polluted it such that you can't use it. So remedies should be driven by risk; risk needs to look at exposures. If there are dependable ways to control exposures, that should be OK. Many sites have been paved, and they're perfectly useful. Many sites have been abandoned; nobody dares adopt them for fear of becoming owner or operator under Superfund. But if it could be adopted and paved, the risks are gone. So industry always has argued that if you can control exposures to address site risks, that should be perfectly legitimate.

EPA Interviewer: I think one of the reasons that there was animosity towards the program in the early '90s were some of the remedy selection decisions. The whole brouhaha that resulted from incineration as a possible remedy and how communities just completely...

Reilly: Incinerator siting is an issue all by itself, I think. A site neighbor probably wouldn't care if the material was thrown in a truck and burned 50 miles away, but siting the incinerator—that's its own little nuclear issue.

EPA Interviewer: So whether or not that was a unique incident or whether that was representative of the mood of the public at the time, that kind of negative perception of the public of the implementation of the program, how did industry deal with that, either react to it or take advantage of it with respect to the reauthorization of it?

Reilly: I'm not sure that we had cards of any value during reauthorization. We viewed reauthorization as the art of the possible. What could we put on the table that was fair and supportable that Congress could live with? We were aware that some of the environmental groups were painting the story that industry is trying to get away with something; industry wants to sweep it under the rug. We just had to say, "We're comfortable on the science; we just hope we will be listened to." Our ideas were geared toward a more fair, effective program.

We did look for allies, like the insurers and oil industry. The public did not care about the allocation scheme we were seeking. The public didn't care how the insurers were dealt with. We proposed a fund where the insurers would pay into the fund for some relief. We spent a lot of time working with the insurers. It became complex. The share from the insurers depended on the developing insurance law in each state. There became three tiers. Then AIG [American International Group, Inc.] just decided it wasn't for them, and they had the power to kill the bill. Senator [Robert] Dole promised a better bill the next year. It never happened. That is regrettable, but that's history.

EPA Interviewer: What was it like working with Congress at the time that you provided testimony? Was Congress receptive at all? I know, obviously, [there were] lots of tensions on both sides of the House.

Reilly: There was quite a bit of support for making the law fairer, like the Fund should pay for orphans. But there was so much pressure on Congress from so many different directions. Remedy issues were always dicey. Nobody liked to talk about imperfect remedies. My big issue remained the failure to understand the inventory of sites. If it were a few [sites], they should be cleaned up and the program retired. But there are hundreds of thousands of sites. We should not spend all our resources on the few that get listed on the NPL. And there are other national needs for resources, so we should continue to be pressing for cost-effective remedies that deal with risk, protect people, protect the environment.

Congress was, in my experience, very polite, very receptive. I think Congress was weary of the group that was trying to reverse retroactive liability, S.R. 95 or whoever. That had no public support and little in Congress. I do recall that small business got far more interest from the lawmakers than the big companies.

EPA Interviewer: I'm sure that certainly gives people a different perspective on what is the industry position when you've got one side that's working towards reversing that kind of liability scheme versus another that trying to address remedy selection. Did that expose tensions within the industry itself?

Reilly: I think most industry was pretty much the way I've described it. A Superfund is necessary for a host of reasons. Let's just make it better. There were a few companies that were still on the unfairness kick, and we just couldn't get them off. I recall giving a briefing within the chemical industry in the mid '90s where I presented what I just said, that is, we need to find a way to compromise through this. But there were still a couple hard-headed lobbyists that considered me a traitor because I accepted that Superfund was necessary, yet they still hadn't gotten over retroactive liability. I don't know if they were speaking for themselves or for their CEOs [Chief Executive Officers], or just lived in some fantasy land where the public does not intrude.

EPA Interviewer: What would you say was the highest point of your involvement with the program up until that point? Obviously you're acting strong, and you've got a long way to go.

Reilly: DuPont was among the first members of Superfund Settlements Project. Roger Strelow of GE deserves a lot of credit, as does John McKinney, then of AT&T. We got John

Quarles to be the Chair. He is a practical, very smart man, very much a problem-solving sort of guy. We became advocates for a more effective Superfund program. We were very involved in the administrative reforms. I think EPA, to its credit, listened to industry and gave help where the needs of industry and the needs of the program could be married up.

EPA Interviewer: Could you describe what the Superfund Settlements Project is?

Reilly: It was formed 1987 or so. Industry had figured out—at least the bigger companies that were in a lot of sites, like DuPont, like GE, Ford, Monsanto—that we kept reinventing the wheel, site by site. So that was one issue—how do we standardize our approach? We always will need a PRP agreement. John McKinney at AT&T was a strong proponent of standardizing things. He was right. We decide how we would deal with each other and deal with EPA's standard documents. It just made it easier for groups to get together. We also decided we needed to be in dialogue with the Agency. We want to do the cleanups. We need to talk with EPA about the obstacles we both should be tackling. Industry had surrendered on retroactive liability. EPA had largely decided industry can do the work more effectively. Let's just make the process as painless as possible.

EPA Interviewer: And the leadership of that group—actually John Quarles...

Reilly: John was there on day one. He's still a Chair. Mike Steinberg over the last decade has been working right there with John Quarles. They're both problem-solvers.

EPA Interviewer: You also mentioned Clean Sites.

Reilly: Yes, that was formed in the mid '80s around a couple needs. Industry was starting to understand it needed some technical resources to work the sites. And we needed help on allocation for the unique challenges of owner/operator and generator liability in the context of imperfect information. So Clean Sites was formed to provide technical resources at sites and deal with allocations. There were a fair number of allocations in those days where...

One example would be the Fike site. Elmer Fike ran the site in Nitro, West Virginia, a pretty dirty site. He kept all of his records for decades. Somebody had to go through all those records to allocate. I think DuPont's number of boxes alone was 10, and we weren't the biggest party. Just organizing the documents alone was a Herculean task, and then you had to come up with allocation schemes and get the parties to agree one of them is fair. Clean Sites also had that third role, to demonstrate that industry was not trying to get away with something. The Superfund Settlements Project generally was into issues like PRP organization, cutting down transaction costs. Clean Sites was more willing to tackle the remedy issues. Clean Sites has pretty much gone away now, but the Superfund Settlements Project has grown. Aside from just working on PRP groups, it now has also gotten into some of the issues around remedy selection, maybe for lack of another forum.

EPA Interviewer: You mentioned transaction costs again, notwithstanding the impacts of some of the administrative reforms...

Reilly: It's helped.

EPA Interviewer: It has helped?

Reilly: The administrative reforms have been helpful. Direction from Headquarters—there is a value in fairness, try to name all the parties, and if you don't name them all for lack of information, be receptive to adding parties. That alone has really been a tremendous boon, because you're talking about helping out the companies that are willing to do the work, and helping them pay the bills in a way that they feel is fair. If every company can say, "I wish I wasn't in this site and I wish my share wasn't what it is, but at least everybody else is similarly situated," nobody's getting to walk. That is very important for the willingness of the parties who will do the work. You've still got issues when there's a big municipality, but that's just a political issue. I think the industry understands that, and if there's a big municipal share and we're spending big money, we will have to bring in the municipality ourselves.

EPA Interviewer: You're mentioning one of the most successful of administrative reforms, of the Superfund reforms. What other reforms were there that struck a nerve with you?

Reilly: I thought that the Remedy Review Board was a really good idea. I personally pushed that. Superfund is a very decentralized program. Most site decisions are made in the regions, and not only in the regions, but way down at the very bottom of the regions, lower staff level. Since the remedies can be costly and must address the risks, we should have more hands on the bag, more people that really understand remedies and understand the purpose of the program. Better remedies will result if they're blessed at a fairly high level in the Agency. Pump-and-treat in this situation, but not that situation; a double-lined cap in this situation, but not that situation. Do you dredge the Hudson River or not? We felt as though that was a very valuable reform.

If anything, I wish the Remedy Review Board had an even higher profile and went higher in the Agency. Right now it has a very low profile. Many key recommendations are not publicized, at least to me, and I watch the program closely. I wish the board had mandatory participation by the head of EPA R and D [Research and Development] and the Superfund leaders in each of the regions. Superfund can be very expensive; remedy selection can be both policy and science. There is a role for cost. There's a role for pushing back people that want to pump-and-treat groundwater without benefit. The Remedy Review Board was a good idea. I just wish it was even higher level board right now. I think we'd get better remedies and the program would be stronger.

EPA Interviewer: I'll give you another opportunity to restate that toward the end as well. Were there other reforms that made big headlines?

Reilly: Naming all parties.

Another reform turned around the bias against PRPs doing the risk assessments. That is a real sensitive part of the process and often occurs when the group is forming, so it is part coalescing. The more things the group is doing at the site, the more successful the group participation will be. So I definitely recall that being very positive. On the negative side, the hope was created that oversight costs could be controlled, or at least understood. They remain a mystery, and a costly mystery.

EPA Interviewer: Feedback that I get is communities are really concerned that the polluters are the ones who are determining what the level of risk is that it takes place at the site. How do you cope with that?

Reilly: DuPont's in over 100 Superfund sites. The number where the community is participating and unhappy is very, very, few. If a site arises where there's no trust of industry—by the way, normally if there's no trust of industry, there's no trust of EPA either—but if such a site surfaces and it will build some trust if EPA does the risk assessment, I say that's the right solution for that site. But again, in 95 percent of the sites that I'm in, the community really is not actively engaged for whatever reason. They may trust EPA. They may not even be aware there's a Superfund site in the neighborhood. Whatever the reason is, in most cases the community is not deeply engaged.

When they get engaged, it can be a chore. The community got involved with what to do with the pump-and-treat water at GEMS landfill over the last couple years. It was pretreated at the landfill and piped to Camden for the municipal treatment. Somehow, the issue surfaced that there are low levels of radiation—and I mean low. There is radiation everywhere; it's a naturally occurring phenomenon. Uranium, thorium, they're around. But the word radiation came on the radar screen [and] it got some citizens extremely concerned. The levels of radiation are so low in the pump-and-treated water at that site that you could drink it. Nonetheless, once the citizens got upset, politicians listen to citizens. We fought a couple years over the ability to just send that treated effluent to the wastewater treatment plant.

So if the citizens get involved, surely they must be listened to. I think it is really regrettable if they wind up working an issue where there's not a risk. I can't change that. It is regrettable that at GEMS the issue was not really around safety for the community. It was around the fact that radiation—it's like an incinerator. It carries so much baggage. So in most cases I think any lack of trust around whether EPA does the risk assessment or the industry does it, it just usually is not an issue.

EPA Interviewer: And where it is, you're more than happy to let it go the way it needs to?

Reilly: Absolutely right. You don't fight the community. You're not going to win with the community.

EPA Interviewer: Have you had experiences at individual sites where the community was initially skeptical or hostile that you were able to work with them to come up with a more amicable relationship and a better solution?

Reilly: I'm trying to think if I've had any personally. Not at a Superfund site, but certainly at some of the DuPont plant sites we've had that situation. At some sites, early on there can be tremendous lack of trust. But if you just have enough meetings, either door to door, or even shouting matches at public meetings, if the company is sincere and committed and the Agency is doing its job, generally you can get people so they feel the right thing is being done. You may not get support from 100 percent of the people in the community, but enough of the leaders to do the right thing.

EPA Interviewer: Challenging industry or EPA?

Reilly: The most upset usually don't trust industry, the Agency, or seemingly anybody. But in the end that will sort out if people are working at good will. Most of the community will conclude, "I wish this site weren't here, but if it's here, it's being handled responsibly. I can sleep at night." That is usually how they've shaken out.

EPA Interviewer: We've only briefly mentioned states, but how have they.... you talked about them in the context of ARARs primarily. How have they been involved in the Superfund program and in relationship with your involvement?

Reilly: Superfund is not a delegated program like Clean Water or RCRA or the Clean Air. But EPA uses the states in some cases to run the day-to-day stuff, and sometimes even manage the RI/FS and all that with oversight by EPA. That's perfectly fine by most of us in industry. It is regrettable when you get the agencies second guessing each other. In some cases, EPA will spend a lot of time at the site, do a lot of things, work with industry, come up with a remedy, get ready to say this is the right remedy for the site. And right about when it's ready to be published, the state will say, "That doesn't meet my standards, for example my groundwater standards." Or, "I disagree with whether the site is adequately delineated." It is really regrettable when you consider how many sites are out there, when you have agencies disagreeing with each other and spending a tremendous amount of energy over the same site. You wind up spending a tremendous amount of energy, and the site languishes. You have meetings with the state and EPA and everybody's watching their cards. Each agency has its own agenda. Each agency is autonomous. In a more perfect world, it would either be a state site or a federal site, but not both.

EPA Interviewer: Sure, OK. Another perspective that I want to get from you, and you've talked about this quite a bit already, was the idea of the PRP taking the lead for action and cleaning up the site. You mentioned that that was an opinion you came to pretty early on in the program. The question was really whether or not that perspective has evolved over time?

Reilly: I've always been in favor of industry doing the work. I think other companies have come to see the wisdom of that. EPA is not expert in managing contractors. The Agency has to follow the federal procurement guidelines. You just don't get the cost-effective management. Also, sometimes there's room to do a better job picking the remedy. You can maybe get some more data. It might be costly, but it might allow a remedy that isn't as disruptive. I've got a site now where the question involves whether or not the arsenic is mobile. There has not been a treatability study and yet EPA wants us to dig it up because of impact on groundwater. But if we can just get a little bit more patience from the Agency, we'll do some treatability studies. If it is shown not mobile or we can treat the arsenic in place, it's going to be far more cost-effective than digging it up. Being engaged in the process, you can get better remedies and more cost-effective remedies. I think most industry's there, if only from the school of hard knocks.

EPA Interviewer: When you talk about industry, are there tiers? You mentioned a number of companies that are your peers in acceptance of your interaction in the program. Are there different tiers of industry, either up or down, that have a different perspective?

Reilly: I don't think so, not among the larger, more experienced companies. They had their battles with challenging retroactive liability in the '80s. I think now if you're a Fortune 500 company—maybe unless you just don't do hazardous substances—it's just ground into you that you will have to make the system work one way or another. Denial is stupid. We still get little companies where this is the only Superfund site that they've ever seen. Like this drum site I'm at in Camden right now. Again, they send their lawyer. It may not be an environmental lawyer, but it's helpful that all of the big companies have been down this road are saying exactly the same thing. We're saying, "Look, we're not out to screw your company. It's regrettable for you; it's regrettable for us. We try to make this as cost-effective as we can. If you want to skip all the meetings and trust that we will do this right, that's probably smart for you. You probably will want to participate in the allocation process, because you want to be treated fairly, but you can rely on the bigger companies to bring the remedy in as cost-effectively as it can be brought in." That's sort of the newer model. But I just don't see classes of industry that are still in denial.

EPA Interviewer: I wanted to give you an opportunity to talk about taxes—the original taxation scheme. How that has changed over time, especially with the Trust Fund being depleted, now general revenues [are] being used? Has the whole argument dissipated about... Well, let's start with what the argument was and then how it's moved.

Reilly: Before we get into taxes, it is a given that companies pay their full share at each of the sites where they are liable. The Fund then pays for overhead and cleanup at sites where there are no liable parties. In fairness, that money should come from general revenue. If industry is taxed as a matter of principle, or whatever reason, the tax should be broad based, on all industry.

Early on, the tax was only on chemicals. And it really was arbitrary. If you made ethylene, you really got hammered. But if you made something else that might have been 10 times as toxic, you may not have paid a dime on it. But it raised money. Then in '86, oil became subject to it and a broad-based tax was put in place. As I recall, the numbers in a typical year after '86, the tax on chemicals was raising \$250 to \$300 million a year. Broad base was raising like \$0.8 billion a year, and petroleum \$0.7 to \$0.8 [billion]. My belief would be that oil—and I'm not in the oil industry—they probably had a legitimate complaint that they were paying a larger share than they should have. But again, that was a political decision. So oil wound up paying a substantial tax, yet they step up to their cleanups at their gas stations and their refineries and they're not getting a dime from the Fund.

My view on the taxes would be: If you want to tax industry, go very broad-based. That would be, to me, the fairest tax. Maybe Microsoft feels it has no liability. Maybe it doesn't, as far as cleaning up sites. But it's so broad that nobody gets stung real hard. The link between whether there needs to be money in the Fund or not to appropriate money for the Superfund program has always been weak. The taxes ran out in '95. I think the Fund maybe ran out a couple years ago. Congress still must decide how much money to put into Superfund program each year. So even in very fat years when that fund had a couple billion dollars in excess, EPA would still only get \$1.5 billion into the Superfund program. Here we are, the Fund is completely depleted, and it's still \$1.2 to \$1.3 billion.

To me, if Congress and the public want a Superfund program, it can use general revenues. Everyone has a stake in cleaning the sites and benefiting from the jobs, products, municipal trash disposal—the industrial revolution that created these sites. If you just tax a segment of industry, that will be passed down one way or another to the population. It's just the nature of any taxing scheme. For the record, we oppose unfair taxes.

EPA Interviewer: We won't strike that. [*Laughing*] Redevelopment has also been an issue of the late '90s and the 2000s. Have you seen that happening, and how effective has it been?

Reilly: Just the impact on brownfields?

EPA Interviewer: Actually, we'll go there too. But really in terms of redeveloping Superfund sites.

Reilly: Once sites are cleaned up, everybody's got an incentive to put them back into productive use. Elmer Fike of the Fike site in Nitro, WV, was a real personality. He handled a lot of very, very, tough chemicals. I'm quite certain we're putting a building on a part of that site right now.

I do have one site-reuse bee under my bonnet. For the big landfill sites, like a GEMS, Kramer, Sharkeys, Global, it is really a shame if the remedy for that site is such that you can't let trees or bushes grow on them. That very often is the case. You put on a liner—clay or synthetic—to keep out the water, and then place soil for grass. To protect the liner you can't have an ecosystem grow there, except for the grass, forever. You just keep mowing. There is new technology out there—it's called an evapotranspiration cap. You basically make the cap thick enough. It's dirt, not clay, and it's not a liner. It is enough dirt to control infiltration of rain, and it allows trees to grow so you can create an ecosystem. There's a science to how much dirt that is, say two, three, four feet. In heavy rains it will be completely soaked, but you design it so that over time it'll dry out normally. It won't keep every drop of moisture out of the landfill, but it'll keep most of it out of there. In fact, it'll be just as effective as a lot of the synthetic caps that crack over time. So these evapotranspiration caps are a really good use of the site. Now you can have an ecosystem on your 60 acres. You can have trees, you can have bushes, you can have habitat for birds and foxes and all those things.

We're pushing an evapotranspiration cap at Global Landfill in Old Bridge, NJ, now and we're pretty sure it's shot down. Between the state and EPA, they just say, "We haven't had one of those caps up here. We're concerned it might be too much rain." The shame is, we could be creating an ecosystem and we're not. We showed them the science and how it works, and by the way, all your landfills with synthetic caps have issues. At one landfill, EPA spent a tremendous amount of money putting an exotic cap on. Because of settling, the infiltration into that landfill is approximately what it was with no cap at all. So here we are saying the evapotranspiration cap, it will not be completely watertight, but it will be darn good, probably better than some of these synthetic ones.

EPA Interviewer: At one point in time you were critical of the entire Superfund appropriations spending only one percent of its resources on research. Clearly, to support this kind of a cap would...

Reilly: Some of the people in R and D support the evaporation cap at Global. In fact, one of the push-backs we got was, "Oh, those R and D guys. They're kind of out there. They would put that cap in a rainforest. We're the region, and we know what's best." I'll use this to reinforce my point of a minute ago, of having a high level Remedy Review Board. We could take the emotion out of this and get a fresh look. If you could bring it up to a high enough level, take a look at it from a scientific, and risk, and all the other bases, even public acceptance.

We're talked to the neighbors. We've talked to the cities around this landfill. They'd like it. They want an ecosystem. They don't want a bald hill there forever. And yet, for reasons that probably aren't the best, we probably aren't going to get the ecosystem, and we'll install the cap and mow the grass.

EPA Interviewer: Do you think there's a strong role still for the Agency in research?

Reilly: I think the answer to that is yes and no. I think industry is probably going to be the cutting edge on research and technology. But if EPA doesn't have the horsepower internally to evaluate good technology, then it may not get accepted. So there has to be some role within the Agency—research and development group, experts on anything from caps to *in situ* remedies to slurry walls to reactive walls—all the new technology that's come out, which I give Superfund a lot of credit for encouraging. The Agency must be able to judge when new technology will work in a site-specific situation. Exactly how much you spend on federal R and D, it's hard to say, because I guess I'm skeptical that the government R and D programs get a lot all by themselves. Industry has the prime interest in getting more cost-effective remedies. I do wish more companies had more money going into R and D on remedy issues. DuPont is investing there. We could use more help.

EPA Interviewer: Can you give me some examples of innovations that have taken place as a result of the Superfund program, either introduction of new technologies or new legal standards or ways of managing programs? Has the Superfund program inspired different use of computers?

Reilly: Probably less so on the computer unless you're using the computer to model your site. I was recently very impressed with a site model that was able to predict all the groundwater flow at a complex landfill—a 60-acre site, wetlands around it. Very complex hydrology. Some water coming up from the groundwater. Of course you have your rain events, you've got a stream going by there to evaluate how the cap was functioning. You probably couldn't do that with computers 10 to 20 years ago.

On the other technical issues, reactive walls in some circumstance are breakthrough technology. They avoid pumping and treating that depletes a scarce resource, groundwater. It's expensive. It seems to go on indefinitely. If you can get a reactive wall there, the natural flow of the groundwater can go through it, but the wall dechlorinates organics or traps the metals. That to me is really breakthrough technology, and it's being used effectively in quite a number of places.

In situ bio is a breakthrough technology where you grow bugs that are the right kind of bacteria, and then you create the living conditions in the groundwater. Sometimes that

involves pouring molasses down there, whatever it takes. You figure out this kind of bug will eat that kind of groundwater contaminant, and you feed that bug. Sometimes it means you've got to add some air down there. You put down some peroxide as a source of oxygen.

Soil vapor extraction, where instead of pumping and treating, you draw a vacuum on the ground and you pull the organics off without the water and run them through some sort of treatment.

So technology has evolved, as it should evolve in a program like this. I think there's also some worrisome developments where probes are injected and essentially scald or burn the earth. That has to be dramatically expensive. Maybe you chase a few more organics out, but if you've got to get enough heat energy down there to chase off the organics, the energy use must be horrific. We've also heard of some technology for getting DNAPLs out—dense non aqueous phase liquids—where you inject solvents. That too could be extravagantly expensive. You would hope there's really a need, a real risk that could be reduced significantly before you do something like that. In many cases, the NAPLs, light or dense, aren't really going anywhere. You would want to make sure there was a good reason before you applied some of those technologies.

EPA Interviewer: Great, thanks. Going back to other Superfund reforms, voluntary cleanup program by states, Brownfields programs.

Reilly: I wish EPA would make it more clear to the states that if a state makes a cleanup decision to facilitate redevelopment, EPA will not second-guess that decision unless it creates a genuine risk. There are plenty sites that need Agency attention. When you get both EPA and a state second-guessing each other at the same site, that is a terrible waste of resources. Most of the brownfield sites involve local land use and contamination levels that do not rise to the National Priority List concern. EPA should let the states regulate the cleanups, decide whether the site is OK for a day care or truck terminal, make decisions on groundwater, natural resource damages, etc.

EPA Interviewer: Do you think that the state programs and the Brownfield programs have addressed some of the tiering issues that you were describing earlier?

Reilly: Yes. I think usually there is a *de facto* tiering, with EPA taking the most complex sites, the states the next tier, and the redevelopers the next—with exceptions of course. Some of the land in northern New Jersey is so valuable the redevelopers are stepping into the driver's seat even at sites with complex contamination. Related, if there is a party with some resources at a site, it's more likely to get attention, whether it's an EPA site or a state or a local site. So if a developer shows up with the resources to address the site, I think the states and local people tend to deal with that pretty effectively.

Most sites without development pressure stay off the radar screen. Voluntary state programs also can be effective when a responsible party wants to conduct a cleanup. We recently stepped up to the plate at such a site in West Virginia. We sold it in 1950; it came back on the radar screen in 1995 or so. We agreed with EPA to stabilize the spoils pile, then did the remaining cleanup under the West Virginia voluntary program. The site has changed from a black pile with aging buildings to a nice grassy knoll, ready for future use.

EPA Interviewer: Going back to Love Canal for a minute, and my knowledge of the site history is a bit shaky, but my impression was that original companies that dumped there...

Reilly: Hooker Chemical.

EPA Interviewer: Hooker, actually—well, I'm not sure if it was them or their successor.

Reilly: The successor was Occidental Chemical. Hooker I think sold it in '54, and I'm pretty sure Hooker still owned it then.

EPA Interviewer: I guess the part of the history that I'm thinking of has to do with the state actually developing on that property.

Reilly: Right. As I recall, the municipality bought it for a school from Hooker, and Hooker disclosed it was a chemical landfill. As I understand the history, Hooker clearly warned them it's a chemical landfill, but it was taken under the threat of condemnation. And then the school was built there, and then a subdivision was put there. I'm pretty sure that's the history.

EPA Interviewer: That's exactly the point that I'm interested in pursuing. We might pick great remedies today and we might decide that here's what the future land-use scenario is going to be over the next 30 years. How likely is it that that kind of Hooker scenario is going to replay itself in the near future? Do you think the Superfund law has changed perceptions enough so that that kind of thing can't happen again? Do you think the implementation of institutional controls, and the legal authority to use those, has changed such that you wouldn't see a repeat of that kind of event?

Reilly: The chances anymore of a school or residential being built on a landfill are very remote. The banks, for instance, are paranoiac about contaminated land, and almost no transactions go through without a bank lending the money. For a while in the late 1980s, early 1990s, banks wouldn't even lend on contaminated land. Recall Fleet Factors: A couple banks got tagged for cleanup costs based on loans. They became once-burnt, twice-shy. So the banks are kind of a check on historic contamination.

You've also got the new Uniform Environmental Covenants Act that some states are starting to adopt—let's hope a lot of them do. It'll be a much more effective way to track contaminated sites. It is less and less possible that a site history will be overlooked. Right now, for almost any land transaction where there could be a history, at a minimum you do a Phase One [environmental site assessment]. It is malpractice if not done. In a Phase One, you at least look at the history. You could certainly tell there's been a landfill there or chemical plant or whatever. If something is found, you do a Phase Two; take samples of soil and groundwater. That would put you on notice that even if the property records aren't perfect, that you've got some issues to deal with.

Now, let me give you a counterexample of that. The shoreline of New Jersey on the Hudson River used to include chemical plants and heavy industry. It is now subdivisions, extremely expensive subdivisions. Some builders went in there because the land is so valuable up there that they were willing to essentially take the chance that they can clean it up enough for residential—it never will be spotless. Are the builders concerned about long-

term liability? They form LLCs [limited liability companies]. So once they have built they dissolve the LLC, and the parent investing company is out of harm's way. So at least the real estate developers have learned there are ways to escape Superfund. Even though they may have owned the contaminated site for awhile, they may have even operated as they cleaned it up somewhat, they are not at risk because they've formed a limited liability company. They've never put their own assets at risk.

You get a different scenario if you have similarly valuable land contaminated but there is no LLC deep-pocket in the chain of title. They must be concerned that some developer doesn't come along and do the LLC development scenario, which gets us into the *Kelo v. New London* Supreme Court decision last year. In states like New Jersey, there is a law on the books that gives the cities condemnation authority if they deem an area "in need of redevelopment," generally if an area is rundown, vacant buildings, etc. However, it can be manipulated by developers. Even land currently being used can be condemned if the city just feels it wants a different use. For instance, it prefers housing to a truck terminal. If a Hooker were trying to keep control of an old landfill, the city could still condemn, condos could be built by an LLC, Hooker would be tagged for the cleanup costs, and Hooker would get the toxic torts. This is not fantasy. We are in the middle of such a situation currently. And *Kelo* says even private development, like residential housing, can be "economic development," and that is a "public use" that passes constitutional muster.

EPA Interviewer: Sounds like there are still some challenges remaining.

Reilly: We have a couple sites now that are subject to this type of condemnation law, one of them where they want to put up residential housing at a site that has handled hazardous chemicals for 100 years.

EPA Interviewer: Are you making a response?

Reilly: Yes, please don't condemn our land and put up residential housing.

EPA Interviewer: Doesn't this sound like Hooker?

Reilly: As we understand it, the redeveloper feels as though it is not at risk. The partnership of three large developers already has formed an LLC and figures if there's a toxic tort someday, it'll be against DuPont or maybe the city. The LLC will be gone. So it's not a healthy dynamic. It is not completely like Hooker in that the players all know the history and should understand the risks.

EPA Interviewer: It's worse.

Reilly: Yes, worse because it is eyes wide open. [It is] so odd that for a while no one would touch contaminated sites for redevelopment, but now, with land scarcity and the charm of waterfront property, there is gold to be had and techniques to avoid the risks.

EPA Interviewer: The view isn't that great. It sounds like there are, well, future challenges to the program. Actually before I go there... What you see as the future of Superfund and how it might change or evolve? I didn't get a chance to ask you: What was the worst experience you've had in all of your years in working with the Superfund program?

Reilly: I think we've normally worked through our problems.

EPA Interviewer: What was a real low for you where you just thought it was over, something you can't do anymore?

Reilly: I wish at Kramer that \$160 million had not been spent for \$50 million worth of good. We wound up being a significant share party there because some paint waste had gone there. Or that \$400 million had not been spent at BROS for incineration that should have cost about one-fourth of that. I wish EPA and New Jersey were not pushing the PRP group in conflicting directions on the Passaic.

EPA Interviewer: Or you know individual experiences with....

Reilly: Back to the evapotranspiration cap. I think that's the right remedy for Global Landfill. It's up in Old Bridge, New Jersey. It is the right thing to create a habitat and park instead of a grassy knoll that must be mowed evermore. The landfill hasn't been used since 1984. It was a municipal landfill permitted by the State of New Jersey, being built into wetlands under permit, which the NJDEP [New Jersey Department of Environmental Protection] should not be proud of. DuPont had to use this landfill because the State of New Jersey had flow control laws where we couldn't even pick a DuPont site to send our stuff. We sent a lot of innocuous waste there. We had a plant nearby that made Mylar, which is inert, so we had a big volume there because of that. The site is mostly municipal trash. We know what's in the groundwater—not much. You could have an ecosystem there. It's a densely populated area. You would have a nature area for the public. That's the right remedy there. I feel passionately about that one.

I'm not excited yet about the Passaic. There likely are over 1,000 parties there. EPA named 30 in 2004, NJDEP named 30. I wish they were the same 30; they were not. We're trying to make that a go, working with EPA Region 2. I put a tremendous amount of my personal energy into forming a group. We had to make fundamental decisions like how do we pay the bills, per capita so far, but lots of grouching on that. Tension over whether dioxin alone [is] driving site issues. No one really knows what impact they've had on the Passaic. The PRP group has agreed to fund \$10 million in study. I hope good comes from that. There is a big role for municipalities because of the combined sewers. The whole trunk line coming down the Passaic is completely inadequate for the flow. So every time it rains you get raw sewage dumped into the Passaic. I'm hopeful that neither the state nor EPA orders a dredging until it could do some good, and it will not do any good at least until we get the combined sewers fixed so they don't just re-contaminate the area. I'm not a big fan of dredging, but it might be appropriate in some spots. I'm hoping that we continue to expand the PRP group. EPA's been very helpful in that regard. [I] also hope we come up with the right remedy for a very difficult situation. When you get into tidal situations, it's really difficult. You can't even wash the car from the top down, because the water goes back and forth. It's a fascinating site, fascinating challenge, and I just hope we get to a good solution.

EPA Interviewer: Did you want to talk about natural resource damages?

Reilly: NRD is an evolving challenge. DuPont was involved in the settlement of the Grand Calumet—took over six years, in a very heavily industrialized area—Hamden, East

Chicago, and Gary. There's no question the sediments are very heavily contaminated. We worked with the federal and state trustees. We got to an agreement the river needs to be dredged. We settled for a significant amount of payment; the trustees agreed to the dredging.

The other big site I'm working with on NRD right now is the Passaic. It's not entirely clear where the trustees stop and EPA begins. EPA has not even completed a study, much less chosen a remedy on the site, 17 miles of the lower Passaic, but the trustees are at the table. We're all trying to collectively decide what is the right thing to do. The State of New Jersey has its own perspective. We're hoping that we got better relations there. New Jersey wants near-term action, but most of us feel more study is needed to determine condition and impacts, not to mention get some alignment on a final vision. How do we define success? What should we expect for the future of this little river completely hemmed in by development, its wetlands long ago filled in?

EPA Interviewer: What was your perspective on remediation versus restoration of natural resources, and paying damages rather than restoration?

Reilly: In most cases—like in the Grand Cal—industry's looking for a common-sense way to resolve the issue. In that situation, it made a lot of sense to pay the Agency to do the dredging work and deal with the municipalities and the Army Corps, which changed the direction of flow for the Grand Cal in the early 1900s, to create a port on the Great Lakes. On the Passaic, to demonstrate commitment and action, now we're looking to see if there are some projects we could do short of commencing dredging that may be of no value to the environment. Perhaps we can restore some wetlands along the shore. Maybe there's a way we can enhance access to the river or build a fish ladder at the dam. We are looking for things we could do short of the ultimate remedy, but more as a sign of good faith on some of the restoration options. We settled our groundwater NRD claim with the NJDEP largely with conservation, creating access and restoration, not a big dollar payment.

EPA Interviewer: Great. Were there any other issues related to the current program, observations that you have about Superfund that you wanted to share?

Reilly: I don't think anybody knows what to do with some of these huge sediments sites. They just can be so costly. Passaic [is] an example. But likely every port, every river system that's been used for a transportation network—may not be quite the Passaic, maybe different contaminants, different issues—has some historic impact that should be studied and might justify restoration. Not at all clear to me whether they should be Superfund sites, or some other program should be created. Maybe a Corps program under which they could be addressed in a systematic way. [It] seems [that] public works is the right approach when you look at the role of the municipalities, the role of the government, to include the Corps. In a federal program, the tradeoff can be made more rationally. When the costs are imposed on private parties, it can look like free money, which of course it is not.

EPA Interviewer: Is that the biggest challenge you see of the program?

Reilly: I always have felt the biggest challenge is to decide which of the hundreds of thousands of contaminated sites deserve attention, and at which level—federal, state, or

local. We are new to a drum reclaimer site in Camden, NJ—four acres, junk yards surround it—site had been used for tanning, so a lot of arsenic, but seems going nowhere. The site is on historic fill, groundwater not usable for that and many other reasons, like the junkyards. EPA wants the site dug up and groundwater pumped and treated. Such is the bias of Superfund, whatever the benefits. If done, the four-acre site will still be surrounded by junkyards and the groundwater unusable. The site really just needs two feet of clean soil cover.

At the other end of the scale, do you put the big sediment sites onto the NPL? Mining sites? To me, the decision on where to focus the powers of Superfund is an essential challenge for EPA made more acute by diminishing funding from Congress.

EPA Interviewer: What challenge do you think EPA or the Superfund program, both industry and EPA's partners, what's the biggest challenge that has successfully been met over the last 25 years?

Reilly: The biggest, most notorious sites have been dealt with. People are back living around Love Canal where homes were evacuated. The big landfills that were uncapped and abandoned in New Jersey have been properly closed. The BROS Superfund site was really terrible. PCB oil and everything else in a nine-acre lagoon in a sandy area. The lagoon is now history. All of the notorious sites have been addressed. I think the Superfund program deserves credit for that.

EPA Interviewer: Do you think Superfund has had an impact on preventing future hazardous wastes problems?

Reilly: Superfund absolutely deserves credit for getting industry to look at where its wastes go. Wherever they go, you are liable. We have a recent tiff at a site where there is threatened condemnation. The proposed developer wants to dig some soil up and check for bearing strength and all. We said, "Look, if you generate that waste, you will dispose of it where we tell you." The developers feel we are being paranoiac and unreasonable. We had to defend our demand in court. And as the cost of waste disposal goes up, it creates healthy pressure for waste minimization too. Congressmen [Jim] Florio helped pass the 1984 Amendments to RCRA with mandatory treatment in there. Shortly thereafter, one of his key staffers went and worked for the treatment industry. With the new mandate for awhile, the incinerator industry was printing dollar bills. But once industry saw how expensive it was to run this stuff through the incinerators, we focused on waste minimization. The whole incinerator industry's pretty much fallen off the end of the chart. People learn. Companies respond to costs and public expectations. Oddly, now that industry has adopted commendable practices around wastes and waste minimization, America is de-industrializing. We will have less waste in America because we are having dramatically less manufacturing.

EPA Interviewer: Great. I've got one last question for you, and I also wanted to ask if there is anything else that you wanted to mention that we've neglected to cover. That's one, the other is just what kind of advice would you give to somebody that wants to go into this field?

Reilly: The environment field?

EPA Interviewer: The environmental field or hazardous waste cleanup?

Reilly: I wish there were many jobs in the environmental field, but there are not. The work is fun and rewarding, but the jobs few and declining for, among other reasons, the deindustrialization I just noted. Remediation work will continue indefinitely, but that does not create many jobs. Better to study Chinese—that is where most new plants are being built—and help China deal with its environmental issues.

EPA Interviewer: Do you see a perpetual future in hazardous waste cleanup?

Reilly: Remediation challenges will be with us for the indefinite future. There are hundreds of thousands of sites, many of which never even have been sampled. There will be jobs, especially for site investigation and characterization, if only from due diligence as companies are bought and sold, and from redevelopment as pressure on land intensifies with population growth. As a small example, I inherited an industrial building in Vermont from a relative, went to sell it for modest gain at best. Sure enough, some old underground tanks [were] found, the deal cratered, I am a Superfund liable owner. A real honor, if not an ironic one. Even sites that have been remediated can come back on the radar screen. At some, the engineering controls have not been maintained; at others the land use changes to residential; at others the extent of contamination proves to be more extensive or analytical methods improve and new contamination identified.

EPA Interviewer: Thanks. Anything else you want to say?

Reilly: We have not mentioned vapor intrusion. I just want to mention it because it is such a wildcard. The health levels screening level for the common solvent for TCE [trichloroethylene] in particular, the Agency's got a draft out on it is extremely low. It suggests there's a risk to human health at method-detection levels, so levels of TCE in groundwater is a common situation that can present health issues in homes if the screening level for inhalation is accurate. The level is so low it is background; it can be caused by clothes back from dry cleaning, nail polish, even a can of paint stripper that is not open. If we must measure levels in homes because of a groundwater plume, we will find low levels and we will not know if [it is] from the groundwater or background. This invites concern and litigation. We hope EPA quickly finishes its review of TCE and arrives at a more realistic screening level.

EPA Interviewer: One way or another. Good. Well, thank you very much. It's been terrific.