S. HRG. 103–776

REAUTHORIZATION OF THE TOXIC SUBSTANCES CONTROL ACT

SUBCOMMITTEE ON
TOXIC SUBSTANCES, RESEARCH AND
DEVELOPMENT
OF THE

COMMITTEE ON
ENVIRONMENT AND PUBLIC WORKS
UNITED STATES SENATE

ONE HUNDRED THIRD CONGRESS

SECOND SESSION

MAY 17 AND JULY 13, 1994

Printed for the use of the Committee on Environment and Public Works

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ADDITIONAL STATEMENT SUBMITTED FOR THE RECORD

REAUTHORIZATION OF THE TOXIC SUBSTANCES CONTROL ACT

TUESDAY, MAY 17, 1994

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
SUBCOMMITTEE ON TOXIC SUBSTANCES, RESEARCH AND DEVELOPMENT,
Washington, DC.

The subcommittee met, pursuant to notice, at 9:30 a.m. in room 406, Dirksen Senate Office Building, Hon. Harry Reid [chairman of the subcommittee] presiding.

Present: Senator Reid.

OPENING STATEMENT OF HON. HARRY REID, U.S. SENATOR FROM THE STATE OF NEVADA

Senator REID. The hearing will come to order.

We're here today to discuss the Toxic Substances Control Act, the quiet environmental statute that doesn't generally receive the attention that other environmental issues do. In some respects, its silence is odd because TSCA gives EPA significant authority and because many of the original intentions behind TSCA are somewhat radical and seem oddly contemporary. As many people now recognize, TSCA was really our first pollution prevention statute. This statute's fundamental concept is preventive, going back to the source—that is, to the manufacturers and processors of chemicals—to prevent and control downstream hazards.

This is particularly true to the new chemical program which required the EPA to consider the potential health and environmental effects of chemicals before they're even manufactured. This preventive approach makes sense from the standpoint of protecting our health and getting the most protection that we can for the dollars we spend. It's an approach we've been returning to as we've crafted bills reauthorizing other environmental statutes like the Safe Drinking Water Act and the Clean Water Act, which acknowledged the importance of protecting water sources before they become polluted.

Another sensible principle in TSCA is the idea that manufacturers have certain responsibilities for their products. Section 2 of TSCA recognizes the responsibility of manufacturers and processors to develop data on the health and environmental effects of the chemicals they produce. TSCA sets up the expectation that the industry should be conducting tests, not the government.

We'll talk some today about how this responsibility should go beyond testing chemical use and the management of risks. In addi-

tion to this preventive aspect, TSCA also gave the EPA the more traditional end of the pipe regulatory authority. If TSCA's creators intended the statute to support numerous rules restricting or banning specific chemicals, they would certainly be disappointed at the results.

TSCA has, in some ways, been a statute with a good deal of authority, with some inherent contradictions that obscure its mission. It gives the EPA the authority to require chemical testing but provides cumbersome processes. Although recognizing the industry's responsibility for testing, its incentives reward ignorance.

TSCA gives the EPA a broad range of options to control chemical risks through actions ranging from labeling to bans, but, again, the process is extremely cumbersome. It gives the EPA extensive authority to collect health and safety information, but it greatly inhibits its dissemination of that information by allowing broad confidentiality claims. TSCA appears to need a clearer sense of its mission and more streamline processes.

Recent EPA actions have shown some of the potential of TSCA. Recently, the EPA has emphasized its information gathering authorities, and, in combination with some more recent actions like the Pollution Prevention Act and APRA, has sought out pollution prevention strategies. Yet, it almost seems that this effective TSCA work comes in spite of the statute rather than because of it.

We'll hear witnesses today talk about cooperative efforts between the EPA and industry to consider environmental effects of their manufacturing decisions at a very early stage—that is, to design for the environment. The EPA has worked with industry to encourage the use of chemicals and materials that avoid or reduce hazardous chemicals. These are important efforts but often voluntary actions are affected because of the realistic prospect of regulation. We have to see that the EPA has the ability to remove severe risks when appropriate.

As we've seen with the success of TRI, another important incentive for industries is to take responsibility for its activities in public accountability. Recognizing that industry has a legitimate and important interest in keeping confidential information that would affect its competitive position, we must allow the public to obtain health and safety information of the chemicals that they are exposed to.

Moreover, information is essential for companies using chemicals to manufacture other products so they can choose safer chemicals and process and produce the environmental friendly products that more consumers are demanding. To some extent today, we'll talk about the familiar negatives that have always come up in the past when TSCA is the topic, the slowness in issuing test drills, so few section 6 regulations, and the need for priorities and reviewing existing chemicals. But today we'll also want to start a more positive dialogue—ask not just what TSCA hasn't done but what it should do.

I'm looking forward to hearing our witnesses on these matters.

Congressman Synar, I really appreciate your being here today. This committee room on occasion is packed. There are TV cameras all over, people waiting in the back of the room, and, frankly, the importance of those hearings is much less than this one today. It

is extremely important to control the 60,000 chemicals that are out there in our world, and there are not a lot of people really interested in it. I am really grateful that a leader like you has taken the time in the past to be interested in this issue that, as I said, doesn't gain a lot of notoriety. But it's going to take the work of the Mike Synars of the world to change how we regulate chemicals in the world, so I am grateful that you're here and taking the time to come over. I'm looking forward to your statement.

STATEMENT OF HON. MICHAEL L. SYNAR, U.S. REPRESENTATIVE FROM THE STATE OF OKLAHOMA

Mr. SYNAR. Well, thank you, Mr. Chairman, I couldn't agree with you more. I'm disappointed, like you are, about the lack of interest expressed in this room; it doesn't reflect the need and the dimensions of this problem, and this important oversight hearing that you're holding today is not only timely, but is critical as we begin to look at the whole question of the reauthorization.

You know, I've held five oversight hearings on this very subject, and we've had numerous GAO reports, and, obviously, we'll want to make those and other information that we've gathered available to you as you consider this. But you said it best—TSCA has failed to live up to its mission. In fact, it's probably EPA's biggest underachiever. As you said, in many ways, TSCA was the EPA's most modern statute. It was pollution prevention, a very advanced idea in 1976.

The real question, I think, is: why such a disappointing response by TSCA?

Well, first of all, the EPA has issued only 30 test rules in 18 years for existing chemicals and almost none since 1989, and there's no guarantee as we look at it today the EPA will ever be more timely.

Secondly—and I think an example is 1984 where we had 800,000 workers who were exposed to high levels of a chemical—it took 7 years before the EPA sent in the test summary to OSHA. That shows you the failure in terms of timeliness of action by the EPA.

And, finally, you mentioned in your opening statement the problems with "confidential business information." You know, it's easier for a contractor in the EPA's mail room to get clearance to see TSCA data than it is a governor. In fact, if a governor really wants to find that kind of information, he would be better served reading the New York Times than he would be talking to the EPA.

What needs to be done? Four things:

First, the EPA needs to set priorities for which of the 60,000 existing chemicals they should test.

Secondly, they need to have better criteria to decide whether to take regulatory action.

Third, they need to consider mandating timetables for testing and evaluation.

And, fourth, especially at a time of limited funds at the EPA, we need to ensure that TSCA works well with the other EPA programs and more effectively with EPA statutes such as the Clean Air Act and Clean Water Act, so that we can deal with this as an entire industrial facility at one time and try to have more effective pipe-to-pipe solutions.

These things seem very simple when you go through them, yet, after 18 years it doesn't seem like the EPA has gotten the message on how to deliver those simple solutions.

You're hearing today what we will do in the House, and I think it's going to be very critical as we review this. I will close as I opened: as you said, there's probably not a more important environmental subject which has received less attention.

Senator REID. Congressman Synar, I have worked for over 3 years on a lead bill. It has been one of the most frustrating, time-consuming efforts of my political career. If you work something out with industry here, something else pops up over there. We now have a bill, and I hope by the first of the month to get it on the Senate floor, but it has been extremely difficult. I can imagine how it will be with TSCA.

I think it's commendable, I repeat, that you're one of the leaders in the House on this. You've got a lot of other things to work on, things that in this modern media-driven world you could be working on. It speaks well of you as a person and as a public servant to be working on something like this. There is going to be all opposition and very little support, and so I pledge my time and that of this subcommittee to do what we can. I think, realistically, we're not going to get a bill this year, but I think we should make a commitment to get one during the next Congress. Let's change TSCA, and I think we can do that. You've held five hearings, we have a GAO report that you and I have asked for that should be out soon, and that should be a big help to us. My staff has reviewed your previous hearings, which have really laid the foundation for this one.

So, again, for the third time today, I congratulate and applaud you for the work that you've done, and look forward to working with you and the House on this most important matter.

Mr. SYNAR. Thank you, Harry.

Senator REID. We'll now hear from Dr. Lynn Goldman, the Assistant Administrator of the Environmental Protection Agency for Prevention, Pesticides, and Toxic Substances.

Dr. Goldman, we welcome you to the committee and look forward to your testimony.

STATEMENT OF LYNN GOLDMAN, ASSISTANT ADMINISTRATOR, PREVENTION, PESTICIDES AND TOXIC SUBSTANCES, EPA; ACCOMPANIED BY MARK GREENWOOD, DIRECTOR, OFFICE OF POLLUTION PREVENTION AND TOXICS

Dr. GOLDMAN. Thank you very much.

I have some written testimony that I'm submitting for the record, and with me here is Mark Greenwood who is the director of the Office of Pollution Prevention and Toxics.

I'm truly pleased to have the opportunity to participate in today's hearing about TSCA. I'm encouraged by your interest in TSCA in making it a more effective and current statute. After all, it has been 18 years since TSCA was passed, and there have been no changes to the original statute since that time. Quite frankly, we've become frustrated by its limitations. In general, all of us involved in environmental work now have come to realize that the time has come for a new generation of environmental protection, new ap-

proaches that protect the public health, the health of our citizens, the health of our economy, approaches that combine a firm commitment to environmental protection with flexibility, innovation, and common sense, and approaches that involve citizens at all levels in the decision making process.

Since the passage of TSCA 18 years ago, we have learned two key lessons on chemicals management:

First, pollution prevention offers significant opportunities for protecting the environment.

Second, empowering the public with information as a powerful tool for environmental progress. We have now made these lessons the cornerstone of our new approach to addressing toxics in the environment, and we believe that they should be the starting point for any reconsideration of TSCA.

The Clinton Administration strongly supports pollution prevention as a core principle of environmental policy. Our society simply cannot afford to address environmental protection as an afterthought. This ethic is particularly important to TSCA since chemicals introduced into the environment then become air, water and waste problems if improperly managed. Encouraging the use of safer chemicals and processes in the first place should be a fundamental step in carrying out TSCA's mission to protect human health and the environment. TSCA also plays an important role in Administrator Browner's common sense initiative to address environmental protection across all of EPA's programs for a given sector.

We are also very strongly committed to the public's right to know. As you know, the creation of the toxic release inventory opened a new era of environmental policy. Through public disclosure of emissions data, both citizens and industry began more constructive dialogue and partnerships with EPA to reduce emissions and prevent pollution. I believe the success of this program justifies expanding the right to know concept in other areas of environmental policy.

You may agree with these principles but wonder how they can be applied to the realities of running the toxics program. Let me describe a three-point strategy we have developed to do just that.

The first is to provide information and tools that lay out the basis for empowering the broadest possible initiative from industry, the public, and government.

Second, help set goals both in terms of a specific chemical agenda and of a broader environmental ethic for chemical management including the development of cleaner, safer technology.

And, third, target direct efforts to areas where pollution prevention is needed to reduce risk.

This strategy calls upon most of the traditional TSCA work including information collection, testing, new chemicals review, and chemical specific risk management. First, it is a vital part of our mission to provide information and tools to empower others. The public release of environmental data gives everyone the ability to participate in the broader national effort to set a toxics agenda and address chemical issues. Already we have given States some of the tools necessary to more effectively determine what risks exist in their local communities and to target their compliance and enforce-

ment of State and Federal laws, but numerous efforts to improve information collection and dissemination are ongoing.

One significant challenge in increasing the amount of information available to the public has been the amount of TSCA information claimed as "confidential business information," or CBI. Through a CBI reform process we are now exploring how to limit the amount of information claimed as confidential to the extent necessary to protect the competitive position of American industry, and, at the same time, improve the public's access to information.

One block of information that is missing under TSCA is on chemical users. We believe this type of information could provide us with better exposure and hazard data.

The second part of our strategy—helping to set goals—is directly tied to determining a toxics agenda. We need to set priorities and focus public concerns on those chemicals and chemical use patterns that present that most significant risks. We should also foster products stewardship and use the design for the environment ethic to encourage the development of more environmentally friendly technologies.

Goal setting is a particularly important component of a toxics program because by definition we deal with a large number of chemicals that vary greatly in toxicity. The TSCA inventory now includes over 70,000 chemicals, and this charge gives an array of what those chemicals are. Now out of these, there are 12,000 that are polymers that we believe are of lower risk and 25,000 that are not in commerce, and, therefore, do not pose a significant risk. Out of those that are non-polymers that are in commerce, there are 16,000 that are present in high volume in commerce, and we believe that these are the chemicals on which we should be focusing most of our attention.

So by narrowing this list to a more manageable and appropriate number, we still have a large number of chemicals in commerce that are of concern. Our available tools for gathering testing data about these chemicals are cumbersome.

For example, in July 1993 we promulgated a TSCA section 4 multi-chemical toxicity end point test rule covering 10 chemicals. In October 1993, however, we were sued by the Chemical Manufacturers Association. Settlement was only reached earlier this month. We also promulgated a final TSCA section 4 test rule in October of 1993 on four chemicals, and were sued by the manufacturers for two of those four chemicals. Settlement negotiations are still underway for those.

Generally we believe that less adversarial means that these enforceable consent agreements and voluntary agreements have lower transaction costs for the agency, but, obviously, section 4 provides an important incentive for entering into such agreements. We are also setting priorities by using a tool we have developed called the Use Cluster Scoring System. This system allows us to identify the industrial use patterns that appear to present higher risks and opportunities for pollution prevention. To expand our information on chemical uses, we are moving forward to amend the inventory update rule to require information on consumer and industrial end uses of manufactured chemicals. We are now beginning a regu-

latory negotiation process to include our various stakeholders in the development of this new rule.

In addition, we have worked with a variety of groups to advance the design for environment ethic and the development and evolution of technology and material choices and are incorporating this approach into the review of new chemicals.

In addition to these first two strategies, there are always be a need for our third strategy—taking targeted action on certain priority areas. These projects now are focused on particular chemicals, or, more recently, on clusters of chemicals that can be used to perform a particular task. The use cluster approach enables us to identify those chemicals or categories of chemicals in combination with technologies that represent a safer way of performing the essential function in a cost-effective manner.

Thus, for example, instead of just looking at a single chemical that might be used as a paint stripper, we're now looking at a number of chemical paint strippers to determine which materials and processes are safer.

As you know, Mr. Chairman, section 6 has not been the effective tool for targeted action we once thought it could be. The U.S. Fifth Circuit Court of Appeals decision to remand the 1989 asbestos ban and phase out rule to EPA has several implications.

First, section 6 actions that we initiate now will be far more resource intensive and take longer than had originally been envisioned.

But, second, the court's interpretation of least burdensome alternative would require us to consider future action and a hierarchical approach that defines end of the pipe solutions as less burdensome than pollution prevention solutions. We feel that this conflicts with the hierarchical approach set forward in the Pollution Prevention Act, which as you might expect makes reduction or elimination of toxics at the source the ultimate goal. In addition, we believe that a pollution prevention approach is often the most cost-effective approach.

Finally, the EPA's ability to take regulatory action under section 6 is an important part of the incentive structure that we have in place for encouraging voluntary actions.

In closing, I want to thank the committee and Chairman Reid for your interest in a successful toxics program. Hopefully, this will be a start of a productive dialogue that will help us accomplish that objective.

Thank you.

Senator REID. Dr. Goldman, I appreciate your being here today. It's important to state on the record the fact that you're a medical doctor. I think it's assumed that government employees are faceless bureaucrats who would never leave their big office buildings, but the fact of the matter is there are many people like you, and I think it speaks well of government that there are still people willing to put up with what bureaucrats have to put up with in this time of stringent cost controls. I am grateful to you personally that you're willing to take this job.

I have a number of questions. With a large number of chemicals, the scientific complexities of testing and review, and the limits of governmental resources, I'm interested in seeing that industry

shoulders the principal responsibility of determining the health and environmental effects of the chemicals that they manufacture, and you and I have talked about this on a number of occasions.

What is your assessment of the burden that the industry has now, and do you have an opinion on whether industry should bear a greater burden in the future?

Dr. GOLDMAN. Well, let me review what we've accomplished in the way of testing since the inception of the program 18 years ago.

Three hundred and eighty six chemicals have gone into testing through TSCA section 4 proposed rule making, 255 chemicals we've decided not to test, 24 chemicals have been tested through negotiated testing agreements, 121 have been involved in final rule making, 35 in enforceable consent agreements, and 230 in voluntary testing agreements.

Senator REID. Is the 121 part over the 386 total?

Dr. GOLDMAN. Yes, the 386 were those that were proposed.

Senator REID. And the 121 is part of that number?

Dr. GOLDMAN. Yes, 121 is part of that number, and so I think that what we see here is that we haven't made the kind of progress in achieving testing that had been expected, I think, by those who originally drafted TSCA. I do believe that more of the burden needs to be shouldered by the industry.

I think that where we've been the most successful of passing along the burden has been through the SIDS project with the Organization of Economic Cooperation and Development. Where the OECD has reached an agreement on 240 chemicals that needs have screening level testing of which I believe the U.S. companies are shouldering the burden for something like 50, and that I believe has been a good process because that allows the burden to be shared by all of the companies throughout the world. I think that in the United States that part of what has been the problem has been that our rule making process has been very cumbersome, and we have to face an enormous amount of transaction costs with legal challenges that are posed with each and every rule. It's almost as if, though, we have to, first, prove that chemicals are risky before we can have the testing done to show whether or not the chemicals are risky.

Senator REID. TSCA takes a chemical by chemical approach. It assumes that the EPA can, to one extent or another, review these individual chemicals and regulate those with severe risks.

In your opinion, did TSCA give the EPA an impossible mission, and further, is chemical by chemical the wrong approach to managing the chemical risks?

Dr. GOLDMAN. Well, we have decided that that is not the best approach to managing chemical risk. I would say that in many cases we believe that the use cluster approach is probably a better approach, and what that has to do with is the recognition that the chemicals are performing a certain function, a valuable function in society, and that what we probably really ought to be looking at is how do we best form that function and reduce the risks to health and the environment.

Senator REID. As you know, TSCA's focus has been primarily on chemical manufacturers and processors. You've talked about expanding this to encompass the chemical users also.

What do you mean by this and why do you think it's important?

Dr. GOLDMAN. We think it's important because when you talk about chemical use, that's where you start getting involved with issues such as exposure, such as the potential for emissions to the environment. And so use is really where the rubber meets the road in terms over the inherent hazards that might be present and the exposures that might occur to humans or the environment.

Senator REID. Some have called TSCA a "gap-filling statute" with a limited mandate.

What do you see as TSCA's role in relationship to the other statutes which you and others enforce within the Federal Government?

Dr. GOLDMAN. I think of TSCA as actually being an extremely broad statute that has quite a broad mandate in the area of chemicals, and while at times it has been used to fill gaps, I think that the fundamental role of TSCA in providing for prevention—primary prevention really—prevention of use over new chemicals before they're part on the market if they are undesirable, and ability also to get information about existing chemicals so that we can take preventive actions.

I see TSCA as being fundamental to all of our chemical management in the agency.

Senator REID. I've been told that the EPA's new chemical program is one of the more successful aspects over the TSCA program. Yet, you've indicated that over 90 percent of the roughly 2,000 new chemicals that the EPA reviews annually are approved without any restrictions on their manufactured use.

What's your assessment of the new chemicals program?

Dr. GOLDMAN. Mr. Chairman, I might want to put up another graph. There is a difference in the new chemical programs that European countries have and that the European community has in that our program looks at all chemicals prior to manufacturing. Whereas, in Europe, the programs look at chemicals prior to marketing. Our program also looks at far less information about each chemical when we review it than those other programs.

Now what I think is very interesting here, if you look at the chart, what we have here are the numbers that we've evaluated between 1979 and 1993, which has been, as you've said, a very large number of chemicals. You can see that a little more than half of those that we evaluated have never gone into commerce, and so I think one might well ask the question was that a useful use of our time and resources to evaluate chemicals that never went into commerce as opposed to the system in European where you would wait until marketing.

Of those that we did evaluate and that did go into commerce, 9,776 no further action was required, 417 were required to go through some additional testing or data gathering of some kind. We have not seen any problems that have resulted from this, and I do think that in that sense, this has been one of the more successful programs in the agency. I feel that the scientists and the new chemicals program have been extremely creative in using the very small amount of information that they do have and looking at what is called structure activity relationships to try to define from the chemical structure of these chemicals whether or not they might cause problems to ecosystems or problems to human health.

But I think that it's a reasonable question to ask—whether it might be more desirable to wait until the premarketing period instead of premanufacturing period and then to require more information.

Senator REID. When TSCA was enacted, a good deal of thought was given to whether we should have a premanufacturing or premarketing system for use of new chemicals. We decided on the premanufacturing approach, but as you have already explained, a number of other countries have the premarketing system.

What are the advantages and disadvantages of the two approaches?

Dr. GOLDMAN. Well, I think the advantage of the premanufacturing approach is that for the industry, they will get a signal more rapidly from the agency about whether or not it might be worth pursuing the marketing of a product, and you can see that there were some 974 out of those not in commerce that were simply withdrawn. And one might infer that those may have been withdrawn because there were strong signals that they would have had to go through more testing.

On the other hand, I think that you could also see the disadvantage in terms of the resource. We're spending a lot of time on assessing new chemicals that will never go in commerce. The 8,043 that we would have just let right through the net never went into commerce, and so was it worth our effort of evaluating those 8,043 chemicals as opposed to we could have spent more time on the 9,776 that went into commerce to make sure that we were really making the right decisions with those.

Senator REID. Or the manufacturer also could be required to come forward with information and not place the burden on the EPA, right?

Dr. GOLDMAN. Right.

One thing I do believe is that we have more of a handle on chemicals when they're new chemicals than we ever will once they're in commerce because of the inherent problems that once a chemical is a part of a manufacturing process, then the entire cost benefit equation becomes a very, very different equation than before you market a new chemical.

Senator REID. We have an ever increasing universe of chemicals with hundreds of new ones annually.

The question I've always had is are any of these new chemicals—and I'm sure the question must be yes—substitutes for the higher risk existing ones?

Dr. GOLDMAN. Yes, many of them are, and, in fact, we believe that one of the reasons why it's been, I think, a good thing that we've been able to process so many PMNs is that many of these newer chemicals do have potential for reducing risk by substituting older, higher risk chemicals.

Senator REID. In one of my prior lives, I had some dealings with the Federal Food and Drug Administration, and they have a process for approving new drugs that is entirely different than what we have for improving new chemicals.

Are you generally familiar with their program?

Dr. GOLDMAN. Generally speaking, yes.

Senator REID. Why shouldn't we have the same type of program for the EPA and new chemicals?

Dr. GOLDMAN. I think that one thing I would be concerned about is that if we treated every chemical as though it had the same exposure potential as a drug, that then we would set in place a bias toward the chemicals that are on the existing chemicals list, and we would create——

Senator REID. Do you mean a positive bias?

Dr. GOLDMAN. A positive bias for the existing chemicals or a disincentive for companies to do research and development to develop new safer chemicals. I think it is true——

Senator REID. Dr. Goldman, if I could just interrupt there.

Dr. GOLDMAN. Sure.

Senator REID. If they're doing research and development for new chemicals—and I think that says it all—shouldn't they have to share that information initially with the EPA rather than the EPA having the burden at a later time to show that the EPA believes these chemicals are unsafe?

Dr. GOLDMAN. Absolutely, but I also think that the quantity of information that we should be getting from them should be somewhat proportional to the likelihood that the chemical that they're producing will be pharmacologically active in people.

Now what the FDA is dealing with is by definition are materials that are pharmacologically active, and they're always dealing with materials that humans will be exposed to because they're administered to people.

A second level of review might be more like what we deal with in the pesticide program where many of those substances are used because they are pharmacologically active. They're used because they are neurotoxic and because they kill organisms, and I think that it is appropriate that we have a more extensive review and testing program for those chemicals than for some of the TSCA chemicals.

I think with the TSCA chemicals, we have to find ways to make cuts and be selective. Certainly, the polymers are not going to be as active as, say, solvents.

Senator REID. It seems to me, Dr. Goldman, that if in fact we're under the first category you describe, it would be very easy for the chemical manufacturer to say to the EPA, "This chemical is not going to be come into contact with human beings ever. Therefore, this standard is significantly less."

The burden should be on them to show that, not us.

Dr. GOLDMAN. Absolutely, I think the burden should be on them to show that.

Senator REID. And then if it's in the second category, the same principle applies. So I think it's something we need to take a real close look at, and I would ask also that your agency help my staff do that.

Dr. GOLDMAN. Well, one of the things that I believe is that the criteria has to be very clear so that we're not bogged down in litigation every time we try to issue a test rule. We need clear criteria.

Senator REID. Now we're talking now about new chemicals?

Dr. GOLDMAN. Both new and existing chemicals.

Senator REID. Pardon me?

Dr. GOLDMAN. Both the new chemicals and the existing chemicals.

Senator REID. Yes, but I think it would be possible for us in our reauthorization to set a different standard for new chemicals than we have for existing chemicals. My feeling is that the burden should be upon the chemical manufacturers to show that the product that they are putting into commerce is safe, and it can be set up in the three categories you've just described or in some other appropriate manner.

However, let's talk about those chemicals that are in existence now. I believe that we've gone ahead and made our bed, so to speak, and I think we have to lay in it. And I think that it's up to us now to show that any of those chemicals are already on the market. I think it's up to the government to show that they're unsafe.

How do you feel about that?

Dr. GOLDMAN. Well, I think that we need to strike a balance between how we look at new chemicals and existing chemicals. I agree that for the chemicals that are currently in commerce—there are far more costs that are associated with making changes in how we use those than there would be for a new chemical that's proposed.

However, I also believe that a number of the chemicals that are currently in commerce were put into commerce during the time when we had far less sophistication about chemicals and about chemical uses, and I think our strategy needs to empower the agency, needs to empower the public and the industry to reduce the risks that are involved with using those chemicals.

There are a number of approaches to doing that:

One is certainly to have more aggressive testing and to get more information about those that are at high volume and that are likely to be hazardous; another is to take a stronger pollution prevention approach, and I think the third approach is the approach of getting more information out to the public, to the States, and to the industry about what we know about those chemicals.

Senator REID. Why do you think there have been so few regulations under section 6?

Dr. GOLDMAN. I think that the issue of section 6 has been one that—I'm just finding my sheet here that gives exactly which ones we've done.

Senator REID. Take your time. That's fine.

Are there really so few unreasonable risks of chemicals that we have had this small number of regulations? Is it too difficult to justify that finding or is it the difficulty of controlling risks for those particular measures stated in section 6?

Dr. GOLDMAN. I think that it has been difficult to meet the requirements of the statute in terms of being able to justify the finding. I also think that the 1991 decision by the Fifth Circuit Court of Appeals exerted a dampening effect on the agency's ability to do more section 6 rules. It placed a very strong burden on the agency for basically working through every possible note on the decision about all of these alternatives and costing all of those out, which is a burden that makes it very difficult to proceed with further section 6 rules.

Senator REID. Have there been any rules since that court decision?

Dr. GOLDMAN. We have a couple of small ones that we've been working on. We have one on lead machine sinkers and there's——

Mr. GREENWOOD. There's a second one on a chemical called the acrylimide.

Dr. GOLDMAN. Yes, acrylimide grout.

Senator REID. You talked about looking at groups of chemicals by their uses when considering risk reduction. We've talked about that, and I think you set up three categories.

Has there been anything written on that or where did this theory come from?

Dr. GOLDMAN. It's an approach that was developed by people in the program, actually, and they've actually developed a computerized tool that they call the use cluster scoring system that helps work through that process. There's a poster that I would like to have put out that shows the approach as it was taken for looking at the paint stripping industry, and paint stripping was interesting because with one of the paint strippers there was a risk issue that was raised as a result of using the cluster approvals. One of the things that people realized was if we take action on this particular paint stripper, that might push people to use a substitute—one of the other chemicals that are available. But we're not looking at those right now, and how do we know that we would actually be reducing risk? We might be increasing risk by encouraging people to use more hazardous paint strippers.

And so the program looked at both the industrial and the consumer or commercial methods, their physical, chemical, and heat methods. Some of the chemicals are solvents, some of them are caustics. From among the solvents, some of them are flammable and some of them are non-flammable, and all of these things are interesting because you get different kinds of risks from these different types of chemicals. But what we can do is array for all of these the risks to human health and the environment, the probability of exposure during use, and really get an idea of what really makes sense here. Should we be pushing the market toward one or another category of these paint strippers? Should we be pushing the market toward different kinds of protection?

One of the things we became aware of is that a lot of the exposure for consumers is dermal exposure, and that, you know, there are certain kinds of gloves that you can wear, but those gloves are special gloves and they're not packaged with the paint strippers. And I don't know about you, but when I go to the hardware store to buy something, I don't necessarily think about, you know, do I need to have the special chemically impermeable glove for using this product or do I just buy the first pair of gloves that I see that's on the rack.

These are the kinds of issues that you can get into, and then as you said before, that gets away from the one chemical at a time approach. Looking at one chemical at a time could end up increasing instead of reducing risk.

Senator REID. We've talked about some ambitious ideas that you have for the TSCA program, but the problem we're having in gov-

ernment today is something I mentioned earlier, which is a lack of resources.

How are you going to be able to do these things that you need to do with all the cutbacks we have in government including the Environmental Protection Agency?

Dr. GOLDMAN. I think there are a couple of things we need to think about here. I think one thing we have to think about is streamlining, and, in the spirit of the National Performance Review, look at the activities that we do that are not contributing to reducing risk, that are not moving forward the toxic chemicals agenda. And in that light, I think we need to look at the places where our legislation has created transaction costs that are significant and that really ought to be cut out of the process so that the time that the staff at the EPA spend on this program is time spent reducing risk.

The third thing is we have to empower the public, we have to empower the industry to take actions. Government is not going to do all of this itself.

Senator REID. What about user fees?

Dr. GOLDMAN. User fees I think should definitely be considered especially where we can make an argument that the activities that we're carrying out will save money. We do have a fee for PMNs that is paid in by the industry, but the EPA does not receive those fees.

Senator REID. We have a number of other questions that we'll submit to you in writing and would ask that you get them back as soon as you can.

One of the areas we would like some input is, what are some of the possibilities of user fees—without deciding whether or not they're good or bad—but just give us a list of the potential user fees.

Thank you very much for your testimony today. You've been most helpful.

Dr. GOLDMAN. Thank you very much, and I also just want to acknowledge your request to have the EPA staff work with your office on these TSCA reauthorization issues and let you know that we are, of course, glad to do so.

Thank you.

Senator REID. The next panel will consist of Mr. Peter Guerrero, Director, Environmental Protection Issues at the United States General Accounting Office; Dr. Ellen Silbergeld, Senior Toxicologist with the Environmental Defense Fund; and Dr. Warren Muir, President of Hampshire Research and Senior Fellow of INFORM.

I'm going to step out and take a call. I'll be back in just a minute. Please take your seat.

[Recess.]

Senator REID. I apologize for the delay.

We'll first hear from Mr. Peter Guerrero.

STATEMENT OF PETER GUERRERO, DIRECTOR, ENVIRONMENTAL PROTECTION ISSUES, GENERAL ACCOUNTING OFFICE; ACCOMPANIED BY RAY SMITH, EVALUATOR

Mr. GUERRERO. Thank you, Mr. Chairman.

I would like to take a moment to introduce Ray Smith who is with me today. He is the evaluator in charge of the work we're doing for your subcommittee.

We commend you for holding this hearing on the issues the Congress will need to consider in reauthorizing the Toxic Substances Control Act, which is one of the most promising but under-utilized pieces of environmental legislation. Our testimony is based on ongoing work for your subcommittee on the EPA's implementation of this law.

If history is any guide, Mr. Chairman, you have your work cut out for you. I brought with me the transcripts from prior TSCA hearings. The first held over a decade ago is entitled, "The Toxic Substances Control Act Oversight." So 5 years later in 1988 congressional impatience with the EPA's slow progress resulted in a hearing called "Whatever Happened to the Toxic Substances Control Act?" Congressional impatience turned to dissatisfaction when in June of 1990, the hearing was entitled, "The Failure of the Toxics Substances Testing Program." And the more recent one just prior to this hearing today is entitled, "Toxics Substances Control: Still Waiting After All These Years," and, indeed, Mr. Chairman, we are still waiting.

When TSCA was enacted in 1976, there were about 60,000 chemicals in commercial use. Today, another 1,000 or so are added each year, and there are some 72,000 chemicals in the TSCA inventory. While some of these chemicals pose no real threat to our health and environment, concerns do exist about many others. TSCA was intended to help the EPA identify such chemicals, gather information on their health and environmental effects, and take appropriate regulatory action to address those chemicals that posed an unreasonable risk. Yet, today the EPA has reviewed only about two percent of the existing chemicals in TSCA's inventory and has issued regulations to control only nine chemicals under TSCA.

Part of the EPA's limited progress in assessing chemicals is attributed to the fact that the agency itself bears the enormous burden of determining chemical effects. Rather than requiring chemical manufacturers to demonstrate the safety of their products, TSCA requires the EPA to search available data on these chemicals to make assumptions that may or may not be correct when such data is not available and to proceed to obtain additional data through lengthy, costly rule-making. As you heard this morning, only about 30 of these rules have been issued.

Companies preparing to manufacture new chemicals are not required to develop and provide the EPA with data other than that which is readily available. Such data are often extremely limited and less than half of all premanufacture notices contain toxicity information. Furthermore, the information that the notices do provide on chemical production and usage can change substantially once these chemicals are marketed and manufacturers are not required to amend their premanufacture notices to show such changes.

For existing chemicals, almost all of the burden for determining chemical safety is placed on the EPA, which does not have the information or resources necessary to review the tens of thousands of chemicals in use. The EPA has identified more than 14,000

chemicals of concern, but has resources to review no more than 100 per year. In short, Mr. Chairman, TSCA requires that the EPA and the U.S. taxpayers demonstrate that a chemical is harmful and does require that chemical manufacturers prove that the chemicals are safe to use. Yet, EPA's limited resources aside, TSCA's data collection authorities do not provide the Agency with the tools that it needs to effectively perform the role that it's been given.

The difficulty in developing needed information, combined with TSCA's high threshold for taking action, has made it very hard for the EPA to regulate problem chemicals. The EPA must first demonstrate that the chemicals pose an unreasonable risk and then that its proposed control present the least burdensome approach for mitigating those risks. The EPA believes that TSCA's standards of evidence are very high, and the courts have in fact confirmed that view in the recent asbestos case. In this instance, the EPA felt that it had considerable scientific evidence of the serious health effects of asbestos, but despite this, it was still unsuccessful in convincing the court that it had met the standards of evidence required under the Act. Another reason that few chemicals have been regulated under TSCA is that the EPA has interpreted TSCA as requiring the agency to look first to other authorities such as the Clean Air Act and the Clean Water Act before trying to control chemical risks under TSCA. Since the EPA rarely identifies risks that cannot potentially be addressed under other statutes, it has turned to TSCA on only very few occasions.

As a consequence, the EPA has not taken advantage of the broader array of regulatory authorities that TSCA provides, such as restrictions on production or distribution that could be used to support the EPA's pollution prevention activities.

Apart from supporting its regulatory functions, TSCA's information gathering authorities could also be used to encourage industry to take voluntary measures to reduce toxic emissions. However, much of the information collected under TSCA cannot be shared with public health officials and the public because industry routinely claims such information is confidential.

For example, a 1992 study showed that over 90 percent of premanufacturer notices contained information that was claimed to be confidential. The EPA believes that many of these claims are not necessary to protect trade secrets and the Agency has been successful when it has challenged the claims. However, such challenges are time-consuming and the EPA lacks the resources to do this on a continuing basis.

In closing, Mr. Chairman, I would not want to leave you with the impression that all the fault lies with the law itself. Historically, the EPA has assigned TSCA a low priority relative to its other responsibilities and both resources and staffing have long been insufficient. Yet, even if the EPA were to do a better job in implementing the law, TSCA's provisions would still present an obstacle to more effective control of chemicals. Because TSCA could prove to be a powerful tool with which the EPA could advance its pollution prevention agenda, it's worthwhile for Congress to explore how TSCA might be made more effective.

In continuing our work for your subcommittee, we will be looking at ways to make TSCA a more effective statute. In this regard, we will be considering three broad issues:

First, would it be desirable to set a clear goal for TSCA and expectations for what the EPA is to accomplish under the law? The key to this would be clarifying whether TSCA is to be used as a stopgap or the burden should be shifted to manufacturers to assess and demonstrate chemical safety.

Second, should the threshold for taking regulatory action under TSCA be modified. Here, approaches used by other industrial countries could be looked to as models.

Finally, given the sheer number of chemicals in commerce, should TSCA encourage government and industry to focus their resources on those chemicals that, based on their toxicity, production volumes, and potential exposure, present the highest risk to human health and the environment?

Mr. Chairman, that completes my statement. I would be pleased to answer any questions that you may have.

Senator REID. We will have some questions for you, but we'll hear from Dr. Silbergeld first, and then Dr. Muir.

Dr. Silbergeld?

STATEMENT OF ELLEN SILBERGELD, SENIOR TOXICOLOGIST, ENVIRONMENTAL DEFENSE FUND; ACCOMPANIED BY KAREN FLORINI, SENIOR ATTORNEY

Dr. SILBERGELD. Thank you very much, Senator. It is a pleasure indeed to offer testimony on your invitation concerning the reauthorization of the Toxic Substances Control Act.

I'm Ellen Silbergeld, a toxicologist with the toxics program of the Environmental Defense Fund, and accompanying me today is Karen Florini, a senior attorney in that program, who is also available to answer your questions should they be directed in those areas.

As you know, since 1976 EDF has been deeply involved in oversight and implementation of various provisions of TSCA, and, in fact, it was a number of suits by EDF that finally elicited rules controlling the use, production and disposal of PCBs. More recently, EDF petitioned the EPA under section 21 of TSCA to promulgate rules controlling the distribution and release of dioxins and related compounds into the environment—the first attempt, I might note, to use the powers of TSCA in an arena more broad than a chemical specific approach.

EDF has also currently petitioned the EPA to restrict lead fishing sinkers in order to protect waterfowl which can be damaged by ingesting these sinkers and die.

I think it is sad to note at the outset that except for PCBs, whose controls were mandated specifically under TSCA, the EPA has never used its powers under section 6 on its own initiative in order to address major risks. It has taken public pressure, litigation and congressional action—indeed your own legislation dealing with the hazards of lead in the environment addresses the inability of the agency to identify and use its TSCA powers.

As you noted, and as Dr. Goldman noted in her statement, since TSCA's enactment, our society has become increasingly sophisti-

cated in the way in which we scope environmental protection. I think we are truly in an era of pollution prevention, of integrated pollution and toxics management, and the development of more innovative and voluntary coordinated approaches to controlling the health and environmental risks of toxic chemicals.

It is, therefore, necessary I think for us to re-evaluate the role of a statute like TSCA in providing the kind of integrated analysis and action-oriented mandates toward controlling and addressing problems that may arise throughout the entire life cycle of chemical use from production through disposal. In reauthorizing TSCA, Congress could take a critically important opportunity to incorporate pollution prevention precepts and to give the agency the tools it could use to act upon these precepts.

Now, my own involvement with TSCA goes back over 10 years to the working out of consensus rules to reduce risks of PCBs. In that process, I've become convinced that there is much common ground among industry, government, and environmentalists in terms of purpose and commitment to achieving real progress in the prudent management of new and existing chemicals. I've also worked with exceptionally skilled and dedicated scientists, analysts, and lawyers in the TSCA program at the EPA over these years.

However, despite this commonality of purpose and despite the significant talent pool that has been devoted from the private and public sector to this purpose, the history of TSCA implementation is one of enormous frustration, and I think it is important for us to examine how this has arisen.

I would like to address in detail, alternative approaches to the major areas of TSCA responsibility, and that is the identification and development of action to address significant risks of existing chemicals and the insurance of adequate information upon which to base rational judgments for the deployment of new chemicals into our market place.

The intent of TSCA under its existing chemicals power was to provide the EPA with the power to gather information related to both exposures and hazard upon which to determine the necessity to undertake risk reduction actions of a broad nature, including reducing risks in the occupational setting. And that's why the premanufacture provisions were important. It was envisioned in the 1970s that TSCA could encourage a national program of rational and prioritized chemical testing combined with an effective surveillance system which accounted for information on both exposures and adverse effects. Neither of those programs have been set in place. Neither the testing nor the regulatory provisions have been utilized to any significant extent. Testing of existing chemicals, as you've already heard, has been sparse indeed with very few test rules issued and those issued immediately challenged.

But of even greater concern to us is the fact that the EPA has never linked the programs in its Office of Research and Development to its TSCA responsibilities nor has there been an effective utilization through the interagency testing committee of the resources of the National Institutes of Health in order to conduct and utilize research directed toward the development and validation of

more effective and cost-effective test methods that could serve the purposes of TSCA.

The surveillance provisions of section 8 have been even less effective. The incentives for the private sector to report adverse effects of its products are nonexistent. The EPA, moreover, has made no use of any other existing surveillance systems such as the National Human Adipose Tissue Survey or the National Center for Health Statistics' National Health and Nutrition Examination Survey, both of which actually report data on the presence of some chemicals in tissue samples taken from the general U.S. population. These data could be invaluable tools to focus our attention under TSCA on chemicals to which individuals and populations are demonstrably being exposed.

Only recently has there been an attempt through the initiatives of the Agency for Toxic Substances and Diseases Registry to use the powers of TSCA to fulfill critical data gaps that have been identified in the Super Fund Program.

Now, the prospect of dealing rationally with the entirety of the TSCA inventory—the 60,000 chemicals we've already talked about—is certainly daunting, but it doesn't need to be paralyzing. And here I would urge that the EPA bring home and Congress insure the importation of our experience as productive members—that is, government and industry—as productive members in the Organization for Economic Cooperation and Development Chemicals Program. The OECD over the past decade has adopted an innovative approach that we commend for your consideration in TSCA reauthorization.

The OECD approach, the Screening Information Data Set Program, or SIDS program, neatly overcomes the paradox of the unknown. In TSCA as in much public policy based upon toxicology, we are often guilty of continuing to look at those chemicals about which we already have sufficient information to consider them highly suspect. I think the last 15 years investments in the assessment and re-assessment of the risks of dioxin are a sad paradigm of this way in which we've invested public and private resources. We do not seem to be able to overcome this paradox and move to the enormous universe of chemicals about which we know very little.

A prioritization rule which has been developed within the OECD program has used production volume as the criterion for identifying those chemicals about which it is incumbent to gather some minimum data set. There was no argument about what types of information are critical, but a screening information data set using validated replicable and highly cost-effective tests has been put in place on a voluntary basis among the governments and industries within the OECD countries.

This SIDS project is clearly an evolving concept but one which to date has shown great promise in allowing us to bootstrap our way out of the paradox of dealing with what appears sometimes to be an overwhelming burden of ignorance—that is, our lack of knowledge of existing chemicals.

With respect to new chemicals, we share with you a profound disappointment in the inability of TSCA to establish a rational precautionary approach to the evaluation of new chemicals. TSCA

should at least function as a vigilant gatekeeper over the entrance of new chemicals into the environment in order to prevent them from joining an increasing list of unknowns. This objective has not been accomplished. You've already heard data on the percentage of new chemicals that actually have data submitted with them, and the very small percentage for which the EPA has attempted to elicit further data.

The new chemicals notification system, as implemented by the EPA over the past 18 years, essentially operates in the absence of real data. Now the EPA has developed an ingenious and often valuable approach based on structure activity relationships and other non-data based methods of analysis. Certainly, the experience and knowledge gained from this approach should be preserved and integrated into a reauthorized TSCA.

However, as a study undertaken by the EPA and the European community demonstrated, this structure activity approach works best when combined with a database evaluation system—that is, a system that actually utilizes information from toxicity testing.

Based on the success of the OECD program related to existing chemicals, we feel that there is no rational objection to a requirement of at least the SIDS test as a prerequisite for new chemical notification under section 5 of TSCA. The EPA's review would then be based upon actual data and decisions as to the need for further testing would be rationally focused on those end points or data gaps revealed by such data. The EPA should no longer be placed in the position of having to meet an initial burden of suspicion in order to get these preliminary data.

The third tool that TSCA granted to the agency was the significant new use rule provisions of TSCA. This allowed the agency in theory to review significant changes in the use or production patterns of already approved chemicals. In a sense, one could consider it a safety net by which we would be able to return to and reconsider the appropriateness of levels of use and types of exposure for chemicals about which we had reason to be concerned but which under the initial conditions of production and use did not give rise, because of exposure information, to sufficient concerns for actions to be taken.

The SNUR program has failed to foster a truly preventive program toward chemicals. As far as we can tell, SNURs having deployed by the EPA when it was decided not to invest resources and stronger regulatory actions.

I would like to conclude by reemphasizing the statements of others, and that is that Congress must address the theoretical framework under which TSCA operates in two respects:

One is to insure that the language of section 9 and elsewhere in TSCA does not create a barrier to the use of the integrative powers of TSCA. TSCA has been relegated to being used, when it is used at all, as a gap-filling statute, and a very long process of parceling out responsibilities among agencies and different statutory authorities has contributed to the extraordinary delay and consideration of specific chemicals.

I, myself, find it incredible that in 1994 we hear from the EPA that they are permitting industry to test formaldehyde. This is a chemical which we began to consider in this country, I believe, 20

years ago, before the first passage of this Act, and we are still in the modality of testing it. Something must be done to insure that this statute is used as a primary pollution prevention tool.

Second, the substantive evidence standard——

Senator REID. I'm going to have to ask you wrap up your testimony.

Dr. SILBERGELD. Yes, let me wrap up.

The procedural barriers and burdens to TSCA's efficiency must be dealt with and its efficacy and efficiency enhanced by stripping unnecessary procedural burdens and evidentiary requirements from the statute. And, as has been noted, a number of judicial decisions have contributed to the burdens that this statute currently bears and the enormous process and transaction costs that are incurred at every step that the agency might take.

We would conclude by noting that there are arenas of confidential business information and the extension of TSCA authority to biotechnology about which we will submit further commentary for the record.

Once again, as with the other witnesses, we commend you for conducting these hearings, and we look forward to working with you and your committee on its continued oversight and development of an improved and effective authority to control toxic chemicals.

Senator REID. Your statement and that of Mr. Guerrero in their entirety will be made part of the record.

Dr. Muir?

STATEMENT OF WARREN MUIR, PRESIDENT, HAMPSHIRE RESEARCH, AND SENIOR FELLOW, INFORM

Dr. MUIR. Thank you, Senator Reid. I've also provided a statement and ask that it be entered in the record. I will not read it today but will summarize some of the main points.

I am a chemist with public health experience and represent here both INFORM and Hampshire Research. I also am an individual who came to the Environmental Protection Agency a year after the proposed asbestos regulation was started in 1977, spent 4 years at the Agency working in part on that, and left the Agency 8 years before the regulation was promulgated and 10 years before it was overturned.

TSCA has clearly failed. However, it has not failed, in my opinion, for lack of will, nor talent, nor resources on the part of the Environmental Protection Agency. Indeed, I have known many of the people involved in the program over the years, and I can attest to their talent, energies, and efforts.

I would also argue that section 9 of TSCA is a small portion of the problem with the Act. My own particular feeling is that the law falls short in two major respects, which I would like to——

Senator REID. Dr. Muir, if I could interrupt you, though. I think it says a great deal if I could just read a couple of paragraphs from your statement, if I could do that for you.

"This program has been blessed with the presence of extraordinarily talented staff over the years. The TSCA program has been the source of an unusually large proportion of the senior executives across the EPA programs and even other Federal departments. The

program has been blessed with the presence of several world-renowned scientists, among them a winner of the American Chemical Society's Environmental Award and a winner of the MacArthur Foundation Genius Award." And I think this is the key—"This program in its early days was blessed with generous personnel allocations and dollar resources. In later years, only after the program started falling short, have its resources been quite constrained."

I think that's important, that the program started out with a lot of great personnel and resources and it was found that the statute wasn't working the way that people had anticipated, then the resources were falling away and it's become—these are my words not yours—quite ineffective.

Dr. MUIR. Indeed, that's correct, Senator Reid.

My own particular view, which is a little different from many of those that you've heard today, is that the Toxic Substances Control Act was designed to address a different problem than the problems that we face today. The Toxic Substances Control Act was passed at a time when our view of the problem was that there was a limited number of PCB-like issues that, if the government could identify and determine through an "unreasonable risk" assessment and then regulate, we would be able to resolve the important problems of toxics in commerce.

My own view is that this is not the problem that we face today. Rather, I believe that there are problems associated with the intentional commerce of chemicals in our country and all around the world, that the problems are large, and that they represent a majority of the environmental burdens of toxics that we're trying to cope with cleaning up or preventing. While I believe that the problems are large, they are the result of many small decisions being made throughout our economy, at every stage in commerce, in a very dynamic system.

The biggest problem with TSCA is that it uses a government-centric approach with all the burdens placed on the Environmental Protection Agency to become informed enough to carry out all of the assessments to make determinations of unreasonable risks, and then to tell people what they should do. This cumbersome, centralized approach is simply mismatched to the dispersed and dynamic problems that we face. Therefore, the most fundamental problem with TSCA is that it is government-centric in its approach.

Secondly, I think that TSCA provides no norms to producers and users of chemicals. The present approach assumes that the manufacturers and users of chemicals should carry on as they are until such time as the Environmental Protection Agency, through a cumbersome and time-consuming rule-making process, determines that there is an unreasonable risk. Only then is it incumbent upon producers and users of chemicals to make any changes in their particular practices. TSCA simply sets no expectations on the part of producers and users comparable to the expectations that are, for example, incorporated in the Federal Pollution Prevention Act, which set a waste-management hierarchy that is now widely accepted as a social norm: namely, source reduction is our preferred option followed by reuse and recycling, followed by treatment and disposal only as a last resort.

With that type of norm and with public information, we are able through the Toxics Release Inventory and other information to tell what companies are doing, and companies are clear as to what is expected of them. There simply is no equivalent with respect to the production and marketing and use of toxic substances in commerce.

My own view is that use categories are an important parameter in coming forward with comparable norms for toxics in commerce. We have much greater problems with dispersive uses, for example, than with closed system uses. We have much greater problems with consumer uses than with research chemicals. We have very limited information, and indeed the EPA has limited information, on the uses of chemicals, and I think it will be important to get that information to establish use-based norms. Such norms are needed to place the basic responsibilities for determining unreasonable risk on producers and users, and the basic responsibility for risk management on the part of producers and users. And we need to collect public information to be able to track progress, to make that information publicly available in contrast to current practices and to make our producers and users accountable for following the norms. And I think that we need to make only minor adjustments in the chemical provisions of the Act.

I would point out that, at the time that the law passed in 1976, among those of us who had spent 6 years working on it as a legislative proposal, I think the consensus was that the testing provisions, the control provisions, and the information provisions represented the state-of-the-art environmental legislation. Those are the provisions that clearly have failed under the Act. It was the new chemical provisions that were so contentious through that 6-year period that most of us felt they would have to be revisited—and revisited very shortly—because they probably represented a non-viable compromise. Yet, the new chemical provisions of the Act have been perhaps the most successful aspect of the entire program.

Thank you, Mr. Chairman.

Senator REID. Thank you very much.

I'm going to ask these questions of the panel, and I'll direct the first question to Mr. Guerrero, but if the other two panelists have a response, I would appreciate your just joining in with a response.

I understand that in notifications for new chemicals, the manufacturer submits estimates on exposure and intended production uses.

Can you gauge how reliable these estimates have been—either, you, Mr. Guerrero, or you, Mr. Smith, or anybody?

Mr. GUERRERO. They are exactly that. They're estimates and they can change, and they do change when the manufacturer later on changes the rates of production or change the uses. The premanufacture notices that are given to the EPA are not binding. That is, what they provide to the EPA is the best information at that point regarding how much the manufacturers intend to produce and how the chemical is intended to be used. Production and uses can change significantly and do.

Now, neither I nor EPA can quantify the extent to which production levels and uses do change. The EPA has no way of easily getting information on the changes in production and use, which clearly have an impact on potential for exposure.

Senator REID. Dr. Silbergeld?

Dr. SILBERGELD. There is no way to answer your question because the public is not permitted access to much of this data.

Senator REID. Dr. Muir?

Dr. MUIR. I would like to say that I cannot answer the question either. The EPA cannot answer that question because the agency does not have such information, and I would point out that the law is set up such that these estimates need not be——

Senator REID. That's kind of scary, isn't it?

Dr. MUIR. Well, it——

Senator REID. Well, it is to me.

Dr. MUIR. It does represent a loophole in the law that a company could file a premanufacture notice and an assessment be carried out on that one basis, and then that company or any other company subsequent to that review, could use the chemical in any other use.

Senator REID. Dr. Silbergeld?

Dr. SILBERGELD. I think it's very scary. Other assumptions that somehow we will be protected need careful examination. First off, it's sometimes stated, "Well nobody has been killed by a new chemical that was approved under the PMN program so it must be working."

Senator REID. We really don't know though, do we?

Dr. SILBERGELD. Well, as you know, Senator, it's taken us, what, 60 years to understand that putting lead in gasoline was an extremely dangerous decision on a significant new use of an existing chemical so that's not a very hopeful way. Moreover, the EPA has not been able to fashion out of the existing language of section 8 an effective or advanced warning system which would even give us information that exposures are taking place.

Senator REID. I have stated to Dr. Goldman that maybe there isn't much that we can do about the chemicals that are already on the market place, but I would like each of the three of you to respond to a theory that I have and I expressed this to Dr. Goldman, with the Food and Drug Administration, for example. If there is a product that they want to sell, the burden is upon the manufacturer to show that that product is safe for human consumption.

Why can't we have the same burden on those that manufacture chemicals? Dr. Goldman said, "Well not all chemicals are swallowed; in effect, not all drugs are swallowed or however they're used." But the fact of the matter is, as I indicated, if in fact that's the case, that there would be no exposure to humans, that would be part of the burden of the chemical manufacturer.

Now what's wrong with that theory of mine?

Mr. GUERRERO. Let me respond to that, Mr. Chairman.

In general, I think your observation is that shifting some of the testing burden to manufacturers and users of these chemicals is indeed the way to go. Dr. Goldman said that overseas there is a distinction made between premanufacture testing and premarketing testing. Here we have a premanufacture notice requirement, and Dr. Goldman mentioned that perhaps it might be desirable to move to a premanufacturing type of notification in which case you could require more detailed testing of industry for those select number of chemicals that ultimately do go to commerce. Manufacturers

could, therefore, bear the burden of testing for these chemicals. About half of the chemicals submitted to EPA are never marketed.

So it would make a lot of sense from government's perspective and from industry's perspective to shift that, but then to shift to a premarketing requirement from a premanufacturing requirement.

Senator REID. Yes?

Dr. SILBERGELD. I think your approach is entirely rational. As someone who conducts toxicology research in the laboratory, I don't understand how one could reach any judgments without information. I see no barrier economic or otherwise to requiring something analogous to the OECD base set of the SIDS program for new chemicals. Whether that should be applied at the premanufacturing or the premarketing level is something that might take some useful commentary from industry, labor, and others as to the advantages and disadvantages. But to continue to operate in the absence of information I think is not supportable.

The assertions that in some way asserted lack of exposure can countenance lack of data also need intense scrutiny, particularly given the lack of any real oversight or enforceability related to the information asserting no exposure. I'm sure I don't need to remind this committee that in fact the creation of TSCA was spurred in large part by concerns over the recognition that a chemical for which there was purportedly no exposure because of the way it was used had in fact resulted in worldwide contamination, and that is the polychlorinated biphenyls. I think scrutiny of claims of controlled uses, closed and controlled uses, confined intermediates—Bhophal, for example—need to be examined with a great deal of skepticism, and I would suggest that at a minimum any claim of lack of exposure as a reason for doing less than adequate testing must be backed up by an enforceable commitment by industry to actually monitor for exposure.

Dr. MUIR. Sir, I guess I have a different viewpoint. We've got tens of thousands of chemicals in commerce and hundreds of thousands of different uses, and many, many new ones occurring all the time, and they're at the heart of our economy. I think that, in contrast to a situation where a limited number of pharmaceuticals or pesticides come on the market and could go through an explicit government review and approval process, our economy should dictate something more similar to the process which has worked, I think, relatively well in the premanufacture notice review provisions of TSCA.

But having said that, I think one of the problems is that the burden is on the part of the agency, and I think that it really should be the burden of those submitting the premanufacture notices to carry out an assessment and develop sufficient information to be able to demonstrate that a category of use—and I don't mean specific applications—but broad categories of uses, such as dispersive uses in consumer products or industrially intermediate uses, are appropriate.

Senator REID. So in that regard, you are saying that the burden should shift?

Dr. MUIR. I do think that the burden should shift, and I think that use categories can fit into the amount of information that is reasonable to develop.

Senator REID. Dr. Muir, explain once more how you disagree with Dr. Silbergeld?

Dr. MUIR. I think that, for example, a use which is proposed for some type of closed-system, intermediate application may warrant less testing than something that is proposed for widespread human exposure——

Senator REID. I personally don't disagree with that, but the burden should still be, in my opinion, upon the manufacturer to show to the EPA what in fact will be the use of that product.

Dr. MUIR. No, I quite agree. I quite agree. I think that——

Senator REID. But now that isn't the way it is.

Dr. MUIR. Oh, I agree with you, and my testimony indicates that I think a greater burden should be on the part of people proposing new chemicals to carry out a basic assessment.

Senator REID. Dr. Silbergeld?

Dr. SILBERGELD. I'm not sure if we disagree, Warren, or not, but I think that there is some minimum data set that every new chemical must come into the agency for evaluation with. The stage at which that comes, I think, is open to discussion in terms of efficiency of process. But I don't think any chemical should be allowed into the American environment, including the industrial environment, without some minimum set of data.

Moreover, I believe that assertions related to exposure must be backed up by a bearing of the burden by the party asserting to monitor for such exposure.

Senator REID. I would like the record to reflect that we know of the General Accounting Office and its long involvement in this issue. Dr. Silbergeld, we know, is a scientist who's worked at the National Institutes of Health and taught at the University of Maryland Medical School and Johns Hopkins.

Dr. Muir, for the record, tell us about the Hampshire Research Group.

Dr. MUIR. We're a small environmental scientific and engineering group located in Alexandria, Virginia. I founded it after I left public service in 1981. We are a scientific and engineering computer-programming organization that does most of its work for government and environmental agencies, public interest organizations, scientific and international organizations, around the world, trying to bridge scientific and engineering issues for public policy and public understanding. We have been heavily involved in issues of risk assessment, pollution prevention, and the use of toxics data to promote environmental ends. We've done such things as produce the EPA's Toxic Release Inventory reports, for example.

Senator REID. I appreciate that. I think it's important for the record to reflect the work that has been done by your entity.

Mr. GUERRERO. Mr. Chairman, if I could just add one postscript to this because I believe you started and prefaced your question with some speculation as to whether there could be maybe a different standard for existing chemicals versus new ones——

Senator REID. Yes, we didn't follow up on that. I appreciate that.

Mr. GUERRERO.—and I believe that what we're talking about here is shifting the burden to industry for new chemical testing. Everyone basically concedes the new chemical process works better than other aspects of TSCA. For the existing chemicals, I believe everyone says that the process is not working as well because of the burdens that the EPA has to bear in order to collect the data needed to assess and regulate the chemicals. It's not easy for it to get the data and promulgate test rules. It's a lengthy and expensive process, and involves confrontational issues. That area too deserves a lot of attention, and I think Congressman Synar laid out a general framework in his opening remarks this morning suggesting how we might deal with existing chemicals because we can't ignore them. They constitute about 60,000 of the chemicals out there.

Now, the EPA says only maybe 14,000 to 16,000 of those are of concern——

Senator REID. But that's still a lot.

Mr. GUERRERO. That's still an awful lot, and the EPA does not have the resources to deal with those. If they promulgated 32 test rules over the history of TSCA and there's 14,000 chemicals out there, simple arithmetic will indicate the magnitude of the problem that they're faced with.

So this is an area where I think in Congressman Synar's model there's a lot of merit to looking for improving the testing procedures for existing chemicals. There's a lot of merit to requiring some type of priority setting where those chemicals are looked at as groups and dealt with as clusters based on perhaps use, as the EPA suggested. The EPA could be given a very specific framework in which to do that, and time frames and expectations for conducting those reviews.

Senator REID. My point is from a strictly legal proposition. It would seem to me one standard would relate to the burden of showing that a product you want to use is safe. But if you have these tens of thousands already out there milling around some place—or even using the EPA's figure, there's about 15,000—it would seem to me that this standard of proof would be different for those than the new ones. That's my point.

Yes?

Dr. SILBERGELD. I would be troubled by "different standards of proof," if I understand your phrase, and perhaps if I respond incorrectly, you can help me. I would hope that our criteria for judgment would be the same. The one thing certainly we don't want to do is discourage innovation and the possibility of safer substitutes——

Senator REID. I would agree with that, Dr. Silbergeld. My point is—maybe I termed it wrong, but all of these things are out there floating around some place and we, in effect, have through standard use and practice said that they are out on the market under this criteria. I don't see how you can go back and undo that for the 15,000 things that we have a concern about. For the new ones it's easy to set up a standard. We're simply saying, okay, manufacturer, you give us the proof that this is safe or that it doesn't come in contact with humans.

For those that are already out there, it would seem to me that we, the government, has the burden to show that those are unsafe,

and that's been the standard that we've been working under all this time.

Dr. SILBERGELD. I think that says something about why we're where we are all this time. Certainly, in terms of magnitude of exposure and identified problems, the existing chemicals are the largest concern from the public health perspective. We need only think about substances such as glycol ethers, lead, and many of the solvents to remember that. And it's not always related to production volume, as I would remind Dr. Goldman in considering dioxins. It may not even be intentional production which gives rise to problems of legitimate concern.

I would urge the Congress to consider some of the more innovative approaches to prioritization that have been experimented with by other countries and by the OECD so that we don't get locked into what we could called the "GRAS list approach" to existing chemicals. That is, because it's out there, therefore, we concede that it's generally recognized as safe and we will move on to other problems.

At any point that we introduce a new concept in public health, we are always confronted with the existing world and the burden of making sense of that imbalance between those new opportunities that present themselves for increased vigilance and more efficient action and the enormous burden of what has happened without any particular oversight or efficiency, but we cannot overlook the fact that it's in that disordered world of the existing chemicals that probably the greatest ongoing present risks to human health and the environment reside.

Senator REID. I have no problem with that statement. Mine is one of practicality though.

How are we going to get a handle over those that are already in the market? Would we all agree that for the new ones it should be relatively easy compared to the old ones because we could just shift the burden and say, "Manufacturer, if we're going to be using new compounds, show us that they're okay." It seems to me the new ones would be an easier problem to handle.

Dr. MUIR. Why isn't it possible, Senator, to shift the burden with respect to existing chemicals so that increasingly the people who determine the uses of these materials and specific applications have a greater responsibility for making sure that they're environmentally sound?

We've got large problems with persistent bio-accumulative toxic chemicals in the Great Lakes, for example, and I could see us developing a norm that one should not use such materials, particularly in dispersive applications. I hope and expect that such a norm could be adopted and applied to our industry so that, we can get on with tackling this problem. If we have to wait for the EPA to take up each of these chemicals individually and go through testing to find out whether each chemical does or does not pose unreasonable risk, then I really fear for the Great Lakes. The larger problems are with the existing chemicals, and I hope, as as result of TSCA's reauthorization, that the responsibilities for the manufacturers and producers to use chemicals appropriately would apply not only to new chemicals but to existing ones as well.

Senator REID. Okay, that's music to my ears but listen to what I'm saying here.

Do we all agree that it's an easier problem to solve if we change the burden to new chemicals?

Dr. MUIR. Well, the EPA has a special gate-keeping rule with respect to new chemicals. So with respect to the EPA taking action, yes, it's much easier with respect to new chemicals.

Senator REID. My concern is that we have 60,000 or 70,000 products that are already being used, have been used, or, as the chart shows, aren't used. But they have been put out at one time or another.

I don't understand how we can shift the burden on those. With the new ones it's real easy. I know we can shift the burden on those. We can just say if you want to use these compounds, you have to show us that they're safe. But these other ones are already being used. They've been used—these 14,000 or 15,000 have already been used and they're being used now.

How do we suddenly say, okay, show us that they're safe?

Dr. SILBERGELD. Well, that's exactly what the OECD experiment was, and you're right to indicate this is a very difficult issue because you don't—even if one could magically acquire the powers to shift the burden, the planet would not acquire the resources to undertake the burden.

It seems to me that there are two general principles one might use for applying the same principles to existing chemicals. I would note one of the reasons for doing that is to sustain the EPA's approach to use specific clusters so that the EPA can evaluate the known properties—if we reform the new chemicals part—the known properties of a new chemical in the context of other chemicals already out there for the same use, such as paint strippers. That kind of evaluation would be extremely difficult to conduct in the absence of information on existing chemicals.

But the two principles are, one, the OECD principle which was essentially high production volume chemicals about which we have clearly inadequate data, and so the burden shift was the presumption that above some level—one million tons in production in at least two OECD countries—chemicals should have some minimum amount of information, and the burden was then upon the producing industry to produce that information.

That seems to me to be rational. It's been shown that it works, and that it has produced very useful information. In some cases, that information was enough to simulate national authorities to undertake controls; for instance, finding mutagenic properties of a high production volume chemical. In other instances, it is supporting risk assessment, risk reduction activities. And in other instances, it will probably support further testing but focused rational investments in this universe.

Another way of approaching it is to use structure activity and march through chemicals for properties such as persistence, and, certainly, the Dutch and the Japanese have examined those ways of prioritizing among the universe.

A third way and one that I have often been fond of which has not been implemented anywhere is to more fully exploit surveillance and monitoring systems for signals as to the chemicals that

are actually present in the environment, in the food chain, and within human tissues. It seems to me unconscionable not to understand fully the chemicals that are present, for example, within the human ovary. And if there are significant data gaps on those existing chemicals, it seems to me that that's a rational signal for priority testing.

Senator REID. This is in keeping with what Congressman Synar said: number one, priorities; number two, the criteria after you establish these priorities, and then you would have to have some built-in timetable, as I recall he said; and then I think the last thing is that there would be in effect teamwork among the different statutes.

Dr. MUIR. Senator, I offered a little different idea than has been expressed in any of the testimony thus far as to how this particular problem might be tackled. My view is that we need to develop consensus as to what's appropriate and not appropriate in general to do with materials. These are use categories, by which decisions can be made and responsibilities assigned.

For example, there should be a norm that persistent bio-accumulative toxic chemicals ought not to be used in dispersive uses. There are several such categories that should be reflected as social policies, and those could be included in a statute as a general duty that chemical producers and users should follow, much as the Occupational Safety and Health Act establishes a general duty to business to provide a safe working environment.

If we don't have something like that, if we end up with the EPA still required to prioritize and carry the burden of analysis and with action only through promulgated rulemaking, then we're not going to be tackling very many problems over the next decade.

So I think the basic burden, even with respect to existing chemicals, needs to fall where it belongs, and that's on the people who produce and use these chemicals in particular applications. I believe that a general duty clause in the new TSCA might be a way not only to have that norm as a goal, but also as enforceable policy.

Senator REID. Thank you, Dr. Muir.

Dr. Silbergeld, how do you feel about that?

Dr. SILBERGELD. I guess I'm concerned about such general principles and——

Senator REID. Are they better than what we have now, which is no principles?

Dr. SILBERGELD. It's tempting to think so, but I'm not certain because I do believe that the world of chemicals will always be complex, and there always will be complex judgments made in evaluating risks individually or in groups, and also in comparing risks in terms of making rational judgments as to substitution. And I think that's an important burden that should be sustained within TSCA that is a consideration of great importance particularly in an era of pollution prevention.

I am not certain that general norms would encourage that process or would impede it.

Senator REID. How could it impede it?

Dr. SILBERGELD. Well, one might find, for example, that the specific use of a persistent bio-accumulative substance frees one from enormous uses and dispersions of highly toxic, although rapidly de-

graded, materials. I would not want to be constrained from that option.

Mr. GUERRERO. My Chairman, my observations on that are that I think those type of norms might in fact be helpful, but they're not necessarily the solution. I think they would be useful because one of the problems we suffer from now under TSCA is the absence of criteria in which to make these kinds of judgments. Norms will help us articulate better how we're going to focus our resources and what we're going to focus them on to reduce risk. While I think norms could prove to be helpful, we also need some very specific fixes to different provisions of the law. There's a growing consensus that TSCA's provisions are not very effectively used by the EPA to carry out its requirements under the law, and I would like to make one general observation off of this discussion.

We got on to this notion of how you would deal with existing chemicals differently than you would new chemicals, and I think it's really important as we proceed to look at how to fix TSCA and reauthorizing it that we do make a clear distinction between the new chemical program and the existing chemical program because there are different problems associated with each and the kinds of solutions that we ought to be looking at will be different, to some extent. And I think it's important to keep that dichotomy in mind as we proceed forward and as the subcommittee proceeds forward to develop reauthorization legislation.

Senator REID. I would like for the three of you to put yourself in my position. As you can tell from the attendance here, this isn't a subject that people are dashing all over the Senate to learn more about, and I personally have a lot of other things that I work on. As you know, we've got all kinds of Nevada related issues, we've got health care that we're working on, the crime bill, immigration, welfare reform, and here I'm trying to get from three experts some information as to how we're going to control all of these chemicals that are out there. And I need some guidance as to what we're going to do with these existing chemicals, how we're going to get a handle on it.

We would all agree that we need to do that, right, the three of you would agree to that? How are we go to do it?

You've got, Dr. Muir, an idea. Dr. Silbergeld, you have generalized ideas. I mean, I need some guidance really because you can imagine the problems I'm going to have trying to convince 99 other Senators that this is great for the chemical industry.

Yes?

Dr. SILBERGELD. Well, I think one very simple and certainly proven suggestion to you would be to bring home the SIDS program from the Organization for Economic Cooperation and Development. This is a program in which the U.S. industry, and government, and the environmental community has participated. It works, it is feasible, it is cost-effective, and while it doesn't address all the concerns and problems that all of us have here, it is an immeasurable improvement over the current situation.

Senator REID. Tell me what you think that the SIDS program would do then or this problem I have outlined?

Dr. SILBERGELD. Well, this may be somewhat unorthodox, but I'll ask Charles Auer from the EPA if he would also comment on this

because he's been involved in this as well, and he can correct me if I represent or misconstrue any aspects of it.

It essentially uses the criterion of production volume as an initial finding of the probability of exposure. Above a certain amount of production, no matter what that production is for, there is a presumption that exposure will occur.

Senator REID. Didn't we already establish that production isn't the criteria because——

Dr. SILBERGELD. It isn't the only criterion, but it's better than none, I would say. It won't capture all of the problems. For example, there needs to be specific legislation for such obvious problems as lead.

Having reached that presumption, we then agree that there is a minimum amount of actual information which is essential to making any further decision—whatever that decision might be. That minimum amount of information is embodied specifically in a set of tests which can be conducted and replicated in a range of laboratories, government industry, wherever, around the world and will produce reliable data that can be interpreted. Those data may then support a variety of nationally specific or internationally harmonized actions, but they then place on the table a reliable and consistent set of information for chemicals about which we would probably all agree there is a need to have that information.

I would suggest two things: one is it shows that a simple priority rule can work and can cut down the universe into a manageable amount; and, number two, that in a fairly rapid fashion a defined set of data can be acquired.

Now, the principle of the defined data set could be applied to other prioritization rules including persistent bio-accumulative or any other type of priority one might want to use. So the two parts of the OECD SIDS program can operate separately. I think they're both critically important and the fact that they have been supported by the efforts of U.S. industry and the chemical industry worldwide shows that they are an enormous improvement over our current state.

Senator REID. What effect would that have had if that had been in effect with the Fifth Circuit's ruling on asbestos?

State your name for the record please. And, by the way, I appreciate your help on the lead legislation.

Ms. FLORINI. Thank you, Senator.

Senator REID. State your name for the record.

Ms. FLORINI. Karen Florini, Senior Attorney with the Environmental Defense Fund.

The question of changing the immeasurably problematic situation that now exists under section 6 I think is somewhat different than dealing more extensively with getting initial information which is where Dr. Silbergeld was going with that.

Senator REID. I understand that.

Ms. FLORINI. What we need to do instead is untangle the mess that comes from three factors that now independently exist in section 6—the substantial evidence burden, the unreasonable risk standard itself, and the requirement of least burdensome alternative. We have to separately address how to take at least two, if not all of those, off the table.

Senator REID. That could be changed by statute.

Ms. FLORINI. That could very easily be changed by statute. At the same time, if you're then generating additional real toxicologic data through the SIDS program and incorporating that into TSCA, then that gives the EPA data from which to work in determining which risks need to be addressed under our revitalized section 6.

Senator REID. Thank you.

I have for all three witnesses a number of written questions that I would ask that you respond to at the earliest possible date. This has been an important exchange, and I appreciate your testimony.

Is there anything that the three of you would like to say that you haven't said at this point on things that have come before the committee?

[No response.]

Senator REID. Thank you all very much, and if you would get back within a couple of weeks on the written answers, it would be appreciated.

We're going to introduce a bill this year on TSCA reregulation and reauthorization. I think it's problematic that we'll get anything done this year, but we're at least going to get the statute out and start working on it and having people look at it.

The final panel today will consist of Mr. Ron Condray, Director of Regulatory Management at the Monsanto Chemical Company. He will testify on behalf of the Chemical Manufacturers Association;

And Dr. Braden R. Allenby, Research Vice President, Technology and Environment of AT&T.

I would initially say that I appreciate very much your patience in waiting through the other witnesses that we've had. We intend for it to take so long, but it took longer than we thought.

Gentlemen, you each have 10 minutes if you desire to summarize your statements, and then we'll get into the questions.

We'll first hear from Mr. Ron Condray.

STATEMENT OF RON CONDRAY, DIRECTOR, REGULATORY MANAGEMENT, MONSANTO CO.

Mr. CONDRAY. Thank you, Mr. Chairman.

I'm here on behalf of the Chemicals Manufacturers Association, and I would like to thank you for inviting us here this morning to discuss the Toxics Substances Control Act. We at CMA have a great deal of experience with chemical management including TSCA implementation and look forward to sharing some of our experiences with you today.

In the few minutes that I have this morning, I'll try to give you a sense of how chemicals are managed today and how this compares with the practices of 20 years ago before TSCA was enacted. I will draw on some conclusions about the kind of approach to chemical regulation that we think the government should be taking in the 1990s, and how we are working with the EPA to turn this vision into a reality.

Today, Mr. Chairman, there are dozens of statutes that manage chemicals including statutes like the Clean Air Act, the Pollution Prevention Act, and the Hazardous Materials Transportation Act, just to mention a few. Taken together, these laws affect the way

the chemical industry researches and develops new chemicals, how we operate our facilities, how we distribute goods, how we deal with our customers, how we manage wastes, and how we interact with the public.

Today risk management and pollution prevention are firmly embedded in the chemical industry. Our commitment to risk management is evidenced by our own product stewardship initiative, which is in its second year of implementation. Our commitment to pollution prevention is also clear. Over the past 6 years, CMA companies have reduced emissions to the environment by 38 percent. Today our economy is woven into the fabric of a global economy like never before. Chemical regulation today has more of a multiplier effect influencing other industries around the globe that use chemicals as basic building blocks for virtually every product in commerce.

Today the chemical industry is a global industry in which companies are both multi-national and multi-cultural in their outlook. Corporations are expected to be more open with the public, more responsive to concerns about their businesses, their facilities, their operations, and their plans for future development. We view ourselves not just as chemical manufacturers, but as product stewards. And it's a responsibility that we in the chemical industry take very seriously.

Mr. Chairman, we think it's very important that we consider this information. Doing so gives us some insights into how government should approach chemical regulation. We see a need for a flexible approach to chemical regulation, one that considers the full range of management options from labeling, product information, use and disposal restrictions, all the way up to severe actions such as a ban in the advent of an unreasonable risk. This approach should consider not only the risk, but also the benefits that chemicals provide.

We see a need for a multi-media perspective. The government should have the authority to regulate chemicals to prevent or limit exposure from all pathways. We see an opportunity to create initiatives for risk reduction by reviewing new chemicals and having the authority to take action before they enter commerce. The government can ensure that appropriate risk management practices are put in place.

We see the value of a comparative risk approach so that we, as a society, can focus first on those applications of chemicals that pose the greatest risk. This is especially important in an era of limited resources where it is more important than ever to achieve maximum return for our investments. To us, maintaining a multimedia perspective, providing incentives for risk reduction, setting risk-based priorities, and adopting a flexible program is the right approach for regulating chemicals in commerce. And this is the approach that Congress built into TSCA.

I am not suggesting there aren't real issues in TSCA that need to be addressed—certainly, there are. You raised some of these issues in your letter to us inviting us to testify, problems like the need for additional information on chemicals that can be used in certain applications, problems like too many improper claims of confidential business information. These aren't easy problems to

solve, but we are making progress and working proactively with the EPA to come up with creative solutions.

For example, CMA volunteered over 15 months ago to help develop a way for the EPA to collect much needed exposure and use information from industry so that the agency could make necessary improvements in its existing chemical programs. That project is nearly complete. In an ongoing effort to eliminate confidential business information abuses, CMA held several workshops last year and this year to educate our industry about the CBI process. As a result of these workshops and separate efforts by the EPA, there has been considerable reduction in improper confidential business information claims.

More examples of our ongoing efforts with the EPA are detailed in our written statement. These examples show that we are not just committed to making TSCA work, but that we are committed to responsible management of our products. CMA companies committed themselves to continuous improvement years ago. Our Product Stewardship code, which is our commitment to go beyond the law and reduce risk to levels throughout their product life cycle, is an example of how we are changing with the times.

Any congressional review of TSCA should consider the full impact of these ongoing cooperative and voluntary actions, as well as the other laws that affect chemicals in commerce. That's why we are engaging in a dialogue with all of our stakeholders in TSCA—environmental organizations, labor unions, scientific and technical groups, and State officials, to name just a few. And, yet, even though the way we manage chemicals has changed dramatically in the last 20 years, the core concepts underlying TSCA continue to provide a sound approach, the kind of approach that we think the government should take.

Once again, thank you, Mr. Chairman, for inviting me to testify on behalf of CMA. We are enthusiastic about being part of this process that you have started today.

Senator REID. Thank you very much for your testimony.

Dr. Allenby?

STATEMENT OF BRADEN R. ALLENBY, RESEARCH VICE PRESIDENT, TECHNOLOGY AND ENVIRONMENT, AT&T, PRINCETON, NJ

Dr. ALLENBY. Good morning, Mr. Chairman.

I would like to thank you for the opportunity to testify here this morning on TSCA and how it may be strengthened and improved. I've prepared some summary comments on this issue based on more detailed written testimony, and I would ask that the written testimony be included in the record.

Senator REID. Dr. Allenby, both you and the statement of Mr. Condray in their entirety will be made part of the record, and I would appreciate it if you would summarize your statement.

Dr. ALLENBY. Thank you very much.

Mr. Chairman, my name is Braden Allenby, and I'm the research vice president of technology and environment for AT&T. In that role, I am responsible for integrating technology and environment throughout all of AT&T's products, processes, services, and operations around the world. I am also the technical vice chairman of

the IEEE Committee on Environment, Health and Safety where I'm responsible for creating and coordinating the position of the IEEE on issues involving technology and environment.

Mr. Chairman, I particularly want to commend you for seeking testimony from a representative of the chemical user community. We frequently feel a little bit left out of TSCA deliberations even when they have some impact on us.

I would like to begin by discussing the dramatically different way modern manufacturing firms are looking at materials, which I think may have some significant implications for TSCA. Two basic trends have fundamentally changed the way that we must manage materials:

The first is that market forces have caused us to rely ever more heavily on materials, science and technology for our competitive edge. Products must be designed to be lighter and more energy efficient while providing ever increasing functionality to the customer. Additionally, what we call "time-to-market" has become critical, sometimes even more so than our costs. Add in more efficient manufacturing structures such as "just-in-time" operations, a material's choice and management become critical determinants of competitive success. Moreover, the system becomes much more delicately balanced so that any disruption in material supply can shut down the manufacturing system. So materials issues have become more important for that reason.

The second trend, however, is why we are here today. Eighteen years ago when TSCA was passed, our focal concern was on the toxicity of specific materials. Since then, however, we have become much more knowledgeable about environmental effects, about industrial effects on natural systems, and about the global impact of 5½ billion human beings.

Our major concerns now, as identified by the EPA Science Advisory Board and other expert groups, include such complex phenomena as global climate change, loss of biodiversity, ozone depletion, and degradation of soil and water resources. This is leading to a fundamental change in the way environmental impacts of materials are being defined and managed around the world. It is now apparent, for example, that it is necessary to look at materials across their life cycle if their full environmental impacts are to be understood and mitigated. You have to look not just at your manufacturing processes where you may incorporate materials into a product, for example, but you also have to look at what environmental impacts occur when the materials are mined or initially produced, when they used in commerce and in products, and when those products are dismantled and pieces of them recycled again. If you focus on just one life cycle stage, you will frequently fail to recognize more serious risks posed at other stages.

Moreover, you can't just consider one dimension of a material's impact on the environment. Consider CFCs, an ideal material from a toxicity viewpoint, but they turned out to be ozone depleters—a far more serious problem. So at AT&T we replaced the CFCs used in manufacturing. Sometimes we had to use toxic materials such as chlorine gas to do so, although we obviously used highly engineered and redundant systems when we did.

Was that a good tradeoff for the environment? Obviously, our society thinks so, as demonstrated by the Montreal Protocol. Or consider CO_2, a greenhouse gas. By itself it is nontoxic. Many scientists believe, however, that as it builds up in the atmosphere, it is setting the chemical stage for global climate change.

Another example from the electronics industry illustrates both points. Many people have suggested that lead solders in our industry be replaced by less toxic bismuth alloys. Bismuth, however, occurs in very low concentration in ore so that you have to do a lot more mining and processing than you do with an equivalent amount of lead.

Senator REID. What is that? I didn't understand that.

Dr. ALLENBY. Lead occurs in relatively high concentrations in native ore. Bismuth occurs in much lower concentration. So to get an equivalent amount of bismuth, you have to do a lot more mining and processing of the native ore.

It's even worse though, Mr. Chairman, because virtually all of the world's bismuth is produced as a by-product of lead mining. So if you mine the lead ore to get it the bismuth, what do you do with it? Let it sit there? Go ahead and process the lead ore to get the lead anyway?

The point is not—I must emphasize—that you should not seek alternatives to lead solder. Rather, the point is that you must be careful as you do so, so that you don't create worse environmental problems than the one you are trying to solve.

As these examples demonstrate, figuring out what is best for the environment requires that you look across the entire life of a material and consider a number of potential environmental impacts, not just toxicity. And, indeed, a number of activities around the world show that this new understanding is being acted on. The International Standards Organization, ISO, is actively working on the development of life cycle assessment, environmental labeling, and product-based environmental standards. Understanding life cycle material issues are important elements of each standard setting activity. Environmental labels, such as Germany's Blue Angel, also focus on life cycle materials issues.

For example, the Blue Angel labeling requirements for personal computers would ban the use of brominated fire retardants not because those materials are not safe in the product, but because it is believed that their incineration will cause undesirable combustion products to be emitted. Countries such as The Netherlands, Germany, Japan, Austria, Sweden, Norway, Switzerland, and others are considering similar regulatory approaches. In sum, many areas of the world are moving toward regulations based on the life cycle environmental characteristics of materials.

How are non-chemical manufacturing firms reacting to these changes? At AT&T, for example, we are beginning to develop Design for Environment, or DFE, based on the theory of industrial ecology. DFE integrates environmental considerations into the design of manufacturing processes, products, and even services. Designing a telephone, for example, you might say it should use as little material as possible; it should be easily refurbished so that it can be reintroduced into commerce after its first life; the plastics in it should be marked for easy recycling; toxics use should be man-

aged in light of environmental, technological, and market constraints; and, importantly, the most environmentally preferable material should be used for each application.

A similar refocusing of TSCA in light of our more sophisticated environment knowledge should be initiated. Toxicity should not be the only environmental end point considered to the exclusion of all other environmental impacts. The point, I emphasize, Mr. Chairman, is not to deregulate toxics, but to expand our consideration of the environmental impact of materials to match our increased understanding of environmental perturbations.

Accordingly, TSCA should be refocused. It should produce data and support a regulatory structure which help us understand and move toward sustainable material use in our economy. Not just toxicity but sustainability. That should be the goal of our environmental materials policy. And while TSCA and the EPA will be critical to developing and deploying such a policy, other government organizations must become involved—the Department of Commerce and NIST, the Department of Energy and the National Labs, the Department of the Interior and the Bureau of Mines, for example.

In my written testimony, I have also discussed some of the more particular concerns chemical users have with TSCA as currently implemented. We are concerned about the breadth and ambiguity of what the EPA considers a "processor," which carries with it significant regulatory responsibilities as compared to a "user." We are also concerned about the lack of de minimis provisions in many TSCA programs which result in substantial regulatory burdens being placed on transactions involving insignificant amounts of common industrial materials for no apparent resulting environmental benefit.

But I think these issues can be resolved if, as I suggest, we avoid oversimplistic approaches and recognize that what we need to strive for in our environmental policy is sustainable use of materials. TSCA integrated with Federal programs at DOE, NIST, and elsewhere should be an important statutory support for such a broad government policy.

Mr. Chairman, I'm ready to respond to any questions.

Senator REID. Thank you.

You were present in the room when I asked questions of Dr. Goldman and the other three panelists. Do either of you have any comments in regard to the questions that I asked those panelists?

Dr. ALLENBY. I have one from a user perspective, Mr. Chairman. I think that it is important to recognize that there is a difference between chemicals that are in use and chemicals that are new from the user perspective. Frequently, chemicals in use, as opposed to new chemicals, are already embedded in existing technological systems, be they manufacturing processes or whatever, including capital equipment that is designed based on that chemical. So from a practical point of view, the economic impacts can be very significant with a chemical in use as compared to a new chemical. That does not mean that they should not be looked at if appropriate, but it does mean that there are a number of other considerations which differentiate between the two.

Mr. CONDRAY. I would like to comment, if I could, on the difference between the new chemical program and the existing chemi-

cal program, and I think I heard some of the previous speakers going both ways, some saying that they should be one in the same in terms of regulatory management and others saying that they basically are different. And I fall into the latter case, saying that they should be dealt with differently.

New chemicals and existing chemicals, as you pointed out, Senator Reid, carry very, very different sorts of economic burdens with them. Existing chemicals are in place, they're part of the economic structure, they have a variety of uses, and are quite different from new chemicals that are just coming out of the research laboratory, with uses that aren't well established with markets that aren't well established, and so forth.

In the new chemical area, I think that TSCA has worked reasonably well, and as a company that has submitted premanufacturing notices, I can assure you that the EPA is not an agency that is just falling back and letting all the PMNs going through without appropriate challenge. They do have in place, as Dr. Goldman suggested, a structure activity approach that uses the skills of the staff at the EPA to look into the chemistry and understand the various potential hazard aspects. And SAR, structure activity, cuts both ways—it can both let a chemical go through the process because it's a low risk chemical: It's either very similar to a material that has low toxicity, or low environmental effects, or whatever. Or, it (SAR) can go the other way—it can be a family of chemistry that is a concerned family. Let me assure you that if it's a concerned family, the EPA immediately takes then a worst case scenario and says, well, this could be a hazard, it could have aquatic effects. Therefore, if there are going to be releases to water, you must generate data to show that those releases are not harmful.

There are provisions in there to catch, if you will, the problematic materials. There are likewise provisions to let the low risk materials flow through the process relatively unscathed.

So I think that the way the system is set up in the new chemical area is working reasonable well. There is burden on industry, as I said. If you're in a family of chemistry that's problematic, that data needs to be brought to the table. In fact, there is a policy that the EPA administers that tells you even the kind of volume triggers and the kind of data that would flow with that sort of premanufacturing notice. So it's not as though it's just a blank check and no data goes in. It actually does go in with some surety.

On the other side of the equation in the existing chemical area, the problem that I see with that activity is that there has been difficulty in setting a systematic approach to weeding out the 16,000 chemicals that Dr. Goldman suggested, which ones really need additional data, which ones really need to have assessment, and which ones really need risk management or control. And that process of screening and selecting is one that we've been dialoging with the EPA at CMA now for a year or so on saying that we need to be looking at what are some common criteria. How do we take 16,000, apply our resources to the group of those chemicals that really need attention, and put the others on the shelf for future evaluation? In other words, let's work on the ones that need the priority attention.

And that's been difficult because the EPA is basically mandated to some extent by the statute and other inputs that they have to respond to the crisis of the hour, if you will, and so their resources tend to get drained to the crisis rather than having the time to really systematically approach the priority issues.

So on the existing chemical side that's where we at CMA are encouraging the agency, to put in place a systematic approach, let's take the existing data, and where data is needed to fill in the gaps in the systematic approach, let's generate it and go forward. Dr. Silbergeld made reference to the OECD program. In many ways the OECD program is a systematic approach. It picks out some high priority materials, takes high production volume as a surrogate for exposure, and says OK let's start working on these. As Dr. Silbergeld pointed out, we in industry have supported the OECD SIDS program, and that's a systematic way that the EPA could use to help with its enormous problem in dealing with the existing chemicals.

Dr. ALLENBY. I guess, if I could, Mr. Chairman, I would also want to comment on the EPA concept of user cluster, which I think OPPT needs to be commended for. When we look at a chemical in a manufacturing industry, in a manufacturing context, we don't look at it as a single entity. We look at it as providing a function. So we look at the range of functions that we need, and that gives us a range of choices of materials, and then we try to select the best one. What we're doing now is we're putting environmental characteristics in as one of the criteria for determining which material is the best for particular uses.

That leads us to ask a number of questions, such as what is the energy that is embedded in this material, what is its recyclability, what are its characteristics—a number of not just environmental, but technical questions that very strongly define its environmental impacts across its life cycle. It's a very, very complex process. Even a company like AT&T doesn't have a lot of the data that are necessary, but we need those kinds of data as well as a more traditional data on toxicity because they all feed into an overall assessment of what material is environmental preferable.

Senator REID. How do you both feel about switching the burden of proof to the manufacturer rather than with the EPA?

Mr. CONDRAY. Let me comment, if I might. As I pointed out, there is now a burden on the manufacturer within the EPA new chemical program. If through the structure activity or if through the policies that the agency has for screening chemicals they have concern about the chemicals.

Senator REID. But that isn't my question.

Mr. CONDRAY. I understand.

Senator REID. My question is I believe that—and we'll just limit this to new products now.

Mr. CONDRAY. Okay.

Senator REID. The burden should be on the chemical manufacturer to show that that product is safe.

Mr. CONDRAY. Very much like it is in the FDA to show that the new pharmaceutical is safe.

Senator REID. That's right.

Mr. CONDRAY. Monsanto is a manufacturer of some agricultural products, and so we have some experience with FIFRA, which has the burden of proof on the manufacturer to get a material through the FIFRA registration process. Our experience would say that it takes 7 years from the time that we make our first initial submission to the EPA until we get approval of a FIFRA registration for one of our agricultural chemical products.

Senator REID. But isn't that a problem with the government in that they're understaffed?

Mr. CONDRAY. I don't think so. I think we must prove the material is safe. This is a very difficult scenario. So part of that is trying to make sure that every question that can be asked by government is addressed and addressed with data and information, and that is just the way that the process works. So if that same process were applied to the industrial chemical sector, we would see an enormous erosion of new chemical innovation. New chemicals coming down the road cannot carry that economic burden of, A, 7 years of development, and, B, a toxicity testing cost of up to $2 million, especially at the premanufacturing stage. Before you've actually even got the customers lined up to have that burden placed on a new chemical, would seriously erode the ability to bring new chemicals to market.

Dr. ALLENBY. I guess, Mr. Chairman, I agree depending on how it is carried out. What I mean by that is I think you also need to look at what you're replacing as you bring out the new materials. One of the things we have found is that in general—and I have to admit much of this is not because of environmental planning, but is fortunate happenstance—we're finding that our new products overall in the electronics industry are more energy efficient, more dematerialized, and provide more function than the ones they replaced. I think that the trick is in how we define what is environmentally preferable, what is safe. Do we define safety just in terms of acute toxicity for human beings, or does it include aquatic toxicity as well. Does it include contributions to global climate change? We need to understand what environmental impact it is that we're addressing in the regulatory program. If we had had to move away from some of the uses of CFCs without being able to use chlorine gas in closed systems, it would have been technologically very, very difficult.

So the question would probably be how can we put such a burden on manufacturers while retaining the ability to evolve environmentally preferable technologies and technological uses? If it is done in a way which reflects the complexity of the environmental perturbations that we're trying to manage, I think it's a reasonable approach. My concern arises when we link it to only one end point, which means that we optimize on that single end point without considering the other range of environmental impacts.

Senator REID. How would both of you rate TSCA, as a success or a failure?

Dr. ALLENBY. I think all of our environmental statutes when they were first contemplated grew out of an implicit mind set which focused on specific effects, specific waste dumps, specific air sheds, specific rivers, and in the case of TSCA, specific chemicals.

I think what we are now understanding is that we need to be more sophisticated if we're really going to address the environmental impacts we're having on our planet. I think TSCA was and is probably one of the better statutes in terms of the way it was initially created and the way it functions, but I think it has fallen behind the state of our environmental understanding, and I think we need to move forward.

Mr. CONDRAY. In my analysis, I would rate TSCA as a success in terms of changing the basic ethic of industry. It has caused industry to do more self-evaluation, more internal assessment, more internal testing, more risk management, and this is exemplified through the Product Stewardship initiative that I referred to at CMA. When that is dissected and looked at in some degree, it has many of the characteristics of TSCA that is now embedded in the voluntary program.

Senator REID. Can CMA take any action against a member company which operates in contradiction to the principles of a Product Stewardship code?

Mr. CONDRAY. If a company is unwilling to sign on to the code, CMA can exclude that company from CMA membership, yes. And I believe that's happened in one or two cases.

Senator REID. What benefits are there in CMA membership?

Mr. CONDRAY. Well, certainly, the ability to say that I am a responsible company and I adhere to the Responsible Care codes of CMA is a very powerful market place initiative. Our customers are asking for that. Our customers want to know are we being responsible, our suppliers want to know are we being responsible, and by being able to come under that umbrella of Responsible Care, that is a strong incentive for companies to do that.

Senator REID. What percentage of chemical manufacturers and processors does CMA represent?

Mr. CONDRAY. I don't know the exact number. I can get back to you——

Senator REID. But is it 50 percent, 40 percent?

Mr. CONDRAY. It's 90 percent of the production capacity, but I don't think it's a large percent. It's basically the larger companies, but there are other smaller companies too. However, a number of smaller companies belong to the Synthetic Organic Chemical Manufacturers Association, and they too are signatories to the Responsible Care program. It does not extend to many users, and I think that's an area that we feel is a concern area and one that we really think we need to broaden significantly to bring both manufacturers, processors, and users under the same network.

Senator REID. TSCA is directed primarily at manufacturers, not customers who must use chemicals to create the product.

Do you think such customers have a different perspective on chemical and chemical use than chemical manufacturers, either one of you?

Mr. CONDRAY. Let me speak from a manufacturer perspective, and then Brad can address the user perspective.

As a manufacturer, we feel that users probably do have a different perception and a different understanding of chemicals. As manufacturers, we, A, have been under the regulatory regime for some years; B, we deal with the chemicals in high volumes and

other potentially hazardous sorts of activity. So we are geared to basically managing those risks and understanding those risks to a high degree.

Users, especially small companies, especially what you might say are the mom and pop sorts of companies, have to rely really on their suppliers and that's why we as product stewards now are saying we really have to make sure when we sell a chemical especially if we're selling a chemical to a small manufacturer, that we make very clear that the user knows what the hazards of that chemical are through a safety data sheet, that they know how to handle that chemical, and how to dispose of that chemical. And if they do not, our Product Stewardship code goes as far as to say that we should not be doing business with that user, or that we really take whatever means is necessary to bring that user into the fold.

So it's an assumption on our part that especially the very small users do not have the knowledge, resources and possibly the handling sophistication.

Senator REID. Dr. Allenby?

Dr. ALLENBY. I think that's right, Mr. Chairman. I think when you're dealing with a company like AT&T or IBM, it's a different universe than when you're dealing with, say, the printing industry. The reason being that in many cases the larger firms have an internal ability to determine what materials to use within limits. Whereas with the very small companies, especially when you have sectors full of small companies such as the printing industry, they pretty much have to be material takers. They don't have a lot of independent R&D capability. They pretty much have to take what they're given.

I should note, by the way, that OPPT has recognized this and it forms one of the bases for their allocating their resources, and I think that's entirely appropriate. So it depends very much on what kind of user you're looking at.

Senator REID. What do you see as the role for government in the design for environment approach that was talked about by you, Dr. Allenby in your written statement?

Dr. ALLENBY. I think the government has a role in several ways. The first is there is an enormous amount of data which extend across the economy as a whole that are not available. The result is that although we would like to choose environmental preferable materials whenever we have a design choice, we frequently don't know which material is preferable. There are some cases where it's obvious, but there are a lot of other cases where it's not. So developing those kinds of data are certainly one role.

The second role is prioritization, and here the example of superconductors is a good one. Superconductors, when we finally get large scale commercial production, will undoubtedly be toxic. If nothing else, they're probably have copper in them, which is an aquatic toxicant, and most of the current superconductors now have other things in them—thallium, for example—that are more toxic.

On the other hand, superconductor technology offers the possibility of substantial improvements in our energy consumption and energy efficiency.

So the question is which is a more important end point, the toxicity of the materials in the superconductor, or the potential savings in energy consumption with concomitant effects on global climate change.

We don't have any way of answering that. Establishing these priorities is a social decision, and it should be a consensus decision of society, as represented by government. As yet, we don't have any such prioritization, and that makes it very difficult because you don't know what the end point of your choice should be. And that's a very important role that I think people in government have been a little concerned about taking on.

Senator REID. What incentives can be provided that would encourage industry to incorporate environmental preferable materials and processes?

Dr. ALLENBY. I can think of at least two that have not been used to the extent they should have, although they're being looked at and implemented now.

The first is procurement. Procurement practices should be changed to establish within the state-of-the-art a requirement that environmental preferably products have an advantage in any kind of bidding process. It's difficult to determine in practice, but that should be a policy.

The second is standards and specifications. The biggest barrier to the American electronics industry in getting out of CFCs, for example, was Military Specifications and Military Standard. And because many of those were created in times when our concern about the environment was not as great, they do not reflect the environmentally preferable choices of technologies. We could do a lot by looking at those two areas alone.

Mr. CONDRAY. I would just like to echo the mill specification issue. That very clearly sets the parameters for many of our customers, and that is the specifications set by government through the military process, the DOD system, and they're very specific and highly regimented. And that would be a real incentive, I think, to go and revisit and revise those, and I know DOD has talked about that but I don't think they have actually gotten into the process of doing it.

Senator REID. Thank you very much for your testimony. You've been both very helpful.

Mr. CONDRAY. Thank you, sir.

Dr. ALLENBY. Thank you, Mr. Chairman.

Senator REID. The subcommittee stands in adjournment.

[Whereupon, at 12:15 p.m., the subcommittee adjourned, to reconvene at the call of the Chair.]

[Statements submitted for the record follow:]

STATEMENT OF HON. MICHAEL L. SYNAR, U.S. REPRESENTATIVE FROM THE STATE OF OKLAHOMA

Mr. Chairman, thank you for holding this important oversight hearing and for giving me the opportunity to testify today on the subject of the Toxic Substances Control Act, or TSCA. During my time as Chairman of the House Government Operations Committee's Subcommittee on Environment, Energy and Natural Resources,

we have held five oversight hearings and requested numerous GAO reports on TSCA-related subjects.

Unfortunately, whatever the subject of the hearing or report, the findings were always the same—TSCA has largely failed to live up to its mission. In fact, the Act is EPA's biggest under-achiever.

Of all the major environmental statutes of the 1970s, TSCA has changed the least. Its original missions and requirements have remained the same for the past 18 years, even though TSCA has been used as a vehicle for additional responsibilities which fit nowhere else in EPA—such as the regulatory programs for asbestos, radon and lead-based paint.

Yet in some ways TSCA is EPA's most modern statute. Congress enacted TSCA "to prevent unreasonable risks of injury to health or the environment associated with the manufacture, processing, distribution in commerce, use, or disposal of chemical substances." In other words, pollution prevention—a very advanced idea for 1976.

Under the terms of the Act, the Agency was given "the means for discovering adverse effects on health or environment before manufacture of new chemical substances", and was given a wide range of tools for regulating problem chemicals, before manufacture, from warning labels to outright bans.

At least on paper, TSCA contains strong provisions for dealing with new and existing toxic chemicals. Section 8 contains EPA's broadest authority for requiring industrial reporting and recordkeeping, an authority which has been borrowed by other programs and agencies whose information-gathering powers had proved less effective. Section 4 gives the Agency the power to require tests on any of the over 60,000 chemicals in existence when the law was enacted, and section 6 sets up a scheme for regulating those existing chemicals which present an unreasonable risk of injury to health or the environment.

So why has the Act proved such a disappointment and what can we do to make it work for the public?

First, EPA has issued only about two dozen test rules in 18 years for existing chemicals and almost none since 1989. Comparatively few chemicals have been identified as potentially harmful, fewer have completed testing, and almost none has been subjected to any form of regulation. Even worse, as our subcommittee's 1992 TSCA oversight hearing showed, when a problem is found, there is no guarantee that EPA will take timely action on it to protect public health or the environment.

In one case examined during that hearing, EPA had received test data in 1984 on a chemical to which 800,000 workers were exposed at high levels. But it was 7 more years before EPA sent the test summaries on to the Occupational Safety and Health Administration (OSHA).

The section 8 information provisions are weakened by overly burdensome Confidential Business Information requirements. In fact, it is easier for a contractor in EPA's mail room to get clearance to see TSCA data than it is for a Governor. And company claims of confidentiality have even extended to articles from the New York Times and advertisements.

EPA badly needs to set priorities for which of the 60,000 existing chemicals it should test. And once chemicals are tested, EPA needs better criteria to decide whether to take regulatory action. Only a small percentage of chemicals on the list will even need screening data and even fewer will need a complete set of tests. Clearly, the current Act is not getting the job done and Congress is going to have to consider mandating timetables for testing and evaluation.

Congress must also address the issues raised by the U.S. Court of Appeals for the Fifth Circuit's decision in the Asbestos case, or else risk having an unworkable program for existing chemicals under section 6.

Section 5's new chemical program is TSCA's greatest success story. But we need to review the program to get the most useful data while encouraging the use of safer products. And we may need a way of taking a second look at these chemicals in the future if they are made in large volumes.

Finally, at a time of limited funds for EPA we must insure that TSCA works well with other EPA programs. TSCA and the Toxic Release Inventory (or TRI) must fit together. The TRI should serve as an early warning system for TSCA, alerting the

Agency to high release chemicals that may need more study. And TSCA section 8 can be used to get additional information not covered by TRI.

TSCA should also be used more effectively with other EPA statutes such as the Clean Air and Clean Water Acts as a way to deal with an entire industrial facility at one time. The Amoco Yorktown Refinery experiment points out that "whole facility" regulation can be much more cost effective that pipe-by-pipe solutions.

Fixing even a few of these problems would be a tall order for any subcommittee. Mr. Chairman, I'd be pleased to join you in trying.

STATEMENT OF LYNN R. GOLDMAN, ASSISTANT ADMINISTRATOR, OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES, ENVIRONMENTAL PROTECTION AGENCY

Mr. Chairman and distinguished members of the subcommittee, I am Lynn Goldman, Assistant Administrator for the Office of Prevention, Pesticides and Toxic Substances (OPPTS) of the U.S. Environmental Protection Agency (EPA). I welcome the opportunity to talk to you today about the Toxic Substances Control Act (TSCA).

When TSCA was passed in 1976, there were a great many expectations about the statute. It offered a promising mechanism to improve our understanding of chemical risks and address these risks in a comprehensive multi-media framework. But, for a variety of reasons, many believe TSCA has not been able to fully live up to these expectations. It is ironic, then, that TSCA has not been the subject of significant legislative action since its passage. In fact, TSCA is probably the EPA statute that has seen the least change in the last 20 years.

Since TSCA has not attracted the level of Congressional interest over the years that it warrants, we are, encouraged by your interest in TSCA and in making it a more effective and current statute. Your effort, Senator, is timely, especially now that our work takes place in a world with a much broader environmental ethic but a Federal government that faces more limits in its capacity to respond to the large number of public concerns.

Today, I will go through some of our lessons learned over the last 18 years and discuss some of our accomplishments. From there, I will move to a discussion of our vision for a successful toxics program, one that incorporates pollution prevention and right to know concepts. These two concepts are the basis for several key issues that I will lay out for your consideration as you consider legislative changes.

I. ACCOMPLISHMENTS AND LESSONS LEARNED

The Office of Pollution Prevention and Toxics (OPPT) within OPPTS is responsible for implementing TSCA. TSCA has four general goals: (1) to gather information on chemicals produced and circulated in commerce; (2) to identify and require further testing of chemicals that may present risks; (3) to screen new chemicals that have proven or may prove to present a risk; and (4) to control the production and commercial distribution of chemicals proven to present a risk. To implement TSCA, OPPT has established three areas of concentration: chemical testing, existing chemicals, and new chemicals. Each focuses on reducing potential health and environmental risks posed by chemicals.

Chemical Testing

The Chemical Testing Program was established to carry out the policy expressed in §2 of TSCA that adequate data should be developed with respect to the health and environmental effects of chemical substances and that the development of these data should be the responsibility of chemical manufacturers and processors.—Since the enactment of TSCA, OPPT and the Interagency Testing Committee (ITC) have reviewed about 50,000 of the 70,000 chemicals listed on the TSCA Chemical Substances Inventory to determine testing needs. In recent years, the ITC has concentrated on identifying and designating chemicals for action under TSCA §4 to meet specific data needs of the agencies represented on the ITC.

As a direct result of years of chemical screening efforts, OPPT has determined that its efforts to identify candidates for testing or risk assessment should focus primarily on the approximately 16,000 non-polymeric TSCA Inventory chemicals that

are produced at levels of over 10,000 pounds per year. EPA employs hazard-based and exposure-based screening techniques to identify priority testing candidates from among this 14,000-chemical subset.

Over the past several years, the General Accounting Office (GAO), the Congress, and others have noted a number of shortcomings in the testing program, the most significant being a lack of productivity and the absence of a clear agenda for testing. In response to these criticisms, the Agency developed and instituted a series of management reforms that have accelerated the completion of testing actions and improved the program's focus on meeting priority testing needs.

The first of these reforms is an effort to expand testing by not only utilizing TSCA §4 Test Rules, but also using new tools negotiated Enforceable Consent Agreements (ECAs) and voluntary testing programs.

Enforceable Consent Agreements are used when chemical manufacturers or groups of manufacturers agree to conduct testing under the potential sanctions of TSCA. OPPT is currently developing ECAs for over 20 chemicals. In July 1992, OPPT announced an "open season" to encourage chemical manufacturers and processors to submit offers to enter into Enforceable Consent Agreements to test chemicals for which OPPT had not yet issued final testing actions. OPPT received and evaluated 22 testing offers covering 12 individual chemicals and 4 chemical categories.

Voluntary testing initiatives are proactive efforts to enter into voluntary testing agreements with industry. A voluntary program of particular importance to EPA is the Organization for Economic Cooperation and Development (OECD) Screening Information Data Set (SIDS) program. The OECD/SIDS program is a cooperative international effort to obtain test data for international high production volume (HPV) chemicals. Responsibility for testing individual chemicals is allocated among the OECD countries through a gross national product (GNP)-based formula. The United States is responsible for testing 25 percent of the SIDS chemicals; other OECD countries are responsible for the balance. Prior to the SIDS program, the United States was conducting more than 90 percent of the world's chemical testing. The SIDS program provides an opportunity to "share the burden" of testing among all OECD countries. And we believe that the screening level data that will be gathered will be key to our long term strategy of assessing high volume chemicals in commerce. Since the OECD/SIDS program began several years ago, work has been initiated or completed on over 230 chemicals: testing and assessment by OECD have been completed on 25 chemicals; more than 50 chemicals have completed SIDS testing and are awaiting OECD review; and testing is underway on almost 70 chemicals. Testing on over 85 additional chemicals will be initiated during the next year. The fact that over 95 percent of the OECD/SIDS-HPV chemicals are in U.S. commerce makes this voluntary international testing program a very important component of EPA's domestic chemical testing program.

Enforceable Consent Agreements and voluntary testing initiatives all clearly lower the transaction costs for government and the regulated community alike. These mechanisms may provide opportunities for industry to offer balanced programs combining testing activities with pollution prevention and product stewardship efforts. These are two examples of the potential benefits of these approaches. We have negotiated a voluntary product stewardship program, via a formal Memorandum of Understanding (MOU), with the major manufacturers of the diglydicyl ether of bisphenol A. This MOU, which is an adjunct to testing that will be conducted via an Enforceable Consent Agreement, is expected to be signed by all parties in the very near future. The stewardship program includes pollution prevention, waste minimization, exposure reduction, and health and safety data communication activities by the manufacturers. A second example concerns cyclohexane where, as part of the consent agreement, manufacturers will work with their customers over the next 5 years to reduce emissions of cyclohexane and will report back to EPA on their efforts.

Our formal TSCA §4 rulemaking activities, although somewhat cumbersome, are continuing as well. In July 1993, we promulgated a TSCA §4 Multi-Chemical Neurotoxicity End-Point Test Rule covering 10 chemicals. In October 1993, however, we were sued by the Chemical Manufacturers Association; settlement was reached

earlier this month. We also promulgated a final TSCA § 4 Test Rule in October 1993 on four chemicals of interest to EPA's Office of Drinking Water and were sued by the manufacturers of two of the four chemicals; settlement negotiations are underway. In November 1993, we issued a proposed TSCA § 4 Test Rule for five chemicals designated for testing by the TSCA ITC. These rules are cumbersome to prepare because of the specific findings that the Agency must make and because of the inevitable delays in the rulemaking process. However, I consider the Agency's ability to issue test rules to be critical for assuring the public that adequate testing will be carried out.

Since the TSCA Chemical Testing Program began more than 15 years ago, there have been:

386 chemicals in TSCA § 4 Proposed Rule-Makings (PRM)
255 chemicals in TSCA § 4 Decisions Not to Test (DNT)
24 chemicals in Negotiated Testing Agreements (NTA)
121 chemicals in TSCA § 4 Final Rule-Makings (FRM)
35 chemicals in Enforceable TSCA § 4 Consent Agreements (ECAs)
230 chemicals in Voluntary Testing Agreements (VTA).

If we focus on the period since 1988, when EPA first started to deal in earnest with GAO and Congressional concerns about the general lack of productivity of our Chemical Testing Program, most of our final testing actions have involved and voluntary testing agreements (200 chemicals). Over the same period, 61 chemicals were the subject of final TSCA § 4 Test Rules, and 69 chemicals were the subject of TSCA § 4 DNTs. A smaller number (34 chemicals) were tested under ECAs.

Currently, OPPT is developing proposed testing actions for more than 200 chemicals and final testing actions for over 150 chemicals. During this fiscal year, we expect to have over 200 chemicals undergoing testing as the result of the efforts of our Chemical Testing Program; more than 50 chemicals are expected to complete their testing programs during this fiscal year. All of the test results will be evaluated in our TSCA Existing Chemicals Program "Risk Management" (RM) process. Thus, we are working to integrate our testing and existing chemicals programs.

The second strategic change to the Chemical Testing Program is the development of a Master Testing List (MTL). The MTL establishes a clear agenda of priority testing needs identified by EPA, other Federal agencies, the ITC and the international community. The MTL also allows OPPT to focus its limited resources on the highest-priority testing needs and to encourage chemical industry initiatives to conduct testing to address and fill the priority data needs identified on the MTL. In addition, OPPT uses the MTL to keep the public informed about OPPT's testing priorities and to solicit public input into OPPT's Chemical Testing Program. The MTL currently contains over 400 chemicals and 10 categories of chemicals. Testing actions are underway for virtually all of the entries on the list.

The Agency recognized the success of these management reforms in correcting the deficiencies identified by GAO with its 1993 decision to lift the testing program's Federal Management and Financial Integrity Act (FMFIA) "material weakness" designation. Nevertheless, while the program has successfully dealt with a number of problem areas, issues and concerns remain. In essence, even at the accelerated level of testing we see today we still are not closing the testing gaps at a pace originally envisioned by TSCA. The statute puts a significant burden on EPA, both in the findings it must make and the processes it must use, to obtain needed test data. Once issued, these rules have faced substantial litigation. In short, these are high transaction costs. Although Enforceable Consent Agreements and voluntary approaches, which are not mechanisms explicitly recognized in the statute, can do much to meet the testing needs of the government, a more effective and efficient procedure for promulgating testing requirements would significantly strengthen our ability to obtain priority test data in a reasonable timeframe.

Existing Chemicals

The original thrust of the TSCA existing chemicals program was to identify and manage unreasonable risks presented by individual chemicals. In recent years, the program has been greatly influenced by the concept of pollution prevention and experience gained through the Toxics Release Inventory (TRI). The existing chemicals

program of the nineties incorporates principles of pollution prevention and right-to-know to yield a toxics program very different from what was originally envisioned. The existing chemicals program, now applies three complementary approaches:

1. The chemical-specific approach addresses an individual chemical of concern, such as formaldehyde. Since 1990, the Existing Chemicals Program has completed 119 RM1 cases involving 494 chemicals. Of these 494 chemicals, 12 cases involving 73 chemicals went on to more in-depth analysis.

2. The use- or technology-specific approach addresses groups of chemicals used for particular purposes (for example, paint stripping) or in a particular technological process (for example, printing). We are currently working on 6 use clusters which address 276 chemicals.

3. The facility-specific approach focuses on facilities, rather than individual chemicals. Since we have begun facility specific analysis in 1993, we have been completed 5 cases.

Each of these approaches is aimed at reducing or eliminating significant risks to human health and the environment, using pollution prevention as the preferred approach. EPA believes that a preventive approach should be favored because it is most likely to produce cost-effective strategies for reducing risks. Over the past year, OPPT has completed or launched initiatives using each of these approaches.

A recent formaldehyde initiative is an example of the chemical-specific approach. In December 1993, the National Particleboard Association agreed to fund a year-long study, at a cost of more than $400,000, focused on characterizing formaldehyde concentrations in new housing. This pilot study will evaluate a testing methodology for use in a follow-up effort to evaluate the contribution of pressed-wood building materials and cabinets to elevated levels of formaldehyde in indoor air. This new voluntary testing effort builds on voluntary action by industry to reduce formaldehyde emissions from particleboard flooring products. Industry recently incorporated reduced emission standards into an American National Standards Institute (ANSI) standard used in national and regional building codes.

An example of a use-specific approach is the consumer/small shop paint-stripping use cluster project. Nearly all paint strippers present some type of health, safety, or environmental risk. This project, to be completed this fall, involves identifying and comparing the risks associated with 45 chemicals commonly contained in consumer oriented paint—stripping products.

Using the facility-specific approach, initial OPPT analysis of TRI data revealed that four industrial facilities were responsible for most of the nationwide releases of a heavily produced chemical—1,2-dichloroethane—which EPA has classified as a probable human carcinogen. Follow-up analysis and investigation narrowed EPA concern to a single facility in Indiana. Information obtained by EPA indicated that reductions in releases of this chemical reported by that facility had not in fact occurred. EPA and the State of Indiana are presently taking action to ensure that releases from that facility are reduced to acceptable levels.

In addition to efforts to improve implementation of the existing chemicals program, we have developed a bold new approach to increase the compliance with TSCA Section 8(e), a critically important information-gathering tool that serves as an "early warning" mechanism for keeping the Agency apprised of significant new chemical hazards and exposures, and for satisfying the public's right to know about these hazards.

In reviewing a number of enforcement cases, we found that some companies may have been misinterpreting TSCA Section 8(e) and EPA's corresponding policy. They appeared to be improperly discounting the significance of information on the basis of a "weight-of-the-evidence" risk assessment, despite our longstanding policy that if certain serious health effects are discovered, that information should be considered for immediate reporting to EPA without further evaluation. Companies that fail to report "substantial risk" data undermine the Section 8(e) advance reporting intended by Congress.

To improve compliance with Section 8(e) reporting requirements, EPA initiated a voluntary Compliance Audit Program (CAP). Under the CAP, participating companies submitted delinquent Section 8(e) information and paid stipulated penalties up to a $1 million ceiling. EPA has received over 10,000 Section 8(e) notices under the

CAP (approximately 1,300 notices were received prior to the CAP, 1977–1991). Through a "triage"-type review system, which highlights the most serious risk concerns among the reported information, we are able to process and evaluate about 4,000 submissions annually. While it is a challenge to screen the data, we believe the CAP program will give us and the public a much better picture of the toxicity of existing chemicals. We have much follow-up work to do on the 8(e) CAP program to ensure that there is appropriate enforcement follow-up where companies did not participate voluntarily.

The risk management process for existing chemicals allows us to consider possible action by other Federal agencies. Under TSCA Section 9 there is a formal regulatory procedure for referring EPA's chemical risk determinations to other agencies for consideration that has not always been very effective. We have found that coordination efforts are more effective. For occupational health issues, we developed a forum to bring together senior officials from the Occupational Safety and Health Administration (OSHA), the National Institute of Occupational Safety and Health (NIOSH), EPA, and the Mine Safety and Health Administration (MSHA), called the ONE (OSHA, NIOSH, EPA) committee. We helped establish a similar forum for interagency cooperation between EPA and the Consumer Product Safety Commission (CPSC). These fora provide a way to exchange information and identify possible risk reduction strategies and opportunities for regulatory coordination for chemicals of mutual concern.

In short, the existing chemicals program of the nineties is a more productive and more flexible program than its predecessor. Its mission has expanded to incorporate pollution prevention as an integral part of program activities. Today's existing chemicals program can accommodate a far broader range of initiatives and effectively address a far greater number of chemicals than ever before. Development of the use cluster approach has allowed us to address large numbers of chemicals in a systematic way aimed at maximizing risk reduction and preventing pollution. The availability of TRI data has made it possible for us to focus in on facilities with large releases of certain chemicals. Programs to strengthen our TSCA-mandated information-gathering role, such as the 8(e) CAP program, have improved our knowledge of—and therefore our ability to address—chemical toxicity and risk. Activities like these are representative of the new directions the program has taken and is continuing to take. Reducing risk from existing chemicals continues to be at the core of the program, we now see preventing pollution as the central strategy for achieving that objective. Like our mission, the tools and strategies today's program is developing and using go significantly beyond what TSCA explicitly requires.

New Chemicals Program

In addition to the existing chemicals program, TSCA created a new chemicals program. Section 5 of TSCA requires that anyone who intends to manufacture or import a new chemical substance in the United States notify EPA 90 days before commencing that activity. We are proud of our efforts in the new chemicals program for two reasons: First, the program has been tremendously productive over the years in reviewing thousands of new chemical substances. Second, by evaluating risks and making decisions before a substance enters the marketplace, the program offers perhaps the most cost-effective means of pollution prevention under TSCA. We believe the program has been extremely successful in keeping harmful substances out of commerce.

The Government's new chemicals program is unique in that it requires review of chemicals prior to manufacture rather than prior to marketing as in most other countries with such systems. Since 1979, the new chemicals program has reviewed over 24,000 new substances, including some 19,000 premanufacture notices (PMNs) and over 5,000 low-volume, test-market, and polymer exemptions. Meeting the 90-day (or shorter) review period for this high volume of submissions—over 2,000 notifications annually—is a continuous challenge. Of the chemicals for which PMNs are submitted, however, only about half make it to the marketplace and only a fraction of these appear to be produced at levels above 10,000 pounds per year. EPA has found reason to take action on about 5 percent of the PMNs submitted for review;

companies have voluntarily withdrawn their notices, often in the face of possible regulatory action, on an additional 5 percent of PMNs.

TSCA Section 5 gives EPA several possible options for action when the Agency determines that a new chemical substance may pose an unreasonable risk or have significant production volume and exposure potential.

In some cases, EPA requires that additional test data be developed to address Agency concerns about the chemical. During the testing period, the Agency may allow controlled use of the substance through the negotiation of a Section 5(e) consent order. We have found this to be a successful vehicle and have signed over 600 Section 5(e) consent orders with industry since 1979. Some of the orders require specific tests by specific times, while others provide for disposal controls and worker protection.

In cases where EPA determines that the potential unreasonable risk from exposure to a chemical cannot be mitigated by a Section 5(e) consent order, the manufacturer or importer may choose to suspend further EPA review of the substance and voluntarily undertake additional testing to address Agency concerns. This course has been chosen for over 250 PMNs. Section 5(f) of TSCA allows the Agency, where EPA determines that the new substance will present an unreasonable risk, to prohibit its commercial development or use. This prohibition has been applied to 4 PMNs.

The new chemicals program has expedited the review process for chemicals by developing PMN exemption categories implemented under Section 5(h) (4) of TSCA. EPA has determined that low-volume chemicals (produced in amounts less than 1,000 kilograms a year) and certain polymers present relatively low risks and should be subjected to a shorter review. For low-volume substances, the submitter agrees to adhere to the conditions and practices under which the chemicals can be manufactured, used, or imported as specified in the exemption notice.

The new chemicals program is viewed by many in the government and industry as the Agency's premier pollution prevention program. Program staff routinely incorporate pollution prevention principles and information into the review of new chemicals. The Agency asks companies to voluntarily include pollution prevention information on their PMN applications, and, based on this information, we often are able to work with the PMN submitter to significantly reduce pollution. Whenever possible, the program will identify alternative processes and provide information sources to help the PMN submitter assess the alternatives and develop less risky chemicals. The new chemicals program also offers the PMN submitter the option of developing a pollution prevention plan for reducing unnecessary exposure to or release of the PMN chemical. These plans may be incorporated into the 5(e) consent order or voluntarily incorporated into industry's own program of product stewardship for the chemical.

One of the unique features of the new chemicals program in the United States is that it does not require any testing prior to PMN submission. As a result, over half of all PMNs are submitted without any test data. In response to this lack of data, the Agency has developed tools to use Structure Activity Relationships (SAR) to predict and assess the fate and effects of new chemicals. Other systems, most notably the Premarketing Notification scheme used in the European Union (EU), require that notifiers develop and submit a "base set" of testing on new chemicals. EPA and the European Union recently concluded a joint study to compare the results obtained in assessing a series of European new chemicals using two methods—the U.S. SAR-based approach and the European Union's testing-based approach—and to estimate the extent to which SAR-based conclusions might change if a base set of test data were available. The study concluded that the SAR approach to screening new chemicals is useful and effective in identifying chemicals that may be toxic and in need of further scrutiny, but it also concluded that the overall process could be improved through selective incorporation of specific testing requirements. Full copies of the study have been provided to a number of Hill Committees. As a general matter, this study suggests that the new chemical program would be strengthened by the ability to obtain test data where SAR techniques are less predictive, a step that would make sense in combination with a move from

premanufacture to premarketing review. We are still evaluating the conclusions of the study.

Since its inception in the late 1970s, the new chemicals program has worked to balance the environmental concerns associated with new chemical manufacture and use with the desires of business to develop new and innovative products. The program has a long and successful history of working in a cooperative manner with industry and of implementing customer-oriented processes to provide a fair and expedited review of new chemicals while ensuring that their manufacture and use will not present unreasonable risks.

Over the last 10 years, efforts of the new chemicals program to inform the chemical industry about the criteria used to assess chemicals have encouraged development of safer chemicals, which is a principal objective of the new chemicals program. For example, we have made our SAR tools available for public use. This effort has resulted in the development of safer and less-polluting new chemicals, with resultant reductions in human and environmental risks associated with the production and use of these chemicals.

Section 6 of TSCA

I would like to take a moment to discuss the potential implications of the U.S. Fifth Circuit Court of Appeals decision to remand the 1989 Asbestos Ban and Phaseout Rule to EPA. This case could pose some definite challenges for us as we investigate other possible actions under Section 6 of TSCA.

First, while EPA does not contest its obligation to consider whether a proposed action is cost-effective, the court's decision appears to impose a burden of proof on EPA that significantly increased the level of analysis on potential substitutes and on identifying the least burdensome approach for any future Section 6 action. We believe that future regulatory action under Section 6 may be more resource-intensive and may take longer.

Second, the court's interpretation of least burdensome alternative under Section 6 appears to define end-of-pipe solutions, where toxic substances are controlled after they are distributed into the environment, as less burdensome than pollution prevention solutions, where toxic substances are reduced or eliminated at their source. This appears to conflict with the hierarchical approach set forth in the Pollution Prevention Act, which, as you might expect, established an opposite solution priority. Furthermore, end-of-pipe controls should not be given preference over pollution prevention, as indicated in the court's opinion, because end-of-pipe controls may well be less cost effective.

Because EPA's ability to take regulatory action under Section 6 is an important part of the incentive structure we have to encourage companies to engage in risk reduction through voluntary action, we think it is important to maintain the ability to take these actions.

II. VISION FOR A SUCCESSFUL TOXICS PROGRAM

Many factors, including those I've just discussed, have combined to shape our vision of the future direction of the toxics program for the new generation of environmental protection. In general, much has changed in environmental protection since the passage of TSCA almost 20 years ago. Our work now takes place in a world with a much broader environmental ethic and awareness. We have found new ways to use participatory and voluntary means to achieve environmental protection.

The past 20 years have taught us two key lessons. First, preventing pollution offers significant opportunities for protecting the environment. Second, empowering the public with information is a powerful tool for environmental progress. We have now made these lessons the cornerstone of our new approach for addressing toxics in the environment and thus these should be considered in any examination of TSCA.

The Clinton Administration strongly supports pollution prevention as a core principle of environmental policy. Our society simply cannot afford to address environmental protection as an after-thought. We must build environmental decisions into our basic technological and developmental decisions if we are to align our long-range environmental and economic goals. As part of this, we must foster the growth of

new, cleaner technologies. This requires us both to develop pollution prevention technology and to move these technologies into commercial use by disseminating information and removing institutional obstacles.

The adoption of a pollution prevention ethic is a logical development in a toxics program, given the focus of the program on improving environmental protection through changes in the manufacture, processing, and use of chemicals in our society. Fundamentally, we believe a toxics program should push for use of safer chemicals and processes in the basic operations of the industrial sector.

Empowering the public with information is the second core environmental policy. The creation of the Toxics Release Inventory (TRI), established in Section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA), lead the way to a new era of public disclosure and a more constructive dialogue between citizens and industry on emissions reduction and pollution prevention. As we look to the future, it is likely that this "right to know" approach will expand and become a part of environmental policy in several areas. For a toxics program, it is almost inevitable that the "right to know" ethic will expand to other chemical information.

At EPA, we hope to incorporate these two policy trends into our programs in an intelligent and responsible manner, recognizing that pollution prevention may not always be a possible or even the most effective course of action, and recognizing that empowerment of the public carries with it the need to provide the information and education that the public needs to make sound decisions. For example, we need to develop effective strategies for communicating the real risks posed by various chemicals in commerce. We believe that the principles of pollution prevention and right to know should be the foundation of our toxics program now and in the future.

As we consider the contributions that a toxics program can make to pollution prevention and the "right to know", there are several key roles that EPA must take on. We have articulated these ideas in a three-part strategy:

1. Provide information and tools that lay the basis for empowering the broadest possible initiative from industry, the public, and government;

2. Help to set goals, both in terms of a specific chemical agenda and of a broader environmental ethic for chemical management; and

3. Target direct efforts to areas where pollution prevention is needed to reduce risk.

This strategy calls upon most of the traditional TSCA work, including information collection, testing, new chemical review, and chemical specific risk management. Let me consider each element of this strategy in turn.

1. Provide information and tools to empower others: The most effective way for OPPT to encourage and empower others' participation in chemical management is to deliver key environmental information to states, other Federal agencies, industry and the public on the risks of chemicals of concern. The public release of environmental data gives everyone the ability to participate in the broader national effort to set a toxics agenda and address chemical issues based on the extent of risk posed. This strategy reflects our appreciation of the growth in size, sophistication and capabilities of those groups outside EPA that seek to improve environmental management and performance. The states, local governments, industry, labor unions, public interest groups and grass-roots community groups are increasingly finding ways to work together on environmental improvements.

In many cases EPA's major contribution to the resolution of disputes is the supplying of useful information. This part of the strategy also is a realistic response to the resource limits of the Federal government. We cannot hope to solve all problems of chemical management through direct EPA action.

As one example of this, our organization has been actively seeking ways to foster and enhance the participation of individual states in chemical management by providing them with TSCA derived chemical data. Already we have given states some of the tools necessary to more effectively determine what risks exist in their local communities and to target their compliance and enforcement of State and Federal laws. As a former State regulator, I know the value of site specific information in risk assessment and priority setting.

In addition, the Office is actively seeking enhanced methods of disseminating information submitted as Notices of Substantial Risk under Section 8(e) of TSCA and

is working with industry to collect better exposure information for the risk management review process. Furthermore, OPPT is achieving a greater customer focus in its data collection and dissemination. Our work on identifying environmentally preferable cleaning products with GSA and our Design for the Environment (DfE) work with the printing industry are examples of information tailored to meet the needs of those who manufacture and use chemicals. We can see a time in the future where we will provide information more directly to consumers as well.

Numerous efforts to improve information collection and dissemination are ongoing. One significant challenge in increasing the amount of information available to the public has been the amount of TSCA information claimed as business confidential. Through the Confidential Business Information (CBI) reform process, we are exploring how to improve public access to information within the limits of TSCA's authority. OPPT has embarked on a series of both regulatory and cooperative initiatives to limit the amount of information claimed as confidential to the extent necessary to protect the competitive position of American industry. This has, and will continue to have, the effect of increasing the availability of information to the interested public.

2. Helping to set goals. An agency like EPA is inevitably in the goal-setting business in the sense that it defines environmental problems. For a toxics program this role can take several forms. In some cases we explicitly define a list of chemicals needing some specific action. In other cases we begin goal-setting activities in the private sector by expressing a health or environmental concern about a practice or situation that may present significant risks. At other times EPA sets goals by articulating an environmental ethic or framework for making chemical management decisions.

The current toxics program has been articulating goals in several contexts. We now issue biennially a Master Testing List that identifies the testing needs of the Federal government. The 33/50 program asked corporations to make commitments for emissions reduction through pollution prevention for 17 specified chemicals. We have developed a tool called the Use Cluster Scoring System that allows us to identify the industrial use patterns that appear to present higher risks and opportunities for pollution prevention. We have also worked with a variety of groups to advance a "Design for the Environment" ethic in the development and evolution of technology and material choices. We have also followed closely the development of product stewardship principles in the chemical industry.

Goal-setting is a particularly important component of a toxics program because by definition we deal with a large number of chemicals that vary greatly in toxicity. The TSCA inventory, which now includes over 70,000 chemicals, includes chemicals that are potentially harmful as well as chemicals which are the promising safer substitutes for existing chemicals. Also many of the chemicals on the inventory are not even in commerce. In this context it is particularly important to set priorities and focus public concern on those chemicals and chemical use patterns that present significant risk.

3. Targeting direct action on certain priority areas: This part of the strategy encompasses our risk management effort (the RM process described earlier) that includes both regulatory and non-regulatory projects. These projects are sometimes focused around particular chemicals. Increasingly we are looking at clusters of chemicals that can be used to perform a particular task. This "use cluster" approach seeks to compare risks of the various chemicals that compete against each other in a particular technological or economic niche. The task is to identify those chemicals or chemicals in combination with technologies that represent a safer way of performing the essential function in a cost effective manner. Thus, for example, instead of looking at a single chemical that happens to be a paint stripper, we look at a set of chemicals that perform as paint strippers and clarify what seem to be the safer materials to use.

We are also considering the possibility of using our RM review process to target priority geographical areas. This approach will enable us to work with states and regions to help set priorities and goals for geographic areas, and allow us to address important environmental justice issues.

We continue to strengthen work on "national program chemicals," those chemicals that require comprehensive stewardship programs conducted over several years. Currently we are focused on lead, asbestos, and PCBs, but over time we are broadening these categories to cover heavy metals, fibers, and dioxin.

III. KEY ISSUES FOR TSCA

Given this changing vision for what a toxics program can contribute, it is certainly appropriate to reconsider the statutory structure of TSCA. Overall the basic question is whether changes are needed to make TSCA a more effective tool to implement the types of toxics program I have just described. As this subcommittee examines TSCA, we urge you to examine six areas where reforms might be considered:

1. Information Collection—Since its inception, TSCA has been viewed as an information collection statute. Yet there has not been broad consensus on what information should be collected under the statute. Assuming that something like the Master Testing List continues over time, what categories of chemicals should be the focus of testing? What, if any, changes would be appropriate to enhance EPA and the public's information base on use and exposure to chemicals? In addition, the process for obtaining chemical information has sometimes been slow. How can that process be made more efficient?

2. Information Disclosure—If public disclosure of chemical information is an important value, it would be useful to consider how TSCA facilitates this objective. What types of data are useful to disclose? Any look at this issue must inevitably consider the proper protection of confidential business information. Much of the data collected as CBI is legitimately claimed as such and deserves protection. The challenge is to open up to the public information that they would want to know while protecting true trade secrets. It also is important to consider what incentives for public disclosure exist in the current law. As part of the inquiry the subcommittee may want to consider how the CBI requirements apply to the states, an important group which serves as a co-regulator with EPA.

3. New Chemicals Reform—The subcommittee has indicated an interest in how new chemicals are regulated and thus we would expect a careful inquiry in this area. There has been some suggestions that industry should bear a higher burden to justify introduction of a new chemical into commerce. We believe that an increase in responsibility may be appropriate, but it is also important to consider how to "level the playing field" between new and existing chemicals. Statutory changes that simply build a "new chemical bias" into the program will not promote overall pollution prevention. The subcommittee may wish to consider ways to make the statute more efficient and to encourage consideration of cost-effective pollution prevention in the development of new chemicals.

4. Targeted Action—As described above, EPA has tried to target its risk management actions on situations where pollution prevention is needed to reduce risk. As the subcommittee examines the statute, you will want to consider the appropriate role of pollution prevention. For example, the subcommittee may wish to consider the appropriateness of the "use cluster" approach or site-specific risk reduction. At a minimum, the subcommittee will want to examine Section 6 of TSCA to see whether it is and effective approach.

5. Environmentally Preferable Products—The President's recent Executive Order calling for the purchase of "environmentally preferable products" by the Federal government has opened up an important new area of environmental policy. Moreover, several private groups in the U.S. and several governments around the world have developed ecolabeling programs that will affect American products and will present a complicated set of signals to American consumers. Given the emergence of this area of policy, the subcommittee may want to consider the role of EPA in helping to provide consistent definitions and guidelines, as well as in the development of harmonized approached to informing consumers about the environmental attributes of products.

6. Enforcement—The subcommittee may also wish to consider whether the existing enforcement provisions of TSCA are sufficient.

7. Streamlining—TSCA is an old statute and, in the spirit of the National Performance Review, the Federal government as a whole is engaged in an effort to use

limited resources more wisely. Thus it may be an appropriate time to consider whether some parts of the statute might be simplified to make the program efficient and focused on priority activities.

CONCLUSION

These new approaches to risk reduction and pollution prevention set ambitious goals for our program. Progress to date is very encouraging, and the response from interested parties has been tremendous. If we can continue to move this work forward, we will play an important role in improving and protecting the environment.

It is important to note that we do not view these new approaches of our toxics program to be, in any way, incompatible with our chemical specific and core TSCA work. These new approaches are based on the foundation of past and current chemical specific work. They are the inevitable outcome of the focus on pollution prevention and the understanding of the need to involve as many others as possible in a national program for toxics.

Thank you for the opportunity to speak to the subcommittee on our accomplishments with and lessons learned from implementing TSCA. We look forward to working with the subcommittee as it considers the challenges of reauthorizing TSCA.

FOLLOWUP QUESTIONS FOR DR. LYNN GOLDMAN FROM SENATOR REID

General

1. With the large number of chemicals, the scientific complexities of testing and review, and the limits of governmental resources, I am interested in seeing that industry shoulders the principal responsibility for determining the health and environmental effects of the chemicals they manufacture. What is your assessment of the burden that industry has now, and do you have any opinion on whether industry should bear a greater burden?

2. TSCA takes a chemical by chemical approach. It assumes that EPA can, to one extent or another, review these individual chemicals and regulate those with severe risks. Did TSCA give EPA an impossible mission? Is chemical by chemical the wrong approach to managing chemical risks? What are the alternatives?

3. As you know, TSCA's focus has primarily been on chemical manufacturers and processors. But you have talked about expanding this to encompass chemical users. What do you mean by this and why do you think it is important? Would EPA need additional statutory authority?

4. You mentioned several cooperative programs or projects that EPA is working with industry on such as Design for the Environment, SIDS, 33/50, testing consent agreements, and voluntary risk reduction efforts. How do these fit with the core TSCA program of reviewing and regulating specific chemicals? Are there conflicts in these approaches?. How are you trying to integrate them? Are there problems with implementing these?

5. What is the connection between TSCA and environmentally preferable products?

New Chemicals

6. I have been told that EPA's new chemical program is one of the more successful aspects of the TSCA program. Yet, you've indicated that over 90 percent of the roughly 2000 new chemicals EPA reviews annually are approved without any restrictions on their manufacture or use. What is your assessment of the new chemicals program?

7. Would the effectiveness of the new chemicals program be enhanced if there was a certain minimum amount of testing and other information required before submitting a premanufacture notice? Do you have any suggestions for the kind of data and information that would be most useful?

8. When TSCA was enacted, a good deal of thought was given to whether we should have a pre-manufacture or pre-marketing system for review of new chemicals. We embraced the pre-manufacture approach, but I know that other countries have a pre-marketing system. Now that we have the benefit of nearly 18 years of

experience, what are your thoughts on the advantages and disadvantages of these two approaches?

9. We have an ever-increasing universe of chemicals with the hundreds of new ones annually. Are any of these new chemicals substitutes for higher risk existing ones?

10. What would you think of an approval process for new chemicals like FDA has for new drugs?

Testing of Existing Chemicals

11. Do you think there is a need for increased testing to learn more about the health and environmental effects of existing chemicals? If so, do you have any suggestions of how we could accomplish this? Should there be some essentially "automatic" testing for certain chemicals? What might be the appropriate trigger(s)?

12. It seems that the SIDS program has made good progress in obtaining at least initial screening data on chemicals: approximately 300 are in some stage of testing. In contrast, it has been a slow process getting test rules under section 4. What do you think accounts for the difference in progress? Would EPA need additional authority to obtain testing by administrative order?

13. I am aware that EPA is working with industry on a voluntary project to increase EPA's use and exposure information. I have been told that this type of information is often lacking when EPA reviews a chemical. Can you tell me how well this project is working? Is EPA considering other options to get this information? Could and should such information be required through the' statute?

Review of Existing Chemicals

14. With over 70,000 existing chemicals in commerce, I am interested in understanding how EPA prioritizes its review of these chemicals. I know that you focus on non-polymers that are produced in quantities greater than 10,000 pounds annually. However, as I understand it, this leaves 14,000 chemicals, still a daunting number. What are the key factors you consider to prioritize your review and what is the process for review?

15. Along the same lines, are there particular categories of chemicals that are highlighted in your review? If not, what do you think of this sort of approach? What categories should have priority consideration?

Managing Existing Chemicals

16. Why do you think there have there been so few regulations under section 6? Are there really so few unreasonable risks from chemicals? Is it too difficult to justify that finding? Or is the difficulty in controlling risks through the particular measures stated in section 6?

17. I am interested to know what you see as the role of section 6. Especially in light of the Fifth Circuit's rejection of EPA's asbestos rule, the section certainly seems severely limited. Has EPA issued any section 6 rules since that decision? What do you see in the future for that provision?

18. In your testimony, you stated that there should be a preference for pollution prevention as a means to reduce or eliminate significant risk. What exactly do you mean by this? You also stated that the Fifth Circuit's asbestos decision read into TSCA the opposite preference for "end of pipe" regulations. What do you mean by this? How could section 6 reflect what you see as the correct preference?

19. You talked about considering chemical uses, looking at groups of chemicals by their uses when considering risk reduction. Could you explain in more detail what you mean by this? Do you think there are changes in the statute that would facilitate this "use-cluster" approach?

Information

20. Why do you think that making more information public is important? What are the main obstacles to increasing dissemination of information to the general public, to other federal agencies, and to the states? With regard to the limited resources available to the Agency, why is it important to increase the number of participants involved in chemical management?

21. What is EPA doing to increase dissemination of the testing data that it receives? Aside from concerns with CBI, I'm sure you're aware of the criticism of EPA for not making more of its health and safety inform mat ion on chemicals more readily available. What steps is EPA taking to make this information more readily available?

22. I understand that EPA has had some concerns with the amount of information chat is submitted to EPA under claims of confidential business information ("CBI") protection. What do you see as the effect of these excessive confidentiality claims? What is EPA considering doing about this problem? Does EPA believe that the voluntary and regulatory activities it has proposed to address the CBI problems will in fact, resolve the issue? What specific statutory amendments would EPA view as useful to reduce excessive and inappropriate CBI claims?

23. You mentioned the 8(e) CAP program in your testimony. Can you identify ways to strengthen 8(e) for the future so that this sort of one-time incentive program is not necessary?

24. States' access to TSCA CBI is currently restricted. How has this affected the utility of TSCA data? In what ways would access to TSCA CBI data assist states?

Resources

25. You have laid out some ambitious ideas for the TSCA program, what do your current resources look like for TSCA? Have you considered the possibility of user fees to help. support the program? Are there any statutory impediments to charging user fees to support the TSCA program?

26. In light of resource constraints, what do you see as the least needed or least effective aspects of TSCA? Where are the possibilities for "streamlining"?

FOLLOWUP QUESTIONS FOR DR. LYNN GOLDMAN, FROM SENATOR FAIRCLOTH

1. Dr. Goldman Last month , I wrote you a letter requesting that the agency to reopen the docket to accept comments on its proposed ban of acrylamide and N-methylolacrylamide (NMA) grouts under Section 6 of TSCA.

These grouts are an important tool in the repair of sewer systems and 1 am concerned that their loss would impair the ability of municipalities in my state to effect repairs without undertaking costly construction activities.

It is my understanding that the market has changed considerably since EPA proposed this ban nearly two and one half years ago. In fact, many, not all, of the products claimed in the proposed rule to be feasible alternatives to these grouts have either not proven to be efficacious or have been taken off the market.

In light of all of this, why has EPA steadfastly refused to open the docket to accept further comment on this proposed rule? See attached letter.

2. How many people does EPA estimate are exposed to these grouts and how do these exposures occur?

3. What is/are the route(s) of exposure?

4. Are there any less burdensome alternatives (such as requiring persons to wear personal protective equipment) that would minimize the risks posed by these substances without a complete ban?

5. Has EPA fully examined these alternatives?

[NOTE: Responses to the above questions were not received by date of publication, October 31, 1994.]

STATEMENT OF PETER F. GUERRERO, GENERAL ACCOUNTING OFFICE

Mr. Chairman and members of the subcommittee: We appreciate the opportunity to be here today to discuss our work on the Environmental Protection Agency's (EPA) implementation of the Toxic Substances Control Act (TSCA). As you know, over 70,000 chemicals are in use in the United States. Although these chemicals are an important part of our economy, they are often toxic and can have adverse effects on human health and the environment. The Congress passed TSCA in 1976 to ob-

tain more information on chemicals' effects and to control those that present an unreasonable risk.

At the request of this subcommittee, we are reviewing EPA's efforts to (1) assess the risks of chemicals before and after they enter commerce, (2) control those found to be harmful, and (3) make information on chemicals publicly available. Our testimony today, which is based on the preliminary results of this review, will focus on EPA's problems in implementing TSCA. We would also like to highlight some differences between TSCA and the chemical control laws of three other countries that we visited: Canada, Germany, and Sweden. We will issue a report on the final results of our review within the next few months. That report will discuss these problems in more detail and present options for revising TSCA to improve its effectiveness.

In summary, our work to date shows that:

- EPA has issued regulations under TSCA to control only nine chemicals during the 17 years since the act was passed. This is primarily because TSCA's legal standards for taking regulatory action are so high that EPA has been discouraged from attempting to regulate chemicals and has given implementation of the act low priority. Extensive use of TSCA is not likely as long as EPA interprets the act as giving preference to dealing with chemical risks under other environmental and health laws. These laws generally provide for limits on emissions and exposures rather than restrictions on chemical production, distribution, and use, as provided for under TSCA.
- TSCA's chemical information-gathering and control authorities appear comprehensive, but they are difficult to use and are ineffective. Consequently, EPA has assessed the risks of only about 2 percent of the chemicals in use. Furthermore, EPA's review process does not ensure that the potential risks of new chemicals are fully assessed before they enter commerce.
- Because of its limited resources, EPA may not be able to substantially improve its performance in reviewing the thousands of chemicals in use and controlling those found to be harmful without shifting more of the burden to the chemical industry. This includes compiling data on chemical effects and exposures and proving that chemicals are safe.
- While the information collected under TSCA can be helpful to others, such as State health and environmental officials, much of it cannot be disseminated because industry claims that it is confidential to protect trade secrets. EPA has successfully challenged the validity of some of these claims, but does not have the resources to challenge a significant portion. Any changes in TSCA's confidential business information provisions would need to balance industry's needs to protect trade secrets and others' needs for information on chemical risks.

Before elaborating on these points, we would first like to provide some background on TSCA.

BACKGROUND

TSCA authorizes EPA to review the risks of both new and existing chemicals. New chemicals are generally those that have not entered commerce. Once they enter commerce, they are classified as existing chemicals. Chemicals that were already in commerce when EPA's new chemicals review program began in 1979 are considered existing chemicals.

To assess risks, EPA examines both a chemical's toxic effects and the amount of human and environmental exposure to the substance. If EPA finds that a chemical's risks are unreasonable, it can prohibit or limit the chemical's production, distribution in commerce, use, and disposal or take other actions, such as requiring warning labels.

TSCA requires the chemical industry to give EPA a 90-day notice of its intent to manufacture or import a new chemical. This notice is to contain information EPA needs to review the chemical, such as its molecular structure, proposed uses, estimated production or import amounts, estimated exposure, and available test data. TSCA also authorizes EPA to require manufacturers and processors to test chemicals already in commerce or provide other data, such as their production volumes. In addition, manufacturers, processors, and distributors are required to report to

EPA any data that reasonably support a conclusion that a chemical presents a substantial risk to health or the environment.

TSCA does not apply to pesticides, tobacco, nuclear material, firearms and ammunition, food, food additives, drugs, and cosmetics. These products are regulated under other laws.

CHEMICAL REGULATION UNDER TSCA

As of May 1994, EPA has issued regulations under TSCA to control only nine chemicals—five existing chemicals and four new ones. Moreover, the regulations were generally limited in scope. Only those for two existing chemicals—polychlorinated biphenyls (PCBs) and asbestos—provided for widespread bans on chemical manufacture or uses. The regulations to phase out the manufacture of PCBs were specifically required in TSCA, and the regulation to phase out almost all products containing asbestos was overturned by a 1991 court decision. The regulations for the three other existing chemicals banned a certain use for two of them and prohibited the third from being disposed of in one manufacturer's waste. EPA has also issued regulations for four new chemicals used in metalworking. These regulations prohibited the mixing of the chemicals with certain other substances because, in combination, they form a cancer-causing substance.

A major reason why EPA has taken very few regulatory actions under TSCA is the act's high legal standards. TSCA authorizes EPA to control chemical risks that are unreasonable. However, while TSCA requires that EPA take the least burdensome regulatory action to protect adequately against unreasonable risk, it does not define what constitutes an unreasonable risk. In the absence of statutory guidance on this, EPA assumes a very high threshold for when it can take action to control a chemical. In effect, EPA believes it must have substantial evidence that the benefits to society of implementing any controls outweigh the costs. This standard is especially difficult for major controls or restrictions on widely used chemicals because the costs can be extensive and the full range of benefits may be difficult to document. EPA's regulation to phase out asbestos products illustrates this difficulty. Although EPA had considerable scientific evidence of serious health risks and spent several years developing the regulation, the court decided that the agency did not adequately demonstrate that it had chosen the least burdensome alternatives for controlling exposures to asbestos.

Another major reason why EPA seldom takes regulatory actions under TSCA is that the act expresses a preference for TSCA to be used only when other laws are not available. Various other health and environmental laws allow EPA or other agencies, such as the Occupational Safety and Health Administration, to control environmental releases or exposures to toxic chemicals. EPA officials believe that the purpose of TSCA is to fill the gaps in other laws. That is, TSCA should be used to control the production, distribution, use, and disposal of chemicals if other laws cannot be used to reduce the risks. Essentially all the major sources of human health and environmental exposures are potentially covered by the Clean Air, Clean Water, and Resource Conservation and Recovery acts and other laws, such as the Occupational Safety and Health and Consumer Product Safety acts. Thus, EPA or other agencies could issue regulations under one or more of these other laws to reduce the releases or exposures contributing to essentially all the chemical risks identified by EPA. The major exception is new chemicals. Other environmental legislation and the Occupational Safety and Health Act do not cover chemicals before they enter commerce.

The chemical control law of Canada differs from TSCA in that it establishes a simpler standard for regulatory action, and its relationship to other health and environmental laws is more clearly defined. For example, the Canadian Environmental Protection Act of 1988, which is the major law for controlling toxic chemicals, authorizes the government to control chemicals that are toxic, which it basically defines as chemicals entering the environment in a quantity or concentration, or under a condition, having a harmful effect on the environment or human health. The costs and benefits of control actions are not factors in deciding whether chemical risks are such that action should be taken. Rather, they are factors in deciding which alternative action to take. According to Canadian officials familiar with TSCA, it is

easier to control chemicals under their standard than under the unreasonable risk standard in TSCA.

In Germany, the major focus of the chemical control law is to classify and label chemical products on the basis of their toxicity. In addition to determining the labeling of a chemical, classification is the starting point for risk assessment. The classifications also drive downstream legislation concerned with aspects of risk management, such as worker protection. The risk assessments can-result in additional testing or the imposition of certain controls on the chemical, such as use restrictions. Bans or major restrictions on chemicals are rare, especially for existing chemicals, because of the complex process established for taking these actions.

In Sweden, the major focus is also on classification and labeling of chemicals on the basis of their toxicity. Certain mandatory controls are established for each classification category. Use restrictions may also apply, depending on the chemical's classification. Although the Swedish government has banned or severely restricted only a few chemicals, it has established a list of 13 undesirable chemicals, such as lead and mercury, that it wants to eliminate or significantly reduce by the year 2000.

CHEMICAL REVIEW UNDER TSCA

In requiring EPA to review new chemicals, TSCA recognizes that the best time to assess the risks of chemicals is before they enter commerce and can cause harm. EPA's authority to review the risks of existing chemicals is also important for two reasons. First, about 62,000, or 86 percent, of the approximately 72,000 chemicals in the TSCA inventory were in commerce when the new chemical review program began in 1979 and have not been reviewed as new chemicals. Second, the risks of a new chemical can change once it enters commerce and becomes an existing chemical. More may be learned about its toxicity, or exposures to the chemical can change as the amounts produced or how the chemical is used changes.

REVIEW OF NEW CHEMICALS

TSCA does not require routine chemical testing, and the chemical industry performs limited testing on new chemicals. In a 1990 study, EPA found that 51 percent of premanufacture notices did not include any test data on toxicity, physical chemical properties, and environmental fate. The data that were provided frequently consisted of studies on short-term health effects.

Because sufficient test data are generally not available for new chemicals, EPA uses a method known as structure activity relationships analysis to predict chemicals' health and environmental effects. This method relies on test data from chemicals with similar molecular structures. In 1993, EPA completed a study in which the agency's predictions using this method were compared with actual test results for new chemicals in the European Community. Although EPA's predictions were highly accurate for some characteristics, they were often inaccurate for many others. For example, the predictions on biodegradation agreed with the test data for 93 percent of the chemicals. However, EPA had only a 63-percent accuracy rate in predicting vapor pressure, an important factor in determining the amount of potential exposure to a chemical. Both EPA and European Community officials considered this accuracy rate too low to adequately characterize chemical risks.

Another uncertainty limits EPA's assessments of risks posed by new chemicals. EPA uses the manufacturers' or processors' estimates of anticipated production volumes and uses of the chemicals to estimate potential exposure. However, actual production volume and chemical uses can change substantially once EPA's assessment is completed and the chemical enters commerce.

In Canada and Germany, the government also reviews new chemicals before they enter commerce. However, unlike the U.S. practice, these countries require manufacturers to test the chemicals and submit the results, along with exposure-related information, to the government at the beginning of the review process. Manufacturers conduct additional testing as the volume of production increases. On the other hand, Sweden's Act on Chemical Products places the main responsibility on chemical manufacturers and importers to assess the risks of both new and existing chemi-

cals and provide adequate information on environmental and health effects to chemical users. These assessments are subject to government review.

REVIEW OF EXISTING CHEMICALS

EPA has made little progress in reviewing chemicals in commerce. Under its existing chemicals program, EPA has reviewed the risks of about 1,200 substances, some 2 percent of the about 62,000 chemicals that were in commerce when the new chemical review program began in 1979. Not all of these chemicals are the same priority for review. For example, EPA states that about 14,000 of these may be of concern because of their large production volumes and chemical structures. However, EPA officials estimate that the agency can review only 20 to 30 existing chemicals per year, given its current level of resources. And, as we previously pointed out, EPA may need to review chemicals again as their production increases or new uses are found for them.

For existing chemicals, EPA is responsible for compiling available information on the chemicals' effects and exposures. This effort is time-consuming and resource-intensive, and complete data are often not available, especially for exposures. EPA must use various models to estimate or project the amounts and types of exposure, and the results are uncertain. Basic exposure-related information, such as the volume of environmental releases, the number of workers exposed to a chemical, and the types of chemical uses, are generally not available, incomplete, or outdated.

To require industry to test or submit additional exposure-related information on a chemical, EPA must issue a rule. Such an effort can be lengthy and costly. For example, TSCA authorizes EPA to require industry to test an existing chemical if the agency finds that the chemical may present an unreasonable risk or may result in significant human or environmental exposure. According to EPA, issuing a test rule for a chemical can take as long as 24 to 30 months and cost the agency from $68,500 to $234,000. The testing, which does not begin until the rule is issued, can take from a few months to a few years to complete. Since the testing program began in 1977, EPA has issued 30 test rules covering 121 chemicals. In addition, EPA has entered into negotiated test agreements or consent agreements for the testing of 59 more chemicals.

The other countries that we visited place more of the burden on industry for the review of chemical risks. As previously stated, Sweden's Act on Chemical Products places the main responsibility on manufacturers and importers to assess chemical risks. In Canada and Germany, the government is responsible for assessing the risks of existing chemicals. However, it is easier for the government to obtain the chemical information that it needs. Germany is implementing a 1993 European Community directive that requires member countries to carry out a systematic review of existing chemicals. For these reviews, chemical manufacturers and importers have to compile and report certain data. The government may require industry to provide additional data (which could involve performing additional testing) during the assessment process. Under the Canadian Environmental Protection Act, the government can require industry to provide additional chemical data without having to issue a rule.

CONFIDENTIAL BUSINESS INFORMATION

Recognizing the need to protect trade secrets, TSCA allows chemical manufacturers, processors, and distributors to claim information submitted to EPA as confidential. Under the act, EPA is responsible for protecting the data that contain trade secrets or financial information from unauthorized disclosure. Federal employees and contractors who need the information to carry out their official duties are authorized access to confidential data.

Making confidentiality claims under TSCA is a simple procedure. Claims do not have to be substantiated, and TSCA does not establish a penalty for filing a false claim. Although TSCA limits the information in health and safety studies that can be protected as confidential to data that disclose manufacturing processes or portions of a chemical mixture, the act broadly defines what constitutes a study. Thus, unless data relating to a chemical's effects on public health and safety are contained

in what is obviously a study, EPA finds it difficult to prevent industry from claiming confidentiality and limiting public access. A large portion of the TSCA information EPA receives is claimed as confidential. For example, a 1992 study found that more than 90 percent of premanufacture notices for new chemicals contained some information claimed as confidential. Although EPA officials believe that much of this information is not proprietary, the process of challenging the claims is resource-intensive and EPA has challenged only a small percentage of the claims. As a result, EPA must expend considerable effort to protect large amounts of confidential data. In addition, the data cannot be disseminated to others, such as State officials who have responsibilities for health and environmental protection. EPA would also like to make the information available as part of an overall strategy to use public information and education as a means to control the use of toxic chemicals.

The other countries that we visited also allow industry to make confidentiality claims. However, these countries generally specify more types of data that cannot be claimed as confidential. While health and safety studies are the only type of data on which TSCA restricts confidentiality claims, Canada generally does not allow claims on data such as chemical uses and safe handling procedures. Exposure data are confidential in Germany, but claims are generally not allowed for information such as the chemical's trade name, physical chemical properties, precautionary and emergency measures, and toxicological tests results. Sweden is more restrictive in that it generally limits claims to chemical identity and some business aspects, such as the volume of production.

CONCLUSIONS

TSCA is a unique piece of environmental legislation. Whereas other environmental laws, such as the Clean Air and Clean Water acts, generally deal with chemicals as pollution by establishing how much can be released to the environment, TSCA potentially provides the means to take up-front or preventive actions through restrictions on chemical production, distribution, and use.

However, EPA has taken few actions under TSCA to control toxic chemicals because it is extremely difficult for the agency to demonstrate that a chemical presents an unreasonable risk under the standards of evidence required by the act. Furthermore, EPA officials responsible for implementing TSCA do not believe that the act gives them a clear mandate to control more than a few chemicals that cannot be addressed through other health or environmental laws. Moreover, EPA's experience in implementing the act has shown that gaps often exist in the data needed to assess the risks of both new and existing chemicals and that obtaining the needed data places a heavy burden on EPA, given available resources.

As EPA emphasizes its efforts to protect human health and the environment by preventing pollution, TSCA's emphasis on prevention continues to have potential to provide EPA with a valuable tool to achieve this objective. In addition, EPA would like to make more information on chemical risks publicly available as part of a strategy to involve the public more in its pollution prevention efforts. Industry's confidentiality claims, however, limit the amount of data that can be released. Our report on TSCA's implementation will provide some specific options for revising TSCA in these areas.

In continuing our work for the subcommittee, we will be looking at ways to make TSCA a more effective statute. In doing this, we will be considering three broad matters:

- First, whether setting a clear goal for TSCA and expectations for what EPA is to achieve under the act is desirable. Key to this would be clarifying whether TSCA is to be used as a backstop when other laws are lacking or whether TSCA is to play a more prominent role in controlling toxic chemicals.
- Second, whether to continue to hold EPA responsible for assessing and proving chemical risk, or whether to shift the burden to manufacturers to assess and demonstrate chemical safety. Also of concern is whether to modify the threshold for taking regulatory action under TSCA. Approaches used by other industrial countries could be looked to as models for how to proceed in this regard.

- Finally, given the sheer number of chemicals in use today, whether both government and industry should focus their resources on those chemicals that, based on their toxicity, production volumes, and potential exposure, present the highest risk to human health and the environment.

Mr. Chairman, this completes our prepared statement. We would be happy to respond to any questions that you or other members of the subcommittee may have.

STATEMENT OF ELLEN SILBERGELD, SENIOR TOXICOLOGIST, ENVIRONMENTAL DEFENSE FUND

Mr. Chairman, thank you for this opportunity to testify on the reauthorization of the Toxic Substances Control Act (TSCA).[1] I am Ellen Silbergeld, Senior Toxicologist with the Toxics Program of the Environmental Defense Fund (EDF), a national nonprofit environmental research and advocacy organization with over 250,000 members. Accompanying me today is EDF Senior Attorney Karen Florini. Since its founding in 1967, EDF has worked to minimize human exposure to toxic substances through participation in scientific and administrative proceedings, litigation, public education, and legislative advocacy. In pursuit of that goal, EDF has participated in numerous activities under TSCA. For example, in 1984, EDF petitioned EPA under Section 21 of TSCA to promulgate rules controlling the distribution and release of dioxins into the environment. After EPA denied the petition in January 1985, EDF exercised its statutory right to file suit; that case was settled by a comprehensive Consent Decree filed July 27, 1988. EDF also successfully sued EPA concerning implementation of the PCB ban mandated by Congress in section 6(e) of TSCA. More recently, EDF petitioned EPA to restrict lead fishing sinkers that can be ingested by waterfowl, causing death through lead poisoning. EPA is now conducting a rulemaking in response to that petition.

As noted in the subcommittee's letter of invitation, TSCA has never been reauthorized or considered in depth; this hearing is long overdue and greatly welcome. There is much that we have learned in the past 8 years, in this country and elsewhere, that can provide guidance in the process of reauthorization. Indeed, the original intent of TSCA has largely been unrealized, and most of the efforts of the Environmental Protection Agency (EPA) in implementing this statute have produced little result.

Before turning to specific provisions of TSCA, one over-arching point warrants attention. In the 18 years since TSCA's enactment, our society has become increasingly sophisticated in the way we think about environmental protection. In particular, it is now abundantly clear that policymakers must consider not only end-of-pipe cleanup and control strategies, but also ways to prevent pollution in the first place. Similarly, it is necessary to consider the complete life-cycle of a substance that poses toxicologic concerns, and to take into account the availability (or lack thereof) of alternatives that fill the underlying societal need for that substance's use. Doing so allows environmental strategies to be designed in a manner that eliminates cross-media pollution transfers and yields greater overall efficiency.

At present, EPA's statutory authority to take this kind of eminently sensible approach is at best a patchwork cobbled together from other statutes that are, fundamentally, focused on one medium (such as the Clean Water and Clean Air Acts) or the final stages in a material's life cycle (such as the Solid Waste Disposal Act (often referred to as the Resource Conservation and Recovery Act), and the Superfund program). In reauthorizing TSCA, Congress has a vitally important opportunity to incorporate pollution prevention precepts—and give the Agency the tools it needs to act upon those precepts. This testimony identifies a few specific suggestions along these lines, but they are by no means exhaustive. EDF looks for-

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[1] Unless otherwise noted, this testimony focuses exclusively on the provisions of Subchapter 1 of TSCA, rather than the subsequently added independent provisions addressing asbestos in schools (Subchapter 2), indoor radon (Subchapter 3), and lead in paint, soil, and dust (Subchapter 4).

ward to working with this Committee, EPA, and other interested parties in developing additional mechanisms to integrate pollution prevention into TSCA.

My own acquaintance with TSCA goes back over 10 years, to my participation in developing consensus rules to. reduce risks of PCBs. In addition, I have been involved in attempts to utilize TSCA to take source-reduction oriented approaches to reducing the risks of asbestos and dioxins. Finally, I have had the real privilege of working with EPA and industry representatives in delegations to the Organization for Economic Cooperation and Development (OECD) Chemicals Programme, in which many of the same issues covered by TSCA have been the subject of international action.

In many (but not all) of these activities, I have become convinced that there is much common ground among industry, government, and environmentalists in terms of purpose and commitment to achieving real progress in the prudent management of new and existing chemicals. I have also worked with exceptionally skilled and dedicated scientists, analysts, and lawyers in the TSCA program at EPA over the years. However, despite this commonality of purpose, the history of TSCA implementation is one of enormous frustration. Its few accomplishments have been achieved at immense costs of time and resources, and it has never performed, as anticipated, as an efficient linkage among statutes and agencies, to ensure effective and scientifically based risk identification and management. Several GAO reports over the past decade have detailed the failings of TSCA to generate useful information or to initiate substantial pollution prevention.

It is useful for us to understand the reasons for these contradictions: how well intentioned, highly skilled persons from all parties at interest have been unable to make this statute work effectively. The latter portion of this testimony identifies some of legal and policy matters that require your attention in the reauthorization process; first, however, are EDF's comments on scientific and technical issues.

I am a toxicologist by training and experience; my pre- and post-doctoral training was received at Johns Hopkins University and its Medical Institutions. Prior to my appointment at EDF, I was for 6 years a staff scientist at the National Institutes of Health. Since 1990, I have been professor of toxicology and now epidemiology and preventive medicine at the University of Maryland Medical School in Baltimore; I am also adjunct professor of environmental health sciences and health policy and management at the Johns Hopkins School of Hygiene and Public Health. I have served on several U.S. delegations to the OECD Chemicals and Environment Programme and I have been a consultant to the OECD Environment Programme.

In this testimony, I shall focus my comments upon the important need to change the incentives in TSCA. As the statute is now designed, it acts to discourage the acquisition of critical information on the hazards and risks of both new and existing chemicals. My comments are based upon my pragmatic experience with the OECD, and I hope to convince you that a new approach is both desirable and demonstrably feasible.

Over the past decade, within the OECD, we have gained experience that demonstrates that we can acquire critical information on new and existing chemicals, that will inform our decisionmaking as to the priorities and actions necessary to protect human health and the environment. For too long, chemicals policy in this country has been conducted in a self-imposed fog of ignorance. Both the theory and practice of TSCA have rewarded ignorance rather than knowledge, and a culture of denial has choked a broad range of policymaking.

This culture of denial has asserted that we do not need information in order to assess risks, a nonsensical and anti-scientific posture that can only condemn us to ill-informed and unproductive debates conducted in a vacuum of real information. Only when extraordinary public pressures have arisen—as in the case of dioxin—has EPA utilized even the information-gathering powers of the statute. Of the Agency's two major attempts to use TSCA to actually control general exposure to a particular toxic substance, one (PCBs) was essentially dictated in the initial statute, while the other was eviscerated by the Fifth Circuit (asbestos) (in a decision that EDF views as erroneous but that the Justice Department apparently refused to appeal to the Supreme Court). This is a statute that cries out for reauthorization and improvement. And improvements can readily be secured. We—the U.S.—can do bet-

ter in gathering and acting upon toxicologic information. It is clear that we can, because in fact we already do. Specifically, U.S. industry, government, and advocacy groups have achieved far more in the international context, through the OECD, than has been accomplished under TSCA. Most other industrialized countries also accomplished more than the U.S. Using the principles that underlay TSCA's enactment (and that have largely been lost in its implementation), the European Economic Community and Japan have developed successful and manageable programs to test new and existing chemicals without impairing their ability to compete through innovation, research and development.

1. Existing Chemicals

The intent of TSCA was to provide EPA with the power to gather information on both exposures and hazard upon which to determine the necessity to undertake risk reduction actions of a broad nature, including reducing risks in the occupational setting as relevant. It was envisaged that TSCA would encourage a national program of rational and prioritized chemical testing and an effective surveillance system of exposures and effects monitoring. These efforts together would provide EPA with the information needed to identify significant risks and develop risk-based regulatory responses, including the promulgation of rules for further testing.

Unfortunately, neither the testing nor the regulatory provisions have been utilized to any significant extent. The testing of existing chemicals has languished. Testing of existing chemicals by the private sector under TSCA has been sparse indeed, with very few test rules issued over the first 10 years of TSCA's lifetime. Of even greater concern, EPA has never linked the programs of its Office of Research and Development to its TSCA responsibilities, as could readily be done to support or conduct research directed towards the development and validation of more effective, and cost-effective, test methods to serve the purposes of TSCA. Opportunities to apply the results of scientific advances in toxicology and the basic sciences have been repeatedly missed, so the testing that is done utilizes relatively static methods that rightfully provoke those concerned with animal welfare over the use of experimental animals in large quantity.

The surveillance provisions of section 8(e) have been even less effective: the incentives for the private sector to report adverse effects of its products are nonexistent. Moreover, EPA seems to have made little effort to explore the current surveillance systems that already exist: for instance, to my knowledge, EPA has not utilized either the databases of its own National Human Adipose Tissue Survey, or the Centers for Disease Control's National Health and Nutrition Examination Survey—both of which, actually report data on the presence of at least some (though not many) chemicals in the tissue samples from members of the general U.S. population. Such data could help focus attention under TSCA on chemicals to which individuals or populations are demonstrably exposed.

Similarly, only recently have the resources of the National Toxicology Program (NTP) begun to be effectively harnessed to TSCA through the efforts of the Agency for Toxic Substances and Disease Registry (ATSDR) as it carries out its statutory obligation under Superfund to identify toxicologic data gaps for substances frequently found at Superfund sites. For example, we know that groundwater is the medium most often contaminated by releases from hazardous waste sites. It is also known that groundwater contamination can result in massive migration of contaminants into a wide geographic area, including into private wells. Yet, for many of the substances known to migrate into groundwater, little or no information is available about their effect on the reproductive, neurologic, or immune systems. Filling in these data gaps is essential.

ATSDR and EPA, in coordination with the NTP, have jointly identified 117 key data gaps for the top 38 substances on the Superfund priority substances list. ATSDR referred approximately 60 of these gaps to EPA in 1992 for action under TSCA. Although some administrative steps have been taken, to date not a single data gap has yet been substantively pursued.

TSCA must be reinvigorated to provide a more effective means of filling data gaps for Superfund priority substances. Doing so will improve both Superfund site cleanups (which are risk assessment based) and public health interventions (which are

health assessment based). Both risk assessors and public health assessors are often confronted with making significant risk management decisions based on inadequate toxicologic knowledge about substances demonstrably present in environmental media that in turn come into contact with people and ecologic systems.

The prospect of dealing rationally with the entirety of the TSCA inventory—some 60,000 chemicals—is certainly daunting but it should not be paralyzing. Several approaches have been developed by other countries and institutions for devising a rational process for identifying and prioritizing issues of concern in this large universe. Our inability to do this in the U.S. so far has resulted in very little change from the National Academy of Sciences's 1984 conclusion (in Toxicity Testing) that over 80 percent of existing chemicals have little or no information available upon which to base even the most rudimentary, qualitative assessment of risk.

Some countries—notably Japan and the Netherlands—have evaluated the universe of existing chemicals in terms of such pragmatic principles as chemical persistence, in order to select out those for further analysis and possible prioritization for testing. Other countries—such as Germany and Canada—have developed priority lists of chemicals of concern, based upon incomplete information, but information sufficient to warrant further investigation.

The OECD has adopted a more innovative approach, and one that we recommend for your consideration in TSCA reauthorization. The OECD approach neatly overcomes the paradox of the unknown: that is, in toxicology and regulatory policy based upon toxicology, we are often guilty of "looking under the lamp post"—focussing our investments upon refining our knowledge about those chemicals about which we already have sufficient information to consider them 'suspect". Thus, we have the spectacle of a nation whose public and private resources over the past decade have continued to be predominantly invested in researching chemicals like lead and dioxin, chemicals about which we know more than almost any other chemical in the environment. The OECD approach radically challenges this paradigm. The OECD program deliberately sought to identify those chemicals about which we do not know enough to be suspicious, but about which we should not be complacent. The need to avoid complacency was based upon production volume.

Using production volume as the criterion neatly steps over one of the persistent barriers of TSCA's existing chemicals program: how to balance or integrate data on toxicity and data on exposure. In the U.S. experience, too often data on toxicity is discounted by data on exposure—that is, opportunities to gather information on chemicals that may be highly toxic are foregone because of assertions (often based on data that is very limited and/or not publicly available) that exposures are minimal.

The OECD approach resolves this conundrum by using production volume as the primary criterion for selecting chemicals for further evaluation. An international group, composed of industry, academic, government and NGO experts (including myself and representatives from Monsanto, Dupont, Dow, Eastman Kodak, and the Chemical Manufacturers Association), agreed that if a more than one million tons of a chemical was produced in at least two OECD countries annually, then it was appropriate to presume that exposures were likely to occur (through production, storage, use, transport, inadvertent releases, accidents, and disposal).

Upon that basis, a list of priority chemicals was developed through national inventories, like the EPA's TSCA inventory. The chemicals on this list was then scrutinized for the data available on toxicity. The focus of the OECD program was to identify those high production volume chemicals for which inadequate data were available to assess risk; this intent allowed us to go beyond the preoccupation with known risks, and to avoid the continued diversion of all available resources towards refining the risk assessments of chemicals already known to be risky, such as lead and dioxin, the "looking under the lamp post" phenomenon.

The OECD project succeeded in winnowing out from the national lists of existing chemicals a subset of high production volume chemicals for which inadequate data are available—some 1,800 such chemicals on the first analysis. But we did more. We then confronted the issue of what constitutes an adequate database, and how can it be acquired for a reasonable investment of time and resources by either government or the private sector. The jewel in the crown of the OECD chemicals pro-

gram, in my opinion and in the opinion of my industry colleagues who have contributed to the success of this program, has been the consensual adoption of specific tests that together define a sufficient screening information data set (SIDS) upon which reasonable, objective decisions can be based. This SIDS package has been internationally validated and found to be feasible, replicable and parsimonious in its use of resources—time, money, and experimental animals.

To date, SIDS assessments have been completed for nearly 100 chemicals at the cost of about $60,000 per chemical. For this modest investment, we now know that it is possible to assemble a broad (if not deep) dataset that can serve the purposes of decisionmakers in several regards: does the chemical need further testing? should actions be taken to restrict exposures to the chemical? can the chemical be removed from a priority list of consideration? All these decisions can and have been supported by the SIDS undertaking. Moreover, the SIDS approach is embedded in a coherent approach to prioritization and action. It has already moved us significantly towards action on the basis of information rather than ignorance. We can no longer invoke the tired dictum of what you don't know can't hurt you. We need to know, and we need to know in order to know when to act—and when not to act.

The SIDS database is an evolving concept, and part of its success has been its openness to innovation and incorporation of advances in toxicology methods. It is a screening or first-tier approach to information acquisition: It may be followed by further, more refined and focussed testing. Alternatively, it may provide information sufficient for decisionmaking by either industry or government—for instance, industry may determine that a positive result in a short term genotoxicity assay is sufficient information to disinvest in a certain chemical.

2. New Chemicals

Another disappointment of TSCA has been its failure to establish a rational, precautionary approach to the evaluation of new chemicals. Catching up with the universe of existing chemicals is a very difficult task, and some sort of prioritization is necessary even over the long term. However, TSCA should function as a vigilant gatekeeper over the entrance of new chemicals into the environment, in order to prevent an increasing list of unknowns, as new chemicals join existing chemicals in the black hole of ignorance.

This objective has not been accomplished. The new chemicals notification system has been implemented by EPA to operate largely in the absence of real data on toxicity. Certainly, EPA has developed ingenious and often valuable approaches based on structure-activity relationships (SAR) and other nondata-based methods of analysis, and the experience and knowledge gained from this approach should be preserved. However, as a joint EPA-EEC study demonstrated, SAR analysis works best when combined with a data-based evaluation system, such as the new chemicals program of the European Community. Based upon the success of the SIDS program described above, there can be no rational objection to the requirement of at least the SIDS tests as a prerequisite to the premanufacture notification (PMN) program under section 5 of TSCA. EPA's review of PMN submissions will then be based upon actual data, and decisions as to the need for further testing will be rationally focussed on those endpoints or data gaps revealed by such data.

The EEC approach to new chemicals, with mandatory testing, does not seem to have impeded innovation in the chemical industry. Several of the world's largest chemical companies are still European. A gutless TSCA has not paid off in any competitive advantage for American industry.

3. Significant New Use Rules (SNURs)

The third leg of TSCA's approach to chemicals was the mandate to review significant changes in the use or production patterns of already approved chemicals. In this way, it was to be possible for earlier decisions, based as they were upon a combined analysis of toxicity and exposure, to be reconsidered if one variable—exposure—were to change substantially. Thus the SNUR approach could be considered a kind of safety net for chemicals, whose current level or range of use was not of concern, but whose inherent toxicity was such that changes in levels or ranges of use might elicit control.

However, the SNUR program has also failed to foster a truly preventive program towards chemicals. EPA has not utilized SNURs in a coherent policy of chemicals management, but rather SNURs have been deployed when it was decided not to invest resources in stronger regulatory actions.

Moreover, EPA has not integrated any surveillance system into the SNUR concept. That is, EPA has not attempted to utilize data on trends of chemical levels in humans or the environment to trigger an analysis of possible changes in exposure that could be captured by a SNUR.

4. TSCA's Relationship to Other Statutes

In order to facilitate use of TSCA as a pollution prevention tool, it is especially important that Congress revamp Section 9 of TSCA, "Relationship to other Federal laws." The current wording, as historically interpreted by EPA, limits reliance on TSCA to instances where the EPA Administrator determines that no other program administered by another agency or by EPA will suffice. At times, EPA has interpreted this language as a "TSCA-if-all-else-fails" presumption, one that has on occasion prompted a wasteful debate over whether all else actually fails, or as a way to escape responsibility for action, as in the glycol ethers issue.

EDF is at a loss to identify any logical or policy basis for this discriminating against TSCA. When efficient risk reduction can be accomplished by the coordinated efforts of more than one agency, TSCA should allow for referral; even then, however, the unique powers of TSCA—as an information generating statute and as the only statute that extends back to production and forward through ultimate disposal—should not be disregarded. It may be appropriate for the Occupational Safety and Health Administration (OSHA) and the Consumer Products Safety Commission (CPSC) to use their authorities to control those aspects of chemical cycling which affect workers or consumers, but only EPA can deal with releases from the workplace, disposal, inadvertent generation. and other aspects of chemical production and use which may add significantly to the overall exposures and risks of the population.

Accordingly, Congress should amend section 9 to make clear that it presents no barrier to use of whichever tool is best suited for the task at hand, without the need for going through the unwieldy process now called for by both the interagency referral provisions of section 9(a) and the internal provisions of section 9(b). Specifically, section 9(a) should be amended to direct EPA to refer a matter to another agency upon determining that the risk can more effectively be addressed by that agency. Such an approach appropriately allows EPA to consider issues of agency resources and expertise (Its own and others) as well as other relevant factors, and makes clear that the key issue is one of achieving results.

Similarly, the egregiously convoluted second sentence of section 9(b) should be entirely discarded. To promote integration with other EPA programs, a much more straightforward approach should be adopted. Indeed, the first sentence of section 9(b) appears to suffice by itself. If additional detail is felt to be necessary, the language of section 1006(b) of the Resource Conservation and Recovery Act (RCRA, 42 U.S.C. section 6905(b)) may offer a useful model.

This analysis is important not only for the assessment of risks as part of TSCA but also for the development of integrated policy response. Thus, as with PCBs, TSCA is uniquely powerful in addressing chemicals that present risks in many media, from many sources, at many stage of production, use and disposal; TSCA action may be driven by the finding of unreasonable risk at any stage in this process or by the finding of unreasonable risk as a consequence of the sum of all risks. Unfortunately, as noted below, Congress must reassert the holistic nature of TSCA analysis and action through changes to TSCA's procedural and judicial provisions as well as to section 9.

5. Decision Criteria, Standard of Review, and Rulemaking Procedures

In part, blame for TSCA's ineffectuality—particularly with regard to section 6—must be shared by Congress. While EPA (at least until recently) has interpreted the statutory language to exacerbate its own difficulties in proceeding under the statute, the language itself creates several obstacles to achieving TSCA's lofty yet sensible

goals. Moreover, as interpreted by some courts, the current statutory language verges on the unworkable, particularly for multi-faceted problems that require major regulatory initiatives.

This unacceptable result arises from the interplay of several elements of the existing statutory language: (i) the "substantial evidence" standard for judicial review of testing requirements (section 4(a)), significant new uses rules (section 5(b)(4)), and core regulatory authorities (section 6); (ii) section 6's requirement that EPA utilize the "least burdensome" approach in crafting regulations; and (iii) the "unreasonable risk" standard utilized in sections 4, 5, and 6. To make matters even worse, section 6 also imposes an unusual and unwieldy set of procedural requirements on the Agency. EDF strongly believes that this situation must be rectified as an essential component of any meaningful TSCA reauthorization.

Unlike most provisions of other major environmental statutes of the modern era, EPA's substantive evidentiary standard for promulgating regulations on is not the usual one of "arbitrary and capricious" but rather "substantial evidence." Although EDF has itself prevailed against EPA under this standard (*EDF v. EPA*, 630 F.2d 1267 (D.C. Cir. 1980) (holding that EPA lacked substantial evidence to support its failure to comprehensively regulate PCBs), we strongly believe that the "substantial evidence" standard unduly constrains EPA's regulatory discretion, particularly in light of subsequent case law.

The constraints potentially posed by the interplay of these factors—and their ill-wisdom as a matter of environmental policy—are amply illustrated by the notorious asbestos regulations case, *Corrosion Proof Fitting v. EPA*, 947 F.2d 1201 (5th Cir. 1991). There, the Fifth Circuit vacated EPA's regulations limiting most uses of asbestos on the grounds that the Agency failed to present enough evidence to qualify as "substantial" regarding the "least burdensome" and "unreasonable risk" components of TSCA.

The court first interpreted the substantial evidence standard as calling for "a considerably more generous [i.e., less deferential] judicial review" than does the arbitrary-and-capricious standard. 947 F.2d at 1213. n. 13. In effect, the court relied upon this language to justify its refusal to accord deference to EPA's conclusions. Assuming *arguendo* that the court's interpretation of the "substantial evidence" standard is correct, it has no place in a statute such as TSCA that may depend on EPA's exercise of its expertise in weighing complex factual issues "on the frontiers of scientific knowledge" (cf. *Ethyl Corp. v. EPA*, 541 F.2d 1, 28 (D.C. Cir.) (upholding lead-gas phasedown regulations under Clean Air Act)). If, however, this reading of the "substantial evidence" does not accurately reflect Congress's intentions under TSCA, Congress should clarify as much to minimize further judicial misinterpretations.

The Fifth Circuit then proceeded to apply its sweeping reading of the substantial evidence test to the "least burdensome" requirement in a way that severely undercuts the workability of section 6. In doing so, the court largely disregarded the associated phrase of the statute, i.e., "necessary to protect adequately against such risk." As EPA noted in its petition for rehearing, the Agency had expressly concluded in its decisional record that only a ban will adequately reduce the risks posed by the manufacture, installation, use, maintenance, repair, removal, and disposal of the products subject to this rule. . . EPA rejected further reliance on stricter exposure standards, and on work practices, precautions, and controls ("controlled use") alternatives under TSCA section 6(a)(5) because they have been used before and shown to be "*ineffective*" in reducing "the unreasonable risk to human health posed by asbestos exposure. . .".

Respondents' Petition for Rehearing, *Corrosion Proof Fitting v. EPA*, No. 89–4596 (filed Nov. 15, 1991).

Finally, the court interpreted "unreasonable risk" as essentially requiring cost-benefit analysis, and as prohibiting regulatory action where—in the court's view—the costs are too great compared to the benefits. 947 F.2d at 1223. While the court accused EPA of ignoring costs, it is abundantly clear that the agency did no such thing; indeed, it separately calculated dollars-per-life-saved for various uses of asbestos addressed by the regulation. Rather, the court invalidated the asbestos regulations because it disagreed with the balancing decision EPA made in terms of dol-

lars per life saved. In doing so, the court "substituted its judgment for EPA's regarding the degree to which unquantified factors may be used. . . Nowhere in TSCA or its legislative history did Congress restrict EPA's judgment by saying. as the Court did, that unquantified benefits may only be used to 'tip the balance' in close cases, but may not play a significant role in EPA's unreasonable risk determination."

Petition for Rehearing at 13. In reauthorizing TSCA, Congress should clarify that the Fifth Circuit's interpretation of TSCA is erroneous.

Finally, TSCA's efficacy is further reduced by unnecessary procedural burdens imposed on EPA. In addition to following normal public-notice-and comment rulemaking procedures. TSCA provides that, as part of a section 6 rulemaking. "interested parties" can force EPA to undertake an unwieldy process entailing cross-examination of witnesses and generation of verbatim transcripts. TSCA §6(c)(3). While cross-examination has a time-honored place in the judicial context and elsewhere when personal demeanor and credibility are critical to fact-finding, we know of no basis for believing that cross-examination is more likely to gather pertinent information than the normal notice-and-comment process that Congress has found sufficient for regulatory development under most other major environmental statutes.

In sum, as abundantly demonstrated by experience in dealing with asbestos, the cross-examination provisions contained in section 6(c)(3) are more trouble than they are worth; they are a drain on the resources of the Agency, industry, and advocacy groups alike. EDF urges Congress to delete this provision, which contributed to the lengthy delays in the asbestos proceeding. Interested persons' interests can be sufficiently protected by their ability to make written submissions to the rulemaking docket, pursuant to section 6(c)(2) and the Administrative Procedure Act. Deletion of Section 6(c)(3) of course would not preclude the Agency from including cross-examination opportunities in its public hearings where the Agency saw a value in doing so.

6. Confidential Business information

The role of public access to confidential business information is a thorny one, nowhere more so than under TSCA. Through our membership in the Community-Right-To-Know Working Group, EDF has been participating in a dialogue with EPA on this topic, as reflected in the attached comments. We encourage the Committee to give full consideration to these important issues in reauthorizing TSCA.

7. Biotechnology

Finally, EDF understands that EPA's TSCA rule covering genetically engineered micro-organisms was submitted to the Office of Management and Budget for review within the last few weeks. EDF applauds this long-awaited step. We also understand that rumblings from the regulated community suggest that the Agency may be faced with a challenge to its legal authority under TSCA to issue such regulations. While EDF believes EPA has ample authority under the statute as it now stands, we urge Congress to obviate the need for protracted legal proceedings by clarifying EPA's authority to regulate such micro-organisms under TSCA. Under separate cover, EDF Senior Scientist Dr. Rebecca Goldburg and Senior Attorney D. Douglas Hopkins are supplying the Committee with additional information on this topic for inclusion in the record of today's hearing.

Thank you for the opportunity to present our views.

COMMENTS ON THE ENVIRONMENTAL PROTECTION AGENCY'S PROPOSED ACTIONS TO REFORM TSCA CONFIDENTIAL BUSINESS INFORMATION

WORKING GROUP ON COMMUNITY RIGHT-TO-KNOW,
Washington, DC, August 27, 1993.

The Working Group on Community Right-to-Know is a national affiliation of environmental and public interest groups concerned with the public's right-to-know about chemical hazards. We appreciate the opportunity to comment on EPA's proposed steps for making TSCA data publicly accessible and generally useful.

Under TSCA, large amounts of information on chemical hazards is produced each year by industry. But these data on the immunological, neurological, developmental or other effects of chemicals are not generally finding their way into the hands of workers, citizens, regulators, and health professionals. in this regard, TSCA is not working.

Members of the public, including the 1,500 State and local groups with which we work, seldom currently use TSCA data. The public would, however, benefit both directly and indirectly from readily available access by health professionals, policy analysts, safety and health officials, and to better organized and managed data without excessive confidential business information (CBI). Better data management is essential for meaningful public access. Changes in CBI procedures and administration are needed in EPA's TSCA program to reduce excessive CBI and to effectively disseminate information on chemical hazards.

We offer the following comments to reduce excessive CBI and to make the data more accessible and useful to the public.

I. Goals

EPA should work to:

- Make the data useful. Enable the public and regulators (state and federal) to quickly determine through computer searches the scope of both public and confidential data.
- Use resources effectively. Use class determinations, up-front substantiation, penalties, and other means to reduce the staff time and resources now used challenging CBI claims. (Not all challenges are wasteful, but many could be prevented.)

II. Organizing Principles

To meet these goals, EPA must:

- Respect peoples' time. TSCA data must be perceived as organized and rational by data users. Difficult and frustrating data searches present real barriers to data access, especially for those members of the public who lack resources, organizational support, or training.
- Make certain common elements uniformly public. A well organized data base must have elements that are common to all records. Common health and safety elements include:
  - — chemical name and CAS number[2]; and
  - — information that is already public including company name, address, phone, and name of official signing the submission.

If revealing both chemical and submitter identity could disclose trade secret information, then in these limited cases criteria similar to the four common sense standards listed under EPCRA § 322(b) could be used to maintain confidentiality. EPCRA § 322(b) submitters must show that:

- — the company has not already disclosed the information;
- — another law does not require disclosure of the information;
- — disclosure would cause substantial harm; and
- — the chemical identity is not readily discoverable through reverse engineering.

However, common elements and uniform organization alone are not enough to draw in public users. EPA must also:

- identify and index basic information. Support searches for:
  - — chemical specific hazard information (whether the chemical is a known or potential mutagen, carcinogen, neurotoxin, etc.);
  - — environmental media (land, air, water, groundwater, public sewers, etc.); and
  - — potentially exposed populations (wildlife, workers, consumers, etc.).

[2] Some industries have indicated that TSCA CBI creates difficulties for chemical users in determining the TSCA status of chemicals (comments of the Electronic Industries Association, May 14, 1993). These comments are consistent with the need for standard reporting of chemical identifiers to facilitate public use of the data.

Further indexes could indicate whether submissions have been peer reviewed and whether evaluations or related information are available. Supplemental abstracts or summaries would be helpful, if available.

- Develop appropriate data products and services (without high costs, difficult learning curves, or user-unfriendly software)[3] For example, EPA could provide facilitated computer searches for chemical specific information, facility and parent company identification, or total claims.
- Reduce the need to challenge CBI claims. A program structure that results in the perpetual dedication of resources to challenge CBI claims is designed to fail. To reduce the burden of challenging CBI claims, the agency should require:
  - — up-front substantiation;
  - — penalties for unsuitable or frivolous claims;
  - — the signature of a high level official;
  - — fees for CBI claims (only); and
  - — routine rejustification of claims.

  Penalties were not included among EPA's proposals, but should be. Education courses (noted in the proposal) are not a substitute for class determinations that indicate clearly which information may or may not be claimed as CBI.
- Cultivate natural data constituencies; don't exclude them. Data outlets include: State officials; product designers and materials researchers; consumer, labor, and environmental groups; and other decision makers.[4] [5]

These principles must apply to all submissions, whether material contained within the submission is public or CBI. These are cost-effective changes that, if implemented, will provide people with a reasonable expectation of finding useful information in a comprehensive context. In that case, the public too will find TSCA data useful.

Sincerely,

PAUL ORUM,
Coordinator.

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[3] Such problems were identified in "The TSCATS Database: A Survey of Current and Potential Users," (Hampshire Research Associates, Inc., 1992), pp. 20–24.

[4] The U.S. General Accounting Office has recommended that agencies reorganize their data bases to make reproductive and developmental data available to decision makers. See "Reproductive and Developmental Toxicants—Regulatory Actions Provide Uncertain Protection," (October 1991, GAO/PEMD–92–3).

[5] TSCA data can help State officials to: enhance data bases; improve risk assessments; design and enforce regulations; implement right-to-know Laws; prepare for or respond to emergency releases; and, in general, to understand the industries they regulate (comments of the State of California, March 29, 1993).

ENVIRONMENTAL
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June 10, 1994

Senator Harry Reid
Chairman
Subcommittee on Toxic Substances, Research and Development
Senate Committee on Environment and Public Works
456 Dirksen Senate Office Building
Washington, DC 20510

Re: Regulation of biotechnology products under the Toxic Substances Control Act, 15 U.S.C. 2601 et seq.

Dear Senator Reid,

As part of reauthorization of the Toxic Substances Control Act (TSCA), we urge you to consider amendments TSCA which would give the U.S. Environmental Protection Agency (EPA) clear authority for regulation of genetically engineered microorganisms. In the mid-1980's, rapid growth of the biotechnology industry prompted questions about federal regulation of biotechnology products, and in particular, about regulation of deliberate releases of genetically engineered organisms into the environment. In 1986, the White House Office of Science and Technology Policy issued the "Coordinated Framework for Regulation of Biotechnology," 51 Fed. Reg. 23302, a policy statement explaining how we would "make do with what we have." Rather than create new legislation, the Coordinated Framework applied a patchwork of preexisting statutes to regulation of biotechnology products.

Under the Coordinated Framework, TSCA is supposed to cover the manufacture and release into the environment of many genetically engineered microorganisms (GEM's). TSCA functions as a catchall statute, covering all commercial uses of GEM's that are not pesticides or defined as agricultural pests. EPA has drafted proposed rules for regulation of GEM's under TSCA. The Office of Management and Budget is now reviewing these rules.

Unfortunately, EPA's authority to regulate GEM's under TSCA is subject to some ambiguity, and has yet to be tested in court. Initially, TSCA was written to regulate "chemical substances and mixtures" in the standard sense, with chemical substance defined as any "organic or inorganic substance having a particular molecular identity." Although this definition may be read broadly to encompass GEM's, there are grounds for arguing that it does not. Microorganisms are generally not defined as chemical substances; their chemical composition varies

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constantly as their metabolic processes occur. TSCA's definition somewhat better fits genetically engineered DNA molecules (e.g. molecules altered via recombinant DNA techniques) which are inserted into microorganisms, but genetic material is still subject to evolutionary change (which in the case of short-lived microorganisms can be rapid). If EPA is to regulate GEM's under TSCA, this statute needs to be amended so that it applies unambiguously to GEM's and EPA's regulatory program is not vulnerable to legal challenge.

Under the Coordinated Framework, research and development involving deliberate releases of genetically engineered organisms into the environment, as well as commercial activities, are to be regulated. (Laboratory research and other "contained" research is generally subject only to guidelines for good practices.) Regulation of releases of organisms used in research and development is proper and necessary. Unlike chemicals, which can only become diluted and degraded, organisms can survive and reproduce. Thus releases of even small numbers of organisms can result in large, permanent populations.

Reflecting TSCA's primary focus on commercial manufacture of chemicals, the statute exempts small quantities of chemicals used for scientific research and analysis from regulation, with small quantities defined by rule. EPA intends to define as zero the quantity of living GEM's that can be purposefully released into the environment. EPA's authority to promulgate this necessary rule would be strengthened if TSCA was amended to explicitly cover experimental releases of GEM's into the environment.

Thank you for your consideration.

Sincerely,

Rebecca Goldburg, Ph.D.
Senior Scientist

STATEMENT OF WARREN R. MUIR, SENIOR FELLOW, INFORM

Chairman Reid and Senators: It is an honor and great pleasure to appear before your subcommittee today to discuss issues concerning toxic chemicals in commerce and to offer a vision of a reformed Toxic Substances Control Act (TSCA). I hope that these hearings will lead to significant Congressional debate and major revisions to a potentially important law to guide all involved with toxic chemicals in commerce.

I am a chemist, with post-doctoral training in public health (epidemiology). I am a Senior Fellow with INFORM, a New York City-based nonprofit environmental research firm, known for its case study research and reporting. The Chemical Hazards Prevention Program of INFORM, of which I have been the senior member since 1982, received the U.S. Environmental Protection Agency's Administrator's Award in 1992. I have co-authored two major INFORM books and numerous other publications, with a special focus on the pollution prevention practices of the organic chemical industry.

I am also President of the Hampshire Research Institute, a 501(c)(3) scientific and education organization, and its smaller consulting affiliate, Hampshire Research Associates, Inc. (referred to collectively as Hampshire Research). Located in Alexandria, Virginia, Hampshire Research is a small group of highly trained scientists, engineers, and computer programmers that over the past 13 years have dedicated their expertise to promoting environmental quality by bridging the gap from science and engineering to public policy and to public understanding. Our work is sponsored almost entirely by government programs, international bodies, and environmental public interest organizations. Hampshire Research focuses on environmental issues relating to toxic chemicals and hazardous waste. Our programs emphasize toxic chemical and hazardous waste pollution prevention, environmental data policies and analyses, and chemical risk assessment. We are the developers and distributors of RISK*ASSISTANT™, microcomputer-based risk assessment software, with registered users in more than 20 countries around the world.

I have been involved with issues of toxic chemicals in commerce and toxic substances public policy my entire professional career. I have been both a participant in and close observer of the TSCA program from the start. In 1971, I joined the President' Council on Environmental Quality, which in that year spearheaded the first proposal for Federal TSCA legislation. As a Senior Staff member, I was the lead individual helping the Council to coordinate Administration policy on the legislation through three Congresses, until its final enactment at the end of 1976. In 1977, I moved to the U.S. Environmental Protection Agency, where I became the Deputy Assistant Administrator for Testing and Evaluation (the scientific and engineering office of the three offices implementing TSCA) and subsequently became the first Director of the Office of Toxic Substances (which combined the three implementing offices into one). Since my retirement from the career Federal service in 1981, I have served in the capacities mentioned above and as a member of the faculty of the Johns Hopkins University School of Hygiene and Public Health.

WHAT PROPONENTS EXPECTED TSCA TO ACCOMPLISH

When Congress first considered TSCA in the 1970s, the proposal was regarded by those working on it as the first representative of a new generation of environmental legislation. It offered EPA extensive authority and discretion, and it based most decisions on a trade-off between risk and benefits. The common wisdom was that the broad reporting provisions of Section 8, the broad testing authorities of Section 4, and the broad controls available in Section 6 represented cutting-edge thinking in environmental policy. TSCA's first proponents expected reporting, testing, and regulating to work-and to work well-in reducing and eliminating chemical-based environmental risks, once the legislation was enacted.

Only the new chemical review provisions of Section 5 aroused great controversy, preventing consensus through three Congresses. When great controversy finally yielded to great compromise in 1976, few, if any, believed Section 5 would work. Most thought that the new-chemical provisions would fail in practice and would have to be reconsidered, but supported enactment to put into effect those other important provisions that were virtually assured of success.

The common wisdom was completely wrong! Nearly every major provision that was expected to succeed has failed to live up to expectations. The new chemical compromise, presumed fatally flawed, has succeeded beyond anyone's wildest expectations; while the provisions designed to report, test, and control hazardous chemicals have achieved too little to mention. Overall, the law has proven to be either a failure or—worse—irrelevant.

I have many comments and ideas concerning the specific provisions of TSCA. I will reserve them for another time, for minor changes in the existing law cannot adequately address the environmental problems of toxic chemicals in commerce. This statute needs a complete overhaul. This testimony provides a brief overview of issues that I think Congress should consider in making such an overhaul. I would be happy to go into further detail on any of these points.

WHY HAS TSCA FALLEN SHORT?

I have known the political leadership, all the career senior executives, and many other professionals active in this program over all its years. With one brief exception a decade ago, I am convinced that the Agency has been committed at all levels to carrying out TSCA's purposes. Those involved in the program for many years may be discouraged, but not for lack of will has TSCA failed.

This program has been blessed with the presence of extraordinarily talented staff over the years. The TSCA program has been the source of an unusually large proportion of the senior executives across EPA programs and even other Federal Departments. The program has been blessed with the presence of several world-renowned scientists—among them, a winner of the American Chemical Society's Environmental Award and a winner of a MacArthur Foundation "genius" award. Not for lack of talent has TSCA failed.

This program in its early days was blessed with generous personnel allocations and dollar resources. In later years, only after the program started falling short, have its resources become quite constrained. Not for lack of resources has TSCA failed. (On the other hand, cutbacks now seriously threaten its one effective element: new chemical review.)

Finally, not for lack of problems to address has TSCA failed, nor for lack of options. The problems of toxics in commerce are great and seldom is there a lack of reasonable alternatives to reduce human and environmental risks.

The main reason that TSCA has failed is that it addresses an unreal world-view of the environmental concerns with toxic chemicals in commerce. TSCA is designed to tackle a few, relatively static unreasonable risks from chemicals in commerce that EPA can readily identify by use of the testing and reporting provisions of the law. TSCA then assumes that EPA, using risk assessments, economic impact analyses, and engineering judgments, can decide what industry should do to avoid such unreasonable risks, promulgate a rule, and proceed to the next simple problem.

ENVIRONMENTAL CONCERNS WITH TOXIC CHEMICALS IN COMMERCE

The phrase "toxics in commerce" in this testimony refers to the intentional uses of toxic chemicals at every stage in commerce from material extraction (mining) and other generation (refining, manufacture), their processing, their distribution, their use and re-use, and their disposal. This is in contrast to toxic chemicals in waste resulting from industrial inefficiencies or toxic chemical contaminants in our environment.

Conscious decisions about chemical use underlie major sources of toxics in our environment. For example, toxic chemicals in commerce account for most:

- nonpoint source pollution,
- indoor air pollution,
- food contamination,
- workplace health risks, and
- stratospheric ozone-depleter burden.

Chemical use decisions outweigh inefficiencies in industrial processes (toxics in waste) as the source of environmental contamination of hazardous waste sites, the

Great Lakes, and the stratosphere, contamination that represents a destructive legacy to future generations.

More than 70,000 chemicals are in commerce in the U.S. While industrial facilities report a few billion pounds of environmental releases of toxic chemicals to the Toxics Release Inventory, many trillions of pounds of chemicals are manufactured for introduction into commerce in the U.S. each year.

If environmental toxics concerns could be relieved by eliminating or phasing out a few bad chemicals, public policy choices would be easy, and TSCA, as enacted, might offer useful tools. Only a tiny fraction of the 70,000+ chemicals in commerce, however, have been adequately characterized for their potential to pose health or environmental effects. Even so, chemicals with well known toxicity can be used with little environmental consequence, while others with much lower toxicity pose serious risks when used inappropriately. It is not a chemical's toxicity alone, but the combination of its toxicity and uses in specific settings, leading to human and environmental exposures, that results in unreasonable risks in those settings. The heart of the problem of toxic chemicals is not their ability to produce harmful effects, but instead the particular uses of toxic chemicals in specific settings that allow harmful effects to occur.

Decisions that determine such uses are made in hundreds of thousands, if not millions, of settings across the country and at every stage in the economy. This decision-making is tightly integrated into the working of our dynamic economy, involving not only industrial use decisions, but also customer and supplier relationships throughout.

Thus, unreasonable risks from chemicals In commerce are not few, but many; not national, but local; not static, but dynamic. Moreover, most of individual unreasonable risks are not large, but when added together, make up a substantial portion of our current and future concerns over chemical contamination and environmental health.

ADJUSTING TSCA TO THE REAL WORLD—FIVE PROPOSALS

If the problems are many, dispersed, and dynamic, a centralized government approach, especially one like TSCA requiring considerable information-gathering and analysis to reach decisions, is doomed to failure. A decentralized approach to the problems of toxics in commerce is essential-one that can take into account local circumstances and one that will stimulate many shifts from less appropriate to more appropriate uses in specific settings. Thus, while decisions on the production and use of chemicals are appropriately made on an unreasonable-risk basis, those decisions necessarily are local, involving the specifics of uses at a location.

Primary responsibility for avoiding unreasonable risks from chemicals in commerce should rest with industrial producers and users of such chemicals and not with EPA. However, TSCA provides no guidance to industrial firms in taking on that responsibility.

1. Provide Producers and Users of Chemicals with Guidance on Reasonable Uses of Chemicals and Make Such Guidance an Enforceable General Duty-A Use-Based Approach

For wastes, in contrast, a hierarchy of environmental management approaches has been widely accepted: source reduction is most desirable, followed in turn by re-use, recycling, energy recovery, treatment, and only as a last resort disposal. Congress unanimously adopted this hierarchy in the 1990 Federal Pollution Prevention Act, with the support of both industry and the environmental community. The hierarchy has been useful for companies in guiding their waste management decisions and has provided a basis for all to evaluate industry's practices.

No equivalent to the environmental management hierarchy helps guide decisions on chemicals in commerce. Neither "Do not produce toxic chemicals" nor "Do not use toxic chemicals" represents a reasonable norm, given that some uses involve little or no human or environmental exposure, with no attendant risks. The alternative, "Reduce toxic chemical use," succeeds on environmental grounds, but fails when applied to some uses, such as closed system applications, where there is little risk, or

uses of toxic chemicals as essential intermediates to make important final chemical products, such as pharmaceuticals.

Little environmental progress can be expected under the current TSCA approach, which assumes that companies will continue their many and changing practices with chemicals unless and until EPA, through a rule-making process, determines that one or another of the chemicals presents an unreasonable risk. If we want companies to be environmentally responsible in their use and sale of chemicals, we had better decide what that means and articulate it clearly. Such a decision would help define what "product stewardship" means for chemicals.

Deliberations over TSCA's reauthorization provide Congress a special opportunity to start defining norms to guide the use and sale of chemicals. Such norms would address general issues, for example, the circumstances under which customers or suppliers should be held accountable for the appropriate use of chemicals, allocation of responsibilities for assessing potential risks of chemicals in commerce and for safety testing of chemicals. Under the current TSCA, all of these are EPA responsibilities—responsibilities that it has not and cannot conceivably fulfill.

Some of these norms will be generic, but others are logically tied to use. The term use' here does not refer to engineering functions (e.g., coloring agent or anti-oxidant); rather, it refers to a relatively few large categories (perhaps a dozen or so, with qualifiers such as "closed-system," "controlled use," "dispersive use," or "direct exposure") for which it is reasonable to have different expectations as to what companies should do. For example, a norm might be that chemicals which are persistent, bioconcentrating, and toxic should not be used in dispersive uses, but can be used as research chemicals or as closed-system chemical intermediates, so long as they are handled with care. Similarly, norms may lead to an expectation that companies find and use less toxic substitutes in instances where a chemical serves a general industrial function (e.g., heating fluid), but not when it is essential to a process, such as a process-specific catalyst. (A "strawman" use category scheme follows this testimony, to illustrate what such a use scheme might look like.)

Although these norms may seem the type of technical topic that Congress typically delegates to a regulatory agency, I believe that they are so fundamental to redirecting the commerce of chemicals in environmentally desirable ways, that Congress should explicitly include them in an overhauled TSCA. They represent important social policy which is best not delegated to EPA, especially if such norms are be made general duties under the Act, enforceable by EPA, by the states, or by affected parties, as I believe they should. Without such a guiding scheme for managing toxics in commerce, progress in reducing and eliminating risks from toxic chemicals in the environment will fail, as TSCA has failed. With such a guiding scheme, industry can begin to make and keep effective commitments to product stewardship.

2. Gather Information to Track Progress toward Norms for Toxic Chemicals in Commerce

EPA has broad information-gathering authorities under TSCA, but they are seriously flawed. One problem is the inability to obtain chemical use data from users, because the Act exempts articles. If use is an important basis for establishing norms of behavior for chemicals in commerce-norms designed to reduce environmental risks-then data on uses is essential to track progress. EPA needs the same authority to collect use data from users as it currently has for manufacturers and processors.

EPA is considering the collection of a Chemical Use Inventory. Such an inventory is potentially a very important, as use helps define the extent of risks from chemicals as well as expectations about product stewardship. Information on the flow of chemicals in commerce represents the largest gap in the type of information available on chemicals. Only the total absence of adequate health and safety data on many chemicals approaches the size of the information gap on chemicals in commerce.

3. Set Much Narrower Limits on Confidential Business Information (CBI)

By far the largest problem with information under TSCA is confidential business information (CBI).

I testify as an individual who has had access to the information that companies submit to EPA and as one who has helped identify valuable public uses for information available under TSCA. Our firm has even prepared a report documenting the breadth of the impact of CBI claims on TSCA information. Even for internal, nonpublic, EPA use, CBI issues have crippled TSCA as a source of information.

From a company's perspective, anyone can make a claim of confidentiality, on any submission, for anything. The statute extends broad protection from public disclosure to data claimed as confidential, even for key information on health and safety.

From EPA's perspective, Agency employees are put at great personal jeopardy if any CBI data are disclosed. EPA has had to develop a large, cumbersome, and expensive system to protect the huge volume of information containing such claims. The procedures and liabilities associated with accessing such data have effectively warded off use by other parts of EPA or sister Federal programs. Staff of the Occupational Safety and Health Administration (OSHA), for example, indicated to us that they set program priorities and establish worker health standards totally without regard to the theoretical availability of all TSCA data, simply because they are not equipped to handle TSCA's CBI data.

For EPA to attempt to deny a CBI claim involves lengthy and expensive procedures on the part of the Agency, even for claims that on their face have no merit. The law does not allow EPA to make generic CBI determinations.

This open door to CBI status for industry and the cumbersome procedures that EPA must follow to declassify any data with CBI status has produced a plethora of claims—many patently insupportable at the outset and even more so over time. Meanwhile, EPA has no practical ability to address the problem. Industry has had little incentive to change its practices, and it has done little to do so.

Whenever the issue of TSCA CBI is raised, the question of granting State governments access to the data follows. Certainly, states should have access to such data, if they have systems to protect CBI information from disclosure. But, making TSCA data available to State agencies will not in anyway address the needs for wide access to TSCA information. Moreover, even with legal access, states will not be able to use TSCA data any more effectively than, say, OSHA, which has long had the access, but finds the impediments to its use impossible to overcome.

When passed in 1976, TSCA offered the hope of a much better perspective on the flow of chemicals in commerce and the environmental risks that those chemicals pose. Can this subcommittee think of anything it has learned from information gathered under this statute, beyond the simple facts that approximately 70,000 chemicals appear on the existing chemical inventory and that about 2,000 new chemicals are proposed for manufacture each year? That nothing has been learned is not for lack of data collected.

Current CBI policy and practices have totally excluded the scientific community, State and local government agencies, workers, the press, and the public from gaining TSCA's perspectives on chemicals in commerce and have blocked accountability of industrial firms for their actions. If TSCA is ever to rely on other than presuming EPA to be omniscient and omnipotent on chemicals in commerce, the approach to CBI must be changed and changed radically.

A CBI approach that includes use-based policies may represent a reasonable alternative. During the research phase of commercial chemical development, before manufacture, for example, legitimate corporate interests pertain much more-and the public need-to-know remains much less. On the other hand, when any chemical is being sold in commerce or used dispersively, the public need to know about such chemicals weighs much more heavily against any corporate need for trade secrecy. This is the case for chemicals during their premanufacture notification review period.

4. Retain and Improve New Chemical Review

Section 5 of TSCA has been the one big pleasant surprise in the statute. Since the law was passed, EPA has received and reviewed more than 20,000 premanufacture notices (PMNs). Over the years, EPA has taken many hundreds of actions to assure that these chemicals do not pose unreasonable risks as they enter commerce. Happily, few, if any, of the major environmental issues of today are asso-

ciated with a chemical that has gone through this review, a testament to its apparent effectiveness.

Twenty years of implementation, however, do suggest three areas for improvement with respect to this aspect of the law. First, the new chemical review program of TSCA is in need of a thorough scientific review, and this should be repeated every 5 years or so. The new chemical program has never had such a review. This recommendation is not meant to suggest that the Agency is doing a bad job. On the contrary, I think that the staff has done a good job. But the program operates entirely behind a cloak of confidentiality. Without some type of technical audit or scientific review, good work goes unrecognized, and at the same time no forces of external accountability operate to assure that the program continues to function well. Over time, it is just too easy to reassign the best staff or to cut the budget from a program that is invisible. This year, premanufacture review is scheduled for significant budgetary cuts, but no assessment of program performance is available for judging whether these cuts may trim the program or gut it. Periodic outside review would provide that answer and create incentives for Agency management to make sure that cuts are effective, not excessive.

Second, in contrast to Europe, there are no testing requirements associated with new chemical review under TSCA. This results in EPA making scientific guesses every day about the possible effects of chemicals being reviewed. In many cases, the proposed conditions of use or the nature of the proposed chemicals makes it easy to conclude that they are not likely to pose an unreasonable risk. In other cases, this is less clear, and EPA should have more data upon which to base its judgments. At a minimum, EPA should have the benefit of the submitting company's reasoning regarding the potential safety of the proposed use. A straightforward improvement would be for companies to submit their own unreasonable-risk assessment for the intended uses of their chemicals, as part of premanufacture notification. With this mechanism, any need for more test data to support the safe introduction of a proposed chemical would be evident to the company through its own assessment. Moreover, this is a reasonable expectation for any firm committed to product stewardship.

Third, there is one loophole in the premanufacture notice (PMN) review process. When a company submits a PMN to EPA, it provides information on the expected uses for the chemical. EPA carries out its risk and benefit assessments largely based on these stated uses. If the chemical completes the PMN process, it is eligible to go on the existing chemical inventory, in which case it may be produced by any manufacturer for any purpose, including those never contemplated in the PMN review. PMN reviews should be based upon a range of uses, as requested by the submitter. If that company, or any other company, later wishes to use the chemical in an application that has more or fundamentally different human or environmental exposure, the chemical should be subject to a new review. The same logic should also apply to fundamentally new uses of existing chemicals. The effect of this proposal would be to convert the Section 8(b) Existing Chemical Inventory into an Existing Chemical Use Inventory, with the use categories being the same as those discussed above under norms.

5. Make Producers and Users Responsible for Testing

I have already addressed my views about additional testing for new chemicals. I share similar views with respect to existing chemicals. In general, I believe that product stewardship and sound public policy should place responsibility on the shoulder of industry to make sure that the chemicals that it produces and uses are not an unreasonable risk. To the extent that such a conclusion cannot be made without additional data, companies would have the choice of limiting uses of their chemicals to those where human and environmental exposures are so low as to make additional tests irrelevant, or to conduct additional tests.

In some cases, this approach will not prove to be practical (e.g., in the case of a chemical used primarily by tiny companies). In such cases, government sponsored testing would seem warranted.

The current approach of writing testing rules to require companies to test their chemicals is fatally flawed. In many cases, it requires the Agency to make a more

complex findings than even required to control a chemical—namely, that the chemical is likely to pose enough of a risk to warrant testing, but not enough of a risk to warrant control—and then to do so separately for each effect requiring testing. The result is a process where it often takes longer and costs the taxpayers more to go through the rule making process to require companies to test, than it would if the government just paid for the testing directly.

CONCLUSIONS

Simply put, despite its promise in 1976 and despite the valiant efforts of a capable and dedicated staff at EPA, TSCA has failed to address the extremely important environmental problems of toxic chemicals in commerce and requires a complete overhaul. The principal reason for this failure is the presumption that EPA can be omniscient and omnipotent with respect to the millions of risks posed every day in local settings by the 70,000+ chemicals being used throughout our economy. It is an impossible task. The problems are too dispersed and dynamic for a government-centric approach.

Instead, we as a nation should decide, and clearly state, the principles that should guide chemical production and use, adopt these as general duties of chemical producers and consumers, and develop public information to track progress toward these goals. Increasingly, it should be the primary responsibility of chemical producers and users, not EPA, to assess the risks of different uses and to assure that the ones chosen are reasonable. If this is done, EPA can devote its energies to providing the information needed to drive this system and to enforcing general duties on those firms ignoring their responsibilities of product stewardship.

Strawman Use Categories Under TSCA

	(A) Closed System	(B) Controlled Use	(C) Dispersive Use	(D) Direct Exposure
1. Research Chemical				
2. Raw Material				
3. Reagent				
4. Product Ingredient				
5. Essential Processing Agent				
6. Nonspecific Processing Agent				
7. Waste by-product				
8. Fuel				
9. Indoor Consumer Use				
10. Outdoor Consumer Use				
11. Other				

STATEMENT OF RON CONDRAY, ON BEHALF OF THE CHEMICAL MANUFACTURERS ASSOCIATION

The Chemical Manufacturers Association ("CMA") appreciates the opportunity to submit this written statement on the Toxic Substances Control Act (TSCA). CMA is a nonprofit trade association whose member companies represent more than 90 percent of the productive capacity for basic industrial chemicals in the United States.

When TSCA was enacted in 1976, the Congress gave EPA a framework for chemical regulation that was unique in many ways. First, unlike other environmental statutes, TSCA provides a multi-media approach to chemical risk management It also has primary focus on products and their role in society and commerce, wherein many of the other environmental statutes focus on controlling wastes. TSCA gives the Agency the authority to regulate chemicals to prevent or limit exposure from any and all pathways and through a variety of means.

Secondly, TSCA was designed to protect society from "unreasonable risks" posed from chemicals. Prior to regulating, EPA is to evaluate the risks of a chemical as well as the societal benefits derived from it. EPA is also to evaluate the costs of various regulatory options, and choose the course of action that is the least costly, yet mitigates the unreasonable risks.

Thirdly, TSCA was the first environmental statute with a "pollution prevention" approach. By giving EPA the power to test or control chemical substances before they enter commerce and to evaluate the inherent risks posed from substitute products, TSCA encourages industry to develop and use safer substances.

TSCA is unique in that it gives the EPA broad testing and information gathering authorities that extend to both new and existing chemicals. With its authority over both new and existing chemicals, TSCA contains a continuous review process that ensures the submission of important information on chemical substances beginning with research and development and extending throughout their commercial life. This occurs through the PMN program under Section 5, the testing authorities under Section 4, and the information gathering authorities under Section 8.

Moreover, at any time the Agency identifies potential risks of concern, the original drafters of TSCA provided a mechanism for EPA to ban or phase-down existing uses of the chemical, to prevent significant use of the chemical, or otherwise protect the public from unnecessary or unwanted exposure.

Together these tenants of TSCA—its multi-media approach, its focus on preventing unreasonable risks, and its approach to pollution prevention—provide a sound framework for environmental policy that is frequently reflected in more recently enacted environmental laws. We recommend that the Congress continue this policy framework as it begins the reauthorization process.

THE WORLD HAS CHANGED

Almost 20 years have passed since TSCA was enacted. While the statutory language of TSCA hasn't changed during that time, the world of chemical regulation and management has changed considerably.

A number of Federal laws were enacted or substantially amended after 1976. Each of these has affected the way the chemical industry researches and develops new products; manages facilities; handles waste; and interacts with the public, consumers, workers, and local communities. These laws complement TSCA by extensively regulating chemicals by their focus on risk, exposure, pollution prevention, and pollution abatement and control. These laws include:

Pollution Prevention Act
Comprehensive Environmental Response, Compensation, and Liability Act (Superfund)
Emergency Planning and Community Right-to-Know Act
Clean Air Act Safe Drinking Water Act
Clean Water Act Consumer Product Safety Act
Federal Hazardous Substances Act
Resource Conservation and Recovery Act
Federal Insecticide, Fungicide, and Rodenticide Act

Occupational Safety and Health Act Hazardous Materials Transportation Act
Marine Protection and Sanctuaries Act
Federal Food, Drug, and Cosmetic Act
Poison Prevention Packaging Act
Flammable Fabrics Act Surface Mining Control and Reclamation Act and,
Federal Mine Safety and Health Act

In addition, chemical regulatory regimes have been established internationally, and in some circumstances even at the State and local level.

The world has changed in the last two decades, from a more closed corporate society with a national outlook to a global economy in which companies are both multinational and multi-cultural in their perspective. U.S. company holdings abroad have doubled between 1982 and 1991 (from $3.5 trillion in 1982 to $7 trillion in 1991).[6] Two statistics illustrate the global nature of the chemical industry in the 1990s: (1)15 percent of all U.S. chemical shipments were exported in 1993 (compared to only 10 percent in 1983). (2) A recent survey showed that more than 27 percent of CMA's members are now U.S. affiliates of foreign-based companies.[7]

The public's expectations of corporate behavior have changed radically in the last 20 years. Corporations are now expected to be, and in fact are, more open with the public and responsive to inquiries about their businesses, operations, and plans for future development. Under many federal, state, and local laws, communities are given a voice in whether or not facilities are sited and, if so, under what terms and conditions. As the public has grown more environmentally conscious, U.S. corporations are relying more on partnerships and cooperative efforts with government and less on adversarial interactions and court proceedings. Consumers, armed with information about products and the manufacturing process, are influencing corporate behavior by their purchasing practices.

Keeping pace with public expectations, our industry has changed considerably in the last 20 years. At one time, we viewed our primary roles as buyers and sellers of individual chemicals, identifying our customer's need, and developing a chemical product to meet that need.

Today we see ourselves as product stewards. In addition to developing chemicals that perform as needed, we also focus on the life-cycle impact of our products. Through testing and analysis, we evaluate the health and environmental effects of our products from research and development through commercialization and ultimately disposal.

The enactment of TSCA in 1976 is an important contributor to this shift in philosophy to life-cycle awareness, as are the many subsequent environmental laws. Along with voluntary industry initiatives and public expectations, TSCA has fostered product stewardship within companies. However, many of the changes in corporate behavior that have occurred are often not observed by the public, the regulators, or Congress. These changes cover company internal procedures, improved workplace practices, better vendor and customer information, and communications concerning safe practices. TSCA also has caused companies to conduct more careful analysis and screening of new chemicals before manufacture at the research and development stage and to consider rejecting chemicals for further production because of screening results or evaluation during the EPA Premanufacture Notice review.

CMA recognizes the world has changed. We understand that chemical regulation under TSCA does not simply impact the chemical industry but influences the entire manufacturing sector. Regulation of the chemical industry, in sum, impacts many other industries because our products are critical to every aspect of modern life. Chemicals are essential in modern manufacturing and are building blocks of virtually every consumer product.

For example, methane is a major organic building block chemical used to manufacture floor polish, dinnerware, auto parts, pens and pencils, and appliance parts. Butadiene is used to manufacture apparel, upholstery, carpet, seat belts, and fishing line. Xylene is used to make home furnishings, beverage bottles, bowling balls, but-

[6] U.S. and World Chemical Trade (CMA, January, 1994) at pp. 4–6, 5–4, and 5–13.

[7] CMA Economic Survey: Economic Outlook for 1994 and Beyond (February, 1994) at A–1 and 2.

tons, and insulation. Every major industry is impacted by regulation of chemicals. From construction to computers, from medicine to the military-TSCA impacts them all.

Similarly, environmental regulation of these other industries has had a tremendous impact on the chemical industry, and the products it creates. For example, as the Clean Air Act Amendments of 1990 have begun to take effect, there is tremendous energy in the chemical industry to develop substitutes for those products that contribute to ozone depletion, ozone formation, or result in emissions of hazardous air pollutants. Costly waste management regulations and landfill restrictions that fall on our customers as well as our member companies also are forcing product redesign and redevelopment to meet customer needs with reduced environmental and regulatory impacts.

Our Commitment

Our industry is committed to protecting health, safety and the environment in a manner that yields the greatest protection possible for the amount of resources used by setting priorities for action based on the risk posed. The direction in which our industry is steadfastly moving reflects its ongoing commitment to the mandates of TSCA, responsible management of risks, and stewardship of our industry's products throughout the life cycle of a product.

CMA member companies are committed to continuous improvement in chemical management We initiated this commitment by formally adopting our Responsible Cared program in 1988. Under this initiative, CMA member companies have committed themselves to continuous improvement and are backing up that promise with tangible actions. Responsible Cared is being implemented through a series of Codes of Management Practices. CMA started its Responsible Cared Program with the Community Awareness and Emergency Response (CAER) Code, the goals of which were to improve our industry's relationship with the public and community. CAER addressed concerns about the need for the industry to be more open with communities about its operations and emergency planning procedures.

Five other Codes of Management Practices have been approved since. The most recent one, the Product Stewardship Code, most closely parallels the goals and risk-based framework of TSCA because of its life cycle focus on chemical product management This Code, approved in the Spring of 1992, is the broadest and most challenging of the Codes. The Product Stewardship Code encompasses the entire product lifecycle and emphasizes product management through a number of methods, including improved communication and partnership with third parties, such as customers, distributors, suppliers, and contract manufacturers. As a voluntary industry initiative, Product Stewardship does not focus exclusively on significant or unreasonable risks, but rather attempts to make improvements at all levels of potential risks.

In the Product Stewardship Code, our industry has articulated its vision for the responsible management of chemicals beyond that required by Federal laws and regulations. We are now in the process of generating a wide range of resource materials to assist our industry and others with implementing the Code. These resources are discussed in more detail below.

Our Accomplishments

As a part of this changing environmental ethic, we have gone beyond simply meeting TSCA requirements and are working cooperatively with EPA and the public on voluntary initiatives to promote an informed public dialogue on the risks and benefits of industrial operations and products. CMA's track record reflects that we have not waited for change but instead have been promoters of change through our own voluntary initiatives.

We believe voluntary cooperative efforts offer unique advantages that make them superior, in many ways, to regulatory actions. Voluntary actions are more timely, flexible, performance (or goal) oriented, cost-effective, and can make use of state of the art approaches and new data. Such efforts encourage innovative approaches and creative solutions not otherwise available under regulatory programs and can often

achieve results in a much more timely and effective manner. Some important examples are summarized below:

(1) The Use and Exposure Information Project is a voluntary initiative which will result in the collection of valuable data on chemicals that are the focus of EPA's Risk Management program. CMA and our sister trade association, the Synthetic Organic Chemical Manufacturers Association (SOCMA), volunteered over 15 months ago to develop a process for collection of valuable and much-needed exposure and use information from industry so EPA could make the necessary risk management decisions about these chemicals under TSCA. Currently, this project is in a pilot phase to finalize the process and form used for the collection of information.

(2) As we have focused more on making information about our products available to the public, we have responded to concerns about Confidential Business Information (CBI) claims under TSCA. In an ongoing effort to reduce the number of inappropriate CBI claims, CMA developed a program of several CBI Workshops for 1993 and 1994 to educate industry about the CBI process. As a result of these workshops and separate efforts by EPA, CMA is aware of a considerable reduction in improper CBI claims. EPA representatives have publicly thanked CMA for its efforts and confirmed that recently there has been a significant, noticeable reduction in CBI abuses and the filing of inappropriate claims.

We are committed to continuing efforts to reduce inappropriate CBI claims and thereby make more information about chemical products available to the public. As part of the public comment period on EPA's CBI Reform Proposal, CMA has also provided EPA with other ideas on improving access to information collected under TSCA while still protecting valuable proprietary information from U.S. and global competitors.

(3) The Organization for Economic Cooperation and Development's (OECD) Existing Chemical Testing Program, which began in 1990, is a major, ongoing effort designed to systematically review the potential human health and environmental effects of High Production Volume (HPV) chemicals on a voluntary basis. This international cooperative effort has required the commitment and ongoing participation of many of CMA's member companies to progress toward the OECD's goal of making screening level data (i.e., the Screening Information Data set-SIDs) available on high-volume chemicals produced worldwide.

CMA has provided leadership in this effort by finding sponsors for U.S. chemicals, coordinating dossier reviews of non-U.S. chemicals, and collecting exposure information to facilitate the program. Over 400 chemicals are currently moving through the OECD-SIDs program. The high quality health and safety data gathered on these chemicals is publicly available. The program also equitably shares the testing burden on a global basis.

From its inception, the OECD-SIDs program has been a voluntary program in the United States. The SIDs activity has been over and above the normal mandated TSCA Section 4 testing requirements. Even on those few occasions when the United States has selected a TSCA Section 4 chemical for the SIDs program, U.S. industry has had to do additional voluntary work to satisfy the SIDs requirements.

CMA has also been working cooperatively with EPA to find sponsors for a voluntary initiative to develop screening level data on High Production/High Release (HP/R) chemicals included in the Toxics Release Inventory. The overall intent is to enter sponsored chemicals into the OECD SIDs program.

(4) In an effort to educate industry and the public about TSCA compliance and cooperative initiatives, CMA and SOCMA have cosponsored four multi-day conferences since 1989. Held at 18-month intervals, each conference brings together 400 to 500 representatives of industry, government, trade associations, law firms, and the press. Companies have used these conferences to help train their employees who will be responsible for TSCA regulatory and compliance matters. EPA representatives, who have been invited to speak at the workshops, have used them as opportunities to explain or review the Agency's interpretation of TSCA regulatory issues. A number of new initiatives and joint cooperative programs were highlighted at the most recent conference in April 1994.

(5) To help implement our codes of management practices under the Responsible Cared program, CMA prepares a series of resource documents and materials to assist companies with actual implementation.

For the Product Stewardship Code, these resource materials include videotapes such as The Power of Product Stewardship (explaining the unique role of sales and marketing professionals), Implementing Product Stewardship (describing how the code relates to key jobs in each company), and Product Stewardship: Beyond the Fenceline (reviewing the main elements of the Code). Other materials focus on helping companies launch a Product Stewardship program; developing a better risk characterization/risk management program; and building Product Stewardship into both new and existing chemical research and development, product reformulation, and product process changes.

(6) EPA's 33/50 program is an example of a voluntary initiative that has been highly successful. This program, based in part on Toxics Release Inventory (TRI) reporting data,[8] derived its name from the overall goals of reducing releases and transfers of 17 high-priority chemicals: a 33 percent reduction by 1992; and a 50 percent reduction by 1995. Seventeen (17) priority chemicals were targeted by EPA in the 33/50 program including: benzene, lead, mercury, methyl ethyl ketone, toluene, and xylenes.

The 33/50 surpassed its 33 percent national reduction goal a full year ahead of schedule.[9] The U.S. chemical industry reduced releases of listed chemicals to the environment by 38 percent from 1987—1992, according to reports submitted to the EPA. The industry reduced by 45 percent off-site transfers of listed chemicals for treatment and disposal.

To provide meaningful year-to-year comparisons, CMA analyzed the reports from 1,422 plants operated by its member companies and tracked 320 core chemicals, that is, chemicals which have been on the TRI all 6 years. In spite of increases in chemical industry production, which grew by 15 percent from 1987 to 1991, the emissions trend is in the right direction down. (See Appendix A).

More than 1,200 companies have chosen voluntarily to participate in 33/50, including many CMA members. EPA and industry trade associations are working cooperatively to increase the number of companies participating in the program, including smaller companies. Facilities' projected emissions offer strong encouragement that the 33/50 program's ultimate goal of a 50 percent reduction by 1995 will be achieved.

CMA's Responsible Cared Pollution Prevention Code complements the 33/50 program and will surpass it in a more comprehensive way. This Code commits senior management to ongoing reductions in releases to the air, water, and land and in the generation of wastes. Companies must inventory wastes and releases, and evaluate their potential impact on employees and the community. Reduction plans are to be developed and implemented. Progress must be measured, and the public informed. The code calls for periodic reviews of waste management practices, and has specific provisions for contract and toll manufacturing, ground water protection, and inactive plant sites.

While TSCA has had a profound impact on our industry's culture and awareness, we have chosen to go beyond EPAs mandated implementation of TSCA to make the Improvements in risk management we believe are necessary and critical in a rapidly changing global culture and economy.

In your invitation to CMA, dated April 26, 1994, you identified several questions which you asked us to answer. Our answers are provided below:

Question: What do you see as chemical manufacturers' responsibilities under TSCA?

CMA believes that chemical manufacturers should produce and use chemicals, subject to TSCA, that do not pose an unreasonable risk. TSCA gives EPA authority to regulate products that have the potential to pose unreasonable risks. Industry be-

[8] The TRI was created by Congress in 1986 as part of the Emergency Planning and Community Right to Know Act. The TRI documents releases and transfers of some 320 chemicals.

[9] Data from TRI, covering the 1991 reporting year, revealed the emissions of 33/50 chemicals declined by 34 percent between 1988 and 1991.

lieves its responsibilities are continuing improvement in risk management and product stewardship. Such responsibilities are carried out under TSCA, through voluntary cooperative efforts with government, and separately through private sector initiatives such as CMA's Product Stewardship Code.

Question: What cooperative programs has industry entered into with EPA?

Our voluntary cooperative efforts with EPA (see pages 9 through 15) have been discussed in our written testimony above. We can provide you with additional details on any of these programs at your request.

Question: What are CMA's ideas on increasing the existing body of knowledge about health and environmental effects of toxic chemicals?

CMA believes that information to manage risks of new or existing chemicals should be available. While CMA supports EPA's authority and need to gather this information, the Agency should look first to existing data and information. A great deal of information on chemical substances is available and has been submitted to EPA under TSCA and other regulatory programs but is not always readily accessible.

EPA should also continue to rely on Structure Activity Relationships (SAR) to make predictions about the health and environmental effects and potential risk of chemicals. SAR is a reliable predictor that relies on chemical structural analogues. It is used by both EPA and industry to make assessments of chemicals.

The purpose of a regulatory testing program should be to develop information necessary to manage risks: Section 4 of TSCA should not be a basic research program. Regulatory testing programs should prioritize chemicals for testing in a way that directs testing resources to serious concerns first and requires the collection and careful evaluation of existing exposure and toxicological information prior to a testing decision for the most effective risk management benefits.

The evaluation of the amount and kind of data needed to manage the risks of a chemical should proceed in a step-wise fashion from screening level information to progressively more complex testing. CMA supports the internationally recognized and accepted tests used in the OECD Screening Information Data Sets (SIDs).

The OECD SIDs program has also effectively encouraged the sharing, internationally, of data and testing on high production volume chemicals. CMA has made considerable efforts to promote the international sharing of the testing burden and advocate mutual acceptance of data.

Question: Does the current statute set an appropriate balance between manufacturers' interest in protecting confidential business information and the public's interest in having information publicly available?

CMA supports EPA's authority under TSCA to collect and the public's right to know information on the significant health and environmental effects associated with chemicals. We believe the statute, as written, strikes the proper balance on confidential business information (CBI). However, EPA and industry can do more and are doing more to make information available to the public while continuing to protect proprietary information.

CMA has found voluntary efforts to be particularly effective in making more of the information collected under TSCA available to the public by reducing the number of inappropriately filed CBI claims. EPA has publicly acknowledged a significant drop in CBI claims recently and credits CMA's education workshops as being particularly effective.

We continue in a dialogue with EPA on this issue and are discovering creative solutions to releasing significant health and environmental effects information without threatening valuable proprietary interests.

CONCLUSION

The world and how chemical risks are managed have changed a great deal in the last 20 years. TSCA was and still is a sound approach to the management of chemicals, but it is no longer the sole vehicle for their regulation. Other statutes have stepped in to regulate chemical substances and now complement TSCA's authority. Besides these regulatory programs, cooperative and voluntary initiatives are producing significant improvements and enhancements in risk management. We believe

that any Congressional review of TSCA must consider the full impact of these other regulatory programs and ongoing cooperative activities.

The chemical industry is also not the only industry involved with or impacted by regulatory action under TSCA. There are many more stakeholders in the manufacturing sector and the public. We encourage the Committee to solicit their views as they are important players in this debate on how chemical risks should be managed in the future.

It is also important that the Congress appreciate the growing need for the United States to set environmental priorities, so that our limited public and private resources are focused on matters of highest risk. As the U.S. General Accounting Office said in its 1991 report titled, "Environmental Protection/Meeting Public Expectations with Limited Resources"-

Recognizing the constraints that limited public and private sector resources place on the nation's ability to meet high public expectations for environmental protection. . . This report urges greater emphasis on setting budget priorities on the basis of health and environmental risks; measuring environmental outcomes of EPA programs; using market incentives, pollution prevention, and other non-regulatory approaches to control pollution. . . (See GAO Report to Congress No. RCED-91–97 at p. 1).

Our industry agrees with the GAO recommendation that in a world of limited resources and high public expectations for environmental protection, we must set priorities, measure progress and program effectiveness, and encourage nonregulatory approaches to pollution control. While our industry has been a recipient of many changes in the last two decades, CMA believes it has also promoted change in a progressive and effective way.

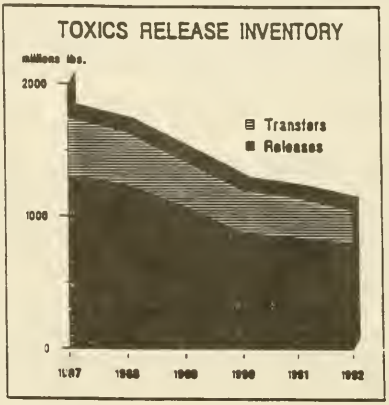
CMA is committed to continuous improvement in risk management and we are enthusiastic about being a party to this hearing process. We offer you our experience and technical expertise and are interested in discussing the issues that are the focus of your concerns. Thank you for giving us the opportunity to present our views.

APPENDIX A

TOXICS RELEASE INVENTORY
(millions lbs.)

YEAR	1987	1988	1989	1990	1991	1992	% Change 1987-92
Releases	1,302	1,238	1,071	875	838	803	-38%
Transfers	443	403	350	320	302	246	-45%
TOTALS	1,745	1,641	1,421	1,195	1,140	1,049	-40%

Releases and transfers of 320 core chemicals reported by CMA member companies' plants.



RELEASES AND TRANSFERS BY MEDIA
(millions lbs.)

Year	1987	1988	1989	1990	1991	1992	% Change 1987-92
RELEASES							
Air	543	501	479	408	378	340	-37%
Water	37	20	13	9	9	7	-81%
Underground Injection	675	665	544	426	421	425	-37%
Land	47	52	35	32	30	31	-34%
TRANSFERS OFF-SITE[1]							
Treatment	220	214	177	148	157	106	-54%
Land Disposal	61	50	38	38	32	31	-49%
Publicly Owned Treatment Works	162	139	135	134	113	109	-33%

1. Excludes transfers for recycling and energy recovery, reported for the first time in 1991.

STATEMENT OF BRADEN R. ALLENBY, ON BEHALF OF AT&T

My name is Braden Allenby, and I am the Research Vice President, Technology and Environment, for AT&T. In that capacity, I have the responsibility for integrating technology and environment into AT&T's products, processes, services and operations around the world. I am also the Technical Vice Chairman of the Institute of Electrical and Electronic Engineers, Inc. (IEEE) Committee on Environment, Health and Safety, with the responsibility for creating and coordinating the position of the IEEE on issues involving technology and the environment. Mr. Chairman, members of the subcommittee, I would like to thank you for the opportunity to testify here this morning on the Toxic Substances Control Act (TSCA), and how it may be strengthened and improved. I particularly want to commend you for seeking testimony from a representative of the chemical user community, as we frequently feel somewhat overlooked on TSCA issues, even when our interests are being considerably affected.

My testimony today will fall into two sections. In the first, I will explain how the role of chemicals—more broadly, materials—is changing in modern manufacturing. I will then discuss the implications of this trend for TSCA, and how it should be changed to reflect our increasing understanding of the fundamental challenges inherent in integrating economic and environmental goals. TSCA should be refocused to encourage patterns of material use which are sustainable over the long term in an environmentally constrained world, while supporting continued economic development. AT&T's experiences in developing and implementing Design for Environment (DFE) methodologies, based on the evolving theory of Industrial Ecology, indicate that this is a challenging and fundamental requirement for supporting industrial activity which "treads lightly on the world."

in the second portion of my testimony, I will discuss some of the concerns the chemical user community has traditionally had with elements of TSCA and its implementation. I will also suggest some general improvements which will reduce unnecessary regulatory burdens while at the same time improving compliance and protection of the environment, health and safety.

Moving TSCA Towards Sustainable Materials Use

Modem manufacturing firms do not think of materials in the same way as they did 10 years ago—or 18 years ago, when TSCA was originally passed. Two basic trends combine to dramatically change the way such firms must manage materials, and, concomitantly, the importance of proper choice and use of materials for remaining competitive.

Materials Choice and Management in a Competitive Economy

The first trend reflects differences in products, markets, and the competitive environment. In most sectors, from electronics to machine tools to aviation, competition has increased dramatically in the past decade, partially reflecting the globalization of markets for manufactured articles. Products must be designed to be lighter, and to provide greater functionality with less energy consumption and at less cost. Many electronics products, such as computers, have gone from large rooms filled with humming boxes, to people's laps. "Time-to-market" has become a critical determinant of market success, more important in some cases than cost. Manufacturing operations have shifted from relatively inefficient modes where inventory was stored at each stage of the process, to "just-in-time" structures where materials, components and assemblies are delivered only as they are required in the next step of the manufacturing process.

This evolution of the market has two implications. First, it makes management and choice of materials much more critical to competitive success. The lightest polymer which meets performance specifications; the best solder/flux combination; the best surfactant in an aqueous cleaning system—these can make the difference between an appealing product launched on time and meeting customer specifications, and a commercial failure. Moreover, the manufacturing system becomes much more sensitive to disruptions in material supply because of its rapidly changing, just-in-time nature. Material inventories which used to buffer the system at every stage are no longer maintained. Accordingly, the costs imposed on users by any disruption

in supply—be it a result of industrial accident or regulatory action—will in most cases be far higher than they used to be just a few short years ago.

Sustainability as an Environmental Goal

The second trend, of course, is our increasingly sophisticated understanding of environmental issues. TSCA was originally passed in 1976. Since then, we have become much more knowledgeable about environmental impacts, about industrial effects on natural systems, and about the global impacts of five and a half billion people. The EPA Science Advisory Board lists as major environmental perturbations such complex problems as global climate change, loss of biodiversity, ozone depletion, and degradation of soil and water resources. In leading industrial firms, we are moving conceptually beyond end-of-pipe and emission control technologies, beyond even pollution prevention and waste reduction programs. It is not that we are reducing such activities in an absolute sense. Rather, we are recognizing that they are not, by themselves, adequate to allow us to live in equilibrium with natural systems. They are an important dimension of the solution, but by no means the only one.

This understanding is leading to a fundamental change in the way the environmental impacts of materials and products are being managed around the world. Most importantly, it is now clear that any environmental assessment of materials must include consideration of impacts across the lifecycle of materials—from their mining or initial production, to their use in commerce and in products, to the dismantling of products and return of the components or materials to the economy. Fixating on any single lifecycle stage of a material runs the risk of failing to recognize more serious risks posed at other stages.

Moreover, it is also inappropriate to consider only one dimension of a material's impact on the environment. Toxicity, for example, is clearly important, but there may be other environmental impacts which are far more serious. For example, in one of AT&T's processes, chlorofluorocarbons (CFCs) were being used as a source of halogen species to dope fiber optic cable. ("Doping" means to implant small concentrations of a material, called a "dopant," in a substrate substance.) These CFCs, although virtually nontoxic, were ozone depleters, and were accordingly replaced by chlorine gas, provided through highly-engineered and redundant systems because of its toxicity. Was the chlorine more toxic? Clearly. Was using chlorine to replace CFCs still a benefit for the environment? This was. also clear, as demonstrated by the adoption of the Montreal Protocol as amended. Toxicity must not be ignored, but neither can it be the only determinant of the environmental performance of a material—not if we want to strive for real environmental improvement.

Perhaps an example will clarify both these points. One substance considered for replacement of lead in solders used in electronics manufacture is bismuth. Although much work remains to be done, there are some indications that bismuth alloys may indeed be suitable for some applications. It also turns out, however, that bismuth as a material occurs in ores in very low concentrations. Moreover, most of the bismuth produced in the world is generated as a by-product of lead mining. Thus, considering only the manufacturing and disposal lifecycle stages of bismuth, one might be inclined to say the toxicity and environmental benefits of bismuth compared to lead are obvious. However, considering the mining lifecycle stage, it is apparent that much more mining and processing—with all the environmental impacts, energy use, and water use that implies—is required per unit bismuth than per unit lead. Moreover, there is still the problem of the lead ore you have mined to get at the bismuth. Do you let it sit there? Do you go ahead and process the lead from it? And, if you do, what have you gained? The proper course for the environment, which seemed so clear when only the manufacturing lifecycle stage and toxicity endpoint were considered, is in fact not at all obvious.

International Initiatives

The growing consensus that systems-based methodologies incorporating lifecycle approaches must be applied to products and materials is by no means academic. The International Standards Organization (ISO) is actively working on the development of lifecycle assessment, labeling, and product-based environmental standards

through its Technical Committee 207. Materials issues are an important consideration in all three of these thrusts. The German Blue Angel quasi-governmental environmental label for personal computers also focuses on materials issues. For example, certain materials such as polybrominated biphenyl fire retardants are banned, requiring that designers develop materials which still provide a safe product without using such-traditional fire retardants. Also, product takeback requirements are imposed, which in turn mean materials must be evaluated for their technical and economic recyclability characteristics. The government of The Netherlands has just released its Policy Document on Products and the Environment, which contemplates a comprehensive approach to managing the environmental impact of products, including the materials from which they are made: "Information on the environmental impact of substances, materials and production processes is absolutely essential to all business activities. Such information enables producers to make responsible decisions regarding their purchasing and their production processes. . . . " (Draft translation, 1994, p. 37) UNEP, the EU, the OECD, and nations such as Germany, Austria, Sweden, Norway, Switzerland, and Japan are undertaking similar efforts; in all cases, the environmental characteristics of materials are a focal point of concern.

Private Industry Initiatives: Design for Environment

How are manufacturing firms responding to these initiatives? At AT&T, for example, we are beginning to develop Design for Environment, or DFE, methodologies which will integrate environmental considerations into the design of manufacturing processes, products, and even, over time, services and facilities. It is not enough, for example, to make a telephone in a factory which complies with emission requirements. Rather, that telephone should be designed so that it is an environmentally preferable product. It should use as little material as possible. It should be designed so that it can be refurbished easily, so that it can be reintroduced into commerce after its "first life." The plastics in it should be marked so that they can be easily recycled when the telephone is finally recycled for its materials. Toxics use should be minimized in light of environmental, market and technological constraints. And it should use the most environmentally preferable materials for each application, to the extent that can be established.

In following this path, we are guided by the principles being developed in the nascent field of industrial ecology, which is being actively developed by companies such as AT&T, entities such as the National Academy of Engineering, and academic institutions such as MIT, UCLA, Georgia Tech, the University of Michigan, Yale and Harvard. Indeed, two AT&T experts have recently written the first engineering textbook on industrial ecology and Design for Environment, which will be released to schools this fall. (Further details about industrial ecology and DFE are provided in the paper attached to this testimony.)

This activity, and our work developing the theory behind it, has given us a new perspective on materials. From an AT&T point of view, we need to know what materials are environmentally preferable, so we can choose appropriately within the constraints of product design and technology. We cannot determine this ourselves; we are not experts on the environmental impacts of mining, nor of secondary smelting and recycling, nor of plastics or solvent production, for example. Nor, for that matter, are we comfortable with the shifting of risks among different environmental systems, or geographical areas.

Is it more important, for example, to reduce energy use or the use of toxics? Superconductors, commercial versions of which now contain and will probably continue to contain at least one toxic substance (e.g., thallium, mercury, or copper, an aquatic toxicant), are a prime example. They offer the potential for enormous benefits in terms of significant energy savings, but require using toxics. Should they continue to be developed and deployed? How do the possible environmental impacts of significantly reduced energy use, such as lower emissions of heavy metals and CO_2, compare with the impacts of introducing new toxics into commerce?

Of course, we and all responsible companies remain concerned with the toxicity of the materials we use, but if we are to be responsible, we must ask other questions as well. Is it an ozone depleter? Does it contribute to global climate change forcing? Does mining and processing it contribute to environmental impacts in developing

countries? Does producing it, or recycling it, involve disproportionate amounts of energy? Can it be horizontally recycled back into the same use, or must it be cascaded down to another use where reduced performance is acceptable? In short, what are its overall environmental impacts over its lifecycle?

Implications for TSCA and EPA

A similar refocusing of TSCA in light of our more sophisticated understanding of environmental impacts should be initiated. It remains important, of course, to consider toxicity, but the first policy goal in TSCA should be reemphasized: "It is the policy of the United States that—(1) adequate data should be developed with respect to the effect of chemical substances and mixtures on health and the environment. . . . " As with AT&T's concerns about materials, toxicity is only one dimension of this policy—but to date it is the one which has dominated TSCA activity. That is unhealthy, both for policy and for the environment. In many cases, relatively nontoxic materials can have far greater impacts than much more toxic materials used in controlled conditions. CFCs are the exemplar of this principle: they are virtually nontoxic, and yet their impact on biological systems, because of their impact on the ozone layer, is potentially catastrophic. CO_2 is also relatively nontoxic, yet it may drive global climate change that could prove terminal to many species. The point is not to deregulate toxics. Rather, it is to expand the consideration of what our materials policies should be in this country to match our increased understanding of environmental perturbations, and the impact of material production and flows on them.

Accordingly, the primary policy goal of TSCA should be expanded to call for the development of data that begin to inform all of us—regulators, material producers (including the mining, forestry and petrochemical sectors), material users, product consumers—about sustainable material use in our economy. This will not be a trivial task, and it will require not only the environmental science and toxicology competencies of EPA, but in all probability the materials competency of; for example, the Bureau of Mines, and the technology competencies of the Department of Energy and the Department of Commerce. The new DoE Strategic Plan, Fueling a Competitive Economy, released in April of this year, for example, recognizes that a critical success indicator for their "Industrial Competitiveness" thrust is a "decrease in energy use, amount of raw materials, and generation of waste per unit of Gross Domestic Product." (Page 13) I find it quite interesting—and encouraging—that this success indicator appears not in the Environmental Quality thrust, but in the Industrial Competitiveness thrust, as this indicates a recognition by DoE that environment, energy and industrial activity must be integrated and treated together. It is also encouraging because the DoE National Laboratories are a unique resource for providing the objective R&D, and technological competence, to support the evolution of sustainable material flows within our economy.

Certainly others must be involved. Industry will have to contribute data and expertise on their various technologies and resultant emissions. The public, and environmental groups, will need to be included to ensure that no concerns are overlooked or not addressed, and that risks are evaluated from a comprehensive, not just technical, perspective. International harmonization through UNEP, the OECD, and ISO, based on good science and mutual respect, should be a goal. In this regard, however, the tendency to discriminate against developing countries through trade barriers or other mechanisms allegedly based on environmental criteria must be avoided.

What should EPA's role in this evolution be? Let me first say that I have the greatest respect and admiration for EPA's Office of Pollution Prevention and Toxics, and Mark Greenwood, its Director. What they have done with little funding and few resources is inspiring, and should be emulated throughout the Agency. They cannot, however, overcome certain fundamental constraints. For one, EPA as a whole is an enforcement and compliance organization. This makes it quite difficult to launch and maintain collaborative efforts with industry. Moreover, EPA's competency as a Government entity is in environmental science and toxicology,. It is not in technology, or basic materials science, or design engineering. Accordingly, I believe that EPA, and OPPT, must be important players, but cannot by themselves perform, the

integration of technology and environment. Just as in private industry we are struggling to link our environmental organizations to our design, R&D, and manufacturing communities, EPA must be linked to other competencies within the Federal Government. In particular, the technology and R&D competencies of the Department of Commerce and MST, DoD, and especially the DoE National Laboratories, must become integrated in this area. In fact, it is probably appropriate given EPA's primary mission of enforcement and compliance, and the critical role of materials competency and technological sophistication in integrating technology and environment, that the lead be elsewhere than in EPA.

The task of creating a sustainable materials policy in this country is daunting. But look at it from the perspective of the design engineer—how can he or she design an environmentally preferable product until the environmental impacts of the input materials to the product and its manufacturing processes are known? Then look at it from a policy perspective. As a society, our goal should not be just to control toxics, but to move towards material use patterns which are sustainable over the long term. In fact, if we are indeed serious about mitigating environmental perturbations, we must move in this direction—and the sooner we start, the better for the environment, and our economy.

User Concerns Arising Under Existing TSCA Requirements

In this section, I will mention several significant concerns that current TSCA requirements raise for the user community, which can be addressed without compromising any of the environmental, health and safety protections to which TSCA is addressed. While they may seem esoteric and trivial to the uninitiated, they have substantial implications for, and place significant unnecessary regulatory burdens on, the materials user community.

The most important problem faced by the chemical using community in complying with TSCA is the ambiguity in EPA's definition of the term "processor." This is a particular concern because the term is frequently jurisdictional; that is, if an entity is a "user," it will frequently have no responsibilities, but if an entity is a "processor," it will be regulated under TSCA. Thus, for example, the reporting requirements of Sections 8(a) of TSCA (the comprehensive assessment information rules, or CAIR) and 8(d) of TSCA (health and safety study submittal rules) apply to those "processing" chemicals, but not to those just "using" chemicals. Clearly, it is necessary for a company to know whether its operations are "processing" or simply "using" if it is to comply with TSCA.

Unfortunately, this is not easy. The EPA has interpreted "processing" for purposes of TSCA to cover three types of activities: 1) repackaging substances; 2) manufacturing mixtures; and, 3) producing articles. While this appears relatively straightforward, it becomes quite complex when a chemical user attempts to apply it to its activities. For example, it is clear that repackaging bulk chemicals into smaller containers which are then sold on the open market constitutes processing—but does pouring a cleaning solution from a drum into a bucket to wash a factory floor? If a chemical company makes a chemical mixture and then sells that mixture, it clearly processes the chemicals in the mixture—but if a company mixes chemicals in a plating bath, which is used on site and then recycled, is it a processor? If a chemical company incorporates a substance into a product it sells, it is clearly processing—but if a car company paints a car, is it processing each and every one of the potentially thousands of chemicals which the solidified paint may contain?

Questions such as these are not metaphysical, but define for many companies what their obligations under TSCA may be. Accordingly, in 1989 the American Electronics Association filed a petition for clarification with EPA seeking a clear, "trans-TSCA" definition of "processor" which would permit non-chemical manufacturing companies to clearly and unambiguously determine their regulatory responsibilities under TSCA. A similar request was filed by the Motor Vehicle Manufacturers Association early in 1992. While the Agency did hold a public meeting in August of 1992 seeking comment on the definition of "processing", there has been no further action to resolve this problem. It is not that chemical users do not want to comply, but that they don't know what they should be complying with.

Another general concern which the chemical using community would like to see addressed is the need for appropriate de minimis exemptions to TSCA requirements, such as the import certification and export notification requirements. For example, a person receiving an overnight package from a foreign location containing a typewriter ribbon is expected to certify immediately at port of entry (whatever that means under the circumstances) that all the chemicals in the ink in that ribbon are on the TSCA inventory and to file a premanufacture notification with EPA should any of the chemicals not be on the inventory. If an electronics engineer sends a sample of a conductive ink to Canada to a fellow researcher, and the ink contains any of a number of solvents, export notification requirements will be triggered—even if only grams of common industrial solvents are involved. The paperwork burdens such regulations cause are not justified by any significant reduction in risk: the policy of TSCA is to "regulate chemical substances and mixtures which present an unreasonable risk of injury to health or the environment," not to regulate all chemical substances everywhere, regardless of environmental or health impacts.

A final user concern I will mention is the difficulty raised by use of the Confidential Business Information (CBI) provisions of TSCA to withhold chemical identity information from processors and users. Even users have some important obligations under TSCA, such as the requirement of TSCA Section 15 that no person knowingly use a chemical substance for commercial purposes if it is not on the TSCA Inventory, or Section 5(a) Significant New Use Rules (SNURs). If a chemical manufacturer claims the chemical identity and Chemical Abstract Service (CAS) number as CBI, however, its identity will be kept on the confidential TSCA Inventory, and specific chemical identity will not be released to users or processors. For example, should any SNUR be issued with respect to that substance, it will simply be referred to by the internal EPA identifier—which, of course, means nothing to the user. Despite this situation, a user may be held in violation of TSCA for using a substance the identity of which it could not determine even using best efforts because of the CBI clad.

Obviously, this is inequitable. Processors and users should be able to access the chemical identity of substances to determine their compliance responsibilities. If this cannot be done, then they should not be held liable for violations which they could not, even by using best efforts, avoid.

Conclusion

In its current form, TSCA raises a number of serious issues for non-chemical manufacturing companies. More fundamentally, however, the existing thrust of TSCA reflects a view of environmental impacts which is too limited. This results in some user activities being heavily burdened by ambiguous, overly-complex regulations which produce little if any environmental benefit, while potentially more significant environmental impacts which should be integrated into the material assessment process are slighted. The goal of our environmental policies regarding materials should be to achieve sustainable materials use patterns within our economy. A suitably expanded and refocused TSCA, integrated with appropriate programs in DOC, DOE and other organizations, could provide a major vehicle by which this new, more comprehensive, environmental management mandate may be implemented.

REAUTHORIZATION OF THE TOXIC SUBSTANCES CONTROL ACT

WEDNESDAY, JULY 13, 1994

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
SUBCOMMITTEE ON TOXIC SUBSTANCES, RESEARCH AND DEVELOPMENT,
Washington, DC.

The committee met, pursuant to recess, at 9:30 a.m. in room 406, Dirksen Senate Office Building, Hon. Harry Reid, [chairman of the subcommittee] presiding.

Present: Senator Reid.

OPENING STATEMENT OF HON. HARRY REID, U.S. SENATOR FROM THE STATE OF NEVADA

Senator REID. The subcommittee will come to order.

This is the second hearing this subcommittee has held on issues surrounding the reauthorization of the Toxic Substances Control Act. At our first hearing in May, we heard several general ideas for improving the toxics program under TSCA. Today, we will continue that discussion and will hear more about proposals for changes to the statute, especially concerning those chemicals already in commerce.

Our May hearing laid a solid base upon which we can build. Several common themes emerged: the need to establish clear priorities; the role of pollution prevention; the importance of information; and the right-to-know concept. Most importantly, I think, was a recognition of the responsibility that a chemical manufacturer should bear for the chemicals he or she produces.

Witnesses spoke of the manufacturers and processors responsibility to know the health and environmental effects of the chemical substance and to see that the substance does not present an unreasonable risk. Just how the statute should clarify and enforce this responsibility is an important question, one I hope we will talk about today.

Our goal for TSCA should be to ensure that we have a systematic approach for toxics. Instead of responding to the crisis of the moment—be it alar, PCBs, or chlorine—we should have in place a day-to-day system to manage the risks posed by chemicals.

We heard testimony that there are tens of thousands of chemicals in commerce. But even more troubling is the variety of uses of these chemicals. These may number in the hundreds of thousands. Sometimes there is a chemical that we can single out as

truly bad and so harmful in many uses that it needs to be banned or severally restricted, like DDT or PCBs.

More often, however, the hazards stem from certain uses of certain chemicals. The challenge is managing these uses to minimize risks.

In some respects, TSCA was not really set up for this challenge. As one of our previous witnesses indicated, TSCA anticipates a Government solution for individual chemicals. But our chemical world is much more complex. A long-term toxics program requires a change in mindset. A system that awaits word from the Government that X chemical must be tested and Y chemical must be restricted is not much of a system at all. It sends the message that a chemical manufacturer only has to react to explicit Government requirements, but chemical manufacturers and processors themselves must be responsible for understanding the environmental and health consequences of the chemicals anybody can use.

I know that many an industry—and especially the Chemical Manufacturers Association, with its responsible care program—recognize their responsibility and have made commendable strides in this direction. But TSCA needs to do more.

I think it is important to bring these concepts to TSCA. As several witnesses pointed out in May, TSCA is one of the few multimedia environmental statutes. It gives EPA authority to regulate at any point between manufacture and disposal. In addition, as I have noted before, its new chemical provisions were among the earliest experiments of pollution prevention. That concept of reducing or eliminating hazards before we release a substance into the environment should be extended to TSCA's existing chemical program. In fact, EPA is doing this now in several of its projects.

At the May hearing, Dr. Goldman mentioned EPA's designed for the environment program, which assists companies in developing substitute materials and processes that are better for the environment than a company's current practice. Today, Dr. Goldman will tell us about one particular project involving dry cleaners that illustrates this approach. TSCA should encourage these kinds of cooperative efforts to serve the goal of preventing pollution.

We have heard several useful and original suggestions for changes to TSCA and will hear more today.

I would now like to offer some of my own thoughts.

To prevent managed chemical risks over the long term, I see essentially a three track system. First, for new chemicals, we must weed out from the start those chemicals that are likely to present unacceptable risks. To do this effectively, we must have better information than we do now.

EPA should not be in the position of speculation regarding the characteristics of these chemicals. The United States has one of the few programs that does not require some up-front testing before a new chemical can enter the market. I believe that the OECD's SIDS program provides a useful model for the kinds of tests that could be required.

We also need to better monitor these new chemicals once we let them into commerce. We should know when their production level and use has changed significantly from original estimates. With

new chemicals, too, we should think in terms of acceptable uses, not just acceptable chemicals.

For the second track, we need a long-term sustainable system for these chemicals already in commerce that places initial responsibility on chemical manufacturers and processors. These are the people in the best position to choose the materials, processes, and other alternative techniques that will in the long run reduce or eliminate most harmful toxics.

This means shifting our expectations and developing the information needed to make these long term changes. TSCA must provide the tools and incentives for industry to take the lead in reducing harmful toxics.

To support this effort we must have better and more testing data. We can hardly expect to progress to a sustainable system of safer chemicals and processes if we remain ignorant of the health effects of tens of thousands of chemicals. According to EPA's May test, even adding all the EPA's testing rules, voluntary testing agreements, enforcement consent agreements, and other negotiated testing agreements, only 410 chemicals have been tested in the past 18 years under TSCA's section 4 testing program. This is 410 chemicals in relation to some 60,000 to 70,000 that we have.

Clearly, we must improve this process. Again, I believe that the SIDS program may offer some useful direction.

Second, we need better and more exposure and use information. If an important element of the risk a chemical presents is how it is used—as several witnesses have suggested—then we need to have a better understanding of the uses and exposures of the chemicals in commerce. EPA has often had difficulty following through on a chemical that the ITC recommends for testing because the agency lacks adequate exposure information.

Third, we need greater accessibility—information that should be public. While protecting legitimate confidential business information, we must make chemical risk data more available to States, other Federal agencies, industry, and the public.

I expect several of today's witnesses will discuss this last point. Some of the advantages I see for greater accountability and accessibility to TSCA data are that greater public awareness will increase scrutiny and accountability and provide incentives to responsible action. The States and other Federal entities will be able to bring their expertise to the coordinated toxics programs and companies will have the information they need to make comparisons and choose safer materials, processes, and products.

A third track is a viable, useful safety net. When industry does not act on its responsibility, when it does not respond to public demand for safer and environmentally preferable materials, then the Government must be able to take action against particular chemicals or uses. We must reform the process for section 6 regulation and also make clear that pollution prevention is a vital tool for managing chemical risks.

As GAO testified, EPA has only issued regulations to control five existing chemicals. That includes the asbestos ban overturned by the Fifth Circuit and the phase-out of PCBs, which was mandated by Congress.

Maybe Government regulations under section 6 should not be the centerpiece of our toxics program because uses are so varied and sophisticated. But it has to be a realistic backstop when companies do not live up to their responsibilities.

For section 6 to be a credible tool, we also have to assure coordination among Federal agencies so that chemicals do not fall through the cracks. With the current referral process under section 9, it can take 7 to 10 years from the time EPA refers a chemical to OSHA to the time OSHA issues a final rule. Other statutes, like the Occupational Safety and Health Act, target specific problems. But with TSCA's strength as a comprehensive law, encompassing the whole life cycle of a chemical, it should not be relegated to serving as a statute of last resort.

As I have indicated before, I intend to introduce legislation to reauthorize TSCA and hopefully make it a more effective statute. I have outlined some of my thoughts today and I look forward to hearing from our distinguished witnesses. I want to encourage not only these witnesses but anyone else affected by or interested in TSCA to share with me their proposals for reforming this important legislation or their concerns about suggestions I or others have made.

Although it gets little attention, I believe TSCA is a statute of great potential and I intend to see that it lives up to that potential.

Senator REID. I would like to have entered into the record a statement by Senator Lieberman, who is otherwise involved this morning.

STATEMENT OF HON. JOSEPH I. LIEBERMAN, U.S. SENATOR FROM THE STATE OF CONNECTICUT

I would like to congratulate you, Mr. Chairman, on holding these hearings on the reauthorization of TSCA and for your leadership in this area. I know that you will be working to draft a bill before the end of this Congress and I pledge my assistance in these efforts.

TSCA is potentially one of our most far-reaching and cost effective environmental laws. It could provide the tools for EPA to act through a multi-media framework on preventing harm from chemicals. In a sense, TSCA could be the ultimate pollution prevention law.

But there is widespread agreement that the Act is not working. And, despite the importance of the Act, there has been no significant legislative effort in the last 18 years to change it. Reauthorization of TSCA should be one of this Committee's and the Administration'S top priorities next Congress. I am encouraged by the leadership that EPA Assistant Administrator Lynn Goldman has shown in this area and I look forward to working with you both on the reauthorization.

Our experience during the last four years, Mr. Chairman, with one particularly toxic chemical, lead, has led me to conclude that we must revise TSCA to ensure that it does a better job in protecting public health and the environment and that it provides EPA with the tools it needs to provide that protection.

Americans are exposed to approximately 70,00 chemicals in their homes and the places they.work, indoors and outdoors, knowingly and unknowingly. The great majority of these chemicals are harmless and are a critical part of our economy. But others may have harmful health effects. TSCA was enacted to obtain more information on chemicals' effects, to protect us from having additional harmful chemicals introduced into our environment and to examine the risks posed by chemicals existing at the time the Act was adopted. Unfortunately, the record demonstrates that EPA's implementation of the Act has been extremely deficient. The GAO has concluded that "the act's authorities have not been used effectively when EPA has considered how to address toxic chemical concerns." According to the GAO:

- EPA has issued regulations under TSCA to control only nine chemicals during the 17 years since the Act was passed. This is primarily because TSCA's legal standards for taking regulatory action are so complex that EPA has been discouraged from attempting to regulate chemicals and has given implementation of the Act low priority.
- TSCA's chemical information-gathering and control authorities appear comprehensive, but they are difficult to use and are ineffective. Consequently, EPA has assessed the risks of only about 2 percent of the chemicals in use. Further, EPA's review process does not ensure that the potential risks of new chemicals are fully assessed before they enter commerce.
- Because of its limited resources, EPA may not be able to substantially improve its performance in reviewing the thousands of chemicals in use and controlling those found to be harmful without sharing responsibility with he chemical industry.
- While the information collected under TSCA can be helpful to others, such as state health and environmental officials, much of it cannot be disseminate because of confidentiality and trade secrets concerns expressed by industry.

Some of the problems with TSCA have resulted from an unwillingness on the part of EPA to utilize the law. For example, we have long known of the hazards posed by lead. The evidence of the risks associated with exposure to lower and lower levels of lead has become more compelling every year. Yet in the past, EPA has a long history of not using the powers under TSCA to either curb existing uses of lead or to review new uses which may be developed.

But some of the fundamental problems with TSCA may rest with the language of the statute itself. For example, a decision of the Court of Appeals for the Fifth Circuit vacating EPA's regulations to phase out asbestos raises serious questions about whether EPA can act to protect public health under TSCA. Despite the acknowledged danger of asbestos and EPA's considerable scientific evidence of serious health risks, the court held that EPA failed to adequately consider the economic impact of a ban, the comparative safety of substitutes and that the possibility of less burdensome alternatives. I am concerned that this decision will make the Agency less willing or less able to properly regulate dangerous chemicals which are already on the market.

The witnesses at these hearings have presented some excellent ideas for reforming TSCA, both legislatively and administratively. I will be studying these proposals and look forward to working with you Mr. Chairman and Dr. Goldman in deciding which proposals will make the law more effective.

Senator REID. I would also like to inform the witnesses that we have this timing apparatus here. We have nine witnesses this morning. We have two of our witnesses who are on an extremely tight time schedule. Therefore, we want to hold witnesses to a 5-minute statement so that we have time to ask questions.

We will first hear from Dr. Goldman.

STATEMENT OF LYNN GOLDMAN, ASSISTANT ADMINISTRATOR, PREVENTION, PESTICIDES, AND TOXIC SUBSTANCES, ENVIRONMENTAL PROTECTION AGENCY

Dr. GOLDMAN. Thank you, Mr. Chairman.

I also have a written statement for the record.

Senator REID. Without objection, your prepared statement will appear in the record.

Dr. GOLDMAN. Thank you for the opportunity to discuss with you the TSCA existing chemicals program.

TSCA is an old statute in a new era, an era of limited Government resources where environmental action must be focused on situations with greatest risk, an era where we have learned that community right-to-know and pollution prevention are powerful tools

for protecting health and the environment. We need to update our approach to existing chemicals to meet the new challenges we face in this era.

Risk assessment, as you know, is a key tool for making environmental decisions. The key to a good risk assessment is reliable hazard and exposure information. TSCA, in its role of determining the risks of chemicals in commerce, should be the basic way for this critical information to be developed.

Mr. Chairman, as we discussed in May, there are over 70,000 chemicals on the TSCA inventory. Progress toward determining hazard by testing chemicals on the inventory has been disappointing. We need to focus our energy on the hazards of chemicals with the greatest potential for risk. We have developed a master testing list, an internal system for identifying data needs with policy significance. Right now there are approximately 500 individual chemicals and 10 groups of chemicals on the list.

The master testing list, or similar priority-setting mechanism, is critical for targeting testing needs and should be incorporated in any TSCA reauthorization effort by Congress.

We also need effective mechanisms to get testing done. Section 4 rules are very time-consuming. To shorten the process, we have used nonstatutory vehicles, such as enforceable consent orders. But if we are to build the data for risk assessment efforts throughout the Federal Government, we need clear authorities to gather this priority testing information quickly.

In addition to hazard data, good risk assessment necessitates the inclusion of exposure information. We are currently seeking to expand the types of information collected to include use data. Better use data will give us a handle on exposure that we can better assess the risk.

Changes in our risk management activities are also underway. Current risk management actions are targeted using exposure and hazard criteria, incorporating right-to-know and pollution prevention principles. As we discussed in May, with the remand of the 1989 asbestos ban and phase-out rule by the Fifth Circuit, we find section 6 not as workable as we think Congress intended.

In trying to find the most effective approaches to risk management, we have moved from the single chemical approach to looking at clusters of uses or geographic areas. Our Design for the Environment dry cleaning project is an example of how taking advantage of information on uses of chemicals and technologies can provide environmentally preferable, cost-effective choices to small and medium-sized businesses.

There are about 35,000 dry cleaning establishments with some 240,000 workers that use perchlorethylene, or perc, to clean clothes. As you are aware, many of these establishments are collocated with residences, restaurants, and grocery stores, increasing the potential for exposure.

Our DFE project is working with the industry to examine cleaning and control technologies to reduce worker, consumer, and residential exposures to perc. For example, we are now looking at which cleaning process is effective at cleaning a variety of garments, but do not use the more toxic organic solvents. Once the

technical assessment is complete, we will focus on strategies to achieve acceptance of these more desirable technologies.

Another example is our recent experience with the case involving EDC, or ethylene dichloride. EPA used hazard data along with the Toxics Release Inventory and census data to look at the possible risks associated with releases. We discovered that four industrial facilities were responsible for most of the nationwide releases and potential risks and that a single facility in Indiana had the highest levels of releases of EDC, a probable human carcinogen. EPA and the State of Indiana are now in the final stages of negotiation to ensure that releases from the facility are sharply reduced.

An important part of risk management that I have hinted at already is the role of State and local governments, industry, labor unions, public interest groups, and grass roots community groups in working with EPA to achieve environmental improvements. One of the most effective ways for EPA to encourage participation is for us to deliver key environmental information on risks of chemicals of concern.

As you can imagine, we receive much important information about chemicals from a variety of sources, yet much of this information currently is not available to the public or even to the States. Why? Because much of what we receive is classified as confidential. TSCA is basically an open invitation for industry to claim any information confidential.

I have brought some examples to show the kinds of problems we have with the data that are submitted as confidential.

In this first case, note that every single piece of meaningful data has been excised from the study. Basically, it is a page of "a"s, "and"s, and "the"s.

In the next two exhibits, we have a before and after picture. In the first, again, no meaningful information was provided. The second reflects what information became available after an agency review and challenge of the information that had been claimed as confidential.

Not only do these claims limit our ability to provide needed health and environmental information, they also burden the agency with protecting information that does not need to be protected for legitimate business reasons.

Other primary players in risk management of chemicals are those Federal agencies that address occupational risks of chemicals, such as OSHA and NIOSH. I am very glad to see both agencies represented today to inform us about strategies to reduce occupational risks of existing chemicals.

Section 9 of TSCA was intended to establish a working relationship between EPA and other Federal agencies. But its use was largely abandoned in the 1980s because of resource burdens. However, OSHA, NIOSH, the Mining Safety and Health Administration, and EPA have formed the one committee to bring together senior officials to address issues of mutual concern and establish better coordination.

Mr. Chairman, I sincerely hope my testimony today highlights the importance of setting an agenda for risk assessment and risk management for existing chemicals and the value of proceeding within a framework of right-to-know and pollution prevention. At

all times we must keep in mind the goal of preventing, not just controlling risks, in order to have a successful toxics program.

Thank you for your time and all your efforts on TSCA reauthorization.

Senator REID. Mr. Joseph A. Dear, Assistant Secretary, Occupational Safety and Health, will now testify.

STATEMENT OF JOSEPH A. DEAR, ASSISTANT SECRETARY, OCCUPATIONAL SAFETY AND HEALTH, DEPARTMENT OF LABOR,

Mr. DEAR. Thank you, Mr. Chairman.

I have a statement from which I will summarize.

Senator REID. Without objection, your prepared statement will appear in the record.

Mr. DEAR. I am particularly pleased to be here today with my colleagues from EPA and NIOSH. We share a goal of reducing exposure to toxic chemicals at their source instead of having to introduce control or abatement after exposures have occurred. We are working in concert to make sure that we use the resources of our three agencies in the most effective manner possible.

OSHA's responsibility is for worker safety and health. We inspect workplaces; we set standards; and we assist employers and employees in abating hazards in the workplace. Chemical exposure in the workplace is a major cause of illness and disease in America. There are thousands of workers who die each year from illnesses caused by exposure to substances like asbestos, silica, chromium, carbon monoxide—and the list goes on and on.

Although we lack precise information on the exact number of worker deaths and illnesses from occupational exposure, one estimate is that from 50,000 to 70,000 workers die each year as a result of occupational exposure and another 350,000 illnesses are caused by these occupational exposures.

The National Academy of Sciences has found that fewer than 20 percent of industrial chemicals have been adequately evaluated for possible human toxicity. There is a pressing need for data on the degree and the nature of hazards posed by industrial chemicals so that we can protect workers and prevent disease.

In addition, there is a lack of information about chronic and long-term exposures and multiple chemical exposures over a long period of time to American workers.

OSHA shares EPA's interest and your interest in making TSCA more effective. Data from chemical tests are valuable to OSHA in assessing risk to workers and in setting priorities and developing occupational health standards.

Since TSCA was enacted, OSHA has received information from EPA pursuant to section 9 on a number of substances, including formal referrals on three chemicals—Butadiene, Glycol ethers, and Methylenedianiline. OSHA has proposed rules on the first two and issued a final standard on MDA.

Notwithstanding that, we have found problems in using TSCA. First, there is the problem of coordination between EPA's referrals and OSHA's own priorities for risk assessment. We are in the process of working together to improve this coordination so that when

a referral is made to OSHA it will be more in line with OSHA's regulatory priorities.

Another difficulty is that described by EPA in its previous testimony. The chemical testing program under TSCA has not been as effective as expected. The number of chemicals tested thus far has been far below the number of chemicals for which we need information.

OSHA could use data on many more chemicals than have been tested so far. Any improvements that would speed up this process or enhance EPA's ability to gather data would improve OSHA's ability to assess risk and prioritize standards. This will produce better regulations.

Our act requires us to regulate health hazards to the extent feasible. "Feasible" has been interpreted to mean both technical and economical feasibility. Section 4 of TSCA could be used to produce information on feasible methods of controlling workplace health hazards. It would help us speed up our rulemaking on toxic substances as well as providing practical information about current methods used in industry to reduce exposures and reduce hazards.

A third problem concerns confidential business information. Company claims of confidentiality on issues such as the amount of a chemical used or manufactured at a facility result in EPA providing OSHA with aggregated chemical data from individual firms. If we had more precise data on where these emerging hazards are being used, we could more effectively target not only our standards but our enforcement action. It would keep us out of workplaces where there aren't hazards present. I think both OSHA and industry have a mutual interest in getting better information so that we can more appropriately and effectively target both our standards and our inspection resources.

As I said—and as you see by our presence here today—OSHA, NIOSH, and EPA are trying to work together in a more coordinated fashion, to work together sooner. We have established the one committee to coordinate our research and regulatory activity so that we avoid duplication. I am very hopeful, based on our work to date, that we can do a lot more under the present statute. But that will not be enough.

In addition to doing things like inviting NIOSH and EPA to participate in our standards prioritization system, we must have better information. Improvements in the Occupational Safety and Health Act of 1970 and TSCA enable us to become more effective in protecting workers and advancing the interests of employers.

Better regulation of workplace exposures to chemicals which cause occupational disease will assist us in preventing those diseases and in reducing the associated health care costs. Improving TSCA can mean improving risk assessment and risk management policies and procedures. The result will be more protective, balanced regulations that not only protect workers but save money for business.

I am very pleased that you are focusing attention on this issue and I look forward to answering your questions. Thank you.

Senator REID. We will now hear from Dr. Linda Rosenstock, Director, National Institute of Occupational Safety and Health.

STATEMENT OF LINDA ROSENSTOCK, DIRECTOR, NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH, DEPARTMENT OF HEALTH AND HUMAN SERVICES

Dr. ROSENSTOCK. Good morning, Mr. Chairman.

I welcome this opportunity to comment on the role that NIOSH plays in implementing the Toxic Substances Control Act and offer some suggestions on how data obtained under the act could more effectively be used to increase worker health and safety.

NIOSH, too, supports the principle of pollution prevention. Our mandate under the Occupational Safety and Health Act is to conduct research on innovative methods, techniques, and approaches for preventing occupational safety and health problems, including those created by new technologies.

Based on this research, we develop recommended standards and the criteria needed by OSHA and MSHA for standards promulgation. We are also required to conduct informational programs on the importance of and proper use of adequate safety and health equipment. These are all preventive mandates.

We firmly believe that preventing harmful exposures is the key to avoiding human suffering and death through exposures to workplace hazards, as well as take-home hazards that can expose family and community members. NIOSH strongly supports the concept that it is the responsibility of chemical manufacturers, processors, and formulators to test, review, and appropriately inform users and consumers about the hazards and proper use of their chemicals.

Since the Occupational Safety and Health Act does not require industry to test the chemicals it manufacturers and uses, it is through data generated under TSCA and by membership on the interagency testing committee, which makes recommendations to the Administrator of EPA on priority chemicals for rulemaking, that NIOSH can obtain some of the toxicity information needed for standards development and targeted research and preventive research programs.

I would like to just mention a couple of activities we have played with staff of EPA in implementing TSCA. We have worked closely with EPA and OSHA to coordinate key policy issues related to toxic substances. Since becoming director of NIOSH in April, I have met regularly with Dr. Goldman and Joe Dear on these and other issues.

NIOSH activity related to TSCA include but are not limited to some of the following. We have active membership and have had chairmanship on the interagency testing committee; participation in EPA stewardship meetings with industry; peer review of documents and participation in risk management meetings; conducting industrial hygiene surveys through an interagency agreement to provide EPA with exposure assessments of various industries.

Section 4(a) of TSCA permits EPA to require the testing of any chemical which may present an unreasonable risk of injury to health or the environment. In promulgating such a testing requirement rule, EPA may prescribe epidemiologic studies, those studies of actual working populations, after consultation with NIOSH. NIOSH believes that this route of approach should be pursued aggressively and that results from actual studies of employees would be beneficial and is eager to work closely with EPA on this issue.

NIOSH does use data generated from the TSCA chemical testing program in many ways. For example, we use the data to assist in selecting chemicals for developing criteria documents, including some which have been jointly written with the Nordic group of experts and Swedish National Institute of Occupational Health. NIOSH is pleased that the interagency testing committee is recommending that testing be conducted to obtain data for prevention activities, including regulations.

These kinds of data will play a significant role in the current efforts by NIOSH and OSHA to jointly develop priorities for regulatory and other prevention activities.

NIOSH also uses TSCA data in compiling the congressionally mandated NIOSH database, known as RTECS, the Registry of Toxic Effects of Chemical Substances. This database is used internationally in a variety of formats to identify toxic effects of over 120,000 chemicals. TSCA data are used by NIOSH to develop documents for informing employers and employees about workplace hazards.

These data are also used in developing recommended standards and associated criteria for use by OSHA and MSHA. They may also be used by a research scientist formulating hypotheses for further research.

NIOSH is pleased that EPA has proposed the reformulation of the toxics released inventory to assist us in collecting information to update workplace surveys conducting from 1971 through 1974 and again from 1981 through 1983. These past surveys have been an invaluable source of information used by numerous Federal programs, including the interagency testing committee, the national toxicology program, and NIOSH and OSHA for developing regulatory research and testing agendas.

EPA has recently proposed a pyramid structure with TSCA data forming the base, NIOSH in the middle interpreting the data and supplementing it with industrial hygiene, medical, and risk management information, and transmitting recommendations to the Department of Labor for regulatory action. This scheme is a promising one, and if perfected and implemented, it would improve the ability of these agencies to protect the health and safety of workers and the general public from exposure to toxic chemicals. We will continue to work with EPA and OSHA on implementation of this proposal.

One frustration with all chemical testing performed through Government agencies is the long lead time needed to obtain test data. The common minimum of 2 to 3 years before testing begins on a targeted chemical does not even include the actual test time, report writing, and review processes before the information is available. Obviously, this hurdle needs to be addressed.

Another serious problem is the limitation on the use of confidential business information either for planning, research, or in formulating recommendations to the Department of Labor. We need to clearly define better guidelines on what constitutes an appropriate use of confidential business information so that this information is not used to prevent identification of hazards about which we can intervene and reduce risk.

In addition, the preventive aspects of TSCA would be greatly enhanced if industry were to develop the engineering controls and protective equipment to assure that workers are not subject to potentially harmful exposures when new chemicals are introduced or new uses or new hazards are found for existing chemicals. NIOSH would very much like to participate in the coordination of helping to test some of these activities.

Thank you for the opportunity to describe how NIOSH uses TSCA data to suggest some changes that could provide increased protection from chemical exposures for workers in the general public.

Mr. Chairman, I would be pleased to answer any questions you have.

Senator REID. Dr. Goldman, when you were here previously, you talked about the need to set priorities. With the large number of chemicals we have in commerce, I believe this is crucial.

Would it be advisable for us to identify in the statute certain categories or criteria for prioritizing the testing of chemicals?

And if you agree, what categories or criteria would you recommend?

Dr. GOLDMAN. I do think that it would be helpful if Congress were to specify some categories of priority chemicals. One of the things that could be quite useful is that for certain chemicals standard test data would be required to be available. That would help also reduce the burden for testing.

Some of the specific areas of guidance that would be useful—one would be chemicals that are regulated in other EPA programs or by other Federal regulatory agencies. There are also possibly categories of chemicals of concern that Congress might want to specify, such as the environmental hormones, or the bioaccumulative chemicals.

It is also possible that Congress might want to specify chemicals with high exposure potential because of either consumer use or occupational exposures or even just volume of use of the chemicals.

We do think this could be a useful approach.

Senator REID. Would either of you like to elaborate on her statement? Would it be advisable for us to prioritize the testing of chemicals in certain categories or criteria?

Mr. DEAR. It could be very helpful. Again, what we have to have in order to establish priorities is good information. In order to regulate effectively, we need to know whether or not the substance in question poses a significant risk. By making it more clear what data is required—perhaps by making more of it available sooner—it would greatly assist OSHA in its standard-setting operations.

Dr. ROSENSTOCK. I would like to endorse that. I think implicit in that answer is something that Dr. Goldman referred to earlier. We have an extremely high need for better use data. If we are going to prioritize chemicals, we must be paying attention to where the hazards are. If we're going to use the model of primary prevention at its source, we need to know where they are. I think prioritization that reflects that component would be very useful.

Senator REID. I think the record should also reflect that I believe that OSHA and your office, Dr. Goldman, are fortunate to have M.D.s. We don't have this often in these types of hearings. You are

both trained in medicine. I think that is helpful because what we are trying to prevent is medical problems with the dissemination of all these chemicals.

How might this that we have just spoken about work with this master testing list?

Dr. Goldman?

Dr. GOLDMAN. I think there are a number of ways that could work. One is through the use of the master testing list—it could be specified in the statute that the master testing list would include high-volume chemicals. It could be specified that the master testing list include chemicals meeting the other criteria that we discussed earlier. I think it would also be useful to establish some sort of a minimum screening level amount of data that would be required for the chemicals on the master testing list.

For example, there is an ongoing program, the SIDS program mentioned earlier. We could have a mandatory counterpart to this voluntary program that we are now conducting. Right now, the European Union is putting in place some mandatory minimum data requirements for the SIDS chemicals.

It would also be possible to put in place some requirements that add new chemicals to the master testing list that a certain minimum amount of data, testing, and exposure information be required as those new chemicals are added. So later if we identify new groups of chemicals of concern—maybe science in the future would bring forward new concerns, like the recent concern about environmental hormones—then we could incorporate those new chemicals onto the master testing list and have a basic set of data to use to prioritize those chemicals.

Senator REID. The bells just went off and we have a vote. I know that Mr. Dear and Dr. Rosenstock have an important meeting they must attend, so I am going to go directly to some questions of them that I want to ask before we terminate this part of the hearing.

Mr. Dear, some States are authorized to administer OSHA requirements, right?

Mr. DEAR. Yes.

Senator REID. Do you know how many States run their own OSHA programs?

Mr. DEAR. It is 23 States and 2 Territories, Mr. Chairman.

Senator REID. And how do you compare the programs that are run by the States to those run by the Federal Government as far as effectiveness?

Mr. DEAR. They vary. Some are true laboratories of innovation in the sense that they are ahead of the Federal OSHA programs in the approaches they are taking to improving workplace safety and health. Some have some significant resources challenges.

Senator REID. The State of Washington, from where you came, is a State that runs its own program. Is that right?

Mr. DEAR. Yes, sir.

Senator REID. Aren't there situations there where the State is not providing adequate protection for workers and the Federal OSHA has had to come in and conduct inspections?

Mr. DEAR. No. I disagree with that characterization.

There are certain types of hazards where a combined approach was helpful. I am thinking of a particular incident that involved an

aerospace manufacturer, the Boeing Company, where a very perplexing series of adverse reactions occurred in one work site. There, Federal OSHA, NIOSH, EPA, and all sorts of other experts went to look at that program. But that was not a case where any State inspection capability was less than the Federal.

If I might just elaborate a little bit, I think one of the questions is the ability of States to move forward with their own regulations. The requirement of these State programs is that their standards be at least as effective as the Federal standards. The question is whether in the absence of Federal standards States will move forward and then create compliance difficulties for firms which operate in more than one jurisdiction.

Senator REID. The workplace situation I am most familiar with is that of Boeing where I conducted a number of hearings regarding Boeing and Lockheed's treatment of composite materials in the workplace. Hundreds of people have suffered—by their own words and by those of some physicians, even though there is some disagreement—all kinds of problems that these doctors say deal with chemical exposures. Many of them are severely ill. Most troubling are the neurological effects on their memories and mental capacities.

But Boeing and Lockheed—especially Boeing—have repeatedly said that the levels of the chemicals are below permissible standards.

How do you feel, having been involved in that personally? Do you think that OSHA has done enough to address this problem?

Mr. DEAR. No, I do not. I do not feel that with respect to the State of Washington. I think we all worked to learn from that event.

I also experienced the effects of chemical exposures as the Administrator of the State's worker compensation program. So I followed those issues from beginning to end.

One of the reasons I described the situation as complex is that there were no violations of any existing standard, yet we had workers suffering clearly adverse consequences.

Senator REID. What do you think we should do about that? I have waited a number of years and people are still complaining of being sick. There are some who say they are psychosomatic and then there are others who say that that is simply not true. Medical science just has not caught up with chemical exposures. People don't recognize what chemicals do to people.

Mr. DEAR. Mr. Chairman, it is a frontier issue. We need to address it. We don't have enough information to reach conclusions. The effort you are undertaking with TSCA to provide regulatory agencies with better information in a more timely fashion is extremely important to help us deal with the issues.

Senator REID. I held hearings in California and back here a couple of times on composite materials. Do you think there would be any benefit to have the General Accounting Office, OTA, or even a congressional hearing in the State of Washington to hear firsthand from people who have your job now, who are trying to figure out what is going on, people who are complaining, people who say there is nothing there? Do you think those fact-finding ventures would be of any assistance?

Mr. DEAR. Yes, I do. I know the State of Washington's Legislature recently engaged and funded a study of the issues you raised with respect to exposure to multiple chemicals. An update on that activity might be quite useful.

Senator REID. Dr. Rosenstock, I am particularly concerned about that.

How do you feel about the situation in Washington?

Dr. ROSENSTOCK. I also had first-hand experience. I was working at that time as a physician at the University of Washington and was treating some of the affected employees.

I think in fact the situation raises the need for the discussions that you are directing through these hearings, through reauthorization. I think the real answer is to try to get better science and better data.

Senator REID. But how do we do that, though?

Dr. ROSENSTOCK. I think we do that by trying to think about how we do introduce new chemicals and composites of chemicals. I think we should have some minimum criteria of a set of tests and perhaps a hierarchy so that we are even able to go on and do things that we tend not to think about for new chemicals, although we accept them for drugs, which is actually to have some controlled human exposures in some settings for certain chemicals or combinations in a laboratory setting at levels below what we expect workers to encounter in the work environment to detect any adverse effects.

I think once the problem is there, we certainly can't accept that because levels are within the allowable exposure limit that we are satisfied. We know over and over again how many times we find health effects at levels below understood limits.

Senator REID. That case has it all because it has chemicals, sensitive data that the companies don't want to release because they are building stealth airplanes and other types of what they feel are commercially sensitive products. So it is really a case study on a lot of the problems we have with TSCA.

I do have to vote. I think it is unfair to have the three of you wait. I know that two of you must leave. We have a long series of questions that we would like you all to respond to. We will submit those to you forthwith and we would ask that you respond in writing at your earliest convenience.

Dr. GOLDMAN. Mr. Chairman, I can also stay if you need to have EPA present after the vote. It is up to you.

Senator REID. I appreciate that very much. We have the six other witnesses. I hope there is someone here from EPA listening, as I am confident they will be, during the rest of the hearing. But we do have these questions that we would responses to in writing. I appreciate very much your very important testimony.

The committee stands in recess for about 5 or 6 minutes.

[Recess.]

Senator REID. The committee will come to order.

Panel two will consist of Peter Guerrero, Director, Environmental Protection Issues, United States General Accounting Office; Mr. Robert L. Hagerman, Research Associate, Dow Chemical; and Dr. Ken Geiser, Director, Toxics Use Reduction Institute, University of Massachusetts.

We will first hear from Mr. Guerrero.

STATEMENT OF PETER GUERRERO, DIRECTOR, ENVIRONMENTAL PROTECTION ISSUES, GENERAL ACCOUNTING OFFICE; ACCOMPANIED BY RAYMOND SMITH, PRINCIPAL INVESTIGATOR

Mr. GUERRERO. Thank you, Mr. Chairman.

With me today is Ray Smith, principal investigator for the work we are doing for the subcommittee.

We appreciate the opportunity once again to participate in your deliberations in reauthorizing TSCA. At your May hearing, we noted that EPA had taken few regulatory control actions under TSCA for a variety of reasons: first, the difficulty of demonstrating that a chemical presents an unreasonable risk and the very high standards of evidence required to make such determinations; second, EPA's preference for using other health and environmental statutes to control toxic chemicals; and third, insufficient data to assess chemical risk and the very cumbersome and costly process for collecting this data.

As you requested, today we will focus on options to improve EPA's implementation of TSCA.

Our preliminary observations are based on ongoing work for the subcommittee. Based on this work, we have identified options for strengthening EPA's ability to regulate harmful chemicals. I would like to discuss those options in greater detail.

With over 2 decades of experience in implementing pollution control laws, EPA has recognized these laws have some very serious shortcomings and gaps. For one, they deal with pollution after it has been generated or introduced into the environment, a point at which it is very costly to control and to address. Second, they are focused on a limited number of pollutant situations that may or may not account for the most significant health and environmental effects. Although TSCA could be an important part of a comprehensive toxics control program to fill these gaps, the act cannot now be easily used in this way.

TSCA section 9 generally requires that other health and environmental laws be used to address the risks posed by chemicals if EPA determines that such laws can eliminate or sufficiently reduce those risks. EPA has interpreted this section to preclude its use of TSCA to control the production, distribution, and use of chemicals already regulated under such laws as the Clean Air, Clean Water, and Occupational Safety and Health Acts.

There are two approaches for ensuring that TSCA plays a more central role in EPA's pollution prevention and control efforts. First, EPA could revisit its prior interpretation of section 9 to determine whether it is consistent with the agency's current emphasis on pollution prevention. Alternatively, TSCA could be revised to remove references to other environmental statutes, leaving the EPA Administrator the discretion to decide when to use TSCA. In either case, having TSCA as a viable tool in its pollution prevention arsenal would give EPA a cost-effective alternative to more costly end-of-the-pipeline pollution controls.

To be able to use TSCA in a more comprehensive chemical control way, however, will require changes to make it less burdensome

and costly. First and foremost among these changes is a reassessment of the standards EPA must apply in regulating chemicals. To regulate a chemical under TSCA, EPA must show that the chemical presents or will present an unreasonable risk. To determine whether the risk is unreasonable, EPA assesses the chemical's risks and performs extensive analysis to weigh the benefits of controlling the chemical against the economic and social costs of any contemplated regulation.

But this test of reasonableness has been very difficult for EPA because of the complexity and the amount of evidence required to demonstrate that the benefits to human and health and the environment outweigh the economic and social costs of controlling or banning a chemical. EPA's inability to regulate asbestos, a known environmental hazard, illustrates the difficulty of applying TSCA's current standards.

In contrast to TSCA, the Canadian Environmental Protection Act separates the process of deciding whether to control a chemical from the process of determining what appropriate control actions should be taken. The act authorizes the government to control chemicals that are toxic, which are defined as those entering the environment in a quantity or concentration or under a condition having a harmful effect on health and the environment.

Determining whether the chemical is toxic and should be controlled is based on an assessment of the chemical's risks. Costs and benefits are taken into account in deciding what control actions to take rather than in deciding whether a chemical's risks should be addressed.

EPA also needs better data for new and existing chemicals. Currently, new chemicals are manufactured with limited information on their characteristics and effects. This occurs because TSCA does not require the routine testing of new chemicals and industry performs only limited testing. EPA relies on available data from chemicals with similar molecular structures and, unfortunately, this does not always allow it to predict important characteristics of the chemicals being reviewed.

To provide better data, TSCA could require manufacturers to perform basic tests for new chemicals and additional tests when production reaches certain levels. Although that would impose additional burdens on both EPA and manufacturers, there is an opportunity to limit that burden by shifting the point of review from premanufacturing to the time the chemicals are marketed. I would be pleased to discuss this further in questions and answers.

Even with better data on new chemicals, EPA will still lack adequate information on most chemicals since 86 percent of the approximately 72,000 chemicals in the inventory existed in commerce when the new chemical review program began and have not been reviewed as new chemicals. In turn, only about 2 percent of these existing chemicals have been reviewed. This lack of attention to existing chemicals is a result of both no explicit statutory requirement for EPA to review existing chemicals and the cumbersome process the agency must use to collect data. To put the existing chemical program on a more equal footing, Congress may wish to consider setting specific deadlines or targets for those reviews.

My statement, which I will be submitting for the record, talks about the need to set priorities. Mr. Chairman, you have heard testimony from other witnesses on the importance of doing that. I also want to emphasize how critical setting priorities is to making TSCA a successful statute.

I would like to close with some observations on approaches that have the potential to make TSCA a more comprehensive toxics control program.

First, the Community Right-to–Know Act has demonstrated the benefits of public disclosure and putting the powerful spotlight of public opinion on polluters. Unfortunately, most of the information now submitted under TSCA is claimed as confidential and cannot be shared with the public and State health and environmental officials responsible for protecting the public.

In addition to steps EPA is currently taking to challenge these excessive confidentiality claims, Congress could revise TSCA to limit the types of information that industry can claim as confidential. In addition, Congress could give EPA the authority to provide States access to confidential business information, provided they implement satisfactory procedures to protect such information from unauthorized disclosure.

Finally, even with the changes I have discussed, TSCA's chemical by chemical approach may still prove insufficient to address anything but a handful of the most serious chemical risks. Consequently, a substantial amount of toxic pollutants will continue to enter the environment. A different approach is to set goals for reducing the use of toxic chemicals overall. Under this approach, a revised TSCA could establish national goals for reductions in the use of toxic chemicals and provide EPA with various tools and industry with various incentives to achieve these goals. Establishing such long-term goals for overall reductions of toxic chemicals could be a useful supplement to TSCA's other provisions, which focus on reviewing individual chemicals in order to identify and control the more serious health and environmental risks.

That concludes my statement, Mr. Chairman. I would be pleased to answer questions.

Senator REID. We will hear from Mr. Hagerman and Dr. Geiser before the questions.

Mr. Hagerman?

STATEMENT OF ROBERT L. HAGERMAN, RESEARCH ASSOCIATE, DOW CHEMICAL CO.

Mr. HAGERMAN. Thank you, Mr. Chairman.

I have provided a written statement that is somewhat longer than these comments, so I will try to summarize.

Senator REID. Without objection, your prepared statement will appear in the record.

Mr. HAGERMAN. Thank you.

I appreciate the opportunity to discuss Dow's perspectives on TSCA with you today.

As a background for the remainder of my comments, I would note that Dow views TSCA primarily as a statute designed to support or supplement other environmental or health-related statutes. We believe that most TSCA problems can be fixed administratively.

As an example of the kind of fixing I am discussing, EPA recently developed a priority-setting program that you have previously heard about, which they have identified as the risk management program. This program forces the agency to make regulatory decisions on chemicals of concern and by so doing requires EPA to develop priorities for actions.

In addition, they have recently announced the development of a procedure for speeding the development of regulations through the agency. We have found in the past that one of the hindering factors for action is the slow review of regulations.

The need for setting priorities for action among competing chemical concerns has become more critical as both EPA and industry resources for meeting the reporting, testing, and control requirements of TSCA have been curtailed. In setting priorities, we believe the focus should be on chemicals which present the greatest risk relative to the benefits derived from them, and that priority should be set only after consideration of the toxic properties of the chemicals of concern, the extent to which humans and the environment are exposed, and the benefits deriving from the chemicals of concern.

We believe it would be inappropriate to regulate a category of chemicals, for example, based solely on the chemical structure of its members.

We believe it is important to recognize that EPA's current priority-setting process not only defines a group of chemicals for possible action because they are of some concern, but by the same token, it excludes others. This exclusion doesn't mean that those chemicals are just being dropped or ignored. It means that the criteria used for the screening process evaluates those chemicals that are dropped. Based on the evaluation criteria, they have been found to be a low priority for further action, unless and until the criteria changes.

We think this provides some assurance that there are not 72,000 chemicals of concern out there, but probably far less than that.

With respect to chemical testing, concern about the slow pace of testing of the TSCA chemicals seems based upon the perception that somehow all 72,000 chemicals in the TSCA inventory need to be explicitly tested. We believe that a reasonable screening process would assign a low priority for further consideration to most of the chemicals in the inventory.

An example of that would be a polymer, such as polyethylene—and there are many polymers like that in the inventory, perhaps 20,000 to 30,000—that really present no hazard simply because they are not biologically available to organisms. In this light, I think the number was 400 chemicals being considered for testing by rule is a much more significant number than when comparing to the whole inventory.

In addition, I need to mention that industry conducts a great deal of testing in support of its products and product safety that does not get into the EPA files unless and until they call for them with one of their rules. So there is a great deal of testing going on beyond what is covered by rules.

Recognizing the concern about high production volume chemicals, Dow was one of the leaders in the development of the OECD HPV

voluntary testing program. This program had several objectives that I think are worth mentioning, including the validation of a set of short-term tests that could be used for screening, application of these tests to screen high production volume chemicals, and to establish a program which more equitably shares the economic burden of testing among the members of the OACD. We think this program was a real success.

Considering the exposure element of risk evaluation, we believe that EPA has ample authority under TSCA to gather exposure information needed for evaluating risk. For example, gross exposure information can be collected through the TSCA inventory update program where they find out whether the chemicals were produced and how much. Detailed exposure assessment, at the other extreme, can be very expensive and should be acquired only for supporting severe controlling actions.

This brings us to section 6. Dow believes that there are limited circumstances where EPA should exercise primacy in controlling exposures to chemicals through its section 6 authority. A congressional definition of unreasonable risk would be helpful, but the risk basis for regulatory action in the current language should be retained.

Mr. Chairman, I see that my time has expired, so I will just skip to the end of my comments.

I would like to thank you for the opportunity to present our views on the implementation of TSCA. We look forward to working further with the subcommittee as it considers it review of TSCA and the need for reauthorization.

Senator REID. Thank you.

Dr. Geiser?

STATEMENT OF KENNETH GEISER, DIRECTOR, TOXICS USE REDUCTION INSTITUTE, UNIVERSITY OF MASSACHUSETTS

Dr. GEISER. Thank you, Mr. Chairman.

My name is Ken Geiser. I am the director of the Toxics Use Reduction Institute and the Center for Environmentally Appropriate Materials at the University of Massachusetts.

The Toxics Use Reduction Institute works with over 600 firms in Massachusetts, targeting a list that is ostensibly at 900 toxic chemicals, although practically is about 146 high priority toxic chemicals. We work with firms to assist them in the reduction of use, elimination of use, and reduction of the waste streams from those firms.

We believe that we have learned a great deal from our pollution prevention efforts in Massachusetts that might be relevant to the reconsideration of TSCA. We would like very much to present that to you.

I have presented a testimony with more specific issues, so I will just hit a few highlights.

Let me start with the bigger picture here. The TSCA we have seen in the past has been too tightly constrained in the way it has been conceived. I believe that as we face the future, we need to be about creating a national materials policy that moves us progressively toward safer materials and more environmentally sound and beneficial production operations. We see that TSCA opens up a

chance to do that, but in order to do that, it needs to be considered in a broader perspective.

Specifically, let me comment on several of the things that I think need to be done.

We need a broader and more comprehensive image of the TSCA capacity. In this line, we believe it is necessary to focus on the use and production of chemicals as much as upon the release. We would look to section 8 as a new vehicle for expanding data collection efforts around the use and production of chemicals. The EPA's current inventory update rule is a useful vehicle, but it is not broad enough to be able to give us a full picture of materials flows, materials in use in commerce in the United States.

Our effort in Massachusetts of looking at use data and not simply release data has dramatically changed the way we have targeted our program in Massachusetts and given us a different way of uniting our occupational health and safety work with our public health work. We have not relied substantially on TSCA data because of the problems that we have had not only with its compatibility to the needs of Massachusetts, but also with the CBI limitations, which we believe cloud the data in such a way that it makes it very difficult to act as a true mirror on the kinds of things we want to set policies about.

The second thing I would urge that we think about with TSCA is to be much more proactive and to use TSCA to promote a dialogue about safer materials and about the development of new materials. TSCA currently acts as a net to keep us away from some of the most dangerous materials. We believe that the future is going to be more about how government works with industry toward the development of materials that will be sounder and better.

TSCA needs a new section dealing with the promotion of research and development on new materials that will replace some of the current materials that are such a concern to us.

We believe further that it is important that TSCA be seen as a load sharing law in which more responsibilities for chemicals be shifted to the firms. You have already heard several comments about testing, so I won't go into those. One that I believe we should look at substantially is the question of how to work with industry around the phasing out of certain high-volume, high toxicity, high exposure chemicals.

In this area, we in Massachusetts are looking at a four-step process for moving from a voluntary to an assisted to a potentially mandatory system of phasing down on certain of our most worrisome chemicals. We believe that a staged process that works collectively with industry, with producers, and particularly with the users—who are those who find the most difficult problems with the chemicals—would be a great advantage. This should be tied into section 6 as a rewrite of the provisions, which currently lean more toward bans and other such capacities, which have been of limited use in the law.

Thirdly, I believe that it is really quite important that we pay attention to the pollution prevention work that has been going on in the States, lead industries, and as a commitment of the Federal EPA. We in Massachusetts have just completed the requirement that 600 firms produce plans. We believe that planning is an im-

portant vehicle that should be added to the 6(a) provisions as a remedy in regards to chemicals of concern.

The last has already been mentioned a couple of times, which has to do with the public access to the data. It is clear from the TRI experience that just simply getting the information out provides a database that can be useful not only to the public, but also to industry in thinking about shifts toward more environmentally sound materials. We urge that the TSCA data under sections 8, 9, and 10 be linked better to the TRI provisions.

Thank you very much.

Senator REID. In your testimony, Mr. Guerrero, as I understand it, you stress the need for Congress to establish clear goals in TSCA for what EPA is to accomplish under the act.

Could you elaborate on what goals are needed and why they are needed?

Mr. GUERRERO. Yes.

We believe there are two areas where it would be useful to establish clear goals for EPA under TSCA. The first is to put the review of existing chemicals on a more equal footing with the current review of new chemicals by giving EPA a very specific mandate to set targets with certain time frames for accomplishing that.

For example, telling EPA to identify a certain number of high-risk chemicals, to publish those for comment——

Senator REID. By a certain date?

Mr. GUERRERO. By a certain date—to get some comment and agreement upon that list, and then to proceed to work cooperatively with industry to collect data over a set time frame on those chemicals to resolve outstanding questions and then to go on to the next list. That might be done on a 3-year cycle or a 5-year cycle and so forth.

But that is something very specific. Right now, the new chemical reviews are required to be done in 90 days. They come in and by and large they are done in 90 days. That is where the emphasis goes because that is where there is a very specific expectation. There is no such expectation for existing chemicals.

The other goal is an overall goal that could be established in TSCA to supplement the chemical by chemical approach we are now using. That would require some mandated reduction in the use of toxic chemicals overall over a certain period of time. It might be a 25 percent reduction over 5 years or a 50 percent reduction in 10 years.

Senator REID. Rather than being chemical specific?

Mr. GUERRERO. Not so much rather, but in supplement to TSCA. TSCA's authorities, as we have testified, do need to be strengthened to make that act more user friendly for EPA, but at the same time it could be usefully supplemented with an overall goal for toxic chemical reduction.

Senator REID. You have suggested changing the unreasonable risk standard in section 6 and providing a two-step process. The first step would be to establish that there is a significant risk and then the second step would be that EPA would consider options to manage that risk. Is that right?

Mr. GUERRERO. That is correct.

Senator REID. Why do you feel that would be an advantageous system?

Mr. GUERRERO. Right now, having to answer both questions is an extremely challenging and difficult proposition for EPA. It must both demonstrate that it has concern about a chemical, and that what it is proposing to do is cost-effective and is justified. It would be far simpler and easier intellectually for EPA to separate this into two parts. The first part would be based on the data and information available and the information and data to be developed. Is this a chemical of concern? Is its toxicity of concern? Is it produced in volumes of concern? Are there exposures occurring that are of consequence? Once it makes these determinations, then you can separate the review from the process of determining what is the most cost-effective way to control that chemical.

This is the approach that is used by the Canadians. It is a far easier approach. In fact no other country has used unreasonable risk as a standard as we have adopted. It has proven to be very, very difficult because it wraps everything up in one decision and basically results in frustrating the agency in being able to make decisions.

Senator REID. What do the other panelists think of this suggestion?

Dr. Geiser?

Dr. GEISER. I think I am going to pass.

Senator REID. Mr. Hagerman, you have said basically that any changes should be done administratively, that there need not be a change in the statute. So you would disagree with what Mr. Guerrero has said?

Mr. HAGERMAN. I can see some advantages to the two-step process, but I am failing to see why a change in the statute would be necessary to accomplish that.

Senator REID. Mr. Guerrero?

Mr. GUERRERO. Currently, the statute establishes an unreasonable risk standard. EPA's implementation of that standard requires it to go through this very difficult and rigorous process of not only weighing risks of the chemical, but also then choosing a cost-beneficial solution and looking for ways that impose the least cost burden. It is all tied up in one. It is not clearly laid out in the statute how that might be more easily separated and pursued in a more manageable framework.

Senator REID. Wouldn't this simply slow the rulemaking process even more?

Mr. GUERRERO. On the contrary. I think it would probably help focus the attention where it needs to be focused. First, it would be focused on reaching some consensus on whether there was a risk that needed to be addressed. Then it would focus the attention rightfully on the most cost-effective ways to address that risk. Right now, because everything is focused at one point—one process—it is not very clearly defined. That is actually more time-consuming and is fraught with more delay. The evidence of that is how few decisions EPA has reached under the existing procedures.

Senator REID. Would you make your office available for technical assistance in drafting legislation for this TSCA reauthorization?

Mr. GUERRERO. Yes.

Senator REID. Dr. Geiser, EPA has suggested focusing on chemical use patterns and on specific geographical areas.

What do you think of these approaches?

Dr. GEISER. It reflects a little bit on the past comment. We see that the way industry—particularly the user sectors of industry—approach the question of toxic chemicals is within an array of decisions about what chemicals to use to achieve certain functions in industry. This is quite divergent from the way TSCA is written.

We believe that there is great potential to work more collectively and more cooperatively with firms when you are looking at an array of substances or an array of technologies and trying to find ways to guide industry toward safer substances. We heard Dr. Goldman talk about the dry cleaning industry. EPA has also done a printing project very similarly. And we have done others where we have tried to look at a comparative set of different substances together to try to give a list of different parameters about the approach.

I believe that is an important way to move away from the chemical by chemical approach, which has so constrained the agency.

Senator REID. In your experience with the Massachusetts toxic use reduction law, have there been difficulties defining what are safer safer materials and cleaner cleaner technologies?

Dr. GEISER. There are certainly difficulties on this. It is a long struggle. We have a great deal of science and knowledge about how to define risk and hazard. We have much less capacity to say something about what we want to get to, that is, a safer substance or a cleaner process. It requires a good deal of interaction and dialogue and consideration, which involves things like life cycle assessment, structure activity analysis, performance analysis. We have been trying to develop protocols to teach people in business how to assess their chemical uses in ways that allow them to see all the factors that they might move that way.

The second center I am director of—the Center for Environmentally Appropriate Materials—has been spun out of a vision of trying to find ways to use material scientists to begin to spec out materials that will be safer. Again, the question of safe is a difficult question to answer.

Senator REID. Ron Condray, on behalf of the chemical manufacturers, said that EPA needs to prioritize chemicals for testing so that the attention is directed to the most serious concerns. Your testimony I think also stresses this.

Most people would agree with that. The problem comes in identifying the priorities.

Are there categories or criteria that EPA or Congress could establish that would guide priorities for testing? If so, what are they?

Mr. HAGERMAN. I think that I would probably disagree that chemically structured categories would be useful. I do think it is possible to establish a screening mechanism—I talked about this with several people over several years—a matrix based primarily on exposure consideration that would consider things like production volume on the one hand and use on the other hand, moving from the uses with the greatest exposure to the least.

But in any case, this would establish cells of chemicals where there would be substantial widespread exposure and it seems to me

that those ought to be the chemicals that we would look at first. But I am quite sure that they would have very little in common as far as chemical structure.

Senator REID. But I don't think we have any good data on exposures. How would we get that?

Mr. HAGERMAN. We would have to use, as a first step, surrogates for exposure, which would be production volume and use in broad categories. Once that first screening step had taken place, we feel that there would be a second tier of screening that would use more progressively detailed information. The second screen, for example, could be some adaptation of what the EPA is currently talking about with respect to the chemical use inventory. A third level of screening would be the use exposure exercise that EPA is conducting cooperatively with CMA and SOCMA.

And finally when we have narrowed it down to a very few chemicals where we see a substantial concern, it would be reasonable to use the authorities of TSCA to go and collect very detailed exposure information, which I would add, is very expensive to get.

Senator REID. You have heard Dr. Goldman testify. She has done a lot of work on testing specific categories of business. She talked about dry cleaners and printers.

What do you think of an approach in that regard?

Mr. HAGERMAN. I think those approaches are very useful and I think that the two she mentioned are real success stories. I certainly think we should continue along that line because the sort of open, free-wheeling dialogues that result end up with the appropriate action being taken. All the stakeholders have had a part in reaching that.

What I question is whether there is a whole lot of those kinds of clusters out there to work on. Not every chemical is going to fall into some sort of cluster like that. But I think the approach is a good one.

Senator REID. Dr. Geiser, you have already said that you liked that approach as far as managing chemicals. That is separate and apart from testing them. Tell me how we work on the two different problems, Because there are two specific problems.

Dr. GEISER. I agree. I think that the testing is something I am less familiar with, since I don't do that. I look to others.

Senator REID. But you acknowledge that it is extremely important.

Dr. GEISER. Yes. I acknowledge that it is very important.

The thing I would think about in regards to facing the testing question is that it seems to me that rather than assume that a chemical is just an independent material out there that we need to run a whole battery of tests on, we ought to have a first phase of trying to figure out what the material is actually used for. Then we need to look at an array of substances and test only those factors that turn out to be different amongst them. So when we provide our test data, we are really looking at those things that differentiate one chemical against another rather than simply all the factors about a particular substance.

Senator REID. Does everyone on the panel agree that we have two problems, that is, the existing chemicals and the new chemicals?

Dr. GEISER. Yes, there are two different categories. I think the question is really as much tied to what you do about the existing chemicals at this point. The new chemicals we have a fair system of review. The existing chemicals is where we really have to put most of our effort. And that is the vast volume and that is why it is important to try to figure out ways to lump them together and figure out a more efficient system for doing it.

Senator REID. Would it make up for the backlog?

Dr. GEISER. I am suggesting that we try to model the way that firms tend to think about the use of the chemicals. That is a vehicle for thinking about what information you need in order to make decisions about them and not simply go after each one in some kind of cookie cutter approach.

Senator REID. Mr. Guerrero?

Mr. GUERRERO. I completely agree. I think it is a very reasonable way of viewing the issue. There is a large inventory of chemicals in use out there. It doesn't make sense to continue to look at them on a chemical by chemical basis. It is very important that we set priorities for what we look at and that we don't do it in a vacuum, but we do it based on use and relationships to other chemicals and chemical substitutes for those products.

Senator REID. Mr. Hagerman, what do you think of the Massachusetts approach of staged process, from voluntary action to mandatory, to change to safer materials and processes?

Mr. HAGERMAN. The first I have heard of it explicitly is today. But as a hip shot, I find that a very reasonable approach. What I heard was that we would identify concerns, there would be some sort of discussion among the stakeholders, there could be voluntary actions—there might not—if things weren't satisfactory, you would proceed toward mandatory action. If that is the case, it seems like a good process.

Senator REID. Then what we have heard from this second panel is that TSCA—along the lines of the Massachusetts Toxics Reduction Act—should establish a list of chemicals whose use industry should seek to reduce or eliminate.

Mr. Guerrero, do you think that is appropriate?

Mr. GUERRERO. I think that is entirely consistent with our suggestion that TSCA could be supplemented with this broad goal that would seek to reduce toxic chemicals overall.

Senator REID. And Dr. Geiser, would you agree?

Dr. GEISER. Very much so. Again, thinking about it from the point of view of the smaller, medium-sized firm trying to make decisions about use, that list would be incredibly important. The fact that there is no statement from Government about what chemicals to move away from leaves firms who are trying to make those choices without guidance.

Senator REID. At this point, do we have enough knowledge about which chemicals are preferable or most harmful to be able to single out certain chemicals? Do you think we have enough information?

Dr. GEISER. In some cases, I would argue that from our experience we do have enough information to say what we wish we could move away from. We are not saying, necessarily, that these are ultimately terrible chemicals and have to prove a certain level. We are simply saying that the risks on these have shown up over and

over again in different countries, in different settings, and in occupational and public health settings to cause enough problems and we should try to move away from them.

Senator REID. Mr. Guerrero?

Mr. GUERRERO. My observation on this point is that we be very careful and not specify a list in the statute. That is clearly an approach we could take, but I think it is more important for Congress, in reauthorizing TSCA, to set up a process for establishing that list. That would have EPA taking its best available data and industry taking its best available data and developing a list for comment and reaching some agreement and consensus on it. That is better than saying that there is a certain list to work with to reduce the risks. You should trust the Agency's best judgment as much as possible in doing that, but give it a very specific goal and time frame for doing it.

Mr. HAGERMAN. I would like to clarify, too, that I think it is appropriate for the process to be specified.

I do want to clarify, when talking about the Massachusetts approach, is that the approach I envisioned refers to a list of chemicals or an approach based on risk, not toxicity. That is a point we want to make very strongly because those are two distinctly different things. There are very toxic chemicals that present very low risk in our society today, and the converse is also true.

Senator REID. Are there other ways that we could encourage safer chemicals and using fewer toxic chemicals without specifically designating a list of acceptable or unacceptable chemicals?

Dr. GEISER. I think one thing TSCA could do is that there could be a section of the EPA that is dedicated to trying to encourage research and development of chemicals where we have identified a chemical that we really are trying to reduce. We should be pouring some investment into the research community and the business community into trying to bring those chemicals to market as rapidly as possible. Those are the materials of our future. We should try to invest them.

Senator REID. Do the other panelists have any follow-up on that?

Mr. HAGERMAN. I would agree that a process that provides market incentives and disincentives can be a very powerful force in making rapid change in many cases. In my written statement, I have referred to the impact of having a 5(e) consent agreement applying to one of our new chemicals. We find that our customers don't want to work with that material simply because of the tenuous nature of its future.

Dr. GEISER. Mr. Chairman, the kinds of tools and incentives that we talked about when we mentioned the merit of establishing a broad goal in TSCA for the reduction in the use of toxic chemicals—those tools and incentives are these types of market-based approaches that can include the use of taxes, refund systems, deposits to encourage recycling, public disclosure, consumer behavior, technical assistance to industry or the kinds of things that are happening in Massachusetts now involving the planning and audits—all of those combined have merit and should be looked at as potential techniques for achieving the goal.

Senator REID. Dr. Geiser, as I understood your statement, you said that we should be using the master testing list and establish-

ing a deadline by which manufacturers would have to voluntarily test chemicals on that list. Is that right?

Dr. GEISER. Yes.

Senator REID. Mr. Guerrero, did you understand that in his statement? He suggested using the master testing list and establishing a deadline by which manufacturers would have to voluntarily test chemicals on that list.

Mr. GUERRERO. Yes. The master testing list might be a good place to start. I think EPA is moving in the right direction in establishing that list.

Senator REID. We have some other questions that we will submit to you in writing and ask that you get back to us at your earliest possible convenience. We really appreciate your testimony.

We will now hear from Mr. Roger Kanerva, who is the environmental policy advisor to the director of the Illinois Environmental Protection Agency in Springfield, Illinois. We will also hear from Mr. David Monsma, an attorney with Environmental Action in Takoma, Maryland and Dr. Hugh Smith, vice president for research and environmental sciences with the Colors Group, Sun Chemical Company. He is here representing the Synthetic Organic Chemical Manufacturers Association out of Cincinnati, Ohio.

We will first hear from Mr. Roger Kanerva.

STATEMENT OF ROGER KANERVA, ENVIRONMENTAL POLICY ADVISER TO THE DIRECTOR, ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

Mr. KANERVA. Good morning and thank you, Mr. Chairman, for the opportunity to present a State's perspective on this activity.

Most States are very involved with the management of toxic chemicals. In fact, regulation of specific chemicals at the State level has grown substantially over the past 20 years. In this regard, States clearly have certain needs for toxic information, including data generated as a result of TSCA. This information would be useful for at least six types of programs including chemical emergency preparedness and response. In my written statement, I note that in just the last 4 years my agency has dealt with over 6,000 chemical emergency incidents, 3,100 of which have been at fixed facilities. Some of those are regulated under TSCA. We have seen 34 fatalities, 846 persons injured, and over 1,500 persons evacuated as a result of those incidents.

A second category would be design of environmental monitoring programs and assessment of toxic risks. A third would be environmental permitting of toxic chemical releases. Fourth would be environmental standard setting, and State right-to-know programs would be fifth. Then finally, there would be pollution prevention programs at the State level.

Unfortunately, States are currently denied access to some information under the CBI provisions of section 14 of TSCA, as you have heard from other testifiers already this morning. And there are adverse consequences to this exclusion of the States. I have tried to describe those in my written testimony.

We are glad to see that you are moving forward with the reauthorization. It is really something that needs to happen. We have

three areas that we would like to suggest be addressed in this process.

First, States should be given an opportunity to be operational participants with the USEPA in the administration of the TSCA program. We are trying to stretch dollars further and further every day at the Federal and State levels. We think certain compliance, monitoring, and enforcement actions would be more efficiently done at a State level. We have had some involvement doing PCB inspections in that regard, but it could be extended much further than this.

I call this the ground truth function. Real problems happen in real places to real people. States are in close proximity to those events.

Second, States should be empowered by full access to toxics information that has been claimed as CBI by filers. We know there are a lot of questions to be resolved in that area, but we are certainly willing and will participate in helping to resolve those issues. I think they need to be dealt with.

Third, States could serve a valuable role as observers and analysts of emerging environmental issues and trends. In the written testimony I describe an experience we have been having for the last 2 or 3 years with the hazardous paint removal from steel structures, water towers, bridges, and commercial buildings where this stuff is being blasted into people's backyards, into nurseries, day care centers, et cetera. Perhaps that is an area that deserves widespread attention.

Senator REID. Your concern is with lead?

Mr. KANERVA. Lead in hazardous paint. Yes, sir.

Certain opportunities for pollution prevention could be built into TSCA as well and we suggest a couple in our testimony.

Simply put, States would like to see better management of toxic chemicals in our jurisdiction and nationally. As part of these improvements, it just makes good sense to forge a productive role for the States under TSCA and to help the States better manage toxic chemical risks.

Thank you for including Illinois today and I would be happy to answer questions at a later point.

Senator REID. Mr. David Monsma?

STATEMENT OF DAVID MONSMA, ATTORNEY, ENVIRONMENTAL ACTION FOUNDATION

Mr. MONSMA. Thank you, Mr. Chairman.

Thank you for the opportunity to testify on the reauthorization of TSCA. I am staff counsel with the toxics project for Environmental Action. We are a national nonprofit environmental education and advocacy organization.

I think it is essential to acknowledge at the outset just how important TSCA is to public health and environmental protection. Unlike the Clean Air Act, RCRA, Superfund, and other legislation aimed at end-of-the-pipe controls, TSCA is the only true pollution prevention regulatory scheme of its kind. The intent of TSCA has always been directed toward understanding the magnitude of chemicals in commerce and whether particular chemicals present

unreasonable risk to health or the environment. Unreasonable risk, however, does not mean unquestionable or irrefutable risk.

It is significant to recognize that TSCA is capable of regulating the production or use of chemicals before they enter the flow of commerce or the waste stream. In this sense, TSCA should be understood as an important pollution prevention and risk prevention law.

TSCA has become hostage, however, in the industrial and ideological raid on reasonable Government regulation. Undue limitations by the courts of TSCA's language have severely diminished TSCA's regulatory capacity to restrict or limit production of harmful chemicals. Absolute cost-benefit analysis and sheer risk assessment have supplanted rational basis and reasonableness as standards for controlling the presence of toxic chemicals in our environment.

We have allowed the burden of proof required for showing that certain toxic substances present unreasonable risk to rise to a level that virtually guarantees that no chemical is too risky to produce.

If you travel to poor communities and communities of color that live with concentration of industrial activity and pollution, you will hear questions such as: How often is the production and distribution of toxic substances disrupted for the sake of keeping the environment healthy? Why does the public bear the burden and cost to prove that a chemical is unsafe? Why shouldn't some chemicals be banned, if necessary?

Environmental justice principles such as these and concerns of equity are relevant to TSCA in many ways. Adopting pollution prevention and public right-to-know goals, as general purposes of the act, will advance these principles by ensuring that risk information will be disseminated and acted upon. Public participation in the decision to identify, catalog, test, and regulate chemicals of concern is also a cornerstone of pollution prevention concepts.

The principles of pollution prevention and community right-to-know must be articulated and observed in order to be meaningful. Similarly, in order to uphold the public right-to-know about harmful health and environmental risks associated with the use and production of toxic chemicals, the public must be secure in the knowledge that the information collected under TSCA will be acted upon.

Therefore, Congress should amend the language of TSCA to correct the unintended outcome of the Fifth Circuit's asbestos ruling. Many questions were raised by the case, but two observations may serve us to help think about what we want from TSCA.

First, there is a basic difficulty about the standard of review that appears in the act. The substantial evidence rule, as applied in the asbestos case, is not the proper standard of review for administrative action taken by EPA to test or regulate chemicals under TSCA. The substantial evidence rule raises the standard of review too high. In 1976, Congress chose to include this standard in sections 4, 5, and 6.

In 1994, however, the public purposes of the act should be enlarged and the agency should be enabled to perform testing and regulation under the more appropriate arbitrary and capricious

standard, thereby removing the substantial evidence standard contained in section 19.

Second, the Fifth Circuit's ruling also raised the stakes for determining how the agency could proceed on a valid agency finding of unreasonable risk. The court narrowly interpreted unreasonable risk and least burdensome alternative requirements such that any future determinations by the agency must attain a degree of conclusiveness that it exceeds what we can reasonably expect from governing bodies.

An agency charged with monitoring and regulating a commercial activity as expansive as the chemical industry must be empowered to achieve the legislative goals Congress intends. Moreover, such burdensome standards do not permit informed communities to meaningfully participate in the regulatory process because their concerns are not always quantified in cost-benefit terms.

TSCA can be restored to a functional state by amending the least burdensome alternative language and adding pollution prevention hierarchies as legitimate provisions for regulatory action under section 6. The ruling in the asbestos case cannot be reconciled with the Pollution Prevention Act of 1990 unless pollution prevention is articulated and authorized under TSCA, both in the general purposes clause of the act and in section 6.

Congress should include as a general purpose of TSCA that the public information, collection, and dissemination mission of the act is information that is collected and placed in the public domain. In other words, Congress must properly affirm information collected under TSCA is presumptively information in the public domain. This critical pronouncement is necessary to ensure public participation and will reduce the amount of information which is directed to EPA as confidential business information.

Furthermore, Congress should also adopt language specifically stating that health and safety information contained in health and safety studies and substantial risk notices required under section 8(d) and 8(e), including chemical identity, is presumptively not entitled to confidential treatment.

With regard to State access, it is well understood that the bar on State access to confidential data cripples the utility of the statute and limits the usefulness of the data which is collected at great expense by the agency. All information that is collected under TSCA is potentially useful not only to EPA and the States but to the public. Most information submitted to EPA is in the form of broad data, so placing information in the public domain carries with it a need to provide meaningful ways of using that data.

In summary, we must establish as a general purpose of TSCA that information collected on toxic chemicals is information that should be accessible to the public. Furthermore, TSCA must enunciate that pollution prevention is the principle of first choice to achieve environmental stewardship and that promoting public understanding of risk of chemicals through the development and dissemination of information on toxic chemicals and public involvement is an essential element of the act.

Thank you.

Senator REID. Dr. Smith, would you introduce your associate at the table?

STATEMENT OF HUGH M. SMITH, VICE PRESIDENT FOR RESEARCH AND ENVIRONMENTAL SCIENCE, COLORS GROUP, SUN CHEMICAL CO., REPRESENTING THE SYNTHETIC ORGANIC CHEMICAL MANUFACTURERS ASSOCIATION, INC.; ACCOMPANIED BY CHERYL MARTIN, GOVERNMENT RELATIONS MANAGER

Dr. SMITH. My associate is Ms. Cheryl Martin, the government relations manager.

Good morning, Mr. Chairman. I also have a written statement for the record.

Senator REID. Without objection, your prepared statement will appear in the record.

Dr. SMITH. I am Hugh M. Smith, vice president of research and environmental science for the Colors Group of Sun Chemical Corporation and vice chairman of the TSCA Committee of the Synthetic Organic Chemical Manufacturers Association, known as SOCMA.

For your information, SOCMA is a trade association serving more than 225 companies that have a common interest in the manufacture, distribution, and marketing of organic chemical products. The majority of SOCMA's members are small specialty chemical manufacturers with annual sales under $40 million, most of which are subject to TSCA reporting requirements.

Today, I will summarize SOCMA's observations on EPA's existing chemicals program and also share with you SOCMA's two recommendations on how this program can be improved.

First of all, let me say that SOCMA is committed to not only helping its members comply with TSCA, but helping them work toward continuous improvement goals. SOCMA is a partner association in the Chemical Manufacturers Association's responsible care initiative, a program developed to improve the chemical industry's environmental safety and health performance.

What does SOCMA think about EPA's existing chemicals program? We believe that since 1990 EPA has truly been revitalized in using its TSCA authority to implement initiatives under the existing chemicals program that are risk-based, action-oriented, and focused on pollution prevention. SOCMA is generally supportive of EPA's new initiatives and is participating in some of the ongoing dialogue between the agency and industry in this regard.

For example, SOCMA and CMA are working together with a voluntary initiative called the use and exposure information project—already referred to in previous testimony—that is expected to result in a method whereby industry can submit use and exposure data to EPA on a routine basis. EPA anticipates using this information for its risk management or RM programs, a tier decision-making and review program of which SOCMA is very supportive.

There has been a great deal of talk already today regarding confidential business information, or CBI. Let me say that SOCMA is committed to working with EPA to eliminate any unwarranted CBI claims, but urges Congress to maintain the current level of CBI protection should it amend the act. The protection of confidential business information is vital to many SOCMA member companies because the specialty chemical industry is highly competitive.

Maintenance of proprietary information can often make the difference between success and failure of a product. Protection of such information associated with the extended and often costly developmental process—particularly with small volume specialty chemicals—makes it economically possible for SOCMA members to develop new product lines and maintain them in the marketplace.

However, Mr. Chairman, in case you are thinking that SOCMA is just another industry group believing that there is nothing wrong with TSCA, I must be frank in sharing that while SOCMA is not advocating broad changes to the existing chemicals program, SOCMA has nonetheless two major concerns with this program.

First, we are concerned that EPA is moving forward with its new initiatives at the expense of conducting compliance assistance and outreach activities for the regulated community. In fact, SOCMA is convinced that TSCA enforcement fines are at a record high because companies—particularly small companies—today often misinterpret TSCA's reporting and notification requirements. EPA's diminishing resources may contribute to this problem, which really impacts smaller companies. Accordingly, SOCMA believes that EPA should be actively conducting more compliance assistance and outreach for the regulated community and that funds should be reallocated to OPPT for this specific purpose.

Secondly, SOCMA is concerned about the paperwork burden on industry for many TSCA reporting and notification requirements and believes that this burden is not justified in light of the minimal increment and information provided to EPA. In reality, the reporting burden associated with producing relatively small quantities of specialty chemicals is disproportionately high compared to the volume of these chemicals and could in fact force many SOCMA member companies out of certain product lines. SOCMA believes that EPA should adopt exemptions for most TSCA reporting and notification requirements to provide much needed regulatory relief for small quantity and R&D chemical manufacturers.

SOCMA believes that introducing these regulatory improvements must build upon EPA's current existing chemical program activities and strongly believes that Congress should allow EPA time to fully implement its new initiatives before beginning to amend TSCA.

My remarks today have primarily focused on existing chemical issues. Although as producers of many innovative specialty chemicals, most SOCMA members are knowledgeable about EPA's new chemicals program. SOCMA would be happy to answer here today or later in writing any follow-up questions regarding new chemical issues.

Once again, thank you for allowing me to testify today on SOCMA's behalf. We are pleased that you are willing to listen to our views as you move forward with developing a legislative proposal and we wish you and the subcommittee every success in your most important endeavors.

Thank you.

Senator REID. I thank you all very much.

Mr. Kanerva, if the statute explicitly provided for States to have access to CBI data when they have systems as protective as EPA's, would that be sufficient, in your view? Or is it more needed for States to get the TSCA information they need?

Mr. KANERVA. First of all, I think there would be some problems with simply trying to superimpose the current USEPA operated CBI system down to a State level. Number one, I just don't think that level of burden is necessary. States have handled trade secret information for years. My agency has trade secret rules they operate under. They are not as burdensome as what USEPA has been stuck with from the Polaroid lawsuit, yet we get along fine with handling that information. So I think it can be done with a lesser level of burden and still give us the access that we need.

Senator REID. What would States be doing differently—the State of Illinois, specifically—if you had greater access to TSCA data?

Mr. KANERVA. I mentioned some of those things in my oral comments and they are elaborated on in the written testimony.

We have a number of different sources of chemical information. We are always trying to cross-check and cross-compare to see if that information makes sense. To the extent that we have another source of data—like inventory update reports, or what have you—it helps to deal with those issues. Health and safety study information about actual chemical effects and impacts is really important for a lot of the risk assessment work we do.

And knowing much more about what is actually being produced, stored, and handled at facilities gives one a different focus on what your concerns are and how you are going to manage some of those toxic risks at facilities.

Senator REID. Is there some type of a central clearinghouse, computerized or otherwise, for information on chemicals?

Mr. KANERVA. Not to my knowledge.

Senator REID. Wouldn't that be something that would be appropriate for EPA to have? If the State of Illinois had a question about a specific chemical then they could make contact with a source in Washington, D.C. to get that information. Would that be helpful?

Mr. KANERVA. It would be helpful if it was accessible. We don't see it as a big burden if we have to go to two, three, or four access points. To go to 50 of them is a problem. But to go to four access points is not crucial if they are accessible and if you can get information quickly.

Senator REID. So you think, then, that it wouldn't be a bad idea to have a central location that would have available information that is easily attainable for the States to draw from?

Mr. KANERVA. I agree with the concept in a generic sense—a central location, an access point. They may have two or three different ways that they draw information in, but it would be nice to have that single channel back and forth to then get the information we are asking for.

Senator REID. So that is something we can work on. It sounds like there is room for improvement in that area.

Mr. KANERVA. Yes.

Senator REID. Mr. Monsma, if companies report chemical usage at a facility level, how will we protect legitimate trade secrets when disclosing this information to the public?

Mr. MONSMA. The critical point in your question is, What is legitimate CBI?

I think that over the years TSCA actually established some very particular guidelines. However, information that is submitted or di-

rected to the agency quite often is simply stamped CBI and everything contained in that report or transmittal has to maintained as CBI.

So really the question is, How do we properly create a gate-keeping device to make sure that——

Senator REID. That is the question I am asking you.

Mr. MONSMA. I think OTS at USEPA should be given the authority to declare the information that is clearly not CBI as such. The process for them to declassify it has to go through OGC and is quite cumbersome. In a practical matter, it doesn't happen. So empowering the agency to make those clear statements would be helpful.

Senator REID. Do you agree, as some have suggested, that the Fifth Circuit's decision on EPA's asbestos rule cripples TSCA?

Mr. MONSMA. Absolutely. A lot of discussion here today was what we do about existing chemicals. Some of it is couched in terms of new programs, new structures, and new standards. I think the arbitrary and capricious standard that is usually used for reviewing administrative regulatory activity should be replaced to TSCA instead of the substantial evidence rule. That element alone raises the burden and raises the level at which the agency must perform.

I think the agency is quite adept at being able to do the analysis and reach the conclusions. But if they are having to create a documentary record that accounts for all cost-benefit analysis and has some type of alternative analysis, they are really not going to be able to perform properly under TSCA.

Senator REID. So you don't see a problem with, in effect, redoing the statute pursuant to the Fifth Circuit's ruling?

Mr. MONSMA. I think that has to be addressed. Mr. Chairman, 10 years ago, I believed in Senator Durenberger's bill. The arbitrary and capricious standard was cited as a potential substitute for the substantial evidence rule. As a matter of fact, that was before the asbestos case. So even then, it was considered to be inhibiting the agency, besides whatever the other ideological inhibitions may be at the agency.

Senator REID. Your testimony offers several suggestions for modifying section 6, such as changing the substantial evidence review standard and the least burdensome language.

Do you think it is possible to modify the section or make it more effective without changing the unreasonable risk standard?

Mr. MONSMA. I have struggled with that question. I think the unreasonable risk standard may be—there may be a context in which it is appropriate. Part of the reason unreasonable risk seems so ominous is that we have come to rely too much on cost-benefit analysis and risk assessment that is overstated. There are a number of indicators and a number of public concerns that aren't represented in those formulas.

So if the agency was able to find unreasonable risk based on a rational basis—that is to say, they were able to produce an administrative record that satisfied reasonable or rational choices—that test of unreasonable risk may not seem so daunting. As it is structured now, the court interpretation really makes it unquestionable. In other words, the agency has to find irrefutable evidence.

Senator REID. Dr. Smith, in your testimony, you state that SOCMA believes that further coordination with other agencies could improve the RM review process and allow Federal agencies to exchange information and identify risk reduction opportunities.

I would like you to expand on this a bit. What kind of coordination is needed and what would bring this about?

Dr. SMITH. I think this whole issue is one which is certainly a very valid one. I would like to be able to get back to you more coherently in a written form afterwards.

Senator REID. We would ask that you do that at your earliest possible convenience.

We have heard today that CBI can be an impediment to exchanging information among Federal agencies.

How do any of you recommend we address this problem?

Dr. SMITH. Let me try to lay out some of the issues involved.

First of all, we cannot treat CBI as if it were TRI information. TRI information is legitimate information that is available on a widespread basis to the agencies, the regulated community, and the general public.

In terms of the continuance of the specialty chemical manufacturers, the chemical identities of the products that they are making and working with are the life blood of these manufacturers. We do recognize that there have been past abuses. We saw some examples this morning from Dr. Goldman regarding this. But we are working constructively with CMA and SOCMA to help the regulated community recognize what we must do in the area of legitimizing CBI. I believe if we do that we will go a long way toward solving the problems that we have today.

Mr. MONSMA. Mr. Chairman, I think there are a couple of ways that this can occur.

I emphasize the point that a declaration from Congress that TSCA is a right-to-know type of legislation—that it does contain community right-to-know information and that the information is public information—that is one of the ways that CBI can be inhibited.

Another is that the agency has already actually been involved with quite an undertaking of looking at how to improve the conditions of CBI, including implementing sunset provisions, requiring signatures of certification from high-level officials. But also I think the agency should be authorized to collect CBI fees. Right now, the cost to EPA in terms of managing that information is quite high. As a practical matter, that cost is borne by taxpayers, not the regulated industry.

Mr. KANERVA. Mr. Chairman, I would like to make one quick suggestion about this.

It seems to me that one thing the subcommittee could consider would be a change in the statute that would authorize USEPA to enter into interagency agreements with partner Federal agencies—perhaps even designated agencies so that the scope of this is controlled, like NIOSH and OSHA—and perhaps describe the parameters for why they would exchange confidential information. They would work out how that information would be kept confidential across the agency boundaries. Those other agencies handle confidential things from time to time, too.

Senator REID. Dr. Smith, would you comment on Mr. Monsma's statement about the fees?

Dr. SMITH. Could you have Mr. Monsma review the comment that he made? I don't have a copy of his statement in front of me.

Mr. MONSMA. Sir, I suggested that in order for CBI management to be improved and to help reduce the amount of information that is directed to the agency as CBI that the agency be authorized to collect fees for the management of CBI. In other words, there would be a cost associated with declaring information CBI.

Senator REID. As he indicated, that is now being paid for by the taxpayers directly.

Dr. SMITH. That is something on which we will get back to you in writing. SOCMA does not have a position on that subject right now.

Senator REID. I would like each of you to give me your views on what types or categories of information you think should be confidential and what should be public. For example, what about a chemical's trade name, its CAS number, the name of the manufacturer, toxicological test results, levels of production, intended uses—where do we start and stop?

Mr. MONSMA. CBI treatment is very complex, as you know. Part of it is the associations of information together. So when that information is aggregated or segregated out, CBI concerns are sometimes reduced.

However, I do believe that we have to try to create some priorities. Health and safety information contained in health and safety studies and section 8(e) submissions is information that without chemical identity is not meaningful. So therefore, chemical identity in that study information should never really be CBI.

My reasoning for that is that once information about a chemical's toxicity raises to the level of concern that you are required to submit under 8(d) and 8(e), that is starting to bring that information into the public domain. That is to say, the proprietary interests a company has in that information is starting to reduce as the public concern rises.

In direct answer to your question, trade name or CAS name of the chemical, company name, production volume—conceivably, those can be argued to be CBI when they are connected in such a way to reveal process or mixture information or they damage competitive needs of the company.

I think we need to be clear when we are collecting CBI. When we look at the inventory itself—that is, what chemicals are on the inventory and how much—I don't think any of that information should be CBI. There are members of the regulated community who do import chemicals and don't manufacture them that need to be able to go to the inventory and determine whether a chemical is on the inventory. Right now, they are unable to do that efficiently, yet they are liable under the PMN process for making sure that their chemical is not listed.

If a chemical use inventory is created, there will be some CBI. However, TRI has CBI and it doesn't completely frustrate our ability to collect and disseminate information under the TRI program. I think a chemical use inventory should act the same, that is, be publicly accessible and that we reduce CBI to the proper propri-

etary interest of the company, namely at a very limited level of mixture information and process information that may reveal the actual constituencies of the chemicals that make it a competitive product.

Mr. KANERVA. I agree with his comments about the health and safety studies completely. Without the chemical identity to link with it, you really haven't gained much.

I would add to that the 8(e) substantial risk notice provisions. I feel like those often give the same sort of signals to those of us who are concerned about toxic chemical risks. I have a real problem with those being brought under CBI, a very narrow CBI provision.

From the State perspective, specifically, facility location baffles me. I have heard some off-the-wall arguments that I think are a bunch of mumbo jumbo myself. If you are in a State and you are concerned about chemical safety at a facility, it just escapes me that the location of a facility submitting IUR reports should be claimed as confidential.

Senator REID. The chemical trade name?

Mr. KANERVA. I also disagree with chemical trade name.

Senator REID. The CAS number?

Mr. KANERVA. I don't see any reason to do that.

Senator REID. The name of the manufacturer?

Mr. KANERVA. Same response.

Senator REID. Toxicological test results? Now we are getting into areas that could be questionable, right?

Mr. KANERVA. Depending on the extent to which it might indicate process.

Senator REID. Levels of production?

Mr. KANERVA. Levels of production is the one point where I probably feel the most sympathy with industry because of the fact that it probably does give some sort of competitive knowledge that could be used against them.

Senator REID. Do you have any comments on this, Dr. Smith?

Dr. SMITH. Yes, I certainly do.

In the area of trade secrecy or confidential business information, we have to separate the different aspects. First of all, we have the specific chemical identity by which a chemist can work out exactly what the chemical structure is. Then we have the trade name by which the physical form may be different than the same chemical identity but made by another manufacturer. Having information regarding the trade name may give information to a competitor which would destroy the marketable advantage of the product.

In terms of the location, I do see that as a means of industrial intelligence which would detract from the continued market situation of a particular substance.

What I do see, however, is in the area of toxicological data—that being an area where I believe the information can be provided legitimately through the use of what Canada calls masked names, or generic names. I believe that these names can be—to the satisfaction of the requestors—without divulging the specific chemical identity or the trade name of the substance.

Senator REID. As each of you know, TSCA information gathering authority under section 8 is limited to manufacturers and proc-

essors of chemicals. Do you think this should be extended to users of chemicals?

Mr. MONSMA. Absolutely. I think that whole notion of developing chemical use information is based on the ability to obtain that information. It basically is—in terms of right-to-know and public information—having just quantity information or production volume and chemical identities and where they may be located is not sufficient. In terms of being able to protect the environment and human health, we are going to begin to have to look more at what are acceptable uses of chemicals. In order to make those determinations, we have to collect information on the use of chemicals.

Senator REID. Mr. Kanerva?

Mr. KANERVA. I support getting more use information. We are really weak on the exposure side.

Senator REID. Dr. Smith?

Dr. SMITH. We have this subject under active consideration just now and we will get back to you at a later date.

Senator REID. Does that mean that you believe manufacturers and processors have adequate information about the uses of chemicals that they could provide EPA with sufficient exposure information without EPA resorting to users?

Dr. SMITH. Yes, I do.

Senator REID. That seems to be at variance as to what these other two gentlemen said.

I think this panel has been informative. We appreciate very much your testimony. We would also appreciate it, Dr. Smith, if you got back to us at your earliest possible convenience because we need as much input as we can from the chemical industry.

We look forward now to drafting some legislation. I hope to introduce it by the end of this year so that you all can study it and look at it and we will have a hearing or two next year. I would hope that next year we are going to reauthorize TSCA.

The committee stands in recess.

[Whereupon, at 12:00 p.m., the committee was adjourned, to reconvene at the call of the Chair.]

[Statements submitted for the record follow:]

STATEMENT OF LYNN R. GOLDMAN, ASSISTANT ADMINISTRATOR, OFFICE OF PREVENTION, PESTICIDES AND TOXIC SUBSTANCES, ENVIRONMENTAL PROTECTION AGENCY

Mr. Chairman and distinguished members of the Subcommittee, I am Lynn Goldman, Assistant Administrator for the Off ice of Prevention, Pesticides and Toxic Substances (OPPTS) of the U.S. Environmental Protection Agency (EPA). I welcome the opportunity to continue discussions about the Toxic Substances Control Act (TSCA), today to focus on the existing chemicals programs.

In the hearing on May 17, 1994, I discussed how much has changed in environmental protection since the passage of TSCA and noted that the past twenty years have taught us two key lessons.

First, preventing pollution offers significant opportunities for protecting the environment and public health in a cost effective manner. The adoption of a pollution prevention ethic is a logical development in a toxic chemicals program, given the focus on improving environmental protection through changes in the manufacture, processing and use of chemicals in our society. Fundamentally, we need to encourage use of safer chemicals and processes in the basic operations of the industrial sector.

Second, empowering the public with information is a powerful tool for environmental progress. The creation of the Toxics Release Inventory (TRI), established in Section 313 of the Emergency Planning and Community Right-to-Know (EPCRA), led the way to a new era of public disclosure and a more constructive dialogue between citizens and industry on emissions reduction and pollution prevention. As we look to the future, it is likely that this "right to know" approach will expand and become a part of environmental policy in several areas. For a toxic chemicals program, it is almost inevitable that the "right to know" ethic will expand to other chemical information.

At EPA, we are actively attempting to incorporate these two policies into our programs in an intelligent and responsible manner, recognizing that pollution prevention may not always be possible, and recognizing that empowerment of the public carries with it the responsibility to provide the information and education that the public needs to make sound decisions. For example, we need to develop effective strategies for communicating what we know about the real risks posed by various chemicals in commerce. We believe that the principles of pollution prevention and right to know should be the foundation of our toxics program now and in the future.

I am very encouraged by the Committee's interest in focusing on existing chemicals. Existing chemicals, being those materials in commerce, appear to present the greatest potential for risk to the public. On the positive side, we also believe the TSCA existing chemicals program offers the best opportunity for linking our chemical management, right to know, and pollution prevention efforts.

Today, I will discuss the current state of the TSCA existing chemical program, highlighting some of the future opportunities and obstacles for the program.

Existing Chemicals Priorities

Our existing chemicals activities can be considered in two parts: chemical testing initiatives and risk management efforts. We are finding and using new and innovative approaches to improve productivity and effectiveness at preventing pollution and reducing risks from existing chemicals.

Chemical Testing Program

Even at the accelerated level of testing we see today, we still are addressing only a small portion of the TSCA existing chemical universe of 70,000 chemicals. To determine what testing information is most critical, we are setting an agenda based on several elements. As a direct result of years of chemical screening efforts, OPPT has determined that its efforts to identify candidates for testing or risk assessment should focus primarily on the approximately 14,000 non-polymeric TSCA Inventory chemicals that are produced at levels of over 10,000 pounds per year, that is, high production volume chemicals. EPA employs hazard-based and exposure-based screening techniques to identify priority testing candidates from among this 14,000 chemical subset. In the last several years we have put together a Master Testing List that identifies the testing needs for existing chemicals. The list reflects the needs of both EPA and other Federal agencies, and represents a sound agenda for a Federal program to characterize the universe of existing chemicals.

Traditionally the TSCA testing agenda consisted of chemicals brought to EPA's attention through TSCA statutory mechanisms such as Section 8(e) or the Interagency Testing Committee. More recently we have developed testing strategies to meet specific policy needs. With the EPA Air Office, we are working on testing strategies for the Hazardous Air Pollutants that are part of the Clean Air Act air toxics strategy. We are working on a dermal absorption testing initiative for about 60 chemicals of concern to the Occupational Safety and Health Administration (OSHA). As another example, we are working with the Agency for Toxic Substances and Disease Registry (ATSDR) on needed testing data for approximately 10 chemicals frequently identified at Superfund sites.

Our new agenda also reflects priorities identified by the international Organization for Economic Cooperation and Development (OECD) Screening Information Data Set (SIDS) program. This is an international effort to obtain "screening level" testing of the high-production chemicals in commerce. OECD countries have agreed to share the burden of testing in order to allow countries to develop appropriate fol-

low-on testing and risk management efforts. The Master Testing List includes not only individual chemicals but also generic chemical categories of emerging concern about their environmental significance. Examples include persistent bioaccumulaters and chemicals that may behave as "environmental hormones."

EPA is using the TSCA testing authorities to address the testing needs set forth in the Master Testing List. However, the statute puts a significant burden on EPA, both in the findings it must make and the processes it must use, to obtain needed test data. Once issued, these rules have faced substantial litigation. In short, there are high transaction costs in using TSCA testing authorities. Recently EPA has emphasized the use of negotiated enforceable consent agreements and voluntary agreements to improve the program's productivity. These agreements are not mechanisms explicitly recognized in the statute. Although they have helped produce results, there still is a wide gap between the testing needs of the Federal government and TSCA's ability to meet that need.

Risk Management

I'd like to turn now to our existing chemicals risk management program. In many ways, the changes in our risk management activities parallel—and complement—the strategic changes we've made to our testing program. Current targeted risk management actions are usually risk-based, using exposure and hazard criteria. Actions can be organized by specific chemicals, by clusters of chemicals defined by concern or use, or by facilities. Appropriate pollution prevention or other risk management approaches, either voluntary or regulatory, are developed to address these chemicals of concern.

While our risk management projects have traditionally involved particular chemicals, increasingly we are managing clusters of chemicals used to perform a particular task. This "use cluster" approach seeks to compare risks of the various chemicals that are alternatives within a technological or economic niche. The task is to identify those chemicals and/or technologies that represent a safer way of performing the essential function in a cost effective manner. There are several advantages of the use cluster approach. Use clusters force consideration of the comparative risks involved in substituting chemicals and both the opportunities and limits of technological innovation. Use cluster reviews tend to be more helpful to chemical users than single chemical reviews. Thus, for example, instead of looking at a single chemical that happens to be a paint stripper, we are looking at a set of chemicals that perform as paint strippers, to clarify what seems to be the safer material to use. Like the traditional single-chemical approach, use cluster analyses can lead to regulatory or voluntary action to manage risk.

The focus of the TSCA existing chemical program on use clusters is one of the intellectual underpinnings of the "Design for Environment" (DfE) program that EPA has developed in the last several years. The DfE program encompasses an effort to work in partnership with industries to improve their environmental performance as they change technologies. The DfE projects focus on the particular choices that an industry has in its operations, using information generated in a "use cluster" analysis, in order to identify technological choices that will result in significant environmental improvement in a cost-effective manner.

As an example, we have been working with the dry cleaning industry to help it improve its operations. This industry, predominantly small businesses, relies on technologies associated with chemicals of concern, notably perchloroethylene. We have worked with the industry to identify alternatives to the use of perchloroethylene and to reduce the environmental impact of the chemical where it is used, in the context of what the industry can afford in terms of capital investment. We have identified several options, including a process called "multi-stage wet cleaning," that may be cost-effective approaches that can improve environmental performance and maintain product quality. While further work is needed to test out the viability of these technologies, this offers a promising new direction for this industry and a highly-valued role for the information, expertise and tools associated with TSCA.

We also envision a role for the TSCA existing chemicals program in resolving environmental issues that arise around particular facilities, communities or geographic

areas. This approach enables us to work with states and regions to define problems and solutions that can improve health and environmental conditions in an area and address complex issues such as environmental justice.

Two examples of this type of agenda have arisen recently. Last year, as an effort to use the data contained in the Toxics Release Inventory (TRI), we targeted under TSCA some of the chemicals that indicated high releases in communities. One such chemical was ethylene dichloride (EDC). Our analysis showed that the principal risks associated with EDC nationwide were centered around a small number of specific facilities, in discrete geographic areas. In working with our regional offices and the affected States we were able to pursue strategies, some of which involved utilizing a number of EPA's statutory authorities, to reduce emissions and thereby risks to the public.

Another geographic initiative that involved environmental justice concerns were three TSCA Section 21 petitions we received involving California's New River. This is one of the country's most polluted rivers, receiving industrial and municipal wastes from Mexico, as well as agricultural runoff from the United States. The TSCA program is planning to make sure that reliable and scientifically-sound information will be generated about contamination of the river to allow both EPA and other governmental actors to perform appropriate risk assessments and to control the sources of pollution, and to provide information to the public so that they too can take appropriate actions.

Chemical Use Inventory

The existing chemicals program has from its inception been faced with the need to find an adequate process to sort through the 70,000 chemical substances on the TSCA § 8(b) inventory to identify the chemicals of greatest concern, both for testing and risk management. One of the tools for building that agenda is the TSCA inventory update rule (IUR) which has been used to collect information on the production of many of the chemicals. As the existing chemical program has concentrated on setting priorities, it has become increasingly clear that priorities should be based on risk whenever possible. Since risk is determined by hazard and exposure, it is essential to gain a stronger sense of how chemicals are used because that is a first level screen for assessing exposure. Better exposure information will inform community and geographic based and consumer based risk management activities at EPA, as well as occupational risk reduction activities at OSHA.

The interest in information about use has lead to a broad public discussion of a "Chemical Use Inventory" (CUI) which has drawn interest from a wide range of stakeholders. At this point EPA plans to discuss in the public forum the CUI concept on two tracks. First it will examine upgrading the existing IUR to obtain better use information from chemical manufacturers. This action assumes that manufacturers will have enough information about how their products are used to identify patterns of use that might warrant further inquiry. Second, EPA will examine the TRI program to see if information about use and exposure can appropriately be collected at the facility level. That effort has just begun and may raise questions about the adequacy of either TSCA or EPCRA authorities to obtain the information at that level. These public discussions will take into account the relative value of alternative information collection options and the burden of these options.

As described above, EPA has tried to target its testing and risk management efforts on the chemicals of greatest concern. As the Subcommittee examines the statute, you will want to consider how TSCA supports these strategies.

Section 6 of TSCA

Mr. Chairman, in your letter of invitation for today's hearing, you specifically asked about Section 6 of TSCA as an effective tool and inquired into the possibility of integrating pollution prevention into this section. To address these questions, let me discuss the potential implications of the U.S. Fifth Circuit Court of Appeals decision to remand the 1989 Asbestos Ban and Phaseout Rule to EPA. This case could pose some definite challenges for us as we investigate other possible actions under Section 6 of TSCA.

First, while EPA does not contest its obligation to consider whether a proposed action is cost-effective, the court's decision appears to impose a burden of proof on EPA that significantly increases the level of analysis on potential substitutes and on identifying the least burdensome approach for any future Section 6 action. We believe that future regulatory action under Section 6 may be more resource-intensive and may take longer as a result of that decision.

Second, the court's interpretation of the "least burdensome" alternative requirement under Section 6 appears to drive us toward end-of-pipe solutions, where toxic substances are controlled after they are created and released into the environment, as less burdensome than pollution prevention solutions, where toxic substances are reduced or eliminated at their source. This appears to conflict with the hierarchical approach set forth in the Pollution Prevention Act, which, as you might expect, established a priority for pollution prevention. Furthermore, end-of-pipe controls should not be given preference over pollution prevention, as indicated in the court's opinion, because end-of-pipe controls may well be less cost effective.

EPA needs the ability to take decisive action in the face of unreasonable risks. Moreover, EPA's ability to take regulatory action under Section 6 is an important part of the incentive structure we have to encourage companies to engage in risk reduction through voluntary action. Therefore, EPA should maintain the ability to take these actions.

Information Dissemination

A strong Federal authority to take risk management action is not by any means the sole incentive to encourage better stewardship of chemicals.

In the current era, the federal government is clearly not the only catalyst for environmental action. Increasingly, states, local governments, industry, labor unions, public interest groups and grass-root community groups are finding ways to work together to achieve environmental improvements. One of the most effective ways for EPA to encourage and ensure others' participation in responsible chemical management is to deliver key environmental information to these groups on risks of chemicals of concern. Where groups outside EPA seek to improve chemical management and performance, often without EPA's direct participation in their efforts, it is vital that these groups be well informed.

EPA also wants to empower others' participation in chemical management as a realistic response to the resource limits of the federal government. We cannot hope to solve all problems of chemical management through direct EPA action. Clearly any plan to address the overwhelming issues and prevention opportunities surrounding chemicals in commerce must be designed to facilitate initiative in private industry, in state and local governments, in labor unions and in the public at large.

Our experience with the Toxics Release Inventory under EPCRA has taught us the power of public disclosure to stimulate positive action. We are trying to expand these lessons to develop useful "information products" out of the information collected under TSCA. For example, our traditional TSCA § 8(e) program was focused exclusively on the Agency's effort to sort through data to find high priority situations for risk management action. More recently we have placed the results of TSCA § 8(e) studies into a computerized database that will allow other agencies, state governments, public interest groups, researchers and companies to be users of the TSCA data along with EPA. Another example is drawn from our new chemicals program that has developed a methodology for identifying chemical structures that are associated with certain adverse effects. These "structural activity relationship" (SAR) techniques are now being placed into software tools that will allow others to perform the type of chemical screening activity that is now done by EPA scientists.

We find ourselves faced with several challenges as we pursue this "right to know" principle in our toxics program. First, what does the customer want? We are currently working with outside groups to determine needs. Second, we are continually working to improve efficiencies in data management. A recent General Accounting Office (GAO) report properly indicated we have too many databases. While we believe the report overestimated the actual number of databases, we agree with their general point that our data delivery systems need to be coordinated and improved.

Probably the greatest challenge in increasing the amount of information available to states and the public has been the amount of TSCA information claimed as business confidential. Currently there are no costs or disincentives for a company to claim information as confidential business information (CBI); in fact, it is probably less costly to not carefully screen information. We have seen cases where even information found in newspaper articles has been claimed as CBI. Through our CBI reform process, we are exploring how to improve public access to information within the limits of TSCA's authority. OPPT has embarked on a series of both regulatory and cooperative initiatives to limit the amount of information claimed as confidential. We expect these measures to be helpful in improving public disclosure, but they cannot fully resolve the problem. As long as we are hampered in our ability to tell a state governor about the toxic chemicals within his or her state or inform customers about the risks associated with the products they are buying, we have not achieved the goal of public empowerment.

If public disclosure of chemical information is an important value, which we believe it is, it is critical that TSCA help promote not preclude its disclosure. This, of course, raises several questions. What types of data are useful to disclose? How do we balance the legitimate but competing demands for confidentiality of proprietary information and public disclosure of information about risks? What incentives for public disclosure exist in the current law?

Relationship with Other Agencies

For the TSCA program, other Federal agencies are some of our most important customers. Under TSCA Section 9 there is a formal regulatory procedure for referring EPA's chemical risk determinations to other agencies for consideration. This section also sets forth a general duty to coordinate actions with other Federal agencies. While this general coordination obligation has resulted in positive interaction between EPA and other agencies, the formal referral mechanism has proven burdensome to EPA and cumbersome as a mechanism for obtaining prompt consideration by applicable agencies.

We have found a much more effective tool for coordination in the establishment of formal committees that meet regularly on issues of concern. For occupational health issues, we have developed a forum to bring together the Occupational Safety and Health Administration (OSHA), the National Institute for Occupational Safety and Health (NIOSH), EPA, and the Mine Safety and Health Administration (MSHA), which is called the ONE (OSHA, NIOSH, EPA) committee. This group has been quite effective in the sharing of valuable data and in developing coordinated strategies for addressing chemical hazards in the workplace. For example, we have used this group to coordinate strategies on asbestos, lead and refractory ceramic fibers.

We helped establish a similar forum for interagency cooperation between EPA and the Consumer Product Safety Commission (CPSC). We have used this group to coordinate actions on carpets, formaldehyde and environmental labeling. EPA also coordinates with the Agency for Toxic Substances and Disease Registry (ATSDR) and the National Institute for Environmental Health Sciences (NIEHS) on the long-standing tri-agency Superfund Applied Research Coordinating Committee that works to identify key data needs for priority Superfund substances.

Enforcement of TSCA

Another area of concern involves TSCA enforcement provisions. Violations of TSCA may result in serious harm to health or the environment, so strong enforcement is essential to meeting the environmental goals I have previously described. Although TSCA enforcement authorities generally function well, they are limited.

Our inspection authority is limited. For example, a regional sales office of a chemical company may receive information showing that one of the chemicals it sells produces birth defects at lower doses than was previously suspected. This information is reportable under TSCA § 8 (e). However, EPA compliance inspectors do not have explicit TSCA authority to enter the regional sales office to examine their records, unless the chemical substance is stored or held at that office. EPA could issue a subpoena for any TSCA § 8(e) information in the possession of the company, but if the

birth defects study isn't submitted, EPA would never know that the company was not in compliance with TSCA. This ought not to be the case.

The statute of limitations issue is also problematic. Recently, the U.S. Circuit Court of Appeals for the District of Columbia held that the general statute of limitations provision applies to TSCA administrative penalty actions. Suppose a company discovers that it probably manufactured and distributed a chemical that did not appear on our TSCA Inventory. It can disclose this information to EPA, resulting in a significant reduction from the penalties that would ordinarily be imposed. However, the company may decide not to inform EPA. According to the recent court decision, if more than five years have passed since the violation occurred, EPA cannot take any type of enforcement action, even if the chemical poses health risks, and even if EPA had no way of knowing about the violation. Under this decision, EPA will be severely hampered in its enforcement efforts.

Criminal penalty authorities under TSCA need to be strengthened. The need for such additional authority is illustrated in the following example. Six individuals were recently prosecuted for a conspiracy involving the illegal disposal of PCBs by burial on a horse ranch and attempting to export some to Mexico. Criminal violation of TSCA are misdemeanors, carrying a one-year maximum jail term; however, many environmental statutes contain a felony provision for criminal violations, with a five year maximum jail. We should be able to do more for such knowing violations of the statute under TSCA.

The potential for serious harm to human health or the environment is at least as likely under TSCA as under such statutes as the Resource Conservation and Recovery Act (RCRA) and the Clean Water Act (CWA). Therefore, the sanctions under TSCA should be raised at least to the levels under those statutes. For the same reason, there should be a knowing endangerment provision added to TSCA as is included in RCRA, CWA, and the Clean Air Act.

These and other enforcement issues, including the lack of authority under TSCA to obtain penalties in a civil judicial forum, should be considered in any reauthorization of TSCA.

CONCLUSION

In conclusion, I would like to thank the Subcommittee for its continuing efforts to move forward with reauthorizing TSCA, and especially for your interest in the existing chemicals program. We look forward to providing technical assistance to the Subcommittee as it drafts legislation.

FOLLOWUP QUESTIONS FOR LYNN GOLDMAN FROM SENATOR REID

1. When you were here before you talked about the need to set priorities. With the large number of chemicals we have in commerce, this is crucial. Would it be advisable for us to identify in the statute certain categories or criteria for prioritizing the testing of chemicals, and if so, what categories or criteria would you recommend?

(a) How might this work with the Master Testing List?

2. The ITC was intended to provide EPA with priorities for testing. However, GAO and others have criticized ITC's ability to fill this role, since the process of designating chemicals for EPA to test is cumbersome and does not allow EPA to set its own agenda. Do you think that there is another mechanism that could provide clearer direction for testing priorities?

(a) Should developing such a list be left to EPA?

(b) Could there be a way other than through the ITC for federal agencies to advise EPA on the chemicals that should be on a testing list?

3. Several witnesses at our first hearing emphasized that a major difficulty in determining the need for testing and issuing testing rules is the lack of exposure data. Do you agree that this is a problem and, if so, what can we do to remedy this?

(a) Why isn't section 8 sufficient for EPA to get this type of information from manufacturers and processors?

(b) Should the statute itself require submission of certain exposure data when a chemical is recommended or listed for testing?

4. Many people have said that the process for issuing section 6 rules needs to be changed so that EPA can really use that authority. But suppose that we do make section 6 more workable. What would you focus on as the risk management priorities under TSCA?

(a) Would there be some value in having a risk management list like the Master Testing List that would focus priorities?

5. EPA has discussed establishing a chemical use inventory. What will we gain from a chemical use inventory? What information would it include and how exactly would EPA use this information?

(a) What changes in the statute, if any, would be needed to establish such an inventory?

(b) What has been industry's reaction to a proposed chemical use inventory?

6. In your statement for our last hearing you stressed the importance of pollution prevention and, you stated: "Fundamentally, we believe a toxics program should push for use of safer chemicals and processes in the basic operations of the industrial sector. " What specific actions should EPA take to further these goals and how can the statute be reformed to advance these efforts?

7. Going back to the process of section 6 rules for a moment, how much of an impediment do you think the substantial evidence standard of judicial review has been for EPA regulating under section 6?

8. In your recent Final Action Plan on TSCA CBI reform, you discuss several voluntary and regulatory actions to reduce inappropriate CBI claims. That report also states: "It is generally recognized within the Office, that given TSCA's present framework, there are significant statutory impediments to OPPT's effort to eliminate all improper CBI claims." What statutory changes would you like to see to remove those impediments?

9. These days, inadequate resources always seem to be a problem for federal agencies. Can you outline the current resource picture for implementing TSCA and how that compares with previous years?

10. How could TSCA better serve the needs of other agencies like OSHA and NIOSH?

11. 'Under section 9 as it has been interpreted, if EPA determines that a chemical presents an unreasonable risk and the risk can be prevented or sufficiently reduced under another law, EPA has to refer the chemical to the agency that administers that other law. The idea seems to have been to avoid unnecessary duplication. But at our last hearing, GAO testified that this "gap filling" aspect of TSCA has been a hindrance to action. Clearly, the law should encourage federal coordination. But what direction should the statute provide so that the roles of EPA, OSHA, and other agencies are clear and we do not have either duplicate regulatory actions or hazards that are ignored and fall into a regulatory black hole?

(a) Should the statute recognize the ONE Committee or establish similar high level interagency coordinating groups?

[NOTE: Responses to the above questions were not received by date of publication, October 31, 1994.]

STATEMENT OF JOSEPH A. DEAR, ASSISTANT SECRETARY OF LABOR FOR OCCUPATIONAL SAFETY AND HEALTH

Mr. Chairman, members of the Subcommittee: Thank you for this opportunity to testify on the Toxic Substances Control Act (TSCA). I am particularly pleased to be here today with my colleagues from the Environmental Protection Agency (EPA) and the National Institute for Occupational Safety and Health (NIOSH). We share the goal of reducing exposure to toxic chemicals at their source instead of having to institute control or abatement after exposures have occurred. I work very closely with Lynn Goldman and Linda Rosenstock, and I have instructed OSHA staff to consult with and involve EPA and NIOSH in our regulatory activities at the earliest

possible time. We are working in concert to ensure that we make the best possible use of the resources of the three agencies.

OSHA has the responsibility for the safety and health of workers on the job. The Occupational Safety and Health Act of 1970 authorizes OSHA to promulgate occupational safety and health standards and to conduct inspections to enforce those standards—by issuing citations, proposing monetary penalties, and requiring employers to abate hazards. The OSH Act also gives OSHA the authority to work with and assist employers and employees in reducing workplace hazards.

Chemical exposure at the workplace is a major cause of illness and disease in America. There are thousands of workers who die each year from illnesses caused by exposure to substances such as asbestos, silica, chromium, and carbon monoxide. The Off ice of Technology Assessment has reported that as.many as 20,000 cancer deaths annually may be caused by workplace exposures.

Dr. Philip Landrigan of the Mount Sinai School of Medicine has written that although precise information on the number of occupational illness cases in America is not available, it is estimated that between 50,000 and 70,000 deaths and 350,000 new illnesses are caused by occupational exposure each year. Landrigan also pointed out that a survey undertaken for the National Academy of Sciences found that fewer than 20 percent of industrial chemicals had been adequately evaluated for possible human toxicity. If there is no toxicity data, the risk to exposed workers only becomes known when they become ill. In many cases physicians then cannot assess the health hazards of the material to which their patients have been exposed. Thus there is a pressing need for data on the degree and nature of the hazards posed by industrial chemicals in order to protect workers and prevent disease. As a former EPA official said, "It is time to start putting chemicals to the test, not people."

In developing its standard for Hazard Communication in 1983, OSHA estimated that there were 575,000 chemical products used in American industry. The Hazard Communication Standard has generated a great deal of information for workers concerning the immediate and acute hazards of these chemicals to the extent that their toxicity has been studied. Manufacturers are required to label chemical containers and to develop Material Safety Data Sheets which provide detailed information about the properties of each substance. Employers must provide this information to their employees. As a result of this standard, workers are much better informed about the dangers to which they are exposed than they were ten years ago.

However, there is still insufficient information about the long-term or chronic effects of chemicals used on-the-job. We simply do not know enough about which chemicals at which concentrations cause cancer, heart disease or pulmonary diseases. We know even less about the combined effects produced when workers are exposed to numerous chemicals daily.

Regulating workplace chemicals is not an easy task. It has taken many years to regulate some of the more dangerous substances such as arsenic, asbestos and lead. The "Comprehensive Occupational Safety and Health Reform Act," currently under consideration in the Senate and House, would provide the agency with new tools to address toxic substances and the Administration supports enactment of that bill. TSCA is another vehicle for assisting OSHA in protecting workers. We share EPA's interest in making TSCA more effective. Data from chemical tests are valuable to OSHA in assessing risk to workers and setting priorities for developing occupational health standards. Better information about the toxicity, potency and number of workers exposed to chemicals in common use would help OSHA in determining which should be addressed first. We have found that the regulations which most successfully withstand court challenges are based on strong data generated by sound studies. More detailed data about chemical exposures would also allow OSHA to direct our compliance officers to the workplaces in which the most hazardous chemicals are located.

TSCA presents OSHA with several statutory responsibilities. Section 4 establishes an Interagency Testing Committee (ITC) to make recommendations to EPA concerning chemicals which should be given priority consideration. By statute, OSHA is one of eight members of the Committee, and a scientist from OSHA's Directorate of Health Standards currently chairs the group. Since TSCA's inception the ITC has met more than 300 times and has recommended tests for 126 chemicals and 43

chemical groups. OSHA has no authority to require chemical testing so the ITC provides a vehicle for OSHA to obtain data which can be used to protect workers through rulemaking and enforcement.

The Committee is now reviewing the available skin absorption data on approximately 600 chemicals submitted by OSHA. OSHA enforces Permissible Exposure Limits (PELs) to protect workers from these chemicals. The PELs are based on the results of studies of inhalation of airborne dusts and vapors. In those cases where skin absorption could also be harmful, the chemicals with PELs are assigned "skin designations." OSHA requested that the ITC help identify chemicals which lack sufficient data for OSHA to determine the need for "skin designations" and to use its authority to recommend chemicals for priority testing consideration. To date, the ITC has designated 58 chemicals for dermal absorption testing in its reports to the Administrator of EPA. It is now considering the designation of additional chemicals of interest to OSHA.

Other regulatory agencies, such as the Consumer Product Safety Commission, also need data on skin absorption. The ITC helps Federal agencies coordinate their data needs and eliminate duplicative and unnecessary testing for the regulated community. In addition, through the ITC, OSHA has access to data gathered on all chemicals considered by the ITC including health effects and exposure information. These data are useful in identifying 'chemicals which may be of concern in the occupational setting. OSHA can use them to help in assessing risk and prioritizing its standards-setting efforts.

The other major responsibility for OSHA under TSCA is set forth in Section 9. This section provides that when the Administrator of EPA has a reasonable basis to conclude that a chemical may present an unreasonable risk of injury to health or the environment and that the risk may be prevented or reduced by another law, the Administrator shall submit a report to the other agency describing the risk. EPA is to request that the agency determine if the risk can be prevented or reduced under the agency's statutory authority. If OSHA or another agency decides that it can prevent or reduce the risk of the hazard referred by EPA, the agency must respond to the EPA within a time period specified by the Administrator. OSHA and EPA coordinate their efforts under section 9 through a Memorandum of Understanding that was signed in February 1986.

Since TSCA was enacted OSHA has received information from EPA on a number of substances, including formal referrals on three chemicals: 1,3 Butadiene; Glycol Ethers; and 4,4 Methylenedianiline (MDA). OSHA has issued Proposed Rules on 1,3 Butadiene and Glycol Ethers and a final standard for MDA.

OSHA has found several problems in using TSCA. First, there is a problem in coordinating OSHA's standards-setting priorities with EPA's priorities under section 9. EPA and OSHA are in the process of improving our coordination so that when a referral is made to OSHA it will be more in line with OSHA's regulatory priorities. We understand that EPA has additional concerns with section 9.

Another difficulty is that described by EPA in previous testimony before this Subcommittee. Last May, EPA noted that the Chemical Testing Program established under TSCA has not been as productive as expected. The' number of chemicals which has been tested thus far is in the hundreds. As I have noted there are more than one-half million chemical products in American workplaces. OSHA could use data on many more chemicals than have been tested thus far. Any improvements which would speed up this process or enhance EPA's ability to gather data would improve our ability to assess risk and prioritize standards. This will produce better regulations.

The OSH Act requires that OSHA regulate health hazards to the extent feasible, which the courts have interpreted to mean technological as well as economic feasibility. If section 4 of TSCA could be used to produce information on feasible methods of controlling workplace health hazards, it would help OSHA speed up its rulemaking on toxic substances and provide practical information about current methods used by firms to abate hazards.

A third problem is the limited availability of "Confidential Business Information" (CBI). Company claims of confidentiality on issues such as the amount of a chemical used or manufactured at a facility result in EPA providing OSHA with aggregated

chemical data instead of data from individual firms. If OSHA had more precise data on where there are newly emerging hazards presented by chemicals, the agency could avoid visiting those companies where there are no workplace hazards and concentrate on those worksites with the most serious threats to workers' lives. Thus, OSHA and the business community have a mutual interest in having more precise data about workplace chemicals.

Another difficulty is that claims of confidentiality by chemical companies have sometimes included results of toxicity testing. The claim is based upon the concern that one company does not want its competitors to know that it is interested in a chemical to the extent that it would pay for a toxicity test. OSHA certainly does not want to discourage companies from conducting such tests voluntarily, but we also believe that when workers are exposed to a toxic substance OSHA needs adequate data concerning the substance. This data is essential in assisting OSHA to determine, on the basis of scientific testing, which chemicals to regulate and what priority they should receive. We would also like to use CBI data to make more accurate estimates of the costs of proposed regulations in specific types of workplaces.

OSHA and EPA are working to increase their cooperation under TSCA. Since November 1988 representatives from OSHA, NIOSH, EPA, and Mine Safety and Health Administration have met as the "ONE Committee." The purpose of the ONE Committee is to coordinate the research and regulatory activities of the agencies so that there is no duplication and overlap in addressing toxic substances. The committee meets monthly to discuss the status of regulatory investigations, joint projects, and research needs. The four agencies are now looking at ways in which they can work together even earlier during the process of determining which chemicals should be tested under TSCA.

Concurrently, OSHA is working on ways to include EPA at an earlier stage in our rulemaking procedures. We intend to ask EPA to become an ex-officio member of the OSHA planning committee which will prioritize standards-setting activities. This will be an improved vehicle for EPA to suggest hazards or issues which OSHA should address and to provide data for rulemaking.

Working together, OSHA, EPA and NIOSH can make a great deal of progress in regulating toxic substances under our current authorities. Improvements in both the Occupational Safety and Health Act of 1970 as well as TSCA would enable us to be even more effective. Workers who are exposed to chemical hazards will benefit as better data are generated concerning the manufacture and use of chemicals in American workplaces and as those data are translated into effective standards. If we know where the hazards are located, OSHA can work with employers and employees to eliminate these dangers.

Better regulation of workplace exposures to chemicals which cause occupational disease will assist us in preventing these diseases and will result in lower health care costs. Improving TSCA can mean improving risk assessment and risk management policies and procedures. The result will be more protective, balanced regulations that will not only protect workers but will save money for the business community.

I am very pleased that you are focusing attention on this issue. I will be happy to answer any questions.

FOLLOWUP QUESTIONS FOR JOSEPH A. DEAR FROM SENATOR REID

1. At the Subcommittee's last hearing, several witnesses spoke of the need to set priorities. With the large number of chemicals we have in commerce, this is crucial. Would it be advisable for us to identify in TSCA certain categories or criteria for prioritizing the testing of chemicals, and if so, what categories or criteria would you recommend?

2. How could TSCA serve OSHA's needs better?

3. As I understand it, standard setting under the OSH Act is nearly as difficult as issuing TSCA regulations. OSHA has to show not only that a hazard exists, but that the current level of exposure to the chemical is dangerous, it has to make detailed cost/benefit findings, and its findings are reviewed under a substantial evi-

dence standard. In light of this, why should EPA defer to OSHA to set standards for exposure to chemicals in the work place?

4. At our May hearing, Warren Muir suggested the possibility of having a kind of general duty clause in TSCA that would place upon chemical manufacturers and processors the enforceable duty to use chemicals appropriately. The OSH Act has a general duty clause that requires employers to provide a safe workplace. Based on your experience with OSHA what would you think of such a general duty clause in TSCA?

5. What is the most significant limitation on OSHA's ability to use TSCA data?

(a) What can be done to change that?

6. From your perspective, what is the most significant chemical threat in the workplace and what is being done about it?

7. OSHA has a representative on the InteragencyTesting Committee, the ITC. The ITC was intended to provide EPA with priorities for testing. However, GAO and others have criticized ITC's ability to fill this role, since the process of designating chemicals for EPA to test is cumbersome and does not allow EPA to set its own agenda. Do you think that there is another mechanism that could provide clearer direction for testing priorities?

(a) Should developing such a list be left to EPA?

(b) Could there be a way other than through the ITC for federal agencies to advise EPA on the chemicals that should be on a testing list?

8. Several witnesses at the Subcommittee's first hearing emphasized that a major difficulty in determining the need for testing and issuing testing rules is the lack of exposure data. Do you agree that this is a problem and, if so, what can we do to remedy this?

(a) Why isn't section 8 sufficient for EPA to get this type of information from manufacturers andprocessors?

(b) Should the statute itself require submission of certain exposure data when a chemical is recommended or listed for testing?

9. Under section 9 as it has been interpreted, if EPA determines that a chemical presents an unreasonable risk and the risk can be prevented or sufficiently reduced under another law, EPA has to refer the chemical to the agency that administers that other law. The idea seems to have been to avoid unnecessary duplication. But at our last hearing, GAO testified that this "gap filling" aspect of TSCA has been a hindrance to action. Clearly, the law should encourage federal coordination. But what direction should the statute provide so that the roles of EPA, OSHA, and other agencies are clear and we don't have either duplicate regulatory actions or hazards that are ignored and fall into a regulatory black hole?

(a) Should the statute recognize the ONE Committee or establish similar high level interagency coordinating groups?

[NOTE: Responses to the above questions were not received by the date of publication, October 31, 1994.]

Statement of Linda Rosenstock, Director, National Institute for Occupational Safety and Health

Mr. Chairman and Members of the Subcommittee, I am Dr. Linda Rosenstock, Director of the National Institute for Occupational Safety and Health (NIOSH) I of the Centers for Disease Control and Prevent ion (CDC) I welcome this opportunity to comment on the role NIOSH plays in implementing the Toxic Substances Control Act and offer some suggestions on how data obtained under the Act could more effectively be used to increase worker health and safety.

NIOSH supports the principle of pollution prevention. Our mandate under the Occupational Safety and Health Act is to conduct research on innovative methods, techniques, and approaches for preventing occupational safety and health problems, including those created by new technology. Based on this research, we develop recommended standards and the criteria needed by the Occupational Safety and Health Administration (OSHA) and the Mine Safety and Health Administration (MSHA) for standards promulgation. We are also required to conduct informational

programs on the importance of and proper use of adequate safety and health equipment. These are all preventive mandates.

We firmly believe that preventing harmful exposures is the key to avoiding human suffering and death through exposures to workplace hazards, as well as "take-home" hazards that can expose family and community members. NIOSH strongly supports the concept that it is the responsibility of chemical manufacturers, processors and formulators to test, review, and appropriately inform users and consumers about the hazards and proper use of their chemicals. Since the Occupational Safety and Health Act does not require industry to test the chemicals it manufactures and uses, it is through data generated under TSCA and by membership on the Interagency Testing Committee, which makes recommendations to the Administrator of IPA on priority chemicals for rulemaking that NIOSH can obtain some of the toxicity information needed for standards development.

We have played an active role with the staff of IPA in implementing TSCA. NIOSH has worked closely with EPA and OSHA to coordinate key policy issues related to toxic substances. Since becoming director of NIOSH in April, I have met regularly with Dr. Lynn Goldman, Assistant Administrator of EPA, and and Joseph Dear, Assistant Secretary of Labor, on these and other issues. NIOSH activities include the following:

- active membership, including chairmanship, on the Interagency Testing Committee;
- participation in EPA stewardship meetings with industry;
- peer review of documents and participation in risk management meetings;
- participation in the Organization for Economic Cooperation and Development Screening Information Data Set (OECD/SIDS) program, which encourages international coordination of testing and protocol development;
- conducting industrial hygiene surveys through an Interagency Agreement to provide EPA with exposure assessments of various industries;
- participation in formulating the Master Testing List for the Chemical Testing Program;
- participation in discussions on the reformulation of the Toxic Release Inventory;
- participation on the ONE Committee (OSHA, NIOSH, EPA, and MSHA) which allows the exchange of information and risk reduction strategies, and provides opportunities for coordination on health and safety issues.
- progress toward implementation of Sections 405 and 406 of Public Law 102–550 (15 USC 2685 and 15 USC 2686, which amended TSCA to give specific responsibilities to NIOSH for lead abatement.

Section 4 (a) of TSCA permits EPA to require the testing of any chemical which may present an unreasonable risk of injury to health or the environment. In promulgating such a testing requirement rule, EPA may prescribe epidemiologic studies of employees after consultation with NIOSH. NIOSH believes that the data that would come from employee studies would be beneficial, and thus is eager to work closely with EPA on this issue. NIOSH uses data generated from the TSCA chemical testing program in many ways. For example, NIOSH used the data to assist in selecting chemicals for developing criteria documents, including some jointly written with the NORDIC Group of Experts and Swedish National Institute of Occupational Health. NIOSH is pleased that the Interagency Testing Committee is recommending that testing be conducted to obtain data for prevention activities, including regulations. During the past two years, this Committee has evaluated the need for percutaneous absorption data that could be used by NIOSH, OSHA, MSHA and others to further control worker skin exposure. These kinds of data will play a significant role in the current efforts by NIOSH and OSHA to jointly develop priorities for regulatory and other prevention activities.

NIOSH also uses TSCA data in compiling the Congressionally mandated NIOSH data base known as the Registry of Toxic Effects of Chemical Substances (RTECS). This data base is used internationally in a variety of formats to identify toxic effects of over 123,000 chemicals. TSCA data are used by NIOSH to develop documents for informing employers and employees about workplace hazards through special haz-

ard reviews, current intelligence bulletins, updates and alerts. These data are also used in developing recommended standards and associated criteria for use by OSHA and MSHA in promulgating regulations. They may also be used by our research scientists in formulating hypotheses for research.

NIOSH is pleased that EPA has proposed the reformulation of the Toxic Release Inventory to assist us in collecting information to update workplace surveys conducted in 1971–1974 and in 1981–1983. These past surveys have been an invaluable source of information used by numerous Federal programs, including the Interagency Testing Committee, the National Toxicology Program, and NIOSH and OSHA for developing regulatory, research, and testing agendas. EPA has proposed a pyramid structure, with TSCA data forming the base, NIOSH interpreting the data and supplementing it with industrial hygiene, medical and risk management information and transmitting recommendations to the Department of Labor for regulatory action. This scheme, if perfected and implemented, would improve the ability of these agencies to protect the health and safety of workers and the general public from exposure to toxic chemicals. We will continue to work with EPA and OSHA on implementation of this proposal.

One frustration with all chemical testing performed through government agencies is the long lead time needed to obtain test data. It commonly requires a minimum of 2–3 years before testing begins on a targeted chemical. This does not include the actual test time, report writing, and review processes before the information is available. We realize that streamlining this process would be extremely difficult.

Another problem exists with the limitations on the use of confidential business information either for planning research or in formulating recommendations to the Department of Labor. Better guidelines need to be developed on what constitutes confidential business information.

The preventive aspects of TSCA would be greatly enhanced if industry were to develop the engineering controls and protective equipment needed to assure that workers are not subject to potentially harmful exposures when new chemicals are introduced or when new uses or new hazards are found for existing chemicals.

Thank you for the opportunity to describe how NIOSH uses TSCA data and to suggest changes that could provide increased protection from chemical exposures for workers and the general public. Mr. Chairman, I would be pleased to answer any questions you or Members of your Committee may have.

FOLLOWUP QUESTIONS FOR LINDA ROSENSTOCK FROM SENATOR REID

1. At the Subcommittee's last hearing, several witnesses spoke of the need to set priorities. With the large number of chemicals we have in commerce, this is crucial.

(a) Would it be advisable for us to identify in the statute certain categories or criteria for prioritizing the testing of chemicals, and if so, what categories or criteria would you recommend?

(b) How might this work with the Master Testing List?

2. How could TSCA serve NIOSH's needs better?

3. What do you think is the most significant limitation on NIOSH's ability to use TSCA data?

(a) What can be done to change that?

4. From your perspective, what is the most significant chemical threat in the workplace and what is being done about it?

5. NIOSH has a representative on the Interagency Testing Committee, the ITC. The ITC was intended to provide EPA with priorities for testing. However, GAO and others have criticized ITC's ability to fill this role, since the process of designating chemicals for EPA to test is cumbersome and does not allow EPA to set its own agenda. Do you think that there is another mechanism that could provide clearer direction for testing priorities?

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of exposure data. Do you agree that this is a problem and, if so, what can we do to remedy this?

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(a) Should the statute recognize the ONE Committee or establish similar high level interagency coordinating groups?

[NOTE: Responses to the above questions were not received by the date of publication, October 31, 1994.]

STATEMENT OF PETER GUERRERO, DIRECTOR, ENVIRONMENTAL PROTECTION ISSUES, GENERAL ACCOUNTING OFFICE

Mr. Chairman and Members of the Subcommittee: We appreciate the opportunity to again participate in the Subcommittee's deliberations on reauthorization of the Toxic Substances Control Act (TSCA). At your May 17, 1994, hearing, we discussed the Environmental protection Agency's (EPA) problems in implementing certain provisions of TSCA.[1] We said that TSCA's legal standards for taking regulatory action are so high that EPA has been discouraged from attempting to regulate chemicals and has given implementation of the act a low priority. Furthermore, EPA has interpreted the act so that it gives preference to using other health and environmental laws that do not have the full range of controls offered by TSCA. Moreover, gaps often exist in the data needed to assess chemicals' risks, and obtaining the needed data places a heavy burden on EPA, given available resources. Industry claims that much of the data that are collected is confidential, limiting the dissemination and usefulness of the data to federal and state organizations with health and safety responsibilities.

This and our earlier testimony are based on our ongoing work, being performed at the request of this Subcommittee, to review EPA's efforts to assess the risks of chemicals before and after they enter commerce and to control those that are harmful. This work includes a comparison of TSCA's provisions with those of chemical control programs implemented in Canada, Germany, and Sweden. As you have requested, we will focus today on our preliminary observations on legislative changes to improve EPA's implementation of TSCA. A final report on the details of our review and options for revising TSCA will be provided to this Subcommittee when our work is completed in September 1994.

In summary, although TSCA contains information-gathering and regulatory authorities that are essential to an effective chemical control program, EPA has achieved few results under the act. In completing our work for the Subcommittee, we are reviewing a number of options for revising TSCA that could (1) strengthen EPA's ability to regulate harmful chemicals, (2) improve the reliability of EPA's new chemical reviews, (3) accelerate EPA's progress in reviewing existing chemicals, and (4) increase the dissemination of information on chemical hazards. TSCA could also be revised to become a more comprehensive toxics statute by incorporating provisions aimed at reducing the overall use of toxic chemicals.

We would now like to highlight these options.

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[1] *Toxic Substances Control Act: EPA's Limited Progress in Regulating Toxic Chemicals* (GAO/T-RCED-94–212, May 17, 1994).

Strengthen EPA's Ability to Regulate Harmful Chemicals

Governments at all levels are under increasing pressure to address the public's concerns about pollution and public expectations for a cleaner environment. Much of this attention is now focused on toxic pollutants because of their potentially serious health and environmental effects. As both government and industry look for ways to respond to the public's demands, it is increasingly evident that achieving substantial progress in dealing with toxics will require a comprehensive approach that addresses the life cycle of chemicals from their manufacture and distribution in commerce to their use and eventual disposal or release to the environment. Conventional pollution abatement strategies typically involve only certain pollutants at one stage of generation and at a readily identifiable source. Exposures and releases to the environment can occur during any or all stages of a chemical's life cycle, and all stages need to be examined. In some cases, the most appropriate way to deal with a toxic chemical may be to not produce it in the first place.

Although TSCA can be an important part of a comprehensive toxics control program, the act's authorities have not been used effectively when EPA has considered how to address toxic chemical concerns. One of our preliminary observations is that TSCA authorities could be used more effectively if the act were on more of an equal footing with other environmental laws. Another is that TSCA could be made less burdensome to use by allowing EPA to regulate a chemical on the basis of a finding that the chemical presents a significant risk to human health or the environment, without having to demonstrate that the risk is also unreasonable based on comprehensive analyses of the costs and benefits of regulating the chemical.

Clarify TSCA's Role and Relationship to Other Laws

TSCA's role—that is, how and under what circumstances EPA can use the act to deal with toxic chemical concerns—has long been controversial within EPA and among Members of Congress, the regulated community, and environmental organizations. The major point of contention has been whether TSCA should be a comprehensive '-umbrella" statute aimed at regulating all unreasonable risks from chemical exposures or whether it should be a gap-filler to address chemical risks that cannot be controlled under other statutes.

TSCA does not clearly articulate what the act is to achieve through its regulatory authorities. In addition, section 9 generally requires that other environmental laws be used to address the risk posed by a chemical, if the EPA Administrator determines that such laws can eliminate or sufficiently reduce the chemical's risk. EPA has generally interpreted this section to mean that TSCA is not a comprehensive chemical control statute and should be used primarily to fill gaps in the authorities of other laws, such as the Clean Air, Clean Water, and Occupational Safety and Health Acts. While these other laws can control environmental releases and certain exposures to chemicals during their production and use, they do not offer the flexibility provided in TSCA to control the production, distribution, and use of the chemicals themselves.

In our view, there are at least two possibilities for using TSCA as a more comprehensive chemical control statute. EPA could provide a different interpretation of the statute or the statute itself could be revised to remove references to other environmental statutes, leaving the EPA Administrator free to use TSCA whenever he/she believes it is necessary to reduce risks. Using TSCA in a more comprehensive manner would make control actions under the act an option in EPA's deliberations on how best to deal with toxic chemical concerns—either through TSCA, one or more of the other laws, voluntary actions by industry, or a combination of these approaches. This would give EPA a cost-effective way of controlling pollution other than by placing restrictions on industry at the end of the pipe.

Establish a New Framework for Taking Action

To regulate a chemical under TSCA, EPA must show that the chemical presents or will present an "unreasonable" risk. To determine whether the risk is unreasonable, EPA assesses the chemical's risks and performs analyses to weigh the benefits of controlling the chemical against the economic and social costs of any contemplated regulations.

This test of reasonableness has been very difficult for EPA because of the complexity and amount of evidence required to demonstrate that the benefits to human health and the environment outweigh the economic and social costs of controlling or banning the use of a chemical. According to EPA, the nature of scientific assessment is such that it must make extrapolations to determine both human and environmental risks, and uncertainties always exist. However, the introduction of doubt means that EPA may fall short of TSCA's threshold of sufficient proof to substantiate claims of unreasonable risk. Because of TSCA's legal standards, EPA has issued regulations under TSCA to regulate only nine chemicals.

EPA's 1989 regulation to phase out almost all products containing asbestos illustrates the difficulty of demonstrating unreasonable risk. In that case, EPA had considerable scientific evidence of serious health risks and spent several years developing the regulation. Nevertheless, the Fifth Circuit Court of Appeals decided in 1991 that the agency had issued the regulation on the basis of insufficient evidence.

In contrast to TSCA, the Canadian Environmental protection Act separates the process of deciding *whether* to control a chemical from the process of determining *what* appropriate control action to take. The act authorizes the government to control chemicals that are toxic, which are defined as those entering the environment in a quantity or concentration, or under a condition, having a harmful effect on the environment or human health. Determining whether a chemical is toxic and should be controlled is based on an assessment of the chemical's risks. Costs and benefits are then considered as factors in deciding what control actions to take, rather than in deciding whether chemical risks should be addressed.

A similar two-step process could be established in TSCA. For example, EPA could be required to determine whether a chemical presents a significant risk on the basis of several factors, including the chemical's toxicity, production volume, releases to the environment, and exposures. For those chemicals found to pose a significant risk, EPA would determine the most cost-effective actions to take to adequately reduce the risks. The agency would have the flexibility to select actions—whether under TSCA, other laws, or voluntary agreements—by considering their cost effectiveness in reducing risks. In effect, costs and benefits would not be factors in deciding whether to reduce risks; they would be considerations in selecting a course of action to deal with the risks.

Improve EPA's Review of New Chemicals

TSCA does not require routine chemical testing, and industry performs only limited testing on new chemicals. Because sufficient test data are generally not available, EPA uses a method known as structure activity relationships analysis to predict new chemicals' health and environmental effects. This method, which relies on test data from chemicals with similar molecular structures, is highly accurate in predicting some chemical characteristics but is often inaccurate for other important characteristics.

To provide better data, TSCA could require manufacturers to perform basic tests for new chemicals and additional tests when production for the chemicals reach certain levels. This would increase the burden on both the manufacturers and on EPA, which would have to review the test results and related information to determine the chemicals' risks. These burdens could be reduced if TSCA were revised to allow EPA to review chemicals before they enter the marketplace, rather than before they are manufactured. Many chemicals at the premanufacture stage are never marketed.

Require Basic Testing of New Chemicals

A 1993 study comparing EPA's predictions using structure activity relationships analysis and actual test results for new chemicals in the European Union[2] showed that EPA performed poorly in predicting some characteristics, such as physical chemical properties. For example, EPA had only a 63-percent accuracy rate in predicting vapor pressure, an important factor in determining the amount of potential

[2] Formerly the European Community.

exposure to a chemical. Both EPA and European Union representatives considered this accuracy rate to be too low to characterize chemical risks.

TSCA currently requires the chemical industry to give EPA a 90-day notice of its intent to manufacture or import a new chemical. This notice is to contain certain information that EPA needs to review the chemical, such as its molecular structure, proposed uses, estimated production amounts, estimated exposure, and the results of any testing that has been conducted. The Congress could revise TSCA to require manufacturers to perform certain minimum tests and submit the results to EPA with their premanufacture notices. To reduce industry's testing costs, the act could require that only certain basic tests be performed initially and that more extensive testing be done when a chemical's production reaches certain levels. Only a small percentage of chemicals would likely reach these levels and require the additional testing. Such an approach is used by Canada and countries belonging to the European Union.

Industry's costs could be reduced further by requiring testing for only those chemical effects or characteristics, such as vapor pressure, for which the 1993 study showed that structure activity relationships analysis did not perform well. In addition, some chemicals may not need to be tested. EPA currently provides a very limited review of certain types of new chemicals that agency officials believe pose little risk because of their chemical structures.

EPA, at the conclusion of its review of the premanufacture notice, could designate the additional testing to be performed. Once the testing is completed, the manufacturer would submit the results to EPA. At that time, the manufacturer could also update key information in the premanufacture notice, including any new uses and estimated exposures to the chemical. Currently, to require reporting on significant new uses, EPA has to issue rules on a chemical-by-chemical basis, which is costly and burdensome.

Minimize Burden by Requiring Notices When New Chemicals Are Marketed

TSCA currently requires manufacturers to submit information to EPA on chemicals that they intend to manufacture and market, but that have thus far been produced only under controlled conditions in the manufacturers' research and development laboratories. In contrast, European Union countries do not require manufacturers to submit a notification, including their test data, until a chemical has been manufactured and is ready to be marketed.

In her May 17, 1994, testimony to this Subcommittee, the EPA Assistant Administrator pointed out that, since 1979, about half of the approximately 19,000 premanufacture notices that EPA reviewed were for chemicals that never entered the marketplace. She pointed out that reviewing all of these notices—about 2,000 annually—is a continuous challenge to the agency. Revising TSCA to have EPA review new chemicals only when they are ready to be marketed could increase EPA's efficiency.

This change could also help minimize industry's testing and reporting costs. Industry would have to prepare fewer notices than it currently does, and a requirement for certain initial tests, if included in TSCA, would apply to fewer chemicals.

Accelerate the Review of Existing Chemicals

In addition to requiring the review of new chemicals, TSCA authorizes EPA to review the risks of chemicals already in coerce. About 62,000, or 86 percent, of the approximately 72,000 chemicals in the TSCA inventory were in commerce when the new chemical review program began in 1979 and have not been reviewed as new chemicals. EPA has reviewed only about 1,200, or 2 percent, of these substances under its existing chemicals program. While TSCA specifically requires the review of new chemicals within a certain period, the act contains no explicit requirement for reviewing existing chemicals. Consequently, EPA historically has given higher priority to reviewing new chemicals. Furthermore, while industry is responsible for collecting and submitting to EPA the data needed to review new chemicals, EPA must assume the burden of initiating existing chemical reviews and collecting the necessary data.

Establish Goals and Priorities

To put the existing chemicals program on a more equal footing with new chemical review, TSCA could be revised to set some specific deadlines or targets for the review of existing chemicals. Providing such a goal would establish a clear national policy and focus EPA's and the chemical industry's efforts on completing the reviews.

However, even with such a goal, it would likely take many years to review the large number of chemicals that comprise the TSCA inventory. Thus, some means of setting priorities would be necessary to ensure that risks to health and the environment are addressed in an appropriate and timely manner. According to EPA, only about 16,700, or 23 percent, of the 72,000 chemicals in the TSCA inventory are of concern because of their production levels or chemical structure. This number is still large, and EPA would need flexibility to focus the agency's and the industry's resources on those chemicals that, based on their toxicity, production volumes, and potential exposure, present the highest risk to human health and the environment. This could be accomplished by setting out chemical review priorities in TSCA or by requiring EPA to implement a process to develop such priorities.

Other industrial countries have recognized the importance of systematically reviewing their existing chemicals. A 1993 European Union directive, for example, requires member countries to participate in a systematic review process for existing chemicals. The European Union plans to focus at first on high production chemicals and to periodically develop priority lists of chemicals for member countries to review.

Shift Some of the Burden to Industry

Although establishing priorities would help EPA to focus its efforts on the most serious chemical risks, the agency still may not be able to substantially improve its performance in reviewing the thousands of chemicals in use without shifting to the chemical industry more of the burden and cost for developing and compiling data. EPA now is responsible for compiling and analyzing the available information on chemicals' effects and exposures. Because few data—especially on exposures—are often available, EPA uses various models to project or estimate information, such as the amounts and types of exposures. The agency has to issue rules to require testing or to collect additional exposure information from industry. A rule to require testing of a chemical can take as long as 24 to 30 months and cost from $68,500 to $234,000.

One way to shift some of the responsibility to industry would be to revise TSCA to require chemical manufacturers to compile available data on chemicals and submit the results to EPA, as they now do for new chemicals. Under this approach, EPA would identify the types of information required and the reporting format. The agency would also notify the industry in advance of the priority chemicals scheduled for the agency's review within a certain period and the dates when it must submit the information to EPA. EPA would review the information and inform industry of the additional data needed. The 1993 European Community directive requires manufacturers to compile and report certain data on existing chemicals to member countries.

Another option would be for EPA to continue to be responsible for compiling available information, relying primarily on information in its files and in publicly available data bases. EPA could be authorized to more easily obtain information from industry to fill gaps in the data needed to perform assessments of chemical risks. Authorizing EPA to obtain the additional data without having to issue rules, as it is now required to do, could substantially reduce the resources that the agency uses for this purpose. This authority could be limited to chemicals that, at the time, are in the process of being reviewed and to the specific data needed to complete assessments of these chemicals's risks. TSCA could also be revised to make it easier for EPA to issue these rules. For example, to issue a test rule, EPA must currently demonstrate that insufficient data exist and a chemical may present an unreasonable risk or that significant exposure may occur. Allowing EPA to issue a rule solely on the basis that the information is needed to assess the chemical's risks would require less supporting evidence for the rule.

Increase Dissemination of Information on Chemical Hazards

Industry claims a large portion of the chemical information that it provides EPA under TSCA as confidential to protect trade secrets. For example, a 1992 study found that more than 90 percent of premanufacture notices for new chemicals contained some information claimed as confidential. Consequently, EPA must expend effort to protect the information against unauthorized disclosure and it cannot be shared with the public and others, such as state health and environmental officials, who are not authorized access to it. The public, for example, may have an interest in information on the risks of chemicals that are produced or used in nearby manufacturing plants. State officials have various responsibilities related to protecting health and the environment from the dangers posed by toxic chemicals. Confidential TSCA information is not available except through the individual companies that submit it.

EPA has been successful in getting industry to voluntarily withdraw confidentiality claims after inquiring about their appropriateness. However, the process is resource-intensive, and agency officials have challenged the validity of only a small percentage of the claims. Although the officials believe, on the basis of the 1992 study and their experience with the data, that the problem with inappropriate claims is extensive, they told us that an increase in their efforts to challenge their validity is unlikely, given limited resources.

To discourage excessive confidentiality claims, EPA is considering various actions, including educating industry on what information may legitimately be claimed as confidential. EPA is also considering other actions, such as revising its regulations to require industry to substantiate claims, having a senior corporate official sign claims, resubstantiating claims at a later date to ensure that confidentiality continues to be necessary, and imposing penalties for filing false claims. While these, if implemented, should reduce the number of inappropriate confidentiality claims, the Congress could ensure that the actions are completed and are permanent by making them specific requirements of TSCA.

Another option would be to revise TSCA to limit the types of information that industry can claim as confidential. For example, TSCA could be revised to prohibit manufacturers from claiming as confidential such information as a chemical's trade name, physical chemical properties, health and environmental effects, and safe handling and disposal procedures. These types of information would appear to provide the public with data about the potential dangers of chemicals without revealing business information.

Even with these changes, industry could claim a considerable amount of TSCA information as confidential. Federal employees with health and environmental protection responsibilities can obtain access to this information. On the other hand, state officials, who are delegated major responsibilities for implementing federal environmental and occupational health and safety laws, cannot obtain access. The Congress could give EPA the authority to provide access to states that implement satisfactory procedures to protect confidential data against unauthorized disclosure.

TSCA is not a Comprehensive Toxics Statute

Given the thousands of chemicals in use and the many ways that exposures and releases to the environment can occur, TSCA's chemical-by-chemical and risk-based approach means that the act is unlikely to address more than the most serious chemical risks—even with the types of changes that we have discussed. Consequently, a substantial amount of toxic pollutants will continue to enter the environment.

For example, we reported in February 1993 that hundreds of pollutants, including toxic water and air pollutants, have been identified in environmental laws as harmful and in need of control, but historically these pollutants have not been well regulated by federal and state agencies.[3] In addition to these agencies lacking the resources needed to carry out their regulatory responsibilities, much of the pollution

[3] *Environmental Protection: Implications of Using Pollution Taxes to Supplement Regaulation* (GAO/RCED-93–13, Feb. 17, 1993).

has stemmed from sources that are small and diffuse and difficult to control under existing regulations.

A different approach is to set goals for reducing the use of toxic chemicals overall. Under this approach, legislation could establish national goals for reductions in the use of toxic chemicals and provide EPA with various tools, such as pollution taxes and other economic incentives, to achieve these goals. In our February 1993 report, we concluded that, because of their inherently greater flexibility, market-based incentives can be both a less costly and more effective means of controlling pollution.

Establishing longer-term goals for overall reductions in the use of toxic chemicals could be a useful supplement to TSCA's efforts to review individual chemicals to identify and control the more serious health and environmental risks. These goals could be established in TSCA if the act were revised to provide EPA with the types of tools it would need to achieve these goals.

In conclusion, TSCA has not played a major role in EPA's efforts to protect human health and the environment from the harmful effects of toxic chemicals. Although the act contains some unique chemical information-gathering and control authorities, these authorities have proven to be difficult to use. On the basis of our ongoing work, we have discussed our preliminary observations on a number of options for changes in the authorities that could strengthen the act and its role in reducing the risks associated with toxic chemicals. Details on such options will be provided to the Subcommittee in our report, which we plan to issue in September 1994. However, other approaches, such as national goals for reducing the use of toxic chemicals, may be needed to supplement TSCA, if the Congress anticipates a substantial reduction in the amount of toxics that enter the environment. Mr. Chairman, we would be happy to respond to any questions that you or other Members of the Subcommittee may have.

STATEMENT OF ROBERT L. HAGERMAN, DOW CHEMICAL COMPANY

Mr. Chairman and distinguished members of the Subcommittee, I am Robert Hagerman of the Dow Chemical Company, Midland, MI ("Dow"). I have been engaged in addressing issues related to the Toxic Substances Control Act since its inception in 1976 and have been responsible for planning and supporting Dow's efforts to comply with the Act for the same time period. I appreciate the opportunity to talk to you today about Dow's perspectives on TSCA. As a manufacturer of diverse chemicals and chemical intermediates, Dow has had substantial experience in meeting the many requirements of TSCA.

As a foundation for commenting on the issues in which the Subcommittee has expressed an interest, I would like briefly to share our perspective of TSCA. We see TSCA as a statute fundamentally designed to supplement and support the other environmental or health-related statutes which are generally focused on a specific medium, and generally lack the comprehensive authority found in TSCA to acquire information almost always needed for making sound regulatory decisions. In support of other statutes lacking comparable authority, TSCA may be used, for example, to gather information or to generate test data needed to establish priorities for action under the other statute or to provide the scientific or economic bases for such action. Likewise, TSCA can supplement other statutes by using its information gathering or generation authority to identify possible concerns and refer them to the agency or office with primary authority to mitigate risk if needed or by identifying and regulating unreasonable risks which sister agencies or offices may lack authority to address, for example, review of new chemicals before manufacture regardless of the "medium" of possible concern.

Dow believes, and we think that most of the U.S. chemical industry would agree, that while there are areas of TSCA that might benefit from legislative clarification, its problems are largely amenable to administrative "fixes." The Subcommittee heard testimony at its May hearing that TSCA contained many features that were, in 1976, new and unique approaches to evaluation and control of risks from chemicals. As a consequence, both the regulators and the regulated community had to embark on a substantial learning program. The result was a paucity of regulatory actions under the existing chemical authorities of the Act for several years. Beginning

in the 80's, and continuing to the present, the Office of Pollution Prevention and Toxic Substances developed a workable process for moving chemical concerns through a priority setting program identified by EPA as the Risk Management or RM program, A key element of the RM program is that it forces the Agency to make regulatory decisions on chemicals of concern, and by so doing requires EPA to develop priorities for actions. More recently, the Agency announced it is developing a process intended to move rules more swiftly through EPA review and approval. This review and approval process has often been a significant factor in slowing rulemaking. Thus, we believe that an assessment of the EPA's ability to implement TSCA should focus more on recent years than on the first few after the passage of the Act.

Priority Setting

Perhaps one of the major factors in hindering EPA's earlier effective implementation of TSCA was its apparent difficulty in setting priorities among possible chemical concerns. Whatever the reason, the need for setting such priorities has become more critical as both EPA and industry resources for meeting the mandates of TSCA have been curtailed. The need for priority setting includes information gathering actions as well as testing requirements and chemical control.

In setting priorities, as previous witnesses have suggested, the focus should be on chemicals which present the greatest risk, or perhaps better, on the chemicals which present the greatest risk relative to the benefits derived from them. Priorities should be set *only* after consideration of the toxic properties of chemicals of concern, the extent to which humans or the environment are exposed, and the benefits deriving from the chemicals of concern. For example, it would be inappropriate to focus on a category of chemicals based solely on their chemical structure. In our experience, any category of chemicals defined solely by chemical structure represents a diversity of physical properties (which relate to exposure), chemical properties (which relate to toxicity and exposure), and uses (which relate to exposure). The priority setting process should be a winnowing process which first looks grossly at readily available information and selects large, likely diverse categories of chemicals for successive further winnowing, based on more detailed information, until a feasible action plan emerges. We believe the current OPPT program follows this general process and includes flexibility to address "hot" chemical issues when they arise. This flexibility to refine priorities, as a changing world requires, would be sharply diminished or eliminated by establishment of an arbitrary list of chemicals for which regulatory action such as testing or control would be required.

It is important to recognize that EPA's current priority setting process both defines a group of chemicals for possible action, and also affirmatively excludes others. Those that are excluded are not being simply ignored, but have been evaluated and, based on the evaluation criteria, have been found to be a low priority for further action, unless and until the evaluation criteria change. This important point is often overlooked by those who are critical of the EPA's present priority setting process. For example, it is appropriate to assign most polymers a very low priority for OPPT consideration as possible chemical risks. This assignment alone should assure the public that tens of thousands of chemicals on the TSCA Inventory are of low concern as chemical risks.

Existing Chemical Testing

One of the concerns expressed in the previous hearing focused on the slow pace of testing of TSCA chemicals. All too often this concern seems based on a perception that somehow all 72,000 chemicals on the TSCA Inventory need to be tested. I hope my comments on priority setting have clarified that a reasonable screening process would assign a low priority for further consideration to most of the chemicals on the Inventory. In this light, the two to three hundred chemicals being tested or considered for testing appears more significant and appropriate.

One screening criterion for establishing testing needs has been high production volume. This criterion presumes that high production volume translates into high exposure. Although Dow disagrees with this presumption, we recognize that there are chemicals of substantial concern to many simply because of their high produc-

tion volume. Based on our recognition of this concern, Dow was among those that lead in the development of the OECD High Production Volume (HPV) voluntary testing program. The HPV program had several objectives. First, to develop a set of relatively inexpensive, short term tests that would predict the need for more definitive testing. This objective has been realized for most, but not all, toxic endpoints of concern. The group of tests, actually endpoints, are collectively called the Screening Information Data Set or SIDS. Second, to screen high production volume chemicals with global potential for significant exposure using SIDS. This objective is in progress. Third, to establish a program which more equitably shares the economic burden of testing among the developed nations comprising OECD, and allows the US chemical industry to complete on a more even footing with our foreign competitors. We count the OECD HPV voluntary testing program a major success.

Dow, in common with other US chemical producers, believes that the success of the HPV program justifies its application in TSCA-driven testing programs for existing chemicals. That is, we believe that no comprehensive testing program should be imposed on a chemical before the information encompassed by the SIDS is assembled or generated and evaluated. Such a process would better focus the definitive data needs for the chemical of concern, allowing both industry and EPA to allocate scarce resources to generating the highest priority data needs. Dow believes the success of this voluntary program is indicative of industry's increasing acceptance of the need for more extensive testing of its products when the need has been demonstrated by review of the information available for these products.

In addition to the HPV program, other voluntary or cooperative programs are in process, most generating definitive data, rather than screening information. We believe that these non-regulatory testing programs conserve resources required to develop test rules under Section 4 of TSCA. The Subcommittee has also been made aware, I believe, of testing underway in other nations, primarily the European Union, and Japan. Although admittedly slow in starting, an extensive, global effort to gather needed test data for significant numbers of chemicals is underway.

This global effort has given rise to a new set of issues of which the Subcommittee should be aware. As the amount of testing underway increases, the capacity for conduct of additional testing begins to be limited. For example, EPA is in the process of developing a comprehensive testing program under TSCA to support the need for residual risk determinations for Hazardous Air Pollutants required under the amended Clean Air Act. As industry reviews this developing initiative, there is growing concern that insufficient testing resources are available for its conduct.

Our nation's limited testing resources are also needed for testing which supports other requirements, including new product development. And, Mr. Chairman, the only source for new, more environmentally friendly chemicals, or processes which support pollution prevention, is in the chemical industry, so new product and process development is critical in reducing risks from chemicals.

Because our ability to "protect" the intellectual property interest in health or environmental data that results from testing programs is almost nonexistent, except under FIFRA, our competitors abroad benefit from the testing we do in the U.S. At the same time, we are experiencing problems in obtaining full studies from some other nations under the HPV program. Again, we seem not to be playing on a level field. Finally, there is a need for global acceptance of data developed using any reasonable protocol. Lack of mutual acceptance of data between nations often requires duplicative testing, a waste of resources that could better be used elsewhere, and, in the face of limited resources, a delaying factor in developing needed data.

Dow believes that a requirement to develop a standard test data set for all chemicals using a check-the-box approach is counterproductive because it ignores exposure, or other factors which are part of the priority setting process.

Exposure Data

Exposure information is a key element in setting priorities for both testing and control, because it is determinative of risk. Gross estimates of exposure are relatively easy to obtain, mainly because simplifying, and usually false, presumptions are made. For example, production volume is often used as a surrogate for exposure, but this can lead to gross errors. For example, the huge U.S. production volume for

polyethylene would suggest that exposure to this chemical might be enormous unless one realizes that polyethylene is an essentially biologically inert polymer and the production volume is meaningless because we can't absorb the polymer through our body tissues. On the other hand, a solvent used solely in architectural coatings would likely end up completely in the atmosphere, so production would be a good estimate of that type of exposure.

The data may also be used to generate a gross estimate of potential exposure for certain chemicals. Information collected through the TSCA inventory Update generates gross exposure information, in that it provides some additional information beyond simple production, including production site and whether the substance leaves the site. EPA is currently considering use of the periodic TSCA Inventory Information Update as a vehicle to collect additional use information for use in exposure estimation. Before adopting this strategy, EPA ought to complete its evaluation of the voluntary use-exposure information collection being conducted by EPA in conjunction with CMA and SOCMA. This provides information that is detailed enough to support determinations of the need for testing, set priorities for its conduct, and support EPA's RM2 assessment of the need for regulatory control action. Exposure assessment more detailed than this can become quite expensive, and should be acquired only for supporting the need for severe control actions.

As an alternative to collection of expensive exposure data and perhaps equally expensive toxicity information, Dow supports the notion of negotiated exposure control agreements. In situations where structure activity analysis, or other toxicity-related information, suggests that a chemical is likely to present substantial concern when coupled with a reasonable exposure scenario, the manufacturer or processor could agree with EPA to limit exposure based on a worst case scenario. This would eliminate the concern while conserving resources.

Section 6

As I commented at the start of this statement, Dow believes that there are limited circumstances where EPA should exercise primacy in controlling exposures to chemicals through the use of its Section 6 authority. Our posture on this issue is based on a perception that Section 6 authority should be used only to supplement other environmental statutes. if another statute lacks authority to reduce risk to an acceptable level, or if it is much more efficient to use the multi-media authority inherent in Section 6, then TSCA ought to be used to control risk. Viewed in this light, we do not believe the paucity of regulations under section 6 is surprising, and do not believe that it needs to be changed to be more effective. Congressional definition of "unreasonable risk" would be helpful, but the risk basis for regulatory action in the current language should be retained.

We strongly disagree that this section is too difficult to use, as some in EPA and others maintain. it makes sense to Dow that the strength of the support for control actions should be proportionate to the severity of the action. Thus a total ban on the production, processing and use of a chemical which provides substantial economic and/or non-economic benefits to society should require a very high threshold for a finding of unreasonable risk to support implementation. We believe that the "Asbestos Rule", widely cited as evidence of the failure of Section 6, was successfully challenged because EPA didn't do the homework that was required to show, on an application by application basis, that lesser actions than a total ban were inadequate to control risk to a reasonable level.

Dow agrees with the concept of pollution prevention as the preferred method of managing risks from chemical production and use. A stakeholder dialog focused on developing guidance to industry about what scenarios would, presumptively at least, constitute unreasonable risk could be a productive effort aimed at merging pollution prevention tenets into TSCA, including Section 6. This approach was quite effective in guidance on the definition of "Health and Safety Studies" under Section 8(d) in the context of modeling and monitoring studies. An equally effective dialog resulted in guidance clarifying EPA's understanding information to be reported under Section 8(e), although we believe their understanding is somewhat broader than Congress intended. Again our vision is limited by the perception of TSCA as a statute intended to support others with respect to control regulation. As a consequence, we

believe the pollution prevention concept needs to become part of Section 9 considerations, as well.

Section 9

Mr. Chairman, as I stated in opening these comments, Dow believes that EPA should use its authority to gather or require generation of information in support of other EPA offices and sister Agencies. In addition, we believe that where it has identified a problem requiring regulatory attention, Section 9 directs OPPT at EPA to "hand-off" the project to another EPA office or sister Agency with primacy, in almost all cases. The language of TSCA in Section 9 is somewhat ambiguous, especially when applied to new chemicals. As a result, we now have two agencies regulating many areas because of an apparent overlap in authority. Some examples include: TSCA chemicals and FIFRA materials, although this overlap is being clarified by the Agency. TSCA chemicals vs. RCRA when recycle streams are considered. Most egregiously, TSCA control of new chemicals in the workplace and OSHA PELs. In the latter case we find instances of conflicting regulations applying to the same chemical in the same workplace. Dow's position on the issue is that the Agency with the experience and expertise in managing a problem, invariably the Agency designated by Congress to deal with a medium-specific problem, is the one that should have primacy. We ask the Subcommittee to consider the need for Congressional clarification of Section 9, especially as it regards the relationship between OSHA and EPA-OPPT.

Design for the Environment

The Subcommittee expressed an interest in determining how TSCA could be used to encourage industry to design for the environment. We believe that EPA can best encourage industry to "design for the environment" by ensuring that an informed marketplace has choices. Our experience with the difficulties in marketing new products subject to consent agreements under Section 5(e) is ample evidence that the market is a powerful ally of EPA, for a variety of reasons. We know of one major company that reportedly will not purchase any raw materials requiring label warnings of chronic or subchronic hazards. Continued use of a chemical conceivably presenting an unreasonable risk to health or the environment is simply bad economics because, paraphrasing a famous football coach, "Only three things can happen and two are bad." The product could be withdrawn at any time, the user could be sued, or it could enjoy continued use. An EPA program to educate the marketplace could become a powerful tool in moving toward a "greener" society, if the education were comprised of digested and interpreted data, rather than a simple dump of unanalyzed information, as EPA seems to be proposing in recently released plans for reinventing the way it does business.

Information Access

Dow has been actively involved in recent dialog with the EPA about how it acquires and handles information received. As I stated a moment ago, we believe that EPA can best serve its "clients" by releasing information that has been evaluated for quality and interpreted for the least knowledgeable of prospective users (excluding those driven by idle curiosity). This would better support the goal of building an educated marketplace, and at the same time reduce somewhat concern about the amount of Confidential Business Information (CBI) claimed in industry submissions, because a good deal of the information often claimed CBI, production data for example, would have been aggregated for analysis. In aggregate, such information is much less sensitive. We do not believe there are any statutory changes needed to facilitate EPA's handling of CBI. We support much of the administrative approach which EPA intends to adopt.

Mr. Chairman, I am sure the Subcommittee understands fully that our concern about CBI is protecting it from our competitors, not from anyone in government nor the general public. As a consequence, we support dissemination of all data, including CBI, if necessary, to state governments and Tribal leaders, and Dow has been actively involved in a leadership role in searching for a way to provide CBI information to these governments while providing adequate protection to the information. Furthermore, we support the industry effort to educate itself on the issues of CBI

submissions to EPA. For the record, I express our appreciation of EPA support in developing this educational program.

With respect to information management, we were encouraged by the publication of the GAO report which examined EPA's handling of the mountain of information it has collected since TSCA became law in 1976. EPA has announced its intention to implement reforms recommended by the GAO report. We believe this reform effort is an essential part of the CBI issue. There is no justification for risking the loss of our property without some benefit deriving from the action. Yet, without reforms in information management, much of the valuable information collected by EPA is simply sitting in its files unused by anyone, except possibly the original collector. EPA should pursue the data cataloging and sharing program envisioned by the Congress when it enacted Section 1050 that all of EPA and its sister agencies can make use of the information.

Conclusion

Based on our experience with TSCA Dow believes that, with some administrative changes coupled with legislative clarification of some of the troublesome areas, it can be an effective statute. We believe it is important to continue with risk-based regulation in TSCA, to establish priorities for the wise use of increasingly limited resources, especially for testing, and to avoid reducing incentives for innovation that is necessary for an economically robust industry that can support the development of more environmentally friendly new products or processes.

Thank you for the opportunity to present our views on the implementation of TSCA. We look forward to working further with the Subcommittee as it continues its review of the TSCA and the need for reauthorization.

STATEMENT OF KENNETH GEISER, DIRECTOR OF THE TOXICS USE REDUCTION INSTITUTE AND THE CENTER FOR ENVIRONMENTALLY APPROPRIATE MATERIALS, UNIVERSITY OF MASSACHUSETTS, LOWELL, MA

Mr. Chairman and members of the Subcommittee, I am Dr. Kenneth Geiser, Director of the Toxics Use Reduction Institute at the University of Massachusetts Lowell. I am here today to offer you some thoughts of mine in hopes of assisting you in your reconsideration of the federal Toxics Substances Control Act (TSCA).

As Director of the Institute at Lowell I have had the privilege of working closely with professionals from several hundred industrial firms in Massachusetts who are required by state law to inventory their toxic chemical use and disposal and to prepare plans on how they would reduce or eliminate the use of over nine hundred toxic substances that appear on a state priority list.

The staff at the Institute conduct trainings for industry on toxic chemicals used in industrial production and on the techniques by which those substances can be evaluated and potentially reduced. In addition we sponsor and conduct research on the hazards of toxic chemicals, on the development of new technologies that can reduce the use of toxic chemicals, and on new, less toxic substances that can serve as substitutes for chemicals of high concern.

I have been active in conducting research, developing policy and administering programs focused on toxic chemicals for over fifteen years. Today, I serve on the Core Advisory Council for the United Nation's Cleaner Production Programme and as a member of the Toxics Data Reporting Subcommittee of the Environmental Protection Agency's National Advisory Council for Environmental Policy and Technology. These various roles have offered me a broad perspective on the problems of toxic chemicals and the effectiveness of TSCA.

I need not tell you that this act was hailed at its passage as one of the Nation's most aggressive environmental laws and that it has never lived up to those initial high expectations. Previous testimony before this Subcommittee has documented the problems and limitations revealed in the Environmental Protection Agency's ("the Agency") history of implementing TSCA. I will not attempt to summarize that testimony here. Instead, I would like to focus on the reconsideration of the law and how we might rethink this language to address some of its problems and to instill a new purpose and enthusiasm in TSCA in the years ahead.

In my invitation to speak this morning the Committee staff asked that I try to be specific to changes that I believe would improve the effectiveness of TSCA. I will attempt here to be specific, but I need to say a few words as context first.

TSCA was drafted in the mid-1970s. We have learned a great deal in the past twenty years. Our ideas about environmental protection and the role of government have changed. We have a much more comprehensive understanding of the environment and our place in it and we have a much greater respect for the limits of effective government action.

Today, we better respect the global and systemic nature of the environment. We recognize that all human activity and industrial production in particular must fit comfortably into the careful balances of healthy ecological systems if we are to guarantee ourselves a sustainable presence on this planet. We have learned that government can not regulate all activity and that cooperative relations between productive enterprises and government bodies can prove effective and economical. We have learned that preventing environmental damage by correcting the cause is much cheaper and more agreeable than mitigating and remediating the results of irresponsible contamination and disruption. And we have learned that an informed public can reasonably discuss technical issues and constructively participate in managing and planning for sound industrial development.

I would suggest that these various lessons should guide our reconsideration of TSCA. Specifically we should:

a. work to enhance the systemic and interrelated structure of industrial activity and the environment,

b. respect the limitations of government regulation and seek cooperative initiatives where appropriate,

c. seek to prevent pollution and contamination rather than manage and control environmental disruption, and

d. inform the public and seek to open up avenues for constructive public participation in technical decision making.

These four principles guide much of the work of the Toxics Use Reduction Institute. In setting priorities, conducting training or designing research projects we attempt to see the toxic chemicals we target within the broader context of the material inventory of the state economy.

We attempt to work cooperatively with industry in identifying process changes, product redesign, and material substitutions that prevent the release of toxic chemicals into the environment. And recently we have begun to make data available to the public and provide training about industrial production to the state's environmental leaders.

How can these principles be applied when reconsidering TSCA? Let me offer twelve more specific suggestions.

A. TSCA needs to be redesigned with a broader, more comprehensive approach to improving the safety and soundness of chemicals in the international chemical economy

Much criticism has been leveled at TSCA for its slow and costly approach to testing, screening and regulating chemicals on an individual chemical-by-chemical basis. Industrial production uses thousands of chemicals as material inputs and production intermediaries, including many toxic chemicals. TSCA needs a broader mandate to, not only, identify and regulate problematic substances, but to support, encourage and guide industry to convert from highly dangerous chemical technologies to safer systems that are more ecologically sound. Chemicals need to be considered not as simple, free-standing items of concern, but, rather, within general classes of substances any one of which could be used to fulfill the industrial function the targeted chemical was designed for. TSCA needs to test and evaluate chemicals comparatively in their "use categories" and establish incentives for encouraging firms to develop and convert to safer substances.

(1) Section 8 should be modified to authorize an annual inventory of all chemicals manufactured and used by industrial firms. Our capacity to adequately monitor, plan for or set national policy about toxic chemicals within the broader materials

economy is dramatically constrained by the absence of a national data base documenting the manufacture, distribution, and use of toxic chemicals and their potential substitutes. Vast amounts of synthetic materials move around the country, but their uses and flows can only be estimated by targeted surveys or computer models. The Agency has more data on chemicals as wastes than it does on chemicals in commerce or chemicals as manufactured or imported commodities. The chemical use data collected in Massachusetts suggests that far greater volumes of toxic chemicals are produced as products than released as wastes. Currently the Agency collects some chemical production data under its Inventory Update Rule, but this is limited to organic chemicals and is collected only every four year. The Agency is considering expanding its data collection under a Chemical Use Inventory. This should be encouraged in the redrafting of Section 8.

(2) Section 12 should be broadened to establish an international clearinghouse for the collection. dissemination and coordination of information on toxic chemicals in international trade. The Agency should work cooperatively with other nations to establish an international clearinghouse of toxic chemical data. Firms seeking to buy or sell chemicals internationally should be required to enter into this central clearinghouse all non-confidential TSCA data on the toxicology, environmental and health effects and other scientific knowledge available on those chemicals. Such a clearinghouse would assist domestic firms in adequately assessing the potential hazards of chemicals prior to importation and would centralize the authority for providing other governments and international firms information on domestically produced chemicals.

(3) Section 4 should be redesigned to reduce the focus on individual chemical and to promote the testing and evaluation of chemicals within *"use categories"*. While there will continue to be a need for individual study of particular chemicals of high concern or of unknown effects, the Agency's initiatives toward evaluating chemicals comparatively within "use categories" needs to be promoted and legitimated with statutory language. Such "use category" assessments focus less on the risk characteristics of individual chemicals and more on the comparative risk of alternative chemicals in order to assess which substances offer the highest degree of safety. We find in Massachusetts that this use approach to chemical assessment better approximates the way in which industry makes decisions and presents information in a manner that more effectively assists firms in making decisions that reduce risk.

(4) A new section should be added to TSCA to encourage the development and use of safer and more ecologically sound chemicals and technologies. The Agency should identify chemicals of high concern, for which alternative substitutes should be selected or, where none exist, developed. The Agency should establish special programs for promoting safer chemicals and working with industry in converting to safer and sounder technologies. These programs should include both research and technical assistance and should be designed to support current state efforts.

B. TSCA needs to be redesigned to maximize industry cooperation in evaluating and managing chemical substances and to more equitably shift the burden of responsible chemical management to industry

For years the Agency has been lagging in its expected rate of chemical testing and only recently has the Agency turned to voluntary testing programs and consent agreements to facilitate more rapid chemical evaluation. But, even these programs have moved slowly. With thousands of chemical substances in need of testing and proper testing requiring significant time and resources, it is clear that the Agency must rely on industry and share the burden more effectively with other nations.

(5) The requirements on firms for supplying a comprehensive packet of test results on toxic chemicals of high concern needs to be expanded and streamlined in Section 4. Section 4 needs to be rewritten to provide more authority to the Agency for requiring industry to test and for providing more positive incentives for encouraging industry to voluntarily test. Firms wishing to introduce new chemicals to the economy are currently required to produce sufficient scientific data for Agency evaluation. While these requirements yet need more clarification, the Agency has no

such authority over existing chemicals. The establishment of the Master Testing List (MTL) is a first step here. Once a chemical is listed on the MTL manufacturers should have a deadline by which they voluntarily produce testing results. If the response during this voluntary period is found inadequate, the Agency should have the authority to require the necessary tests. To avoid the current condition where testing protocols are the subject of protracted rule making, the statute should be drafted to list the testing results that would be required if the Agency finds that voluntary testing has produced inadequate results.

(6) The international chemical data clearinghouse noted above should be referenced in Section 4 as a coordinating vehicle for international load sharing in testing chemicals. The Agency's initial efforts with the Organization for Economic Cooperation and Development Screening Information Data Set (SIDS) is a promising experiment, but the lack of a legislative mandate has limited its aggressiveness. Section 4 should specifically require the international harmonization of testing protocols and require annual plans for international sharing of testing responsibilities.

(7) Section 6 needs to more clearly describe a staged process for the progressive phase out of those toxic chemicals found to pose an unreasonable risk. TSCA has not provided an adequate vehicle for phasing out the use of particularly dangerous chemicals. The Agency has banned few substances and its initiatives in this area have typically been tied up by costly litigation. Both Canada and Sweden are moving forward on collaborative procedures ("sunsetting procedures") that progressively reduce to zero the production and use of a few very high risk substances. The Swedish Chemical Inspectorate has identified 100 "multiproblem chemicals" as candidates for aggressive risk reduction efforts leading towards phase outs. The Toxics Use Reduction Institute has proposed a four step process for phasing out the use of such chemicals at the state level. Section 6 needs to better describe a staged process that engages the Agency and industry in a cooperative process that progresses from voluntary to assisted to mandatory stages in phasing out very high risk substances.

C. TSCA needs to be redesigned to promote pollution prevention and changes in chemical use decisions that progressively reduce risk and enhance public health and safety

The Administration has identified pollution prevention as the highest priority approach to the management of toxic chemical wastes. The Pollution Prevention Act of 1990 has defined pollution prevention as the reduction of the generation of pollution at the source. Many leading firms have initiated active pollution prevention programs and well over half of the states have enacted some kind of pollution prevention or toxics use reduction law.

TSCA needs to align with these initiatives by promoting pollution prevention at the source as the preferred means of toxic chemical management.

(8) The range of remedies listed in Section 6(a) needs to be expanded to include pollution prevention techniques. State pollution prevention and toxics use reduction laws often list a set of production change techniques. These include process reformulation, product redesign, raw material input substitution, process modernization, improvements in operations and maintenance, and in-process recycling. These techniques should be added into the list of available remedies that the Agency could require to reduce the unreasonable risks of a targeted toxic chemical.

(9) In preparing justifications for other Section 6(a) remedies the Agency should be able to call for pollution prevention plans. Many state programs require or encourage industrial firms to prepare pollution prevention plans for their facilities. Such plans consider the technical, economic and practical options available for reducing pollution through process changes, product reformulation, and material substitution. Where the Agency determines that a toxic substance does provide an unreasonable risk, the Agency should be able to require firms to develop toxic chemical substitution plans to guide the transition to safer substances.

D. TSCA needs to be redesigned to broaden public access to information about toxic chemicals and to encourage public participation in decisions about the use of toxic chemicals

The creation of the Toxics Release Inventory (TRI) under Section 313 of the Emergency Planning and Community Right to Know Act produced one of the government's most successful and least costly instrument for promoting responsible toxic chemical management. The vast array of data collected under TSCA needs to be better integrated with the TRI in order to provide more depth for researchers and the public wishing to use the TRI to better understand public and environmental health risks. The TRI has demonstrated that firms can release significant amounts of chemical information without jeopardizing proprietary interests. This lesson needs to be carried over into the reconsideration of the TSCA confidential business information protection provisions.

(10) Sections 8. 9 and 10 should all be expanded to authorize closer collaboration and coordination between business record keeping. TSCA data collection and the Toxics Release Inventory. The Agency should be required to assess its data collection requirements so as to reduce the reporting burden on businesses while, at the same time, coordinate its various data bases into more centralized, integrated and publicly accessible data. At a minimum the TSCA Inventory Update Rule data and the TRI data should be integrated to permit cross checking and validation. In addition, the TRI reporting should be referenced to the TSCA Master Testing List.

(11) Section 10 should be expanded to include a special section authorizing public dissemination of TSCA information not specifically protected as confidential. The Agency should be authorized to annually release a special report to the public on TSCA programs and to make its public data available through common electronic data networks. The annual report should cover the scientific and testing work of the Agency and it should be written in language accessible to a broad range of the public. Ideally, the report should be released in parallel with the annual release of the annual report on the TRI.

(12) Section 14 needs to be more tightly drafted to reduce the misuse of the confidential business information protection. Studies by the Agency and Hampshire Associates have documented excessive overuse of the confidential business information claim from businesses submitting data to the Agency. It is stated that up to 50 percent of the chemical data collected under TSCA is claimed as confidential business information. While credible claims need to be honored, the Agency should have wider authority to review and determine the credibility of confidentiality claims, to challenge frivolous claims, and to assess penalties for patterns of misuse of these protections.

STATEMENT OF ROGER A. KANERVA, ENVIRONMENTAL POLICY ADVISER, ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

I greatly appreciate having the opportunity to appear on this panel to express my views regarding TSCA reauthorization and, in particular, the state's role with regard to this Act. My testimony is presented on behalf of the Illinois Environmental Protection Agency (IEPA). The IEPA is responsible for administering the State's pollution control laws and regulations and for working cooperatively with the USEPA in implementing similar federal programs. I report to the Director of the IEPA and manage development of environmental policy and planning and certain environmental safety functions such as emergency preparedness and response and worker safety practices. I have been with the IEPA for over 16 years while serving in various senior management positions.

Prior to this time in Illinois, I worked for nearly nine years with the Maryland Department of Natural Resources. My B.S. and M.S. degrees are in watershed management from the University of Arizona, and I finished most of a M.L.A. degree program at Johns Hopkins University with major emphasis on environmental and social sciences.

My involvement with the TSCA began in the early 1980s when we were trying to develop a comprehensive toxics control strategy for Illinois. We contacted the

USEPA to obtain data about toxic chemical production and use in Illinois and first encountered what I've come to call the "CBI zone." Needless to say, we only got grossly aggregated data and specific chemical and facility identities were not available. We were surprised and dismayed by the extent to which the CBI provisions of TSCA operated to deny us access to important information that we saw as relevant for protection of public health and the environment in Illinois. How could we hope to ultimately ensure chemical safety to citizens in Illinois if we were not even able to find out what chemicals were in production and use? From that time forward, CBI became a symbol for us of poor public policy that needed to be changed.

In 1984 through 1986, I participated in a policy dialogue process about TSCA that was sponsored by the Conservation Foundation and included representatives of the chemical industry, states and environmental groups. Several consensus positions were developed including a proposal for authorizing state access to CBI under TSCA. In October, 1988, I was invited to testify before a subcommittee of the House Committee on Government Operations. In my testimony, I described the "paradox of exclusion" wherein states are caught in a vicious cycle of being charged with regulation of toxic chemicals that are released into the environment but are expressly excluded from participation in the regulatory process that sanctions commercial use of chemicals. I advocated more state participation in TSCA and specifically called for access to confidential data as a first priority. In 1990, the IEPA became more involved with TSCA when Region V, USEPA, awarded us a grant to perform PCB inspections and prepare potential enforcement cases. In 1991, I was selected as one of the charter members of the Forum on State and Tribal Toxics Action (FOSTTA) and served as the first chairman of this group for two years. Over the last year, I served as the past chair and participated in several of the operational projects that are setup within the FOSTTA.

INTRODUCTION

In preparing this testimony, I reflected upon what had caused my keen and long standing interest in TSCA. After all, states have generally been on the periphery of TSCA implementation for nearly 20 years. The simple truth that emerged was we in Illinois, and many other states as well, have been on a parallel pathway in pursuit of *better management of toxic chemicals* in our jurisdictions. What started as broad mandates to subdue environmental pollution in the 1970s eventually evolved into heightened focus upon the root causes of such insults. This perspective has become known as "pollution prevention," and TSCA is the one national environmental law that starts at the beginning when chemical substances are proposed for introduction into commerce. I might add that what gets used in commerce also results in environmental releases that could and sometimes do affect public health and the environment.

The second thing that occurred to me was that many things have changed since the TSCA came on the scene in 1976. For instance, the world was a witness in 1984 to the fact that toxic chemicals can be very deadly on a large scale if something major goes wrong. I am speaking, of course, of the awareness expanding and tragic incident in Bhopal, India at the Union Carbide facility. Following this incident, the "right-to-know" became a legitimate part of national public policy and was codified in the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986. The passage of EPCRA set a new direction for what should be known about toxic chemicals. Protection for trade secrets is recognized but not presumed to be applicable. A company must provide a written explanation of the reasons for a trade secret claim based on specific statutory factors. Irrespective of such a claim, a state may still obtain "any information" that has been submitted to the USEPA. In contrast, much chemical information generated because of TSCA is inaccessible by entities (e.g., states) with a legitimate need to know. This situation is not tolerable given the ever expanding public and political support for comprehensive reduction of toxics risks. Simply put, the old TSCA is out of sync with the times and stands in the way of continued environmental progress.

So, let us take a brief look at why states need access to this toxics information and at some of the potential uses for such data.

STATE TOXICS INFORMATION NEEDS

In a pioneering effort, the FOSTTA carried out a needs assessment in 1993 to gather information about state toxics control programs (see attachment). The assessment used a broad definition of toxic chemicals that included any specific organic or inorganic chemical that is part of a pertinent listing in state and federal law or regulation. Toxics control programs were defined ". . . as any existing program that has as its primary focus the control, whether regulatory or otherwise, of toxic chemicals, or distinct sub-programs that primarily emphasize toxics control." The response rate was very good in that one or more survey forms came from 48 states and a total of 87 forms were sent by environmental and health agencies.

A number of key findings were derived from this assessment as follows:

1. State agencies are extensively involved in the regulation of toxic chemicals. Eight-two percent of the respondents reported from one to six on-going toxics programs.

2. Information about the storage and use of toxic chemicals at industrial facilities is not well known to many state agencies. Only 24 percent of the respondents reported that such information was well known and available.

3. State agency awareness of industrial facilities that are regulated under TSCA is quite limited. Eighty-five percent of the respondents reported that they have very little knowledge or just some awareness of such facilities.

The respondents listed seven top priorities for more effective state toxics control programs:

- Better databases on the use and release of toxic substances
- Increased funding
- Better data on the effects of toxics on human health and the environment
- More emphasis on toxics pollution prevention
- Improved risk assessment procedures
- Increased expertise in addressing complex chemical concerns
- Better cooperation and coordination among state, federal and local governments.

Until the relatively recent advent of the FOSTTA, there has been very limited cooperative exchange of toxics information between the USEPA and the states. Without doubt, the chilling effects of TSCA's CBI provisions have played a large role in this regard. Much to their credit, the USEPA has begun to more openly respond to the states' overtures for data within the context of FOSTTA. Summaries of information from the latest chemical inventory update rule (IUR) reports have been provided to more than a dozen interested states. Of course, only non-CBI data was provided, and thus, we were limited in what we could readily access. The IEPA has evaluated the information that was available for our state and determined that, at least 54 chemicals were of real interest and concern. Comparison between these chemicals and Form R filings (TRI data) for Illinois showed only about a 40 percent overlap. The significance of this finding is that access to even the non-CBI portion of the inventory update reports does enrich a state's toxic control database. We can also access some non-CBI, health and safety studies, chemical test results, and substantial risk notices via the TSCATS database, and we have used this source on some occasions. Once again, the usefulness of these data are limited by the amounts of information that are not available due to CBI.

Based on our experiences with toxic chemicals, we can foresee the following uses for more toxics information:

1. *Emergency preparedness and response*—State environmental agencies frequently play a major role in handling chemical emergency incidents. In Illinois, the IEPA is the lead state agency for such incidents. In the past four years (1990–1993), we have responded to some 6,055 emergency incidents involving 470 hazardous chemicals (see attachment). Fixed facilities have generated about 51 percent (3,107) of these incidents which overlaps with some of the same business sites regulated under TSCA. During this same time period, 34 fatalities, 846 persons with injuries and 1,546 evacuations occurred due to these incidents.

We have learned the hard way that being better prepared and responding properly often involves having more information about what toxic chemicals and hazardous materials are being produced, stored and used at facilities around the state. Due to the CBI zone under TSCA, we are being denied access to toxics information relating to facilities in Illinois that could prove detrimental to public health and the environment.

2. *Design of environmental monitoring programs and assessment of toxic risks*—States do a lot of environmental monitoring of releases and of actual air, land and water quality. Some of this monitoring is designed to identify specific chemical substances when there is reason to believe that these things may be present. But what about the many other chemicals that may or are being released and regulated under TSCA that we have no way of identifying their relationship to particular sources? Our national protection programs will be weakened if such gaps are allowed to persist. Some states do a fair amount of their own risk assessment work to evaluate environmental problems and help craft management strategies for risk reduction. Such assessments could be seriously flawed if information about a toxic chemical or chemicals in an area or at a facility is not available. It is even more frustrating to know that some potentially useful information in this regard is, by law, withheld from state agency personnel that are trying their best to properly determine toxic risks to the public and the environment.

3. *Environmental permitting of toxic chemical releases*—State environmental agencies operate permitting programs for all sorts of environmental pollutants that may be released to air, land or water. But are we regulating the "right" chemical substances as compared to what is allowed to be produced and used in commerce? How can we know if the necessary toxics information is locked away in the CBI zone never to see the light of day?

4. *Environmental standards setting*—Most states have independent authority to enact environmental protection standards that are suitable for the local conditions. In some instances, it could be appropriate to develop suitable protection standards for a specific toxic chemical that is manufactured, used or released in a state. But, of course, one must first be aware of the presence of such a substance in order to proceed in a responsible manner and to generate a good technical case for taking protective action. This situation is especially critical when only one or a few facilities produce a particular chemical on a regular commercial basis. In these cases, a state or a few states may find it makes good sense to have certain standards in place that may not be necessary for other states. This regulatory angle probably spills over to permitting and monitoring activities as well.

5. *State right-to-know programs*—Some states have their own versions of toxic chemical right-to-know programs. In Illinois, the requirement to submit TRI data via Form R has been codified into state law, and the IEPA is mandated to prepare an annual toxic chemical report for this information. The 1994 report (toxic chemicals released in calendar year 1992) shows that more than 419 million pounds of 184 toxic chemicals were released from 1,359 facilities in SIC codes 20–39. The largest single category of total releases (149.3 million pounds or some 36 percent) was SIC code 28, chemicals and allied products. This category includes 306 facilities that filed reports with the IEPA. Some of these facilities are also regulated under TSCA and submit certain toxic chemical information to the USEPA. We are not sure how many of these facilities submit TSCA information, such as production data under the IUR reports, because the company name or plant site is declared as CBI. In other instances, we can know the facility that filed but not the specific toxic chemical because that has been claimed as CBI. Our ability to do meaningful cross-checks of this information is significantly limited by these data access limitations. These constraints also hinder our pursuit of non-filers that should be submitting TRI data.

6. *Pollution prevention programs*—More than half of the states now have some type of legislated pollution prevention program (Pollution Prevention Review, Winters 1993/94). One common feature of these programs is a mechanism for identifying or targeting the toxic chemicals or types of facilities that will be

involved in pollution prevention (P2). In our case, for example, we have focused on the larger TRI release and RCRA generator facilities. We were not able to factor TSCA information into our selection protocol because it was not readily available. Another common feature of these P2 programs is the emphasis on source reduction as the preferred preventive action. This mode of operation shifts state P2 staffs away from traditional pollution control solutions (treatment and disposal) and into the production arena where process changes, equipment modifications and good housekeeping practices are featured. Once again, we find an interface developing with the TSCA program which has the means to address a similar mode of operation.

In summary, there is no doubt in my mind that states have real needs for TSCA information and that it would be useful to states if it was readily available.

STATES AND TSCA REAUTHORIZATION

States are recognized as significant participants in all of the national environmental legislation (Clean Air and Water Acts, RCRA, CERCLA, and Safe Drinking Water Acts), except for the TSCA. States perform the bulk of the routine ambient monitoring, standards setting, permitting compliance monitoring and enforcement. We are closer to the facilities and represent the real on-site presence that supports good environmental performance. I call this the "groundtruth" role that states have continued to perform over the past twenty years. In a similar manner, states should be given an opportunity to be operational partners with the USEPA in the administration of the TSCA program. In particular, certain compliance monitoring and enforcement functions would be suitable and more efficient for states to perform under delegation agreements with the USEPA. Some states may also be interested in providing input to USEPA during review of certain information that is submitted by companies, especially for facilities located in that state.

By all means, states should be empowered by full access to toxics information that has been claimed as CBI by filers. In this regard, we have been supportive of the CBI policy reforms being pursued by the Office of Pollution Prevention and Toxics (PPPT) of the USEPA. In fact, we have held discussions with industry associations about state access to CBI data and appear to have gained much more recognition, if not acceptance, of the merits of our arguments. While these interactions are encouraging, I want to stress today that the best and perhaps only viable solution to this concern has to come from changes to the act. At this time, our understanding is that an administrative solution is not workable and not likely to result from the CBI policy reform process. At the same time, we recognize that companies have some legitimate concerns about adverse competitive impacts from making certain information public. For example, release of current production data could be sensitive for some companies. Chemical identity is often less clear-cut and should involve some reasonable amount of justification. Company name or plant location is going too far in my opinion unless a really strong case can be made for nondisclosure. For our part, we would be glad to participate in discussions to work out an improved and balanced statutory basis for CBI that includes full state access under appropriate conditions. In this regard, it should not be overlooked that state environmental agencies already handle trade secret data in the context of permitting and enforcement cases. In Illinois, we have trade secret statutory and regulatory provisions that govern our handling of this information and limit external access via freedom of information requests. We have a good record in managing this information and few, if any, complaints from industry about abuse of these provisions.

States could also serve a valuable role as observers and analysts of emerging environmental issues and trends. Real problems develop in real places and affect real people. Being in close proximity to these events and circumstances gives states a real time perspective on toxic chemical impacts. For example, the IEPA has been seeing a steadily increasing number of citizen inquiries and complaints about hazardous (lead-based) paint removal over the past several years. In January, 1994, we published a report (copy of executive summary attached) in response to a legislative mandate to study this growing problem. Through a survey process, we documented over 25,000 structures and buildings, such as water towers, bridges, and commercial

and industrial buildings, that are coated on their exterior with hazardous paint containing lead. The number of residential structures far exceeds these levels. The study found that a preventive approach is needed to reduce the problems that could result from the uncontrolled removal of hazardous paint from these structures. The study includes examples of actual cases that clearly show how the uncontrolled removal of hazardous paint from the exterior surfaces of building and structures has resulted in airborne emissions and deposition of high levels of lead onto soils and other outdoor surfaces of neighboring properties. After more reflection, it has occurred to us that this seemingly ubiquitous problem may be ripe for regulation under TSCA. I have attached a brief discussion paper which presents more analysis along these lines.

The final issue I want to address is pollution prevention. There is a natural nexus here in that TSCA is designed to address the entire life cycle of chemical substances in commerce. For that matter, some companies have been showing leadership in this regard under the general banner of product stewardship. Two approaches could be built into TSCA with suitable triggers to activate their applicability. First, a progressive company should be given an opportunity to opt into a P2 leadership program that would involve binding commitments to achieve defined performance expectations. In return, companies could be granted certain flexibility in deter-mining their environmental goals and improvement plans. Secondly, the USEPA should be given the authority to mandate certain P2 planning and preventive actions on a facility-specific basis if circumstances are appropriate. This approach would represent a sort of failsafe mechanism to get the attention of less progressive companies or to keep significant opportunities for making P2 progress from being lost.

CONCLUSION

I hope that this testimony clearly shows just how involved states are with toxic chemicals. Since 1976 and the passage of TSCA, our regulation of specific chemical substances has continued to grow in the air, water, drinking water and waste management programs. It just makes good sense to forge a productive role for the states under TSCA and to help the states better manage toxic chemical risks.

[NOTE: Attachments to this statement, with the exception of the following list of chemicals, have been retained in committee files.]

Chemicals involved in Incidents between 1990 and 1993

Acetates - (91) 1
Acetic acid - (93) 1, (92) 1, (91) 2, (90) 1
Acetic anhydride - (93) 1, (90) 1
Acetone - (93) 3, (92) 4, (91) 4, (90) 3
Acetyl chloride - (92) 1
Acetylene - (93) 1, (90) 1
Acid NOS - (93) 3, (92) 6, (91) 3, (90) 3
Acrolein - (92) 1
Acrylamide - (91) 1, (90) 1
Acrylate polymer - (90) 1
Acrylic carbamate - (91) 1
Acrylic latex - (90) 1
Acrylonitrile - (92) 1
Acryloyl chloride - (91) 1
Adhesive NOS - (93) 4, (92) 2, (91) 3, (90) 2,
Adhesive (latex) - (90) 1
Alcohol NOS - (93) 3, (92) 2, (91) 5, (90) 3
Alkylamine - 93) 1
Alkyl chloride - (92) 1,
Alkyl chlorosulfite - (92) 1
Alumina Silicate catalyst - (93) 1
Aluminum alkyls - (91) 3
Aluminum dross - (93) 1, (92) 1, (91) 2
Aluminum hydroxide - (90) 1
Aluminum phosphate - (92) 1
Aluminum phoshide - (91) 1
Aluminum sulfate - (93) 1, (92) 1, (90) 1
4-Aminodiphenylamine - (93) 1
Ammonia - (93) 10, (92) 9, (91) 9, (90) 6
Ammonium hydroxide - (92) 1, (91) 10, (90) 1
Ammonium nitrate - (93) 4, (92) 1, (91) 1, (90) 3
Ammonium phosphate - (92) 2
Ammonium sulfate - (92) 2, (91) 1,
Ammonium sulfide - (90) 1
Anhydrous ammonia - (93) 31, (92) 32, (91) 33, (90) 22
Aniline - (91) 1
Anthracene - (90) 1
Anti-freeze - (93) 7, (92) 3, (91) 6, (90) 7
Argon - (93) 1, (90) 2
Arsenic - (93) 1
Arsenic trihydride - (93) 1
Asbestos - (93) 3, (92) 11, (91) 9, (90) 11
Benzaldehyde - (92) 1
Benzene - (93) 4, (92) 7, (91) 13, (90) 10
Blasting agent NOS - (90) 2
Benzene phosphorous oxydichloride - (91) 1
Biphenyl - (91) 4
Boric acid - (91) 1
Boron trifluoride - (93) 2, (91) 2, (90) 2
Brine (salt water) - (93) 27, (92) 15, (91) 11, (90) 11
Bromine - (93) 1
Bromine solution - (91) 1
3-Bromo-1-chloro-5,5-Dimethylhydantoin - (93) 1
Bromobenzene - (91) 1
Bromo ethyl acetate - (92) 1
1,3-Butadiene - (93) 4, (92) 1, (91) 1
Butadiene (monomer) - (90) 1
Butane - (93) 1, (92) 1, (91) 1
1-Butanethiol - (93) 1
Butyl acetate - (92) 1
Butyl acrylate - (92) 1, (91) 1
Butyl alcohol - (93) 1, (92) 1
Butyl benzyl phthalate - (92) 1
Butyl Carbitol* - (93) 1
Butyl Cellosolve* - (93) 1
Butyric anhydride - (91) 1
Cadmium - (92) 1
Cadmium chloride - (93) 1
Calcium chloride - (92) 1, (91) 1
Calcium cyanide - (91) 1
Calcium hypochlorite - (92) 2, (91) 2
Carbon - (93) 1, (92) 1
Carbon black - (93) 1
Carbon dioxide - (91) 2, (90) 2
Carbon monoxide - (93) 2, (92) 1
Carbon tetrachloride - (90) 1
Carboxylic acid - (90) 1
Castor oil - (93) 1
Catechol - (92) 1
Caustic material NOS - (91) 2, (90) 1
Caustic soda - (90) 4
Cellosolve* - (93) 2
Chlorine - (93) 10, (92) 9, (91) 18, (90) 15
Chlorobenzene - (91) 1, (90) 1
1-Chloro-2-nitrobenzene - (93) 1
Chloroform - (92) 2, (91) 1, (90) 1
ortho Chlorotoluene - (91) 1
Chromic acid - (93) 2, (91) 1, (90) 1
Chromium - (93) 2, (92) 1
Citric acid - (90) 2
Cleaning compound - (93) 7, (92) 1, (91) 9, (90) 5
Coal dust - (93) 1
Coal tar - (93) 4, (92) 1, (91) 2, (90) 3
Cobalt compound - (93) 1
Cobalt nitrate - (91) 1
Coke/coal - (91) 1
Coke oven emissions - (93) 6, (92) 9, (91) 1
Concrete sealer - (90) 5
Cooking oil - (93) 2
Copper cyanide - (91) 1
Copper Sulfate - (93) 1, (92) 1, (90) 1
Copper wastewater - (90) 1
Corrosive material NOS - (93) 6, (92) 3, (91) 5, (90) 5
Corrosive disinfectant - (90) 1
Creosote - (92) 2, (91) 5, (90)4
Cresol - (92) 1, (91) 1
Cupric chloride - (92) 1
Cyanide compounds - (93) 1, (92) 2, (90) 2

Diacetone alcohol - (91) 1
Diammonium phosphate - (91) 1
Dichlorobenzene - (91) 1
ortho Dichlorobenzene - (91) 1
Dichlorodifluoromethane - (93) 1
1,1-Dichloroethane - (91) 1
1,2-Dichloroethane - (91) 1
1,2-Dichloroethylene - (90) 2
Dielectric fluid - (90) 1
Diethanolamine - (92) 2
Diethyl aluminum chloride - (92) 1
Diethyl ether - (90) 3
Diethylamine - (92) 1, (90) 1
Diethylene glycol - (92) 1, (91) 1
Diethylene glycol monobutyl ether acetate - (90) 1
Diethylenetriamine - (90) 1
Diisobutyl ketone - (93) 1
Diisononyl phthalate - (92) 1
Dimethylformamide - (93) 1, (91) 1
Dimethyl sulfide - (93) 1
Dipentane - (90) 1
1,1- Diphenyl ethane - (91) 1
1,2- Diphenyl ethane - (91) 1
Diphenyl oxide - (91) 3
Diphenylmethane diisocyanate - (91) 1, (90)1
Dodecyl benzene sulfonic acid - (91) 1, (90) 1
Dowicil - (91) 1
Dry cleaning solvent - (93) 1, (92) 1, (91) 1
Dye - (93) 2, (92) 3, (91) 3, (90) 3
EDTA - (92) 1
Embalming fluid - (91) 1
Erythromycin thiocyanate - (93) 1
Ethoxylated amine - (92) 1
Ethyl acetate - (93) 1, (91) 3, (90) 2
Ethyl acrylate - (93) 1, (92) 1, (91) 1
Ethyl acrylate monomer - (90) 1
Ethyl alcohol - (93) 2, (92) 6, (91) 18, (90) 9
Ethyl aluminum sesquichloride - (92) 1
Ethyl benzene - (93) 1, (91) 2
Ethyl butyrate - (92) 1
Ethyl ether - (91) 1
Ethyl hexyl acrylate - (91) 1
Ethyl isobutyl ketone - (90) 1
Ethylated benzene - (91) 1
Ethylene - (92) 2, (91) 2, (90) 3
Ethylene glycol - (93) 15, (92) 6, (91) 7, (90) 1
Ethylene glycol monobutyl ether - (92) 1, (91) 2
Ethylene oxide - (93) 2, (92) 5, (91) 2, (90) 3
Explosive materials - (92) 2, (91) 3, (90) 1
F001 waste - (92) 3
F002 waste - (91) 1
Ferric chloride - (92) 1, (91) 1
Ferric nitrate - (91) 1
Ferrous chloride - (93) 1
Ferrous sulfate- (90) 1
Ferrous sulfide - (93) 1
Fertilizer (potash urea) - (91) 3, (90) 2
Fertilizers NOS - (93) 6, (92) 2, (91) 4, (90) 6
Flammable liquid NOS - (93) 13, (92) 6, (90) 9
Flammable solid NOS - (93) 1, (92) 1, (90) 1
Fluoranthene - (90) 1
Fluorene - (90) 1
Fluorescein - (92) 1
Fluorine - (91) 1
Formaldehyde - (93) 2, (92) 1, (91) 4, (90) 1
Freon - (93) 2, (91) 3, (90) 2
Garbage - (93) 3
Gas cylinders - (90) 1
Glyoxal - (91) 1
Hazardous waste NOS - (93) 32, (92) 29, (91) 4, (90) 5
Heptane - (93) 3, (92) 1, (91) 6, (90) 2
Hexane - (93) 1, (92) 1, (91) 2, (90) 4
Hydrazine - (93) 2, (92) 1
Hydrochloric acid - (93) 9, (92) 17, (91) 24, (90) 27
Hydrofluoric acid - (91) 1, (90) 3
Hydrofluosilicic acid - (90) 2
Hydrogen - (91) 3
Hydrogen chloride gas - (93) 1, (92) 2, (91) 1
Hydrogen peroxide - (93) 2, (90) 1
Hydrogen sulfide - (93) 5, (92) 3, (91) 11, (90) 8
Hydrogen triglyceride - (90) 1
2- Hydroxy ethyl acrylate - (92) 1
Hypochlorite - (91) 1, (90) 1
Ink (waste) - (90) 1
Ink NOS - (93) 6, (92) 4, (91) 1, (90) 1
Iron hydroxide - (91) 1
Iron oxide - (91) 1
Iron oxide colorant - (91) 1
Isobutanol - (92) 1, (91) 1
Isobutyl acetate - (92) 1
Isononyl phthalate - (92) 1
Isopentane - (92) 1
Isophthaloyl chloride - (91) 1
Isophorone - (92) 1
Isopropanol - (93) 6, (92) 4, (91) 7, (90) 2
Isopropyl acetate - (91) 1
K048 waste - (92) 1
K051 waste - (92) 1, (90) 2
K062 waste - (90) 1
K085 waste - (90) 1
K087 waste - (90) 1
Ketones - (91) 1
Lab chemicals NOS - (93) 1, (92) 1, (91) 1, (90) 3
Latex - (90) 2
Leachate - (93) 1, (92) 1, (91) 3, (90) 1
Lead batteries - (90) 1
Lead fluoroborate - (90) 1
Lead oxide - (90) 1
Lead waste - (93) 2, (92) 3, (91) 2, (90) 4
Lime - (93) 1
Lithium - (91) 1
Lithium sulfide - (93) 1

2,3 Lutidine - (93) 1, (90) 1
Magnesium - (90) 1
Maleic anhydride - (92) 1, (90) 1
Medical waste - (93) 9
Mercaptan - (93) 1, (92) 1, (92) 1, (90) 1
Mercury - (93) 3, (92) 6, (91) 3
Methacrylic acid monomer (glacial) - (90) 2
Methyl alcohol - (93) 2, (92) 5, (91) 4, (90) 4
Methyl amyl ketone - (92) 2
Methyl benzoate - (91) 1
Methyl bromide - (93) 1, (91) 1
Methylene chloride - (93) 3, (92) 3, (91) 2, (90) 1
Methyl ethyl ketone - (93) 3, (92) 2, (91) 3, (90) 3
Methyl isobutyl ketone - (93) 1, (90) 1
Methyl isoketone - (91) 1
Methyl methacrylate - (92) 2, (91) 1
Methyl methacrylate monomer - (90) 2
Methyl pyrrolidone - (92) 1
Methyl salicylic acid - (90) 1
Methyl styrene - (90) 1
Methylamine - (90) 1
Methylene chloride - (91) 4
Milk (90) 1
Monoammonium phoshate - (90) 1
Monoethylamine - (93) 1
Naphthalene - (93) 1, (92) 1, (91) 1, (90) 3
Natural gas - (93) 4, (92) 13, (91) 8, (90) 6
Neoprene rubber - (93) 1
Nickel catalyst - (93) 1
Nickel sulfate - (90) 1
Nitric acid - (93) 1, (92) 1, (91) 5, (90) 9
Nitrogen - (91) 1, (90) 1
Nitrogen (liquid) - (93) 2
Nitrogen dioxide - (92) 1, (90)1
Nitrogen (28%) fertilizer - (93) 11, (92) 9, (91) 13, (90) 14
Nitrous oxide - (92) 1, (90) 1
Nonylphenol polyethylene glycol ether - (93) 1
Octanoic acid (90) 1
Octanoyl chloride - (90) 1
Octyl phenol - (92) 1
Octylamine - (90) 1
Octylphenol - (92) 1, (90) 1
Oxidizer - (90) 2
Oxygen (liquid) - (93) 1, (92) 1, (91) 1, (90) 1
Paint and paint thinner - (93) 26, (92) 24, (91) 24, (90) 27
Paracetanol - (90) 1
Pentachlorophenol - (90) 1
Pentane - (92) 1
Perchloroethylene - (93) 1, (92) 6, (91) 5, (90) 4
Perfluorooctane - (93) 1
Peroxide NOS - (91) 2, (90) 2
Phenol - (93) 1, (91) 1
Phosphoric acid - (93) 5, (92) 4, (91) 4, (90) 4
Phosphorous fertilizer (10-34-8) - (90) 1
Phosphorus oxychloride - (93) 1,
Phosphorous pentasulfide - (90) 1
Phosphorus pentoxide - (93) 1, (91) 1, (90) 2
Phosphorus (red) - (93) 1
Phosphorus (white) - (93) 2, (91) 1, (90) 2
Photographic developers - (93) 1, (92) 3, (90) 1
Phthalic anhydride - (91) 2
Picric acid - (90) 1
Picoline - (92) 1
Pine oil - (91) 1
Plating waste - (92) 1, (91) 1, (90) 1
Pollution control waste - (92) 19, (91) 8
Polychlorinated biphenyls (PCBs) - (93) 11, (92) 20, (91) 18, (90) 31
Polyisocyanate - (92) 1
Polyvinyl acetate - (91) 1
Polyvinyl alcohol - (91) 1
Polyvinyl chloride - (91) 2
Potassium bromate - (91) 1
Potassium cyanide - (93) 1
Potassium chloride - (91) 2, (90) 1
Potassium chlorite - (90) 1
Potassium ferrocyanide - (93) 1
Potassium hydroxide - (93) 1, (92) 2, (91) 3
Propane - (93) 2, (92) 2, (91) 7, (90) 8
1-Propanol - (93) 1
Propanol - (93) 1, (92) 1, (91) 1, (90) 1
Propyl acetate - (92) 1, (91) 2
Propylene - (93) 1, (91) 1
Propylene glycol t-butyl ether - (92) 1
Propylene oxide - (90) 1
Propylisocyanate - (92) 1
Pseudocumene- (93) 1
Pyridine - (91) 1, (90) 1
Radioactive material - (93) 3, (92) 2, (91) 2, (90) 1
Raney nickel - (91) 1
Resin - (93) 11, (92) 5, (91) 6, (90) 2
Riot/tear gas - (91) 2
Sewage - (93) 1, (91) 2, (90) 2
Silica - (91) 2
Silicon oil - (92) 1
Silver nitrate - (92) 1
Sludge - (91) 2, (90) 4
Sodium - (93) 1
Sodium bisulfate - (91) 1
Sodium bisulfite - (92) 1, (90) 1
Sodium bromide - (91) 1
Sodium chromate - (90) 1
Sodium cyanide - (92) 1, (91) 1, (90) 1
Sodium dichloroisocyanurate - (92) 1
Sodium dichromate - (93) 1, (92) 2, (90) 1
Sodium dodecylbenzene sulfonate - (91) 1
Sodium glucoheptonate - (91) 1
Sodium hydrosulfite - (93) 1
Sodium hydroxide - (93) 7, (92) 2, (91) 11, (90) 9
Sodium hypochlorite - (93) 5, (92) 4, (91) 9, (90) 8
Sodium metasilicate - (91) 1
Sodium nitrate - (91) 2, (90) 1

Sodium silicate - (93) 3, (92) 2, (90) 1
Sodium solution - (93) 1
Solvent - (90) 16
Solvent NOS - (93) 10, (92) 12, (91) 15
Starch -(93) 1
Stoddard solvent - (92) 2, (91) 1, (90) 2
Styrene - (93) 2, (92) 3, (91) 3 (90) 5
Sulfide waste - (90) 1
Sulfur - (93) 3, (92) 2, (90) 4
Sulfur dioxide - (93) 4, (92) 4, (91) 3, (90) 5
Sulfur hexafluoride - (93) 1
Sulfur trioxide - (93) 2, (92) 1, (91) 3
Sulfuric acid - (93) 15, (92) 10, (91) 21, (90) 36
Tetrabutyl ammonium fluoride - (91) 1
Tetrachloroethylene - (90) 2
Tetrahydrofuran - (93) 1, (92) 2
Tetramethylammonium hydroxide - (90) 1
Thionyl chloride - (92) 1
Titanium - (92) 1
Titanium dioxide - (91) 1
Titanium tetrachloride - (90) 1
Toluene - (93) 5, (92) 4, (91) 11, (90) 8
Toluene-2,6-diisocyanate - (91) 1, (90) 2
Transmission fluid - (93) 5, (92) 4, (91) 4, (90) 9
Tributoxyethyl phosphate - (91) 1
1,1,1-Trichloroethane - (92) 2, (91) 4, (90) 4
Trichloroethylene - (93) 2, (92) 2, (91) 2, (90) 4
Triethanolamine - (92) 1
Triethylaluminum - (90) 1
Triethylamine - (90) 1
Triethylene glycol - (92) 1
Unknown - (93) 38, (92) 47, (91) 84, (90) 67
Uranium nitrate - (93) 1
Urea - (91) 1
Urea formaldehyde resin - (90) 1
Valeric acid - (90) 1
Vinyl acetate - (93) 1, (91) 1
Vinyl chloride - (93) 2, (91) 4, (90) 6
Wastewater - (93) 28, (92) 25, (91) 16, (90) 15
Wood filler - (90) 1
Xylene - (93) 13, (92) 5, (91) 8, (90) 8
Zinc - (91) 1, (90) 1
Zinc oxide - (92) 1
Zinc phosphate - (93) 1
Zinc sulfate - (93) 1, (90) 1

Petroleum and Petroleum Products

Asphalt/Asphalt sealer - (93) 11, (92) 4, (91) 9, (90) 13
Boiler Fuel - (90) 1
Distillate - (90) 1
Fuel Addtitives - (93) 3, (92) 1, (91) 2, (90) 3
Gasoline - (93) 589, (92) 832, (91) 1055, (90) 1123
Hydrocarbons NOS - (93) 20, (92) 7, (91) 11, (90) 13
Jet fuel - (93) 9, (92) 21, (91) 22, (90) 18
Kerosene - (93) 18, (92) 8, (91) 26, (90) 20
Liquified petroleum gas - (93) 5, (92) 3, (91) 4, (90) 3
Mineral spirits - (93) 8, (92) 7, (91) 8, (90) 15
Naphtha - (93) 4, (92) 8, (91) 6, (90) 12
Oil NOS - (93) 58, (92) 73, (91) 79, (90) 173
Oil (#1) - (93) 1, (92) 4, (91) 4, (90) 7
Oil (#2) - (93) 69, (92) 82, (91) 94, (90) 91
Oil (#4) - (93) 1, (92) 2, (91) 1
Oil (#5) - (93) 9, (92) 12, (91) 16, (90) 11
Oil (#6) - (93) 12, (92) 13, (91) 20, (90) 15
Oil (#10) - (90) 1
Oil (bilge) - (90) 1
Oil (cable) - (91) 1
Oil (crude) - (93) 119, (92) 106, (91) 136, (90) 96
Oil (cutting) - (92) 8, (91) 3, (90) 7
Oil (diesel) - (93) 408, (92) 423, (91) 434, (90) 477
Oil (engine) - (93) 16, (92) 16, (91) 19, (90) 18
Oil (fuel) - (93) 217, (92) 289, (91) 204, (90) 206
Oil (hydraulic) - (93) 13, (92) 10, (91) 17, (90) 18
Oil (lubricating) - (93) 7, (92) 11, (91) 19, (90) 14
Oil (machine) - (93) 1, (92) 1, (91) 1, (90) 2
Oil (mineral) -(93) 26, (92) 17, (91) 16, (90) 16
Oil (quench) - (93) 2, (92) 2, (91) 2, (90) 2
Oil (turbine) - (91) 1, (90) 3
Oil (waste) - (93) 124, (92) 152, (91) 150, (90) 167
Roofing tar and sealer - (93) 3, (92) 3
Tire fire oil -(93) 2, (92) 1, (91) 1, (90) 1

Pesticides

Acephate - (90) 1
Atrazine (AAtrex*) - (93) 2, (92) 3, (91) 2, (90) 2
Banvel (dicamba salt) - (92) 1, (91) 1
Basagran (bentazon) - (92) 1, (91) 1
Betasan (bensulide) - (92) 1, (91) 1
Bicep* (atrazine & metolachlor) - (93) 3, (92) 1, (91) 1
Bladex (cyanazine) - (91) 1
Blazer (acifluorfen) - (90) 1
Bullet* (alachlor & atrazine) - (93) 1, (90) 1
Buctrill (bromoxynil) - (92) 1
Canopy* (metribuzin & chlorimuron-ethyl) - (93) 1
Cannon (alachlor & trifluralin) - (91) 1
Carbaryl (Sevin) - (92) 1, (90) 2
Command (clomazone) - (90) 1
Commence (trifluralin & clomazone) - (91) 2
Counter (terbufos) - (91) 1
Chlorpyrifos - (93) 1
2,4-D - (93) 1, (92) 2, (91) 1, (90) 3
Dash (spray adjuvant) - (91) 1
Diazinon - (93) 1, (92) 1
Dithane* (dithiocarbamate) - (93) 1
Dual* (metolachlor) - (93) 3, (91) 1, (90) 2
Dursban* (chlorpyrifos) - (93) 1, (91) 2, (90) 1
Extrazine* (atrazine & cyanazine) - (93) 3, (91) 2
Freedom* (alachlor & trifluralin) - (93) 1
Fungicide NOS - (90) 1

Furadan (carbofuran) - (92) 1
Galaxy (acifluorfen) - (90) 1
Gramoxone* (paraquat) - (93) 1, (90) 1
Herbicide NOS - (93) 6, (92) 4, (91) 7, (90) 4
Insecticide NOS - (91) 1, (90) 2
Laddok (bentazone & atrazine) - (90) 1
Lasso (alachlor) - (91) 1, 90) 1
Lindane - (91) 1
Lorox (linuron) - (90) 1
Lorsban* (chlorpyrifos) - (93) 1, (92) 1, (91) 1
Malathion - (93) 1, (92) 2, (90) 2
Marksman* (dicamba & atrazine) - (93) 1
Methly parathion - (90) 1
Pentachlorophenol - (92) 2
Poast plus (sethoxydim) - (90) 1
Prowl (pendimethalin) - (92) 1, (91) 4
Pryfon (isofenphos) - (91) 2
Pursuit - (91) 1
Pesticide NOS - (93) 5, (92) 4, (91) 2, (90) 4
Pounce* (permethrin) - (93) 2
Roundup (glyphosate) - (92) 1
Salvo* (2,4-D) - (93) 1
Scepter (imazaquin) - (92) 1
Sencore (metribuzin) - (90) 1
Sevin (carbaryl) - (92) 2
Sonolan* (ethalfluralin) - (93) 1, (90) 2
Storm (acifluorfen & bentazon) - (90) 1
Squadron (pendimethalin & monochlorobenzene & imazaquin) - (91) 1
Sutazine (butylate & atrazine) - (90) 1
Sutan* (butylate) - (93) 1
2,4,5-T - (93) 1
Thimet* (phorate) - (93) 1
Treflan* (trifluralin) - (93) 2, (92) 1, (91) 2, (90) 4
Trimec (2,4-D & mecoprop & dicamba) - (92) 1
Tri-Scept (imazaquin & trifluralin) - (92) 1

NOS = Not Otherwise Specified

* **Trade Name**

Pesticides are listed by the name that was reported in the incident (either common name or trade name). The common name for a trademarked pesticide is given as additional information. After a common name listing, a typical trade name product containing that material is given for the reader's information only and does not imply that the trade name product in parentheses was actually involved.

STATEMENT OF DAVID MONSMA, ENVIRONMENTAL ACTION FOUNDATION

Mr. Chairman, thank you for this opportunity to testify on the reauthorization of the Toxics Substances Control Act (TSCA) I am David Monsma, Staff Counsel with the Toxics Project of Environmental Action (EA), a national nonprofit environmental education and advocacy organization. Since organizing the first Earth Day teach-in in 1970, Environmental Action has worked to educate the public about toxic risks and has litigated, lobbied and organized to strengthen corporate and government accountability in the interests of protecting human health and the environment.

As staff counsel for the Toxics Project I have directed a campaign to enforce the right to know provisions of SARA Title III, the Emergency Planning and Community Right To Know Act (EPCRA). I currently coordinate an alliance of community and environmental law clinics that practice environmental justice principles. Immediately prior to joining Environmental Action I was a program attorney with the United States Environmental Protection Agency in the Office of Toxic Substances and participated in the CBI Challenge Program.

Environmental Action has emphasized the public's right to know in all matters related to the presence of toxic substances in the workplace, our communities and the environment. My testimony, therefore, is offered from the point of view of a public interest advocate for community right to know, environmental justice, and pollution prevention principles.

1. Pollution Prevention

It is essential to acknowledge at the outset just how important the Toxic Substances Control Act is to public health and environmental protection. Unlike the Clean Air Act, RCRA, Superfund, and other legislation aimed at regulating end of the pipe controls, TSCA is the only true pollution prevention regulatory scheme of its kind. The intent of TSCA has always been directed toward understanding the magnitude of chemicals in commerce and whether particular chemicals or their use present an unreasonable risk to health or the environment. The Act also authorizes the EPA Administrator to regulate the production or use of chemicals that the Agency has determined to present an unreasonable risk to human health or the environment.

Significantly, TSCA provides the regulatory obligation to remove substances when the risk is unreasonable. Unreasonable risk does not mean unquestionable or irrefutable risk. Moreover, TSCA regulates the production or use of chemicals *before* they enter the flow of commerce or the wastestream. In this sense, TSCA should be understood as an important pollution prevention and risk prevention law. Unfortunately, TSCA's full regulatory effect and prevention potential have not been actualized.

TSCA establishes the public policy and obligation for EPA to become informed about the commercial production and use of chemicals and to control chemicals which have been determined to present an unreasonable risk to human health or the environment. The responsibility of the government to the public to learn about the potential harmful effects of chemicals, and, once informed of a risk, to mitigate or remove that risk, is rooted firmly in the concept of prevention. TSCA's stance on the harmful or hazardous health effects associated with the presence of toxic chemicals in our environment is not passive—TSCA says that we must act to control such toxics and *prevent* such harmful effects. But TSCA has been hampered in its role as a tool of prevention.

2. Cost-benefit Analysis

The public is routinely reminded by industry economists that command and control regulations are outmoded and that we are better served by the invisible hand of a self-adjusting marketplace. While this market concept may be acceptable for determining the price of widgets, it can be gravely unfitting for the control of persistent, bioaccumulating toxic chemicals.

TSCA has become a hostage in the industrial and ideological raid on reasonable government regulation. Undue limitations by the courts of TSCA's language have severely diminished TSCA regulatory capacity to restrict or limit the production of harmful chemicals in commerce. Absolute cost/benefit analysis and sheer risk as-

sessment have supplanted rational basis and reasonableness as the standards for controlling the presence of toxic chemicals in our environment. Consequently, we operate with assumptions about acceptable risk that are so onerous that only Congress, at great cost and delay, can decide if a particular substance or its use presents too great a risk for its continued production. This role was properly defined and delegated to the U.S. EPA in 1976 and is a public purpose which must now be restored.

We have allowed the burden of proof required for showing that certain toxic substances present an unreasonable risk to rise to a level that virtually guarantees no chemical is too risky to produce. In fact, we seem to encourage the construction of overt technical obstacles, such as absolute cost/benefit applications, which limit any real control over toxic chemicals. We have fostered a commercial right to escape regulation and are left with a institutional inhibition against such controls. We have chosen to regulate an activity of public concern and then proceeded to thwart our ability to carry forward the responsibility we created.

3. Relation to Environmental Justice

How often is the production and distribution of toxic substances disrupted for the sake of keeping the environment healthy? Why does the public bare the burden and cost to prove that a chemical is unsafe? Economically, shouldn't the cost of proving that products are safe be borne not by taxpayers but the industry that profits from their production? And why shouldn't some chemicals be banned if necessary? Why does the decision to regulate a harmful substance require completely incontrovertible evidence of unreasonable risk? If you travel to poor communities and communities of color that live with concentrated industrial activity and pollution, these questions are not uncommon.

The advent of community right to know laws, computer data transfer, and the online services are significant developments in modern environmental awareness. It is my belief that this technology has connected small communities, poor communities and communities of color to environmental decisionmaking in such a way that economic and environmental equity must become basic regulatory factors. The enactment of these reporting laws has led to the development of the Toxic Release Inventory which has proven to be instrumental in allowing communities to understand and act upon toxic releases.

Toxics information collected under SARA Title III forms the necessary prerequisite for community-based pollution prevention activity such as Toxics Use Reduction plans and Good Neighbor Agreements. In fact, many significant pollution prevention precedents come out of Citizen Suits filed under SARA Title III. Settlements in these enforcement cases have resulted in supplemental environmental projects incorporating source reduction and phase-out plans for TRI chemicals.

Environmental justice principles are relevant to TSCA in many ways. Adopting pollution prevention and public right to know goals as general purposes of the Act will advance these principles by ensuring that risk information will be disseminated and acted upon. Public participation in the decisions to identify, catalog, test and regulate chemicals of concern is a cornerstone of the pollution prevention concept.

4. Standard of Review

The principles of pollution prevention and community right to know must be articulated and observed in order to be meaningful. Similarly, in order to uphold the public right to know about harmful health and environmental risks associated with the use and production of toxic chemicals, the public must be secure in its knowledge that the information collected under TSCA will be acted upon. TSCA must perform according to the public policies and general purposes it was designed bring about.

Congress must correct the language of TSCA to prevent the unintended outcome of the Fifth Circuit Court of Appeals ruling which determined, based on a strict reading of the substantial evidence rule, that EPA did not sufficiently consider whether a ban of asbestos was the least burdensome alternative available for regulation. *Corrosion Proof Fittings v. EPA*, 947 F.2d 1201 (5th Cir. 1991).

Many questions are raised by the *Corrosion Proof Fittings Case*, but two observations may serve to help us think about what we want from TSCA. First is a basic question about the standard of review that appears in the Act: Is the substantial evidence rule the proper standard of review for administrative action taken by EPA to test or regulate chemicals under TSCA?

Historically, the rational basis test to prevent arbitrary and capricious administrative decisions is used to guide the courts in their review of administrative or government regulatory activity. If EPA rationally or reasonably determines that a chemical should be tested under Section 4 of TSCA, or that regulatory steps should be taken to restrict the production of a chemical under Section 6, its expertise should be sufficient to permit testing.

In 1976 Congress chose to include the substantial evidence rule exception for Sections 4, 5 and 6 of the Act. In 1994 the public purposes of the Act should be enlarged and the Agency should be enabled to perform testing and regulation under reasonable regulatory conditions. The courts should not be led in the direction of substituting their judgment for that of the agency. Such a standard has the practical effect of affording less deference to EPA's administrative findings since the court essentially will conduct its own cost-benefit analysis. Congress ought not to delegate to the courts the decision making ability that more properly belongs to an administrative agency. I therefore urge you to repeal the judicial review standard contained Section 19(c)(i)(B)(ii) of TSCA, 15 U.S.C. 2618(c) (i) (B) (ii)

5. Burden of Proof

The Fifth Circuit ruling in the Asbestos case also raised the stakes for determining how the Agency could proceed based on a valid Agency finding of unreasonable risk. The court's narrowly interpreted the "unreasonable risk" and "least burdensome alternative" requirements such that any future determinations by the agency must attain a degree of conclusiveness that exceeds what we can reasonably expect from governing bodies.

Incomplete law and economic ideas such as "least burdensome alternatives" and absolute cost-benefit analysis place on the public the responsibility to show whether a chemical is not safe or presents an unreasonable risk. The burden and the cost to make such determinations, under such arduous standards, has become so infeasible that only a modest number of chemicals are tested and practically none are regulated. Agencies charged with monitoring and regulating a commercial activity as expansive as the chemical industry must be empowered to achieve the legislative goals Congress intends.

Moreover, such burdensome standards do not permit informed communities to meaningfully participate in the regulatory process because their concerns are not always quantified in cost/benefit terms.

It is not impossible for Congress to evaluate economic and cost-benefit considerations at the legislative level. The cost benefit analysis should be resolved by Congress in favor of protecting public health and the environment against "unreasonable risk." TSCA can be restored to a functional state by articulating, as a general purpose of the Act, its pollution prevention purposes and by removing the regulatory trap created by the "least burdensome alternative" language.

Once a valid finding (rational basis) of "unreasonable risk" is made, EPA should implement steps to assure public health to the extent feasible, thereby allowing it to institute pollution prevention options, including the option to ban production if necessary. The cost-benefit analysis is contained in the unreasonable risk standard created by Congress, not in the law and economics leanings of the courts. Subsequently, Congress should amend TSCA to add a pollution prevention hierarchy as legitimate provisions for regulatory action under Section 6. The ruling in the asbestos case cannot be reconciled with the Pollution Prevention Act of 1990 unless pollution prevention is articulated and authorized under TSCA, both in the general purpose clause of the Act and in Section 6.

It is in this context that TSCA provides a very important lesson about how cost/benefit analysis, as interpreted by the court, has been used to defeat the Act in one of its essential purposes. It is unreasonable to believe that Congress intended TSCA

to fail of its own language. But that is the lesson of the asbestos case and that is the contradiction we are obliged to correct.

6. Confidential Business Information

In the last three years, U.S. EPA has taken positive steps to reduce the amount of TSCA information that is claimed to be confidential business information, or CBI. Recently, the agency released its proposed action to further enhance its ability to screen out inappropriate trade secrecy claims by the regulated community. In the examination to amend the Act, it is imperative that Congress reinforce this effort.

First, Congress should include, as a general purpose of TSCA, the public information collection and dissemination mission of the Act. In other words, Congress must properly affirm that information collected under TSCA is presumptively information in the public domain. This critical pronouncement is necessary to ensure public participation in pollution prevention, and, ultimately, to reduce the amount of information which is directed to EPA as CBI.

A declaration that TSCA information is public information will also stimulate broader efforts to transmit meaningful TSCA data to the public. Part of the benefit of public accessibility is to transfer some of the burden for acting on toxics issues to the public. Not only should the responsibility to provide risk data about new and existing chemicals be shifted from EPA to industry, but part of the responsibility for using this information can also be shifted to the public once it is made available.

For instance, CBI inhibits the free flow of information gathered about toxic substances. This consumer information should be available to the public so that it can identify and respond to negligently manufactured products or foreseeable harmful uses. Additionally, many businesses that choose to import chemicals that are on the Confidential Inventory cannot readily determine if a particular chemical is listed or not. This puts an importer in potential jeopardy because it is liable for filing Pre-Manufacturing Notices for unlisted chemicals.

There is no doubt that certain information is legitimately entitled to confidential treatment, most significantly process and mixture information regarding certain products. When I was with the Agency, our practice was to treat all information submitted or claimed CBI as deserving CBI protection, regardless of its trade secrecy merit. As a practical matter, we either had to ask the submitter to withdraw its claim, as we did in CBI Challenge Program, or petition the Office of General Counsel to make a formal legal decision which, historically, has not occurred. The EPA's Office of Toxic Substance should be authorized to determine when information is clearly not CBI.

Confidential Business Information is expensive and burdensome to manage. Presently there exist no basic disincentives for claiming information as CBI. Many possible disincentives exist, including granting EPA authority to collect fees for CBI treatment; establishing penalties for invalid CBI; the implementation of sunset provisions; upfront substantiation; and signature certification by senior company officials.

Furthermore, Congress must also adopt language specifically stating that health and safety information, contained in health and safety studies and substantial risk notices required under Section 8(d) and 8(e), including chemical identity, is presumptively not entitled to confidential treatment. In fact, there is a logic which states that the Inventory itself should never really contain any CBI, least of all for chemical identity and production volumes.

7. Chemical Use Inventory

Public accessibility and the use of TSCA data can be viewed in the context of a current EPA proposal. EPA is studying the feasibility of creating a Chemical Use Inventory which is currently envisioned as an enhanced version of the Inventory Update Rule, the periodic, partial updating of the TSCA inventory. By expanding the authority of TSCA to allow the agency to collect inventory information from chemical users, EPA could begin to collect qualitative and quantitative information on chemical production and use.

Congress should explicitly grant the authority for EPA to reach chemical users with a broad discretion to collect use information at each distinct phase of manufac-

turing, processing and distribution. It is obviously necessary that EPA and the public become aware of how chemicals are used and in what quantities in order to fulfill TSCA's mandate to collect adequate data on the effects of chemical substances and mixtures on health and the environment. Congress should authorize the capability to collect use data and obligate EPA to develop all such initiatives to clearly reflect the right to know policies and public information purposes in the Act—which is to say, a Chemical Use Inventory should be accessible to the public.

Development of initiatives like a potential IUR-based Chemical Use Inventory (CUI) must remain distinct, however, from the need to periodically conduct a complete inventory update and to remove chemicals from the inventory that are no longer imported or manufactured. For instance, if in the course of a comprehensive update of the inventory a chemical previously listed is not reported, it shall be removed from the inventory. If, at later point, a chemical enters commerce again, it should proceed through the New Chemicals Program to become listed on the Inventory. This objective would ensure that the Inventory reflects some current trends in the commercial use of chemicals.

Another distinct and vital objective of TSCA should be the obligation to collect basic sets of data on the health effects of chemicals whose characteristics are not known. Base data sets such as those developed for Organization for Economic Cooperation and Development (OECD) chemicals program should be integrated into the New Chemicals Program to obtain data on new chemicals or new uses and to shift the cost for providing such information properly to the industrial sector. EPA must have an agenda, not only for managing existing TSCA information and known risks, but for collecting and acting upon information about unknown risks.

8. State Access to CBI

Carol Browner is on the record as saying states need to be full partners in environmental protection. After all, she has pointed out that local solutions are sometimes the best directed solutions. If the Agency is committed to this empowerment, then states must have access to state specific data. Presently under TSCA states are barred from this information.

The bar on access to confidential data cripples the utility of the statute and limits the usefulness of data which is collected at great expense by the Agency and is generated at great expense by industry. Unless states do receive access to this data they can not be made full partners. Such diverse groups as Exxon, Union Carbide, CMA, AFL-CIO are on the record as being in favor of states having access to information directed to the agency as CBI.

All information that is collected under TSCA is potentially useful, not only to the EPA and states, but to the public. Most information submitted to EPA is in the form of raw data so placing such information in the public domain carries with it a need to provide meaningful ways of using the data. In the case of state access, Congress should be careful not to require states to adopt equivalent CBI security procedures as EPA. EPA labors under the yoke of the *Polaroid Consent Decree* which has produced cumbersome security measures. For instance, CBI cannot be transferred from one person to the next without logging it in and out of the CBI center.

CONCLUSIONS

In summary, if we accept the notion that public interest in the proliferation of toxic substances should remain passive, which is the conclusion of the asbestos court ruling, or as industry now suggests with its demand for heightened risk assessment standards and cost/benefit analysis, we will doom TSCA to the same disabled role in controlling toxic risks that it has today. If, however, we understand that the quality of life in vulnerable communities, and elsewhere, is ultimately connected with the right to know and that community concerns about toxics have specific value to be weighed in the regulatory process, then we must establish as a general purpose of TSCA that information collected on toxic chemicals is information in the public domain. Furthermore, TSCA must enunciate that pollution prevention is the principle of first choice to achieve environmental stewardship and that promoting public understanding of the risks of chemicals through the development and dissemination

of information on toxic chemicals and public involvement is an essential element of the Act.

STATEMENT OF HUGH M. SMITH, SYNTHETIC ORGANIC CHEMICAL MANUFACTURERS ASSOCIATION (SOCMA

The Synthetic Organic Chemical Manufacturers Association (SOCMA) appreciates the opportunity to submit this written statement to the Senate Committee on Environment and Public Works Subcommittee on Toxic Substances, Research and Development. SOCMA is a trade association serving more than 225 companies that have a common interest in the manufacture, distribution and marketing of organic chemical products. These products are used to manufacture a wide variety of substances including pharmaceuticals, paints, inks, adhesives, agricultural specialties, cosmetics, soaps, plastics, processed foods and textiles.

The majority of SOCMA's members are small specialty chemical manufacturers with annual sales under $40 million, most of which are subject to the reporting requirements under the Toxic Substances Control Act (TSCA). Many of SOCMA's larger member companies have small specialty chemical operations that face many of the same regulatory challenges as small specialty chemical companies. SOCMA member companies typically with 50 or fewer employees, are representative of the universe of synthetic organic chemical manufacturers throughout the United States.

As the major trade association in Washington addressing the concerns of specialty chemical operations, SOCMA's TSCA activities are structured so as not to duplicate those of other chemical industry trade associations. SOCMA's primary goals are to advocate the needs of specialty chemical operations and to ensure that SOCMA member companies have access to compliance and performance improvement information.

SOCMA is a Partner Association in the Responsible Care initiative, a program developed by the Chemical Manufacturers Association (CMA) to improve the chemical industry's environmental, safety and health performance. In partnering with CMA, SOCMA seeks to facilitate the ability of its smaller member companies to participate in the initiative and thereby improve the performance of their operations. SOCMA is now providing comprehensive Responsible Care implementation assistance to its nearly 90 non-CMA member companies, which are primarily small specialty chemical companies. SOCMA is also participating on CMA's Responsible Care Partnership Advisory Council.

SOCMA Supports Several of OPPT's Current Initiatives Under the Existing Chemicals Program

EPA's Office of Pollution Prevention & Toxics (OPPT) is currently implementing new "initiatives" which were developed to improve the Existing Chemicals Program. SOCMA supports several of these initiatives, particularly those that are conceptually similar to the chemical industry's goals for performance improvement. Many of EPA's new approaches for existing chemicals are the result of an OPPT "revitalization" undertaken to make Existing Chemicals Program activities more action-oriented and risk-based. Among these major OPPT initiatives are: the Master Testing List, the Use Cluster Scoring System and the Risk Management Program. Further strengthening OPPT's Existing Chemicals Program is EPA's commitment to adopt a pollution prevention "ethic" in all media-specific programs as mandated by the 1990 Pollution Prevention Act (PPA) and its recognition that public empowerment is important.

SOCMA is particularly supportive of OPPT's Risk Management (RM) program, a tiered review and decisionmaking process by which EPA identifies potential risks (from the universe of existing chemicals) and implements "targeted" risk reduction measures as warranted. SOCMA agrees that EPA should assess and subsequently manage risks in this manner. SOCMA believes that further coordination with other agencies could improve the RM process and allow federal agencies to exchange information and identify risk reduction opportunities. For example, to the extent that a chemical poses a workplace hazard, SOCMA believes that EPA generally should

defer to the Occupational Safety and Health Administration—the expert agency formed to address those issues.

SOCMA is also pleased that EPA has started to talk with the regulated community about ways to collect much-needed use and exposure information on chemicals for which the Agency is conducting RM reviews. Along with CMA, SOCMA is working on a voluntary initiative called the Use and Exposure Information Project that is expected to result in an useful method whereby industry can submit data to EPA for RM decisionmaking.

SOCMA is also working with OPPT along with various other "stakeholders" to develop a so-called Toxics Agenda having conceptually supported OPPT's May 1993 strategy document which is the basis of these discussions. SOCMA believes the strategy is consistent with the chemical industry's goals of safe chemical use and management as it recognizes the importance of the conditions of chemical use with regard to risk management.

Although SOCMA supports EPA's public empowerment goals, it has concerns about some of OPPT's reforms under consideration for the Confidential Business Information (CBI) Program as a part of EPA's efforts to provide the public, states and other groups with more information. The protection of CBI is of critical concern to specialty chemical manufacturers as the industry is highly competitive, and maintenance of proprietary information can often make the difference between success and failure. Without the protection of proprietary information extended to companies under TSCA, it simply will not be economically feasible for many SOCMA members to develop and make new products available. A review of the Freedom of Information Act (FOIA) requests will reveal that many FOIAs are submitted by competitors or law firms working on their behalf (not from the general public).

SOCMA believes that industry is currently providing meaningful information to the states and the public through TSCA, the Toxic Release Inventory (TRI) and other regulatory vehicles. As such, SOCMA believes that the existing statutory and regulatory mechanisms for CBI protection under TSCA work effectively, and that wholesale changes in the TSCA CBI program are unwarranted and undesirable. In cosponsoring three regional workshops with CMA on CBI decisionmaking, SOCMA is also demonstrating its commitment to working with the Agency to reduce or eliminate any unwarranted CBI claims.

Testing

SOCMA is opposed to any amendments to TSCA that would impose mandatory base set testing requirements for new and existing chemicals and believes that TSCA Section 4 testing authority is adequate. A requirement for base set testing (which typically costs from $175,000—$200,000) for new chemicals would prove to be such an economic hardship for small companies producing low volume specialty chemicals that it would virtually eliminate these companies from the specialty chemical business. EPA should only require test data that are needed to assess the hazards of a new chemical, particularly since the Structure Activity Relationship (SAR) work done by the New Chemicals Branch allows EPA to make timely and cost-effective decisions regarding new chemical products.

Broad Policy Changes in the Existing Chemicals Program Are Not Needed

Through initiatives such as the RM Program and Use Cluster Scoring System, SOCMA believes that EPA is starting to use its TSCA authority more efficiently. In the past, the EPA spent valuable time and resources to make "unreasonable risk" determinations under TSCA Section 6 with the goal of banning all uses of certain substances. SOCMA believes that EPA, with its new approaches, will be able to appropriately make unreasonable risk determinations but with a focus on chemicals of high exposures/high risks. The outcome of these processes will be regulatory and voluntary actions that reduce risks to acceptable levels. SOCMA opposes any legislative changes to TSCA that would allow EPA to automatically ban or restrict the production of a chemical without making an unreasonable risk determination. Further, SOCMA opposes any changes in TSCA that would erode EPA's ability to factor in economics when making these determinations.

SOCMA is encouraged by OPPT's new approaches to the Existing Chemicals Program. EPA is clearly committed to using its authority to make TSCA an action-oriented, pollution prevention statute that considers both risks and benefits as a basis of chemical management decisions. Accordingly, SOCMA is not advocating any broad policy changes to the Existing Chemicals Program but believes that Congress should allow EPA more time in which to fully implement its new approaches before it considers any legislative action. For reasons discussed above, SOCMA opposes any changes to TSCA that would weaken the CBI protection currently provided to industry.

EPA Could Further Enhance the Existing Chemicals Program

SOCMA believes that EPA, by taking certain regulatory actions, could further enhance the effectiveness of the Existing Chemicals Program in the following ways:

Exemptions for TSCA Reporting and Notification Rules

SOCMA supports EPA using its TSCA reporting and notification authority to gather information necessary to assess the risks of certain chemicals. SOCMA is convinced, however, that the paperwork burden on industry for many TSCA reporting and notification rules is not justified in light of the minimal increment in information provided to EPA. In particular, the reporting burden associated with producing relatively small quantities of specialty chemicals is disproportionately high compared to the value of those chemicals and could force many SOCMA member companies out of certain product lines.

As such, SOCMA believes that EPA should adopt exemptions for most TSCA reporting and notification requirements to provide regulatory relief to small quantity and R&D chemical manufacturers. Exemptions should likewise be created for de minimis concentrations in mixtures, impurities, site-limited intermediates, and by-products. The exemptions would allow EPA to use its limited resources to focus action on those existing chemicals that pose risks to human health and the environment. Finally, they would help simplify TSCA programs at a time when both industry and the federal government (as a whole) are involved in efforts to use limited resources more efficiently.

More TSCA Compliance Assistance and Outreach for Industry

Although SOCMA is generally supportive of many of EPA's new initiatives and is committed to working with EPA on some of them, SOCMA is concerned that because of limited funding, EPA is moving forward with these initiatives at the expense of developing compliance assistance for the regulated community. Compared to other environmental laws, TSCA is a flexible statute which lends itself to many different interpretations. SOCMA believes that TSCA enforcement fines are at a record high because many companies misinterpret TSCA reporting and notification requirements. SOCMA is concerned that there are no methods whereby TSCA guidance and compliance information are disseminated to industry. Since 1988, SOCMA has had discussions with OPPT with regard to making TSCA guidance readily available to industry.

To this end, SOCMA completed a pilot study in 1992 which involved the preparation of a compendium of guidance documents related to the TSCA Inventory. The goal of the project was to examine the costs, feasibility and usefulness of collecting and consolidating TSCA guidance information. SOCMA would like to partner with the Agency and move forward with making these and other guidance documents broadly available to the regulated community. Although EPA has been supportive of SOCMA efforts in this regard, OPPT officials have stated that OPPT does not have the time and resources to participate in this SOCMA effort.

Similar OPPT budget constraints have also affected TSCA outreach efforts which also tend to impact small- and mid-sized companies. SOCMA is pleased with many of EPA's outreach activities such as working with SOCMA and CMA to plan and participate in the "Living with TSCA Workshops" which are held every 18 months; making experts available to participate in SOCMA's regional TSCA workshops; and disseminating the Chemicals-in-Progress Bulletin. Still, improvements in this area are needed so that more small companies can receive much-needed TSCA information. SOCMA believes that EPA's Office of Enforcement and Compliance Assurance

should aggregate and provide specific data to OPPT on TSCA violations so that OPPT can use it as a basis for developing outreach programs and compliance tools. Finally, SOCMA believes that EPA regional offices should assume a more active role of compliance assistance.

Reallocated Funds for TSCA Programs

SOCMA is particularly concerned that there is currently a misallocation of budgetary funds in the TSCA program. Over the past several years, enforcement activities have been accorded dramatic increases in budget funds. During the same period, TSCA programs have suffered severe budget cutbacks. One consequence has been a significant increase in fines often up to hundreds of thousands or in some cases millions of dollars—for paperwork violations such as reporting and record-keeping which have little or no impact on health and the environment. SOCMA believes that reallocation of some of the enforcement increases to other projects, such as compliance assistance under the Existing Chemicals Program, would be far more effective in addressing health and environmental risks.

Finally, SOCMA believes that the current TSCA enforcement structure is leading to unreasonable fines for violations that do not pose serious threats to human health and or the environment.

Conclusion

SOCMA is pleased to submit these comments to the Senate Subcommittee as it begins to review TSCA. Comprised primarily of small specialty chemical companies, SOCMA is committed to not only helping its members comply with TSCA but helping them work toward continuous improvement goals established under the Responsible Care Program. SOCMA believes that EPA is using its TSCA authority to implement initiatives under the Existing Chemicals Program that are risk-based, action-oriented and focused on pollution prevention. SOCMA is generally supportive of the Agency's "new initiatives" and is participating in some of the EPA/industry dialogue in this regard. SOCMA is not advocating any broad changes to the Existing Chemicals Program as it believes that Congress should give EPA time to fully implement its new programs. Still, SOCMA believes that EPA could further build upon its Existing Chemical Program by: creating exemptions for most TSCA reporting and notification rules for chemicals produced in small quantities, de minimus concentrations and for R&D purposes; and conducting more compliance assistance and outreach for the regulated community. SOCMA also believes that Congress should not create broad testing requirements for all new chemicals as they would interfere with the development of innovative specialty chemical products. Finally, SOCMA believes that Congress should maintain the current level of CBI protection.

Please contact SOCMA Manager Cheryl Morton at (202) 822–6758 should you have any questions or require additional information about SOCMA's testimony.

STATEMENT OF THE CHEMICAL MANUFACTURERS ASSOCIATION

The Chemical Manufacturers Association ("CMA") appreciates this opportunity to submit its comments on the July 13, 1994 hearing by the Subcommittee on Toxic Substances, Research and Development. CMA is a nonprofit trade association whose member companies represent more than 90 percent of the productive capacity for basic industrial chemicals in the United States.

CMA had the opportunity to testify at the last hearing on the Toxic Substances Control Act ("TSCA") held by this Subcommittee on May 17, 1994. CMA is committed to continuous improvement in risk management and we are enthusiastic about being a party to this hearing process. We again offer you our experience and technical expertise as the Subcommittee considers these issues.

TSCA provides a framework for a multi-media approach to chemical risk management. It was designed to protect society from "unreasonable risks" from chemicals and was the first environmental statute with a "pollution prevention" approach.

CMA and its members are directly affected by virtually any action taken by EPA under TSCA on chemicals in commerce. Even so, the chemical industry is not the only industry impacted by regulatory action under TSCA. There are many other

stakeholders in the manufacturing sector and user community, and these stakeholders must be part of any hearings on TSCA.

CMA wishes to highlight and respond to the most critical issues raised during the hearing. For some of these issues, CMA's views are already on the record with the Environmental Protection Agency (EPA) and with other Senate and House Committees. CMA believes it is useful to repeat our views here and place them in the proper context for this hearing record.

The most critical issues raised at the hearing from our perspective were: existing chemical review; data on chemicals in commerce; confidential business information; and, pollution prevention.

EXISTING CHEMICAL REVIEW

The overall focus of the hearing was the review of chemicals in commerce under TSCA. Our industry is committed to protecting health, safety, and the environment in a manner that yields the greatest protection possible for the amount of resources used, by setting priorities for action based on the risk posed. CMA and its members are committed not just to the mandates of TSCA but also to responsible management of risks and the stewardship of our industry's products throughout their life cycle.

EPA, like CMA, recognizes that not all chemicals or uses of chemicals present significant risk. EPA has acknowledged the need to set risk-based priorities, taking into account the amount of exposure as well as intrinsic hazard. Chemical review under TSCA is intended to be prioritized by risk. CMA believes that risk is very often associated with the application or use of a chemical. Even though knowledge of a chemical's use is not always a surrogate for exposure or risk, it does guide our industry's product assessments and assists EPA in its own prioritization efforts under TSCA.

CMA supports risk-based priorities and cost-effective risk management decisions. CMA member companies utilize a variety of risk assessment techniques to help set their own priorities, goals, and plans for responsible product stewardship and environmental protection. For example, under CMA's Responsible Cared Pollution Prevention Code, member companies establish priorities, goals, and plans for waste and release reduction based partly on an assessment of relative risk and partly on overall community and employee concerns. Similarly, CMA's Product Stewardship Code requires companies to characterize new and existing products with respect to their risk, taking into account information about potential hazards and reasonably foreseeable exposures. These are then used to determine appropriate risk management activities. Risk assessment and relative risk analyses have an important role to play in the private sector, as well as at the governmental level.

DATA ON CHEMICALS IN COMMERCE

Two concerns were raised at the July 13, 1994 hearing that focused on the data available on chemicals in commerce. Many of the witnesses asserted that not enough chemicals have been tested and that more and better data must be available to EPA to evaluate potential risks from chemicals.

Lynn Goldman, Assistant Administrator for EPA, stated in her testimony that . . . "[a]s a direct result of years of chemical screening efforts, OPPT has determined that its efforts to identify candidates for testing or risk assessment should focus primarily on the approximate 14,000 non-polymeric TSCA Inventory chemicals that are produced at levels of over 10,000 pounds per year. . . " (EPA Statement of L. Goldman at p. 3).

EPA has used hazard-based and exposure-based screening techniques to identify priority testing candidates from this subset. EPA's testing agenda traditionally was identified through designation by the Interagency Testing Committee or by receipt of "substantial risk" information through the TSCA Section 8(e) program. EPA also receives requests for testing from other program offices within EPA such as the Hazardous Air Pollutants (HAPS) Section 4 test rules that the Agency is currently developing to satisfy Clean Air Act requirements.

CMA strongly supports EPA's efforts to screen chemicals so rational testing priorities can be set and testing resources can be directed towards chemicals of higher potential risk. Testing is simply not needed on every chemical to appropriately and safely manage risk. CMA believes that EPA should fully utilize existing data and require generation of additional information only when necessary for the evaluation of human and environmental risk from a chemical of concern.

EPA should proceed in a step-wise fashion under TSCA from screening level information to progressively more complex testing. The Agency's priorities are now incorporating those identified under the internationally recognized Organization for Economic Cooperation and Development (OECD) High Production Volume (HPV) program which identifies definitive testing needs through use of a Screening Information Data Set (SIDS).

CMA and its members have been strong supporters of the OECD SIDS voluntary testing program from the beginning. Continuing participation in the OECD SIDS program is based on CMA's position that international cooperative testing programs are vital to ensure both the adequate assessment of health risks of existing chemicals and to encourage equitable sharing of testing responsibility among producing countries. The U.S. has historically conducted the predominant share of the world's testing of chemicals.

OECD's focus has been on high production volume chemicals. The OECD SIDS is a standardized data set considered relevant for risk screening. Information is gathered by manufacturers within the context of a prepared chemical dossier that incorporates existing available data. Prescribed testing is conducted where relevant existing data are unavailable.

CMA believes the OECD focus on High Production Volume chemicals and the SIDS approach to testing are good models to be considered, but there is not a rigid set of tests that is suitable for every chemical. Appropriate testing for a given chemical depends on the extent and type of exposure to the chemical, its physical properties, and its structure activity relationship to other chemicals with a known hazard.

EPA has recently initiated a negotiated rulemaking ("REG/NEG") process to determine the best approach for amending its TSCA Inventory Update Rule. The Agency has decided to expand the kind of information that is reported to EPA and increase the reporting frequency from every four years to every other year. CMA agrees with EPA's approach to this relatively new effort. We have already volunteered to participate in the REG/NEG, which CMA believes to be an appropriate and potentially valuable process. CMA also agrees that the kind of data EPA is most lacking in its chemical review (Risk Management or RM) program is information on uses and likely exposures. It is too early to tell if the Chemical Use Inventory (CUI) EPA envisions will yield the kind of data needed for chemical review and will be a useful tool to support risk management. CMA looks forward to working with the Agency and the other stakeholders in the CUI REG/NEG process.

Recognizing EPA's need for exposure data, CMA has been actively working with EPA on the Use and Exposure Information Project. This is a voluntary initiative collecting valuable data on chemicals that are the focus of EPA's Risk Management Program. The form and process have been developed through the use of a pilot project that is concluding shortly.

CONFIDENTIAL BUSINESS INFORMATION

The protection of confidential proprietary information is an issue raised at the hearing that is of critical concern to CMA and its member companies, as well as other industries regulated under TSCA. For example, as H. Smith stated so clearly during the hearing, protection of chemical identity is the lifeblood of the chemical specialty manufacturers". Protection of specific chemical identity as confidential business information (CBI) is a critical information item, and just one of many that EPA protects under TSCA.

CMA believes many of the witnesses statements at the hearing reflected both a basic misunderstanding of the value of proprietary information and the scope of TSCA. TSCA was not intended to be a Right to Know statute when it was enacted. Public oversight in Section 14 of TSCA was intended to make EPA accountable for

the ways the Agency protected employees and neighbors from potential harm. TSCA's intent was public oversight not creation of a public database. Its drafters recognized the value of proprietary information and sought to offer protection of it within the statutory framework of TSCA.

Section 14 of TSCA strikes a careful balance between industry's legitimate interest in protecting competitively sensitive information and the need for public oversight of EPA's activities under TSCA. CMA does not believe that a large proportion of CBI claims under TSCA are invalid or that EPA's current CBI policies or procedures have prevented public access to important health and safety data. The data on health and safety studies are in the public TSCA files. Even if the chemical identity is claimed as CBI (and then a generic name is substituted), the public can raise its concerns about any study results to EPA. EPA then is responsible under TSCA for taking appropriate action on that chemical. EPA always has access to the CBI information and can act on it for regulatory purposes within EPA and with other federal agencies.

CMA would like to note for the record that most Freedom of Information Act (FOIA) requests under TSCA are made by law firms and other chemical companies (U.S. and foreign) and not the general public. ["Analysis of Impact of U.S. Federal and State Reporting Requirements on Sensitive and Proprietary Company Information", Final Report—July 1992, SRI International, at pp. 5, 40.]. CMA believes requests are made by competitors to gain access to valuable proprietary data on chemicals still in research and development and not due to concerns by the public about potential health and environmental effects.

CMA does recognize, however, that unnecessary CBI claims have been asserted on occasion. We support efforts to discourage improper or unnecessary CBI claims and have been leading industry education programs to reduce such claims. CMA opposes any narrowing of TSCA's basic CBI safeguards. Reduced protection for CBI would needlessly place valuable trade secrets at risk and create disincentives to new product and process development in the chemical industry.

While the most controversial issue pertains to CBI protection of specific chemical identity information in health and safety studies, other data submitted under TSCA can also be a serious threat if not protected as CBI. Product specific, plant-specific, or company specific information contained in reporting data can be combined with generic technology and research information available from other sources. This provides a significant threat of disclosure of proprietary information (also known as "intellectual property") to others. Unfortunately, the vast amount of technology-based chemical industry data made available through other reporting requirements, computer technology, and global telecommunications have created reverse engineering opportunities that make adequate protection of sensitive or competitive information very difficult, if not impossible, for firms.

Public disclosure reduces the competitiveness of companies by allowing competitors, both domestic and foreign, to access and use at no cost to them the intellectual property generated, often at considerable cost, to the owner of this information.

Some witnesses at the hearing compared TSCA to the Emergency Planning and Community Right to Know Act ("EPCRA") and stated that TSCA is a Right to Know statute. CMA believes any such comparison is unfair and misleading. The two statutes were enacted by Congress for two very different purposes.

EPCRA is a public information law used for the collection, aggregation and dissemination of data on chemical wastes released into the environment. Data collected by EPA under TSCA are intended to enable the Agency to assess and manage the risks posed by chemical products. Public disclosure is critical to EPCRA's objectives, for that limited and well-defined set of EPCRA chemicals whose potential effects on site neighbors are at the core of the law's purposes. The CBI approach in EPCRA fits its purpose, while the distinct CBI approach of TSCA is appropriate for TSCA's purposes. CMA believes the extremely limited CBI provisions of Section 322 of EPCRA to be totally inadequate and inappropriate for use in TSCA.

The issue of state government access to TSCA CBI, which was raised at the hearing, requires some clarification. CMA believes that the uses for data, identified by the state representatives at the hearing, are legitimate. CMA recognizes that state government access is a legitimate concern and has been working on a solution to

the problem. CMA has, in fact, been in a dialogue with FOSTTA (Forum on States and Tribal Action), a coalition of state government representatives, on this very subject for the last two years. We believe data reported to EPA under TSCA can be available to state governments subject to certain security measures adequate to protect the data's confidential status.

While CMA believes the states' concerns about the burdens of CBI security measures can be resolved, we are not sure if EPA's reluctance to cross apparent administrative barriers can be overcome. Our own analysis has shown that state access to TSCA CBI can be solved administratively under existing authority in TSCA. CMA continues to participate in a dialogue with FOSTTA representatives and encourage a facilitated solution to this difficult problem.

The issue of access to TSCA CBI information by other federal agencies was raised by some witnesses at the hearing. CMA believes this is an administrative issue within EPA, since Section 14 of TSCA clearly gives federal agencies access to such information.

POLLUTION PREVENTION

One of the major issues raised at the hearing concerned incorporation of pollution prevention into TSCA. TSCA was the very first environmental pollution prevention statute and we believe its framework embodies those principles. Pollution prevention as characterized under the Pollution Prevention Act of 1990 (PPA) involves a hierarchy of practices designed to reduce the amount of substances released into the environment or generated as wastes. This hierarchy of preferred practices is (1) source reduction, (2) recycle, reuse, and (3) treatment. CMA supported the Pollution Prevention Act and supports pollution prevention as defined under the Act. CMA believes pollution prevention is an excellent tool for preventing the release of potentially harmful pollutants into the environment. Support for pollution prevention is embodied in CMA's Responsible Card Pollution Prevention Code.

At the hearing, some witnesses also recommended that TSCA incorporate toxic use reduction ("TUR") initiatives within its statutory framework. TUR initiatives are based on the belief that chemicals deemed toxic are inherently and unavoidably unsafe and should be banned or phased out as soon as possible. Most TUR initiatives call for the creation of regulatory mechanisms that would require reductions or elimination in the production and use of a designated list of "toxics".

Proponents state that TUR is a subset of pollution prevention. They say that if one embraces the former, one must also support the latter. Proponents claim that TUR is a part of source reduction. CMA disagrees. TUR has a different goal and effect than source reduction and pollution prevention. As generally defined in the PPA, source reduction is any practice that reduces the amount of pollutants entering the wastestream or being released into the environment, and that reduces risk. Those practices include equipment, technology process or procedure modifications, raw materials substitution, product reformulation, and improvements in housekeeping, maintenance, or training. Many source reduction techniques will result in reducing production or use of pollutants, but the goal of source reduction is release, waste and risk reduction not use reduction for reduction's sake. The difference between TUR and pollution prevention is reflected in the measure of success. Pollution prevention is measured by reductions in releases and wastes. Whereas, TUR is measured by reduced use. Toxic Use Reduction initiatives are based on the faulty premise that chemicals cannot be managed and used safely and productively.

Arbitrary, mandatory use reduction requirements will lead to product elimination or to the production of inferior products. Because of these serious consequences, decisions to restrict chemical use must be undertaken with great care within a comprehensive framework that considers several relevant factors. Factors to be considered include whether or not the chemical in question poses an unreasonable risk to human health or the environment. Other relevant factors include an evaluation of the availability, cost, and performance characteristics of substitutes, as well as a determination of the societal benefits to be gained and the economic consequences associated with reduced chemical use. CMA vehemently opposes any attempt to impose bans or restrictions on chemical use which does not adequately consider these relevant factors.

CMA believes that TUR initiatives, regardless of their name, are contrary to the risk-based and pollution prevention principles we support. TUR is not risk-based. It requires use reduction regardless of the nature and degree of risk posed, the benefits of the chemical, or the increased risks associated with reducing or eliminating use, including the risk substitutes might pose. Moreover, TUR is a serious threat to the ability of U.S. industry to compete in the world marketplace.

TUR initiatives are totally inappropriate in Section 6 of TSCA. Section 6 is triggered by an "unreasonable risk" standard, requires use of the least burdensome regulation, consideration of the economic consequences and the availability of substitutes. That section contains a range of risk management options including warning labels, disposal restrictions, customer notice, quality-control procedures, and limits on the amount or use of a chemical. EPA has not used its Section 6 authority frequently. We believe it is appropriate that Section 6 of TSCA has been used infrequently since TSCA is most often used to fill regulatory gaps not covered by other environmental statutes. Careful review of the existing authority in Section 6 of the statute is needed. Pollution prevention may be further considered, but should be based on well accepted risk-reduction principles.

CMA appreciates this opportunity to submit these comments to the hearing record. Thank you.

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