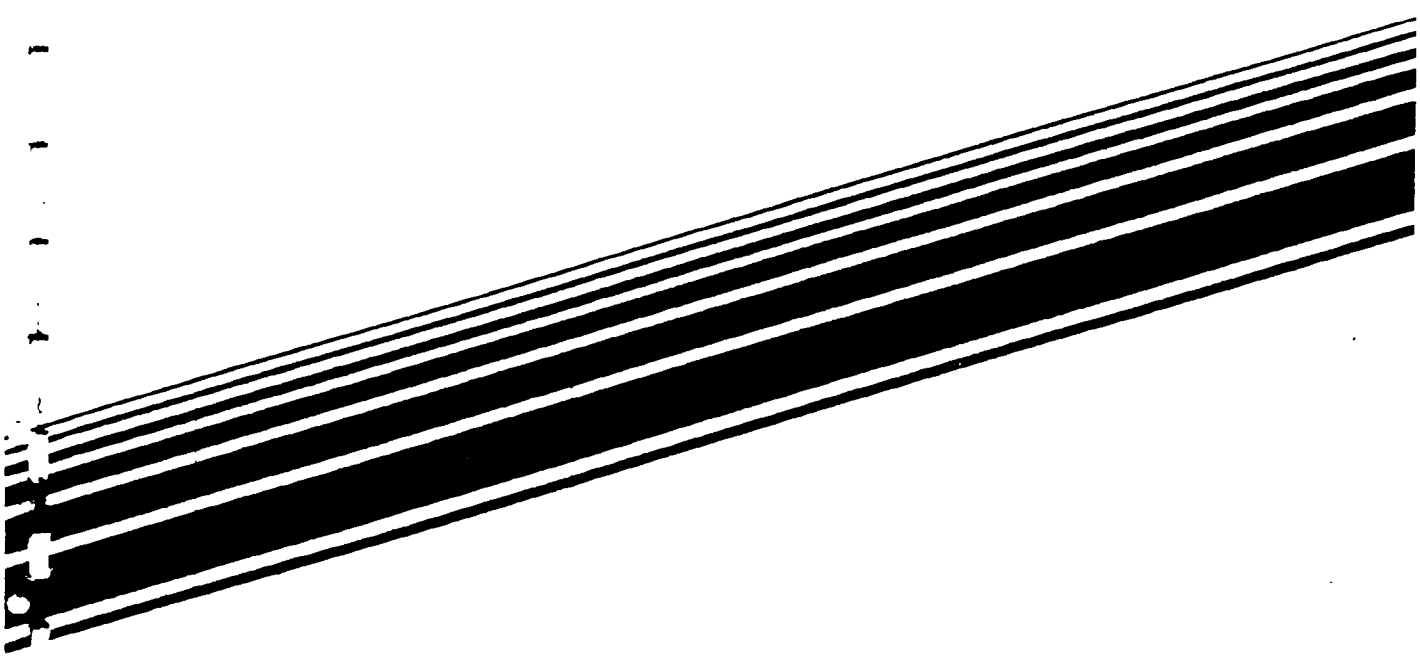
SIXTH

INDUSTRY — GOVERNMENT CONFERENCE

SEPTEMBER 16-17, 1981
ALEXANDRIA, VIRGINIA



Asbestos Information Association

AIA
NORTH AMERICA

1745 Jefferson Davis Highway
Arlington, Virginia 22202

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ASBESTOS INFORMATION ASSOCIATION/NORTH AMERICA

SIXTH

INDUSTRY-GOVERNMENT CONFERENCE

September 16-17, 1981

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FOREWORD

A principal purpose of the Association's annual Industry-Government Conference is to provide a public forum for knowledgeable and responsible representatives from industry, government, and the medical-scientific community to discuss a wide range of matters and issues affecting the asbestos industry. Such conferences also serve to further the goal of AIA/NA to provide authoritative information concerning the asbestos-health relationship.

It was anticipated that the constant of change would be demonstrated at the Sixth Industry-Government Conference. The remarks, especially by the government participants, did indeed convey the message that a significant change has occurred in regard to regulatory approach. Adherence to a more reasoned and objective posture by the federal agencies was emphasized. This year's conference provided strong contrast to the presentations in 1980 which focused on impending regulatory initiatives having major impact on the industry.

Current information was presented by an asbestos and health panel. Government and Provincial representatives from Canada, and a consulting firm executive, provided a look to the future on asbestos. In addition, two members of Congress and an industry association senior official addressed political perspectives of interest.

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The Conference was held September 16-17, 1981 at the Old Town Holiday Inn, Alexandria, Virginia. The Annual Meeting of the Association preceded the conference.

On behalf of the Association president and conference chairman, Mr. James F. Reis, and AIA/NA members, sincere appreciation is extended to the conference speakers for their contribution to the success of this occasion. In addition, the interest and participation by attendees are appreciated.

Additional copies of these precedings may be obtained from this Association at printing and mailing cost.

B. J. Pigg
Executive Director
Asbestos Information Association/North America

November 25, 1981

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James F. Reis
President, AIA/NA
Director - Asbestos Policy
Johns-Manville Corporation

Mr. Reis was elected to the position of President, Asbestos Information Association/North America on September 16, 1981. He served as a vice president since September 1980, and as a member of the Association's Executive Committee since March 1980. Mr. Reis also fills the position of Director - Asbestos Policy for the Johns-Manville Corporation.

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Introductory Remarks
James F. Reis
President, AIA/NA
Director, Asbestos Policy
Johns-Manville Corporation

On behalf of the membership of the Asbestos Information Association it is my pleasure to welcome each of you to our Sixth Industry-Government Conference. We appreciate your interest in our Conference and the fact that we have an excellent representation from industry, government, the medical -scientific and trade media communities.

Many of you were present for our Conference in 1980. As you recall the presentations by the government regulatory participants last year and compare them with what I anticipate you will hear this year, I believe the constant of change will again be demonstrated as being a true axiom.

At the risk of sounding like we have a persecution complex, the U.S. asbestos industry has been subjected to more regulation and proposed regulation and negative publicity over the past decade than any other U.S. industry. Most, if not all, of our problems, however, are a legacy of the distant past and have no relationship to present-day conditions. I believe that our industry can take justifiable pride in its efforts to provide a safe and healthy workplace for its employees, as well as in providing adequate

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guidelines to the users of asbestos-containing products where they are appropriate.

Forums such as this Conference provide an ideal opportunity for persons having a diversity of interests to contribute to a variety of relevant matters affecting the asbestos industry. I am confident that the result cannot be but objective and positive. We have a wealth of knowledge and information that our program participants will share with us today and tomorrow. I wish to emphasize at the outset of our Conference that we deeply appreciate their coming and eagerly look forward to hearing their remarks.

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Thomas D. Hopkins, Ph.D.
Deputy Administrator
Office of Information & Regulatory Affairs
Office of Management and Budget

Dr. Hopkins came to the government in 1975 from the Irwin Management Company in Columbus, Indiana. He served in various positions on the Council on Wage and Price Stability until June, 1981 when he joined the Office of Management and Budget as Deputy Administrator of OMB's Office of Information and Regulatory Affairs.

Dr. Hopkins served on the faculty of Bowden College as assistant professor of economics from 1968-1973. He received his doctorate in economics from Yale University in 1971.

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Remarks

Thomas D. Hopkins, Ph.D.
Deputy Administrator for Office
of Information and Regulatory Affairs
Office of Management and Budget

Thank you very much. It is my pleasure to be here with you today.

I am accompanied by my Deputy, Dr. John Morrall, and before beginning I would like to say just a word about John, who is responsible for the integrity and the analytical quality of most of the criticism and analysis that we do in OMB on social regulation.

There is an important standard operating procedure in government, that you don't sign memoranda that you write and you don't write memoranda that you sign.

(Laughter.)

I sign quite a few memoranda. John signs many fewer. But, secondly and more importantly, John is here today because, should time permit us to get into questions and answers, John is instructed that at the first instance of a complicated, substantive question for which he has not primed me with the answer, he is to stand up, announce that I have been summoned back to the White House to make an important policy decision, and take over the podium.

(Laughter.)

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I am pleased to be able to talk to you about the Administration's economy-wide regulatory relief effort, to give you an overview of what we are trying to do and how we are proceeding.

As you know, regulatory relief is one of four basic cornerstones of this Administration's economic recovery program. The four are:

- A stringent budget policy to reduce the rate of growth of federal spending;
- An incentive tax policy to increase after-tax income and thus promote saving, work, and investment;
- A regulatory relief policy to eliminate unnecessary and unduly burdensome regulations, bringing efficiency to the over-all regulatory process; and fourth
- A stable monetary policy to reduce uncertainty and to bring inflation under control.

Taken together, we think these four components will go far toward restoring the health of our economy and the well-being of our citizens. Clearly, regulatory relief is long overdue. Regulatory burdens have been mounting at a worrisome rate and previous Administrations' efforts to try to

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restrain them have proved inadequate.

Consider the case of the hamburger. A recent Colorado State University study identified 41,000 specific federal and state regulations that govern the hamburger that you buy at your neighborhood hamburger stand, adding some ten cents per pound to the cost of hamburger. And to what end? For one thing, these regulations apparently have solved the ketchup and pickle problem.

While I was never personally aware that this country faced a ketchup and pickle problem --

(Laughter.)

-- some regulator somewhere thought that somebody needed protection. As a result, by regulation, pickle slices cannot be less than 1/8th inch thick nor more than 3/8ths inch thick. And, by regulation, ketchup must flow no more than 9 centimeters in 30 seconds at 69°F. Not 70°F or 68°F.

Consider also the Federal Register, a daily government publication containing every new rule and regulation being issued by any federal agency on any given day. Back in 1955 it contained just over 10,000 pages to print all the new rules and new regulations of 1955. By 1976 it took, not 10,000, but 50,000 pages to print that year's new rules and regulations. By 1980, the length had grown to over 87,000

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pages of new rules and regulations. These regulations are issued by some 90 different federal agencies, each with its own rulemaking responsibilities and powers. Unsettling statistics in themselves.

The cost of complying with these federal regulations, while difficult to document, is substantial. Murray Weidenbaum, the Chairman of the Council of Economic Advisers, has estimated these costs for 1980 at over $100 billion, $100 billion per year to comply with federal regulations.

To place this number, $100 billion, in perspective, I should call to your attention the important accounting principle enunciated by the late Senator Everett McKinley Dirksen of Illinois. A billion here, a billion there; pretty soon we're talking real money.

(Laughter.)

Regulations are a powerful tool, as well as a costly one. In part, the growth of regulation reflects the fact that clear understanding of the power of regulation came earlier than appreciation of the cost of regulation. A federal agency generally has at least two tools available to it to try to achieve a variety of more or less useful social objectives. Typically these tools involve either government

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spending or government regulation. An agency that wants to spend $100 million on a project has to go to the Office of Management and Budget to seek approval. OMB's normal response is to ask some tough questions about just how important is this spending project and what might be cut back in other spending projects at that agency to free up the funds to permit that agency to spend the $100 million. The Congress also keeps a close eye on spending projects through its appropriations powers.

Clearly, this budget review process has not kept total spending as low as many, most particularly President Reagan, want. But at least there is a control process for government spending, and most assuredly it is being tightened up.

If that agency that wants this project believes that it faced a tight budget constraint and cannot find $100 million for its project, it often simply looks back into its toolbox and pulls out a new regulation, because by regulation it may well be able to order private citizens, state and local governments, businesses to spend their own funds directly to accomplish that same project rather than indirectly through taxes. The agency must, of course, not exceed its statutory authority and the agency must be able to defend the regulatory action it takes against claims that it was arbitrary and

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capricious. But the Congress has been exceedingly generous with broad grants of rule-writing authority and the courts rarely strike down a regulation whose only flaw is that it makes no economic sense whatsoever. A regulation can be simultaneously perfectly legal and perfect economic nonsense. Moreover, recent presidents tended not to insist that agency regulations be controlled as carefully as agency spending. The result - regulatory proliferation.

I err if I give you the impression, though, that all of the fault lies at the door of the overzealous agency rule writer, for it surely is the case that the Congress and society generally over the past decade have embraced social goals without much regard for the fact that, first, our society's resources are limited and, secondly, that the means that a government selects to accomplish objectives can either harness or hobble private incentives and private ingenuity.

Consider, just for example, the Delaney Clause governing regulations from the Food and Drug Administration. The Delaney Clause is insensitive to the fact that government cannot afford to make the world riskless. The Delaney statute calls upon FDA to ban any food additive that may cause cancer, regardless of how unlikely and regardless of the cost of alternatives that consumers may resort to.

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At the other extreme, some statutes are interpreted by regulators in ways that make the regulators think they must issue regulations that are affordable or achievable, regardless of whether there is any special benefit associated with the regulation. Certain water pollution regulations, for example, that provide no perceptible improvement in the quality of a water body or a stream are enthusiastically defended by some regulators on the grounds that the corporation that must pay for added filtration has more than enough profit to cover the cost. This is plain foolish, but for too long it was the prevailing ethic.

Part of our problem is that some regulation is so designed that a clearly sensible and reasonable objective is achieved in a needlessly costly way. Yet even when regulation is ideally designed, it is costly and our economy's resources are limited. This distressing fact has taken on renewed importance in recent years as we watched inflation accelerate and productivity sag.

It is not easy to design sensible regulations. We find that regulations are generally put forward to deal with some sort of a perceived market failure, that the private market is not working, and because of a market failure the government needs to step in with regulation to protect consumers against

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this market failure.

But there is an equally important phenomenon that can be called regulatory failure, because the regulations that are put forward to address the market failure may, in turn, fail and often have failed in that they have unforeseen and quite burdensome side-effects. And this Administration wants to be far more sensitive to the problem of regulatory failure than previous Administrations have been.

It is, as I say, not easy to design sensible regulations, although regulations clearly sometimes are needed. Much information, much detailed information, generally is needed by the regulator before he can design a sensible regulation.

Because of the risk that the government's regulatory cure can be worse than the disease and since the necessary information and analysis are likely to be costly, government intervention appears to be justified only when the market imperfection problems are truly serious. Seen in this light, EPA's past insistence on adopting regulations, for example, to control how quiet a garbage truck must be surely seems a dubious use of federal government authority and the $30 million per year of citizens' money that compliance with these regulations would have cost. After all, if the problem

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is noisy garbage trucks disturbing your sleep at four in the morning because they are driving past your house too early, there is no reason why local governments cannot adequately address that problem through simple rules on what times garbage trucks may operate and taking stronger action if localities need or feel they should do so. There is no particular reason why Washington should mandate costly regulations across the board for every municipality, whether this is a problem or not.

Where regulation or where government intervention is justified -- and certainly it often is -- we need far more sensible regulatory strategies than we have had. For example, providing more information to consumers and to workers in such areas as energy, health, and safety can be a sound substitute for more intrusive, coercive regulation. Adequately informed consumers can make surprisingly intelligent decisions -- that is, a regulator might be surprised -- if the government simply makes sure that the facts are available to the consumer.

Where regulation is needed to correct problems that markets simply cannot properly resolve, we have often had far too rigid an approach. Performance standards that put a ceiling on a firm's emissions of a pollutant but that give

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complete discretion to the firm in how to achieve those emission limits can permit firms, and society as a result, to achieve objectives at far less cost than is possible with the traditional type of command and control, detailed standards, design standards. This kind of strategy, this kind of government strategy, of performance standards rather than design standards can harness rather than hobble private incentives and ingenuity in getting a job done.

The Administration's conceptual approach to regulation can be sort of summed up in the following series of questions that are applicable to any particular problem area:

First - Can we expect that market place forces adequately will handle the perceived problem? If the answer is yes, then a strong presumption exists against any regulation, unless for some reason a regulation can be shown to remove barriers to competition and make competition work better. But if clearly market place forces cannot handle the perceived problem, then the question to ask is: Why can't market place forces handle the problem? Tailor the action to the cause, to the answer to that question.

Two common answers would be, first, that there is poor information, that consumers simply don't have, or workers simply don't have, the information that would enable them to

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make intelligent decisions. If that is the problem, then you don't need coercive, complicated regulations to solve that problem; you need an informational strategy.

Alternatively, if the problem is externalities, as we economists call them, where a third party is harmed by a market transaction between a buyer and a seller, then you may need regulation. But if you need regulation, again ask: Is there a real possibility of regulatory failure? And can you structure the regulation so that it will in fact be a net improvement, so that it will provide incentives for more efficient behavior?

Regulatory agencies, to be a bit more specific, have been placed on notice by this Administration that regulation, both existing and new, has to meet a tougher test than ever before. If a less costly legally permissible alternative to the regulation can still get the job done, it is going to have to be used. And if even the least costly type of regulation generates more costs than it does benefits to society, that regulation is a prime candidate for elimination.

The means used to get the President's message across are threefold:

First - A Presidential Task Force on Regulatory Relief which was established in January of 1981, chaired personally

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by Vice President Bush. The Task Force's basic charter is to act as a catalyst for change in major regulatory problem areas.

Secondly - A new Executive Order. In February of 1981 Executive Order 12291 was signed by the President, which establishes a centralized review mechanism for assuring that agency actions are in accord with the President's regulatory principles. This review process, carried out under the overall direction of the Task Force, relies heavily on a centralized oversight role for the Office of Management and Budget paralleling the budget oversight role that OMB has had for many years. Under the terms of the Executive Order, Executive Branch agencies must submit proposed and final regulations to OMB before they are published in the Federal Register. Independent agencies are not covered formally by the Executive Order but have been asked by the Vice President to comply voluntarily with the spirit of the Executive Order, since independent agencies, that is to say those agencies such as the Securities and Exchange Commission, the Bank Regulatory Commissions, the Interstate Commerce Commission, do have a special constitutional role; the head of those agencies is not typically removable by the President and the President has less control over those agencies than he does

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over the Labor Department, the EPA, the Transportation Department, and the regular Executive agencies that are specifically and completely covered by this Executive Order. Although, parenthetically, I would mention that one new wrinkle that we have only since 1980 and the passage of the Paperwork Reduction Act is that even the independent regulatory agencies such as those I have mentioned must now submit to OMB for OMB approval any form that the agency would like to send out to the private sector, so that any regulation that embodies an information-gathering request has to receive prior approval by OMB before it can go forward.

OMB -- Now back to the regulations coming from the dependent agencies such as the EPAs and the OSHAs and the Agriculture Department. OMB looks at each of these regulations and reports back to the agencies on whether in OMB's judgment the contemplated regulation is consistent with the President's regulatory principles. If it is not consistent with the President's regulatory proposals, then the proposed rule simply does not get published.

Of course if there is a legal deadline or a specific legal instruction, that supersedes an Executive Order and the agency must abide by that specific legal instruction. But generally agencies have a fair amount of discretion in the

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nature and timing of regulations, and where there is discretion, agencies are instructed not to proceed with publication of a rule if OMB finds the rule not to be consistent with the President's regulatory principles.

To aid in the review and the consultation process that takes place between OMB and the agency and to assure that agencies really do have a decent factual basis for making their regulatory decisions, all major actions, major regulations, have to be accompanied by a regulatory impact analysis. A regulatory impact analysis is essentially a benefit/cost analysis, an analysis addressing and identifying the benefits to society and the costs to society from the proposal and from alternatives to the proposal.

If there is any disagreement between OMB and the agency about OMB's finding in a case, then the agency can refer the matter to the Bush Task Force, for resolution.

Obtaining adequate information -- and that is what this Executive Order is largely about, insisting that agencies not proceed with rule writing until they have adequate information to show that it clearly makes sense -- can result in some delay in rulemakings. And it is true that delay in rulemaking can result in under-regulation, and under-regulation is not much better, if any, than over-regulation. But the

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pendulum to date has been far to the over-regulation end, not the under-regulation end, and the problem with overly stringent, poorly thought through regulation has been a far greater problem than the opposite. We are simply trying to get the pendulum back closer to center in its swing.

How have we been faring in fact with this process? Briefly put, the average size of the Federal Register has been reduced by about a third and the number of proposed rules cut in about half compared to previous years.

To date, this calendar year, we at OMB have received some 1800 regulations, proposed regulations, from agencies for review. All but about 100 of these rules have been found after inspection to be consistent with the President's regulatory principles without change. The average review has taken no longer than about eight calendar days at OMB; so delays have not been a serious problem.

But of these 1800 regulations that have come through, it is important to note that all but about 25 have been minor, non-major rules that are technical amendments, that are small changes in existing programs that do not have substantial economic consequences. During this time frame in any of the last four or five years we would have seen coming through the Federal Register closer to 100 to 150

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major regulations instead of the 25 regulations that we actually have seen.

The Calendar of Federal Regulations, which is a twice-a-year publication listing major new rules under development, shows that more than half of all such rules, rules under development, that were listed in the late 1980 edition as being about to come to pass, have been deleted from the recent version of the Calendar because the regulatory agencies themselves decided to terminate or to further review the regulations.

Thus, clearly, while we have a much stronger central oversight function than ever has been the case before, the regulatory agencies themselves have under their new leadership been demonstrating considerable restraint in coming forward with major new regulations and additions to regulatory burden.

The Task Force also is trying to spearhead thorough overhaul of antiquated existing regulations that have accumulated over the decades. The lead on individual problems is being taken by the rulemaking agencies themselves. The Task Force and we at OMB are to serve a catalytic function and a review and oversight function to make sure that things actually do happen.

Some over 180 specific regulatory actions have already

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gotten started this year, aimed at existing rules, that have the potential for saving consumers and businesses as much as $6 billion per year without jeopardizing important social objectives.

Let me just give you an example of a kind of regulation that doesn't fare well in this process. The Department of Energy issued proposed regulations which would require that appliances such as refrigerators, furnaces, and air conditioners meet higher energy efficiency capability and performance. The energy savings that might have been achieved by this Department of Energy rule, and it was a rule that was proposed during the last year of the Carter Administration, would have come at an enormous cost. The standards would have required the complete redesign and retooling of virtually every appliance model that was on the market in 1978; all such models would have to be retooled and redesigned by 1986. Appliance purchase prices would have gone up by at least half a billion dollars -- half a billion dollars -- per year and this added expense to consumers who would have to pay this much more for redesigned appliances would have been only partly offset by the lower lifetime energy costs associated with these appliances. Further, the Energy Department itself estimated that many of the smaller manufacturers of

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appliances would simply not have had the financial resources to make such rapid model changes, so that the rule would have eliminated perhaps the most competitive and innovative segment of the entire industry through bankruptcy.

The Wall Street Journal further characterized what consumers would have been treated to, had these rules stayed in effect, as follows: "The washers aren't going to clean very well, dryers will take up to twice as long as now to dry, air conditioners may become too big for some windows, freezers may grow so large that some may not squeeze through standard doorways, and ovens won't bake evenly." Some energy would have been saved, but clearly there are more cost-effective ways to save energy and clearly one must ask whether consumers, who are facing market-clearing energy prices these days rather than artificially constrained energy prices, won't have ample initiative and incentive themselves to advise their dealers, and their dealers in turn their manufacturers, that they want access to more fuel-efficient appliances without the heavy-handed intervention of the government.

The Task Force has identified important sets of existing regulations for review. In March a group of some 27 regulations, existing regulations, were identified as candidates for a thorough overhaul. In August another group of 30

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existing regulations were identified for overhaul. The Vice President had requested comments from the private sector about suggestions for what are the most troublesome regulations that really do need a new review. And in response to the many suggestions that came in, this list of 30 was devised in August for review, and this process is going to continue.

As the reviews get started and completed and the regulatory changes are made that those reviews suggest are sensible, we will be adding additional targets of existing rules for change. After all, we have years of over-regulation to undo.

Your own organization has made suggestions that have received a lot of careful attention. Regulations that are already targeted for review that I suspect perhaps are of interest to your organization are the preference, traditional preference, at the Labor Department against personal protective devices and for engineering standards. That issue is being addressed in a frontal and central way. The generic carcinogen policy of OSHA is being addressed in a frontal way. And a variety of other standards from just a whole host of agencies are on this agenda for review.

As the Vice President has emphasized over and over again,

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the reviews that we are after and the essence of the Task Force are not to be another study commission issuing a report at the conclusion of x years, but rather an action-oriented effort in which reviews will get started, will get completed, and changes will be made accordingly to reduce the excessive burden that we have.

There are many more problems of regulation than we can really address in four years. Perhaps there are ways to get around that problem that the citizens can help us find. But the gamut, the range, of problems is really quite remarkable, from the multibillion dollar, excessively command and control engineering change mandated at a big plant to the kind of phone call that we got last week from a farmer in Kentucky who had been visited the previous month by an EPA inspector. The farmer explained that he was exceedingly unhappy with the treatment accorded him by this inspector. His language was a good bit more colorful than mine in expressing himself on this point.

His concern was that the inspector had come out to look at his operation, in the process of the visit to the farm had backed his car into one of the farmer's oil drums, dented the oil drum, caused a leak in the oil drum, and subsequently slapped a citation and a $500 fine on the farmer for an

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illegal oil spill and hazardous waste problem.

Whether there is another side to this tale we haven't had a chance to check out yet. But clearly it is high time that some thoroughgoing improvements are made in the regulatory apparatus that we have.

Thank you very much.

Questions and Comments
(Dr. Hopkins)

QUESTIONER: Who is this group? How are you putting this group together that is going to have this budget oversight, that is going to do all this reviewing? How will this be put together?

DR. HOPKINS: On the regulatory side?

QUESTIONER: Right.

DR. HOPKINS: The Office of Management and Budget now has a unit called the Office of Information and Regulatory Affairs that will have a staff of about 90 people that implement the Paperwork Reduction Act of 1980, as well as provide the staff for the enforcement of the Executive Order in the Task Force. So these 90 people are responsible for looking over the 1800 regulations that have come through the transom thus far and for working with agencies to see that existing reviews do move along smartly and for making sure that paperwork reduction objectives and forms clearance

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objectives of the Paperwork Reduction Act are achieved.

This is a new unit within OMB. It is a new role for OMB that has just sprung up during this Administration, partly as a result of the Executive Order and President Reagan's actions, partly as a result of the Paperwork Reduction Act passed just in the last part of 1980.

SAME QUESTIONER: Where do these people come from? Are they staff of OMB or do they do a one-shot deal and then disappear?

DR. HOPKINS: These are all staff of OMB that will be a permanent part of the organization.

The central core of the analytical staff working on regulatory issues was transferred into OMB in June from the Council on Wage and Price Stability where for several years it had been involved in regulatory oversight activities. Perhaps some of you are aware of reports issued by something called the Regulatory Analysis Review Group during the Carter Administration or reports issued by the Council on Wage and Price Stability itself on regulatory excesses. The group of economists that were working on those issues there are now working in OMB with the same kind of efficiency orientation and cost/benefit orientation, but now with clout rather than without clout.

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QUESTIONER: You mentioned cost/benefit a couple of times. I thought the Supreme Court had ruled against the cost-benefit analysis.

DR. HOPKINS: I am not a lawyer, but my understanding from talking to more lawyers than I like to talk to is that the Supreme Court did find that in certain areas of regulation, certain areas of the OSHA statute, the stringency of regulations issued by the agency, OSHA, could not be dependent upon or based solely on benefit/cost analysis, the benefit/cost analysis could not be the criterion, decisionmaking criterion, used for a certain set of toxic substance regulations of OSHA, but that cost/benefit analysis can be used in setting priorities as to which substances get regulated by OSHA. Secondly, that cost-effectiveness analysis can be used legitimately by OSHA in setting these standards and cost-effectiveness analysis is a partial cost/benefit analysis. The cost-effectiveness analysis says, "We shall take an objective as given and compare how costly various different ways would be to get to that objective." That kind of analysis can be used.

Thirdly, though, the Court argued that the agencies shall consider in making decisions about the stringency of regulations the long-term competitive consequences for the

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industry. And that comes close to considering some of the sorts of factors that a benefit/cost analysis addresses, but not all. It is different.

But my final point is that we have no reason to believe that this Court ruling in the OSHA case has any necessary applicability to all of the other rulemaking statutes that are administered by the government. For EPA statutes, CPSC statutes, Agriculture statutes, Transportation statutes, unless explicitly prohibited by that statute, our understanding and interpretation is that the analysis is a legitimate decision-making tool.

Finally, though, even beyond all that, even where benefit/cost analysis cannot be the decision-making criterion for setting the stringency level of a standard, there is no reason why the agency head cannot ask that the analysis be done so that he and the President and the Congress will be able to understand and to see what are the consequences of going the route that is gone compared to some other route. And if the agency has to come out with regulation A because of the peculiar nature of its statute, whereas regulation B looks a great deal more sensible on benefit/cost grounds, it is useful to have that information before us, even though we may have to live with regulation A.

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The usefulness of that information is that it will help create a climate for some statutory change. Because if a series of regulations, because of the way a statute is written, come out that are just really quite inconsistent with any benefit/cost reasoning, it can help to create a climate which would say, Gee, we might all be better off and have more money left over to spend on other things if we would change the statute so that benefit/cost analysis could be a decision criterion.

QUESTIONER: What specific case are we discussing? Was that the benzene case or the cotton dust case?

DR. HOPKINS: The cotton dust case.

QUESTIONER: Does your review panel have access to information other than that engendered by the regulatory agencies?

DR. HOPKINS: The review that takes place by the Task Force, by us at OMB, is a review in which we examine only those materials and that information which is in the public record or is publicly accessible to all parties. This means that we will consult with agency personnel and we will consult with any outside parties who may have submitted information or prepared information for the record, as seems to us most sensible.

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Our principal concern is to make sure that we not get into the bind of having access to or looking at information that is not part of a public record, because then we are subject to and the agency is subject to subsequent litigation problems if it has based its decision partly on information not in the public record.

So the information and facts that we base our views on are in the record, but we aren't entirely or solely dependent on the perspective of the particular program officers at the agency who are manning that docket room. That is our starting point and then if it looks to us as though it would be useful to get a perspective from some outside academics, outside business groups or whatever can consult as we see fit.

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Members
Industry-Government Panel

Mr. Monroe Harris, Executive Vice President - Operations, Johns-Manville Corporation. He is responsible for the Roofing Materials Manufacturing Division and the production and sale of all products of the Pipe Division, Industrial Specialties Division, and the Asbestos Fiber Division.

Mr. Harris has been with Johns-Manville for over 30 years, having first joined the corporation in 1949. He earned his bachelor of science degree in metallurgical engineering from the University of Arizona, and has attended the Advanced Management Program at Harvard University.

Mr. Frank J. Frodyma, Director of Policy Analysis, Integration and Evaluation, Occupational Safety and Health Administration. Mr. Frodyma joined OSHA in 1972 and became head of the Office of Policy Analysis in 1979. He received his MBA from Cornell University in 1978.

Mr. John B. Ritch, Jr., Director, Industry Assistance Office, Office of Pesticides and Toxic Substances, Environmental Protection Agency. He joined the agency in 1972 after serving six years in industry.

Mr. Ritch is a graduate of the U.S. Naval Academy. He has done graduate work at the Naval Postgraduate School, the University of California, and the Rensselaer Polytechnic Institute.

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Remarks
Monroe Harris
Executive Vice President - Operations
Johns-Manville Corporation

Good afternoon, ladies and gentlemen.

As a slight further introduction, I have actually been associated with the asbestos industry for 33 years, spending all of my working life with Johns-Manville. And, as many of you know, our company has just undergone a major reorganization where we split the old company into five separate companies, with the old name, Johns-Manville, or J-M Corporation, now containing all of the asbestos products. This was done so that we would have better overall coordination of all of these businesses under one roof, and I have been appointed as the operating head.

In the present J-M Corporation we operate on a worldwide basis, with 33 plants and mines producing the raw material, asbestos fibre, and many of the various products containing asbestos, such as asbestos-cement pipe, asbestos-cement sheet and panels, mechanical packings and gaskets, asphalt roof coatings and cement, asbestos builtup roofing, and industrial specialty items, all of which can be classified as locked-in asbestos products.

The worldwide asbestos industry is a multi-billion dollar business, with all the mines in the world capable of

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producing six million metric tons of fibre. There are over 3,000 products made from this asbestos and this huge industry competes very vigorously in many of the world markets. For instance, asbestos-cement pipe competes with pipes made from plastics, concrete, steel, cast iron, clay, and many other products. It is probably one of the most intensively competitive worldwide businesses where "dog-eat-dog" competition is really the name of the game.

This massive asbestos industry has been responsive in the past to the medical problems that have slowly revealed themselves over the years with workers who have been exposed to excessive amounts of asbestos dust. In fact, efforts to control asbestos dust started in the 1930s when the medical profession first discovered the disease asbestosis. We in the industry had to pioneer new technology to get these dust counts down to an acceptable level. This has been an ever-improving technology and one that we continue to work on today.

For instance, the one area that created many of the high exposures and the diseases that are revealing themselves today - some 20, 30 or 40 years after exposure - was with the workers handling the raw asbestos fibres, either in transit or in the plant. To protect the workers loading and

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unloading and opening the bags of fibre, the mines first developed pressure packed bags. Later, we developed special palletizing and stretch wrapping and new types of pneumatic dunnage to keep the asbestos from shifting, resulting in bag damage, causing the asbestos to spill in the rail cars and ships. Even new types of rail cars were developed to handle loads of asbestos fibre. The industry also started to label each bag of fibre, in six different languages, soon after the medical profession identified asbestos dust as a co-carcinogen, along with heavy cigarette smoking.

In our mines and plants our objective was to get the dust counts down to the lowest possible level meeting, or more than meeting, the industry standard of 2 fibres per cubic centimeter. For instance, at our mine in Quebec today, out of 515 stations measured, 487 are lower than the 2-fibre standard, with workers required to wear masks at the few stations over the standard. Our average dust count over all the stations at that huge mine and mill, including the personal samples measured, the average, is less than 1 fibre; it is actually 0.7 of a fibre. Likewise, in our plants we have the same objective. For instance, in our J-M asbestos-cement pipe plants, out of 133 stations measured, 132 are below the standard. That is greater than 99%. And, as I

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said before, if any station or personal sample is even temporarily above the standard, masks are required to protect the worker.

To do our job right, we had to go beyond protecting the workers in our mines and in our plants. So we developed work practices and educational programs for the fabricators and installers of the end products containing asbestos. We have also stopped the production of friable materials where the asbestos could be easily loosened during the installation, and virtually all the products containing asbestos today are those where the fibres are locked in and cannot be easily loosened.

I think we can definitely say now that we have an industry that has reduced the asbestos dust levels to a point where we are not causing any more disease and that the diseases that are revealing themselves now are a result of the heavy exposures of years ago.

In this present-day environment, we understand why OSHA, EPA, and others need to establish regulations and set standards and we strongly believe that it is in everyone's interest that industry cooperate with government and others to accomplish the desired results.

However, in the past, and especially during the last

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Administration, a cooperative spirit was not a part of the approach by some of the agencies of the government. For instance, in 1979 EPA proposed the eventual banning of non-essential uses of asbestos without any consideration to the potential for the product to release respirable fibre and create a risk to health. I don't know of a more effective way to sap the competitive strength of a product in the market-place. To my knowledge, this idea of banning of asbestos has not been repudiated by EPA and it continues to hang over the industry, with the direct result that the users of asbestos products are turning to alternative materials, even though these new materials are more expensive, less effective, and could possibly pose a different new health hazard. Or we could take the NIOSH-OSHA recommendation in 1980 to reduce the asbestos dust level from 2 to .1 of a fibre. That is a twenty-fold decrease and one that is impossible to effectively monitor, achieve, or enforce. This proposal, although unsupported by medical evidence, still hangs over the industry, with devastating effects on the marketability of asbestos-containing products.

To make matters worse for our industry, the 1978 statement by the Secretary of HEW, Califano, stated that 17% of the cancer deaths in the U.S. were due to occupationally-

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caused asbestos diseases, and this paper continues to be quoted to this day by the media in the U.S. and worldwide, even though highly respected scientists around the world have thoroughly repudiated this and its scientific basis.

These erratic and unsupported proposals have severely and unjustifiably damaged the ability of the asbestos industry to compete in the marketplace. Furthermore, the negative impact of these proposals continue to be felt because the government has not yet held hearings and allowed the industry to present its case. Consequently, the use of asbestos in the U.S. has declined well over 50% just in the past few years.

Today, most of the asbestos mines in the world are operating on a curtailed basis because of this lower demand, and many of them are not operating at a profit. Many asbestos-using plants in the U.S. and worldwide have been shut down due to their inability to compete because of U.S. Government action or inaction. New products and businesses are being established every day to replace asbestos products in the marketplace, even though many are more expensive, less effective, and with uncertain health impact. In the market-place this is tantamount to U.S. Government sponsorship of these non-asbestos products.

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If you think that is an exaggeration, I would like for you to take a look at this slide showing a recent advertisement by one of our competitors offering a new substitute product for asbestos.

(Slide) I know that you can't read all of that in the back, but the essence of the ad is that our competitor is offering a substitute for asbestos as a filler in plastics, and there is nothing like waving the American flag to get the patriotic buyer to change. I think that makes the point.

Like the stock market, all markets, including that for asbestos, abhor uncertainty. Compounded by poor economic conditions, the regulatory agency proposals over the past six years have severely impacted the markets for asbestos products. By not removing past agency proposals, the government is really condemning the asbestos industry without hearing all of the evidence. So we urge that the regulatory agencies take responsible action and lift the uncertainty hanging over the markets for asbestos products by, first, withdrawing or amending past agency proposals and, second, implementing an early review of the current standards and all currently available medical evidence on the effects of asbestos on health.

In summary, I think that the biggest problem that the

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asbestos industry has today is the regulatory inaction rather than action.

I thank you.

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Remarks
Frank J. Frodyma
Director of Policy Analysis, Integration and Evaluation
Occupational Safety and Health Administration

Thank you very much.

First of all, in 1972 I should tell you that I was a computer systems analyst in OSHA's Office of Management Data and so I can't take any responsibility one way or the other for the asbestos standard. But in my current position I can say that I have a little more influence. And so I think I will be playing some role at least in the regulatory process in the future.

What I would like to spend my 15 or 20 minutes talking to you today about is where I think OSHA is going in the 1980s and how that is going to affect the whole regulatory process and clearly how asbestos will fit into that.

The agency has certainly been a controversial one from its start, and since 1972 there have been more than 1,000 pieces of legislation introduced into the Congress to somehow amend the law or to modify it and more than several bills to actually abolish the agency altogether. And, in fact, our current Chairman of the Senate Labor and Human Services Committee, Senator Hatch from Utah, has on several occasions stated that if OSHA doesn't administratively turn itself around within the next couple of years, he will take action

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to do something about it.

I think a lot of this criticism that Congress certainly has levied against the agency and certainly industry, as well as some of our supporters, has been in large part justified.

In my current job as Director of Policy and Legislation, all the congressional correspondence regarding OSHA horror stories gets directed to me. And over the past couple of years I have been kind of noticing the -- and you can't help but notice -- the constant complaints that OSHA's compliance staff doesn't have the technical expertise to do the job, our standards and our regulations don't address safety and health problems, citations are being issued for trivial things like heights of fire extinguishers and heights of guardrails and that employees harass their employer by complaining to OSHA and bringing the full weight of the federal government in upon the employer. These have all, certainly some of them are not true, but by and large I suspect that there is a large amount of truth in a lot of these complaints. Congress knows about them and certainly the agency does.

At the same time, however, the office also gets a large number of inquiries from Congress and from constituents who say an employee is down with an illness and it is clearly

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occupation-related, that the federal government should do something about this. A wife writes in saying a disease is being brought home to the house with the worker. So there is another side to the story too. And so there is clearly a role for some regulation, as Tom Hopkins said at lunch.

But the point I'm trying to make is that there have clearly been excesses on both sides in the past and the position that the new Administration would like to take for the future is one to eliminate the adversarial climate that has existed. I think that message has been sent several times and I am trying to send it again.

I am glad to hear that Mr. Harris has said that what is really needed is a cooperative approach, because that is exactly the position that we have been taking since January. What we really feel is needed for the next couple of years in OSHA's area is an even-handed approach and we really don't want to take the position of being pro labor, nor do we want to take the position of being pro industry. What we want to take the position of being is pro safety and health. That is what Congress intended the agency to do and that is the mandate that we have and we would like to carry that out.

But we would like to be even-handed also in the sense of how we use the tools available that the Congress gave the

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agency. Two of the tools that have been used almost exclusively in the past have been enforcement and standards, the issuance of regulations and setting of standards and the enforcing of those standards. Congress intended that OSHA do that, of course. But, along with the enforcement and regulation, right up in the preamble of the Act, Congress said a number of things. They said OSHA should stimulate employers and employees to institute new and to perfect existing programs for providing safety and health, to build upon advances already made through employer and employee initiatives for providing safe and healthful working conditions, to develop innovative methods, techniques and approaches for dealing with safety and health, to provide for training programs, to encourage the formation of joint labor-management efforts.

None of the above things which I have just mentioned which the Congress asked the agency to do can be done without this cooperative approach, and we need the cooperation of industry representatives and we need the cooperation of labor folks if the agency is going to be successful in doing anything besides the enforcement and regulatory approaches.

So what we will be doing during the '80s is to emphasize, and I should make a point of saying along with the enforcement

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and standards, because I think there certainly is a place for enforcement and Congress intended that there be and the agency will continue to enforce and write regulations, but along with that, to raise the other things up to the level of enforcement and regulations. We want to conduct training programs and our new directions grants program that some of you may be aware of where we foster cooperative or innovative techniques to promote safety and health will be emphasized. The budget has been increased for that aspect of the agency's programs.

We have consultation services available now in all 50 states and in some of the territories and jurisdictions for employers and employee groups to go to in lieu of the OSHA enforcement approach.

We would like to conduct special projects that are related toward some of the cooperative approaches I have just mentioned. For instance, the formation of joint labor-management committees as a supplement to the enforcement program where the employers and workers at that site who know most about the safety and health problems can address those problems and usually know more about how to solve the problem than the federal inspector who comes in. We would like to foster and encourage those kinds of joint committees to as

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large an extent as we can.

In addition, we will still emphasize enforcement, as I mentioned earlier, but with a difference. We are about ready to promulgate a new policy in at least the safety area, and I will get to the health area in a minute. We will put out a new policy shortly that will target our inspection activity on those work sites that have the worst records. If you are an employer and you have a good record, you pay attention to safety and health conditions at your site, what the compliance officers will do, if your establishment is selected for an inspection, as the first step in the inspection, OSHA will conduct a review of the record that are at that site. If your establishment is below the national average for, in the manufacturing sector, manufacturing and this is safety records, then OSHA will terminate the inspection and say that next year you may still be selected as a targeted site for an inspection, but if you have a good record, the inspection will terminate at that point. So we are trying to add incentives to the employers to pay attention to their safety records.

In addition, we are developing a policy that will still allow the agency to respond to serious complaints by employees but respond to complaints that are either anonymous or trivial or frivolous in a manner other than sending a compliance

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officer to visit the site.

I mention that these two programs are primarily directed at the safety part of the OSHA program, because we really don't have a good handle on how to conduct such an inspection or conduct such a program in the area of occupational health. And what we will be doing in the future, I can't give you a date for that, will be to solicit ideas on how OSHA might conduct an occupational health program with the idea of terminating the inspection if there is evidence at that site that that employer has in fact a good record.

In addition to those programs, the regulatory processes, that I think Tom Hopkins talked about, will be operational at OSHA. We will still promulgate regulations, but in the context of what Tom Hopkins talked about, specifically the new Executive Order for Regulatory Relief.

Tom talked a little about that, but what that order does is it establishes five principles by which the agency must, according to OMB, set its regulations. And those are that:

First, OSHA should regulate only when a compelling need can be established and when the consequences of a proposed regulation have been adequately documented.

Secondly, the government should regulate only when the

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potential benefits of that regulation to society outweigh the potential cost to society, that is, when a proposed regulation meets the test of cost/benefit analysis.

I want to put a caveat after that second one to say to the extent permitted by law, because somebody raised the question about the cotton dust standard, and to the extent that the cotton dust standard precludes OSHA from regulating on the basis of cost/benefit analysis, of course we cannot do that. However, OSHA must still set regulatory objectives to maximize the net benefits to society.

Fourth, we must consider alternative approaches and the alternative involving the least net cost to society should be chosen. If in fact personal protective equipment in a particular circumstance provides the same level of protection to the worker as do engineering controls, then personal protective equipment should be chosen. But the criterion here is the same level of protection.

And, finally, our agency should set regulatory priorities to maximize the aggregate net benefits to society.

Only one of these principles that the Executive Order forces the agency to regulate under requires cost/benefit analysis to be done, but the others, as Tom Hopkins pointed out, are very similar.

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There are two other pieces of recent legislation that will guide our regulatory process and Mr. Hopkins mentioned those also. There is the Paperwork Reduction Act of 1980 and, more importantly, I think, the Regulatory Flexibility Act.

That Act requires that all regulatory agencies, including OSHA, give formal consideration to the treatment, special treatment it says, to small businesses.

We must provide in as concrete terms as possible a regulatory flexibility analysis of proposed rules that are likely to have significant economic impact on a substantial number of small firms. We must consider alternatives such as tiering of compliance, which means different levels of regulation for different sizes of establishments, we must give consideration to that. We must give different consideration to different reporting deadlines, establishing performance criteria rather than design specifications, and consideration must be given to exemption from coverage of any rule or part of any rule.

There is one other factor that is going to guide OSHA's regulatory process in the future, and those are the Supreme Court decisions that have recently transpired.

As you know, our Act was broadly drafted in order to accommodate a wide variety of conditions and problems -

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technical, economic, and political - that are inherent in the protection of American workers. Over the past year the Supreme Court has clarified certain provisions of the Act by ruling or declining to rule on three major OSHA health standards. One was benzene; another, cotton dust; and the one that the Court declined to rule on was lead.

In June of 1980, on the benzene rule, the Court decided that the agency must demonstrate that a hazard addressed by a standard poses a substantial risk to workers and that the proposed standard significantly reduces that risk. That was the benzene decision.

In June 1981, the Supreme Court ruling on the OSHA cotton dust exposure made it clear that the limiting factor in setting health standards is, not that the standard's benefits outweigh the costs, but that the standard is feasible, that its requirements are capable of being met, both economically and technologically, for an industry as a whole. It didn't specify a firm. If a firm could not meet that standard, as long as the industry as a whole could, it was a good standard.

The Court affirmed that the Congress itself had struck a balance between cost and benefits which requires maximum protection for workers from material impairment to health, subject only to feasibility tests. At the same time, the

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Court made it entirely clear that the cost/benefit technique is appropriate for helping establish priorities and it may well be appropriate in other areas of regulation such as safety standards, rulemaking, recordkeeping, or procedural regulations.

Those three things, the Executive Order, the Regulatory Flexibility Act, and the Supreme Court decisions, then, have defined a policy for OSHA in regard to setting standards. That policy is a four-point policy. So our regulations will be guided by the following four points:

The first one is that scientific data must demonstrate that a hazard addressed in a standard poses a substantial risk to workers. We have to demonstrate a substantial risk before we can go forth with rulemaking.

Once a substantial risk has been demonstrated, we have to demonstrate -- this is the second point -- that a standard proposed would reduce that risk significantly.

And then, third, once a standard meets those first two tests, we must demonstrate that it is technologically and economically feasible for an industry as a whole, even though an individual company within an industry may be unable to survive economically under the standard.

And, fourth, that the means selected to implement the

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level of protection set by a standard must meet the test of cost effectiveness. That means we should select the alternative that is the least costly to comply with and offers the same amount of protection.

I think this kind of gives you a summary of where OSHA will be going in the next couple of years. And I think that what I am trying to project is that we will be still conducting regulatory processes and enforcement but we want to elevate to at least the same level as enforcement and regulatory activity the other areas that Congress indicated the agency should use in conducting its business.

Thank you very much.

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Remarks
John B. Ritch, Jr.
Director, Industry Assistance Office
Environmental Protection Agency

Ladies and gentlemen. One disadvantage of being the third speaker on a panel is that there is always bound to be a certain amount of redundancy. But hopefully I can overcome some of this.

I again want to bring you Dr. Todhunter's best wishes for a successful and productive annual meeting. As Jim has pointed out, when he agreed to speak here, he told the Association that if he was confirmed in time, he hoped he would be able to bring you a definite outline of our current and anticipated activities in the asbestos field. But the August congressional vacation precluded this and now we are having a hard time finding when his hearing can get into the schedule. Last night he indicated it might be as much as three weeks yet before he becomes the "official" official as my boss.

However, since this forces a substitute on you, it also places us in the position that maybe EPA can't give quite as revealing a performance today as it would like to. This is one of the few times in my life that I have gotten before a group and had to say that I am really not happy to be here,

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because although the hospitality and the fellowship and the program to this point have been great, when you are in the position that you can't talk to the depth that you would like to, you are not quite as willing to do it as you would like.

Although I don't like to be apologetic about it, I also am constrained to be limited until we do get a little sounder policy.

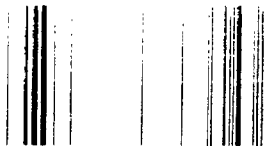
Your Association has, some of your staff at least have, visited Dr. Todhunter and Mr. Don Clay, the new Director of the Office of Toxic Substances. By the way, we don't call them Deputy Assistant Administrators any more; they are now Office Directors. And not only did they become acquainted but they exchanged viewpoints on some of the major problems about the asbestos program.

I gather from these exchanges and also from the sense of general new policy of government-industry cooperation that I think will prevail during this term that your Association will continue to have a very significant input into our activities.

One of the items in these staff discussions is one that Mr. Harris mentioned and that is what you might call the obsolescence almost of the ANPR issued in October 1979 and

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further supplemented in December 1979. That ANPR suggested, as Mr. Harris pointed out, that EPA would evaluate human risk from asbestos and use the Toxic Substances Control Act to implement broad product bans or significant limits on the processing of asbestos and some labeling. The ANPR was issued jointly at the time with the Consumer Product Safety Commission, which indicated possible prohibition of some consumer uses. It did state that the two agencies would coordinate their actions to minimize duplication and inconsistency.

Admittedly, that strategy outlined in that ANPR was not very well focused. It indicated a rather broad negative approach regarding the uses of asbestos which could even be interpreted as unfairly condemning nearly all asbestos uses. As might be expected, the response was loud and clear. Definitely antagonistic. It is understandable that the uncertainty outlined in the paper could and did create an extremely adversarial climate between the agency and industry. And, to add to that internal problem, just a few months after the dissemination of that policy and while we were still waiting for comments, the then assistant administrator decided that reorganization of the Office of Toxic Substances was in order to provide more

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productivity in the implementation of TSCA. This did little but diffuse any concerted effort. Perhaps it did, however, have the benefit that the new organization did have a chance to reflect and take a look at where we are going in this program.

Since publication of the ANPR, developments have suggested that the agency's approach should indeed be modified. There is considerable controversy over the degree of risk posed by current occupational environmental levels of asbestos. Human exposure is probably highest in the occupational setting of the manufacturing and processing industries, but there are other significant exposures occurring in the field work such as brake repair, fabrication of asbestos-cement products in the field, and demolition of buildings. There are also possibly significant exposures associated with emissions from several other areas.

Although new information has been acquired regarding risks, substitutes, benefits, and control costs, these continuing controversies in some of these areas have made us increasingly aware of the need for a broader forum of review for resolution of the scientific issues. We need a model for assessing risks at low levels. We need more specific

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information on the role of fibre size and type in carcinogenicity, and we need to further evaluate the significance in relation to smoking. We also recognize that if the federal government is to provide a consistent policy, OSHA and some of the other federal agencies need to be more involved with us in addressing the issues and determining the best role for each agency.

During the 1980 period of reflection that I mentioned, our OTS staff has been working closely with the asbestos industry and the trade associations, in particular the AIA/NA. I am pleased to state that much has been accomplished, not only in diminishing the adversarial relationship, but in building mutual understanding and trust. Much progress has also been made in resolving some of the technical issues involving information needs, exposure, and suitability of warning labels. These activities have brought us closer together. As a result, AIA/NA in one of its recent exchanges with Dr. Todhunter has emphasized the utility of a new asbestos ANPR. This has stressed the need for EPA and OSHA to commit themselves to coordinating the regulatory activities. AIA/NA has also noted that we need better coordination within the EPA of the many regulations on asbestos within our programs.

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Understandably, the AIA/NA would like a federal policy toward asbestos that will enable industry not only to plan for health protection, but have a stable long-term marketing strategy.

There appears no doubt to us that the issuance of an updated ANPR is warranted. I feel sure that we can agree that some kind of regulations are necessary because of the hazard associated with asbestos and, as Mr. Harris has pointed out, the large amounts that have been used and the diversity in industries that process and use asbestos.

Although some progress has been made with voluntary controls, the overall problem is too broad to expect this as a practical solution. On the other hand, the rules need to be focused so that concentration is on the greatest sources of risk rather than having a hodge-podge of regulations under many laws.

To implement the proper development of a new ANPR is going to take some doing. A federal policy on asbestos must be developed which undoubtedly requires a cross-agency task force or group committed to an integrated course of action. EPA itself would need improved coordination between the program offices. A broad risk assessment is required, as well as criteria to prescribe how risk, benefit, substitutes,

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and costs are to be considered. We also need to identify what information and data are essential to completing the necessary risk analysis. We probably will have to use a Section 8(a) rule to obtain some of the data, although some of it may be obtained voluntarily.

As I pointed out earlier, our Administration has changed. I cannot say definitely which way we are going. The Administrator herself has not had the opportunity to be thoroughly briefed on this subject so as to set forth her policy to Dr. Todhunter. He, in turn, has not been in a position to make positive proposals to her.

We do feel that there are many areas where we conceptually agree, that is, industry and the government. We also know and are pleased that industry has shown such interest in cooperating on this project and a willingness to support it. We are mindful that the successes we have had in developing guidance for the school program in large measure stems from the assistance provided by industry. It is essential in developing a regulatory path in the broad areas of asbestos applications that we maintain this cooperative spirit. I can assure you members of AIA/NA that the OTS staff will be receptive to your continuing contributions. I personally feel that the new top

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management also will be.

Thank you.

Questions and Comments
Industry-Government Panel

MR. BOB CLIFTON: I would like to ask John Ritch a question and pass on to him one that I got a few years ago.

I got a question from the Government of Brazil who was in the planning stages of building up a mining complex, an asbestos mining complex, and they asked me how far from the mill they should put their village, their town, for the workers. And I said I didn't have any information and I didn't know that anybody else had any information about the effects of asbestos in the ambient air, and I cited them the fact that Johns-Manville has a mighty big mine with the town sitting right on the lip of that mine and the McDonald Report that said that their health was in pretty good shape.

The point I'm bringing to you is this, I wonder really what EPA is doing in the asbestos business with such a scarcity of information about asbestos in the ambient air ever doing anything to anybody, or in the water.

MR. RITCH: I probably could refer to Mr. Harris to give you the answer about the Brazil mine. He probably has a little more knowledge about the nearby effects.

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There is obviously a certain known level of asbestos content in ambient air. There obviously are also shown to be areas where the activity relative to asbestos material makes the ambient level much higher, and I think those are the ones that we are concerned about. I don't think you can do anything about the fact that nature itself does a certain amount of disintegration of minerals. But we can look at those areas where exposures are what we might consider excessive for continued periods of time for people. And that is what we want to look at.

DR. WILLIAM BEAMER: I have a question for Mr. Frodyma.

Last year at this meeting we heard from the representative from OSHA, who was a Mr. Jennings, who was a Special Assistant to the Assistant Secretary at that time, and we didn't agree with what Mr. Jennings told us here but he did tell us something. He told us that there was going to be a new standard for asbestos in December of 1980 and he was writing it right at that moment.

I wonder if you could tell us what OSHA is doing about asbestos standards now.

MR. FRODYMA: I will try.

As you know, I think there was a rulemaking proposed

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for a new standard to reduce the levels from the current 2 fibres down to .5, and that rulemaking was published in either late 1975 or early 1976. The public record on that, the file, has closed, but no action has been taken on it since that time and the rulemaking was never withdrawn.

So the answer is that OSHA has done nothing since 1976 except conduct public hearings and conduct a rulemaking procedure.

I am not familiar with what Mr. Jennings told you, but there is no OSHA standard being written.

What is being done is that with regard to the benzene requirement by the Supreme Court that OSHA first demonstrate that a hazard poses a substantial risk to workers, OSHA is in the process of trying to document that fact. That is the first step in our review process.

As one of the agency's priorities we will be reviewing a number of standards that are on the books or a rulemaking that was started but never completed. And there are some ten or 15 substances that the agency has under review, one of which is asbestos and it is one of the agency's high priorities for action.

In a court brief to the District Court regarding another subject, which is migrant housing, the Court asked

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for a list of priorities of what OSHA was doing that would take priority over setting a standard for migrant housing. And in our response to the Court we indicated that there were some ten or 15 substances that would take priority for agency action over a migrant housing standard, and one of those top-priority substances that was identified was asbestos.

In that brief to the Court we said that within two years we would complete the asbestos project. As a first step in that process, we have either just completed or are in the process of completing and sending out for review some studies which first have to document that the asbestos hazard does pose a significant risk to workers. That is what is required by the Supreme Court before the rulemaking can take place. So we are in the process of doing that. So that is where we are with closing out the open rulemaking.

The 1980 comment that you attribute to Mr. Jennings I can't comment on, except that there is no one writing a rule on asbestos at this time in the agency.

PRESIDENT REIS: Can I ask a question off that, Frank?

If you are in the process of ascertaining whether a significant risk exists, is it reasonable for the industry to expect that the old proposals would all be withdrawn,

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since the evidence isn't really there or hasn't been put together yet to justify them?

MR. FRODYMA: You're speaking of the 1975 proposal?

PRESIDENT REIS: '75, right.

MR. FRODYMA: I don't know the mechanics of what it would take for the agency to withdraw that proposal. But within the two-year projection that I mentioned, those actions will be taken. Whether it be withdrawal or a modification of the standard or a new standard depends, of course, upon what the studies will show.

I don't think that we will rely on any one particular study, of course. But the answer is that it depends on what the results of that study are, or the studies.

PRESIDENT REIS: I guess my question is, If it wasn't there in the first place, what gave you the right to put the original proposal through?

MR. FRODYMA: "Is the original standard a good standard?", is that what you are saying?

PRESIDENT REIS: Yes.

MR. FRODYMA: I don't know. Was the original standard challenged in some court action and was that challenge upheld?

In my recollection of the standard-setting process I

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don't recall whether the original asbestos standard which was promulgated in 1972 was ever challenged in court.

PRESIDENT REIS: As far as I know, no. I'm talking about the '75 proposal really, as far as withdrawing that.

MR. FRODYMA: Right.

DR. HANS WEILL: Frank, just a very quick followup to your response.

At this stage where the question of hazard is being evaluated in terms of the present standard, is that all in house or is there consultation broadly with the scientific community?

MR. FRODYMA: I believe that when the study is completed, if it is not already -- and my understanding is that it is fairly close -- that study will be circulated amongst not only the academic community, but some medical hospitals, certainly the HHS community. I am certain that we will ask NIOSH to take a look at it, as well as some of the other health agencies within HHS. But there will be a list of other areas and other government agencies besides OSHA that will comment on the accuracy and appropriateness of the study, did we use the right data, was the study accurate in all respects.

MR. GUY GABRIELSON: I would like to ask for some

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further clarification from Mr. Frodyma.

You say that step number one under the benzene decision is to ascertain whether there is a substantial risk to be addressed. I assume that by that you mean we will be, or you will be evaluating the risk of asbestos hazard in the workplace under the current standard and not whether there was a risk 20 years ago. You will be evaluating what we call the 2-fibre standard to ascertain whether asbestos exposure as presently regulated presents a substantial risk to health.

MR. FRODYMA: That's right. But let me clarify it. I believe that what we will be doing is trying to establish a dose/response curve that shows what are the health effects at certain levels of exposure. So the study, you're right, is to determine what the health effects are at 2 fibres per cubic centimeter.

Now, I haven't seen the study. Whether or not the study also addresses if there are health effects at 10 fibres or 15 or 50 or 1,000, I don't know the answer to that, because I haven't seen the scope of the study. But I believe that the scope of the study is to demonstrate whether or not there are health effects at 2 fibres, 1 fibre, and a half a fibre. But the study may well also address ten fibres or

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even lower than .5.

MR. GABRIELSON: What you are saying really is that you will be using historical data pertaining perhaps to higher exposures to reach a conclusion as to whether or not a 2-fibre exposure is a hazard, is a substantial hazard.

MR. FRODYMA: I don't know the protocol of the study, but the purpose of the study is to demonstrate a risk at 2 fibres, you're correct.

MR. GABRIELSON: I understand.

MR. FRODYMA: But I don't know the protocol that was used for the study because I haven't seen it.

MR. GABRIELSON: Then I would assume if your conclusion on that study is negative, in other words that you perceive no substantial hazard, it won't be necessary to go through the other steps; at that point you can take action, perhaps withdraw the proposal.

MR. FRODYMA: That's right.

MR. GABRIELSON: Thank you.

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Members
Asbestos and Health Panel

Paul Kotin, M.D. Dr. Kotin retired effective September 1, 1981, as Senior Vice President for Health, Safety and Environment, Johns-Manville Corporation. Prior to joining Johns-Manville in 1974, he was Dean of the School of Medicine and Vice President for Health Sciences of Temple University.

Dr. Kotin has also served as Director of the National Institute of Environmental Health Sciences. He received his M.D. from the University of Illinois Medical School.

William Weiss, M.D. Dr. Weiss is Professor of Medicine and Director of the Division of Occupational Medicine at the Hahnemann Medical College in Philadelphia, Pennsylvania. Prior to joining the Hahnemann Medical College he filled several important academic appointments at The Medical College of Pennsylvania.

Dr. Weiss has published over 160 scientific papers. He received his M.D. from the University of Pennsylvania.

Hans Weill, M.D. Dr. Weill is Professor of Medicine at Tulane University School of Medicine in New Orleans, Louisiana, as well as a member of the active staff of the Tulane Medical Center Hospital. Dr. Weill is an authority on pulmonary disease and is a past President of the American Thoracic Society.

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Remarks
Paul Kotin, M. D.

Thank you, Jim. I am delighted to be here.

I am pleased that my identity with J-M is still a matter of universal recognition, and also that my relationship with the company is still a de facto one, if not de jure.

More importantly, though, I am glad that Jim uttered a disclaimer, because anything that I say that offends any of you, don't hold J-M responsible, hold me responsible.

I really got my baptism of fire in the asbestos industry when I spoke to the Asbestos Information Association/North America within a few months of my joining Johns-Manville. I said then that industry has a responsibility for the occupational health aspects of the workplace and a responsibility for workers injured in the workplace. Even with my proclivity for hyperbole, I can assure you that I don't overstate it when I say I have had that statement thrown in my face by a minimum of 50, perhaps closer to 100, attorneys during the last seven years. They have all asked, "Didn't you say industry has a responsibility?" and under oath I have replied, "Yes, industry has a responsibility."

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Then I would have to fight with them to let me explain that even though I am a doctor, I am not illiterate and there is a difference between responsibility and culpability. Clearly, culpability was not what I meant, for in fact if it were, I am not in the least bit reticent and that is what I would have said.

I don't know how many lawyers are going to get a transcript of this speech, but if they do, I hope that sets the record straight.

I am not going to talk much about state of the art because the rest of the panel is made up of two bona fide MD's who take care of and diagnose sick people. They both hold the enviable reputations that Jim alluded to, are both professors at medical schools, and both have a research background, attested to by the quality and quantity of their contributions to the scientific literature.

I guess the best way for me to start is to read what I volunteered to the Corporation incidental to my retirement. I have left six jobs in my life and each time I have felt a responsibility first to identify a successor. In all other five I did. Thus far with J-M, I am still between the 16th pole and the finish line. Second, I always drafted a review of the years that I was with whatever

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agency of government or academic institution to tell what I think I accomplished and what I failed in, and to explain what the institution or agency's mistakes and successes were. It has taken 15 to 55 pages in the past. I just have the rough draft of the first nine pages of what I propose to tell Johns-Manville, and this may be a good way to start. I will, of course delete those things which are "trade secrets" -- not in the mercantile sense but in the boss-employee sense, the Chairman of the Board vis-a-vis the Senior Vice President.

In my memo I say: "In accordance with your request" -- This is addressed to Messrs. McKinney and Pundsack -- "I am submitting the following information relative to the future J-M Corporation asbestos programs in the area of health, safety and environment, with special emphasis on research needs.

"Attachment 1 describes the rationale and bases for establishing priorities for research.

"Attachment 2 lists the priorities for research.

"Attachment 3 reviews mechanisms for achieving the priorities." And then the rest is company business, the rationale for the bases for priority selection.

I go on to say: "The current threats to the asbestos industry fall into three main categories:

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[redacted]

"First, distortions of the true extent of asbestos-related disease through failure to distinguish between workers with 'changes' that are stigmata of asbestos exposure rather than true heralds of oncoming disease and those, in fact, with disease.

"Second, the nondisciplined and highly unreliable calculations of the numbers of workers currently at risk to asbestos-related disease, as well as the actual numerical estimate of the total cases of asbestos-related disease foreseeable in the future.

'And, third, the invalid assumption that some highly prevalent forms of chronic lung disease are due to asbestos exposure, whether a history of asbestos exposure exists or not, rather than to other environmental exposures, for example, chronic obstructive lung disease, emphysema and bronchitis which are due primarily to cigarette smoking.

"A major confounding element in arriving at a reliable analysis of the current situation and in deriving estimates of future numbers is the absence of evidence at present as to whether pleural changes (diffuse thickening and/or pleural plaques) are part of the sequence leading to the genesis of malignant mesothelioma. Clearly, the concept of pleural asbestosis as maintained by certain scientists

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and groups is a major factor in the exaggerated calculations of populations at risk to mesothelioma as well as to other asbestos-related diseases.

"The vexing issue of whether asbestos is a general population hazard remains unsettled despite strong evidence that a hazard does not exist. This uncertainty focuses around the belief by some, with no supporting data, that exposure to asbestos by the general population increases the risk to cancer of the gastrointestinal tract, as well as cancer of other extrapulmonary sites - kidney, ovary, pancreas - with and without a role for asbestos-cement pipe as a possible causative factor.

"Next, the relationship of interstitial fibrosis to lung cancer, both in the presence and absence of cigarette smoking, continues to generate controversy. Is, indeed, the lung cancer seen in asbestos workers an example of a 'scar cancer,' as I firmly believe it is, thereby demanding the presence of asbestosis to verify a possible occupational origin of any case of lung cancer?

"Finally, there is much uncertainty as to whether the potential hazards of asbestos exposure are due exclusively to fiber physical properties. If so, do fibrous substitutes for asbestos carry with them the potential hazards now

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recognized for asbestos?"

With those abbreviated and unelaborated comments on the rationale, what are the priorities for research? To continue with my memo, I wrote that the priorities "reflect areas of limited information, incomplete data or speculative biology. Omissions in knowledge have permitted standard setting, regulation and litigation to be based on philosophy, attitudes, biases, and fiscal considerations as often as on scientific and medical data." If that is the case, what is it that the asbestos industry needs to know more about? What is it that the public universe needs to know more about, the universe from the individual citizen through citizens' groups, self-designated or othersise, through the city council, the state government and the federal government both at the legislative and executive branches?

Priority number one is clearly a clinicopathological study of the natural history of pleural changes. The importance of such a study can't be overstated.

What do the stigmata of asbestos exposure mean in terms of a long-term eventuality for the worker with this finding?

The second priority is a study of the relationships of diffuse pleural thickening and/or pleural plaques (which

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is thickening that is discrete and demarcated) to signs and symptoms of disability and to actual lung disease as a result of exposure to excessive concentrations of asbestos.

One and two are really two facets of the same issue. But if these fundamental questions are not addressed, the calculations that are being developed by competent statisticians and the risk analyses being projected in quantitative terms by competent workers in the field are just so much rhetoric when articulated, and just so much expository writing when put on paper.

Let me mention in an a priori way that, of the 12 of the 36 priorities that I have listed for the company that I am going to mention, I am not aware of any that requires any trailblazing. I am unaware of any that requires the evolution of any new techniques and I am unaware of any thinking at the level of a Nobel Laureate that has to go into the pursuit of these. What they do require is simply focusing on the priorities. And this is Paul Kotin, not Johns-Manville, talking. With the magnitude of the problems it is facing, industry cannot allow itself to be diverted from focusing on the critical issues because of the lure of an easy set of answers. The priorities do not have easy sets of answers, but they do have answers that are achievable.

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Pleural response to asbestos exposure in terms of every response from change to disease to disability is a continuum that is very, very important to emphasize in relation to asbestos. Further, a continuum, if any exists in relation to all asbestos health problems, is not unique to asbestos; it is an example of a sequence, a biological sequence, that occurs in response to any potentially hazardous agent. But somehow or other, changes like pleural changes after exposure to asbestos have been indicted as harbingers of grief for the future. I am unaware of any data that prove this and I think we had better get about the business to see whether there are data that do or do not support this contention.

The third priority is a study of the existing data and the generation of new data to determine the occurrence of any adverse effects of asbestos exposure in the general population. And this gives me another opportunity to sermonize. Except for probably benzene and hydrocarbons, asbestos is the most thoroughly studied potentially hazardous material in the environment. I think that because of this and because of the pervasiveness of asbestos, you have a level of individual citizen awareness that has no counterpart in any other material. One of the things that we have to constantly

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remind ourselves of is that the attention has been all to the good. I say this because the public attention gives us a focus for our efforts. I have dissipated my efforts as much as anyone else in communicating with government agencies and almost certainly have taken as many blind-alley trips as anybody has in trying to convince regulators of the impossibility of their position, the nonsupportability of their position in the past when scientific data rather than emotion or hyperbole are involved. Therefore, we have to start educating the individual citizen and we have to start educating the citizens' groups, both those duly appointed and those self-appointed. And, meaning no disrespect to the Association, I think having a dialogue with Sidney Wolfe of Ralph Nader's Health Research Group is at this time more or at least equally important as talking to representatives of various agencies or groups in our nation's capital that have a government imprimatur.

I mention this in relation to priority three because the general population is, after all, a generic term for each individual citizen.

The fourth priority is a study of the occurrence of progressive obstructive airway disease. What that fancy phrase means is the type of lung disease cigarette smokers

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get. Anyway, a study of this disease in asbestos workers is critical, both in the absence of pulmonary fibrosis and its presence, to determine whether asbestos exposure can induce changes of the type and at the anatomic site in the lung that we know result from cigarettes. Can asbestos alone produce these changes? And if it does, what does it mean over the long haul?

A fifth priority and a very, very important one, particularly to the abestos-cement pipe industry, is studies to determine the reality of the reported increased incidence of GI tract cancer or other cancers of extrapulmonary sites as a result of asbestos exposure.

These first five obviously are the most important. And while my fellow panelists may not agree with me in all aspects, I am unaware of any herculean logarithmic expansion in research that has to be undertaken to get answers in these five areas. I also think the answers can be gotten in a matter of months, not decades, although I rather suspect that there is probably some professional disagreement with my optimistic time projection. Despite that, I have urged the Corporation to pursue these priorities even if they are not popular with the rest of the industry.

The next priority, number six, is pulmonary body

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burden studies of asbestos fibers. Since nature was not as kind to the asbestos industry as it was, let us say, to some of the chemical industries where an examination of sputum or hair or urine or other body fluids would give you an opportunity to measure the exposure level as reflected in the biology of those exposed, we have to go a step farther and examine asbestos fibers in a much more cumbersome way. This means getting specimens of tissue for analyses from the lungs or from other organs, which of course is not easy.

The seventh priority is determining the criteria for progression of asbestos-related disease, both in the presence and absence of continued exposure. The whole issue of when a worker should be taken out of the occupational asbestos environment is extremely complex. You find every position. One extreme is that a worker should never be put in an asbestos environment because being in that environment automatically moves him in the direction of entering a high-risk group. I obbiously don't believe that, since it flies in the face of all the principles of dose response. That position is the infrared end of the spectrum, if you will. And at the ultraviolet end you have those who maintain that even in the presence of substantive evidence of asbestos-related changes or disease, depending upon the individual case, the best thing

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may be not to take the worker out. Again, that is an extreme that I don't necessarily subscribe to either in all cases.

But it is important to know what the impact of removal from an asbestos environment is. There are rather special opportunities to study this. One could very well be the UNARCO population of Paterson, N.J., that Dr. Selikoff has been following. There the fortuitousness of the closing of the plant guaranteed cessation of exposure for those workers who did not get employed in other aspects of the asbestos industry.

The eighth priority is one that I think is terribly important in view of the increment that lung cancer represents in the spectrum of asbestos-related adverse health effects, and that is the relationship of pulmonary fibrosis to the pathogenesis of lung cancer.

Being a pathologist and my whole life having been devoted professionally to the study of the evolution and development of lung cancer, I have very, very strong feelings. If there is indeed such a thing as a pure asbestos lung cancer, I believe it would be a scar cancer and therefore would be rather specifically or even very precisely diagnosable. I'm not sure everybody buys that.

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Number nine is one that carries with it a commercial or mercantile dimension since not every member of AIA is in the asbestos business alone. Some of the companies represented here also manufacture asbestos substitutes. Therefore, we must study the potential adverse effect of proposed fiber substitutes. We can't have it both ways. If we accept the dogma of physical characteristics or the geometry of fibers as being associated with health effects, I think we have to learn a little more about the biology of substitutes. Happily, what biology we have learned tends to give us great comfort about many of the fibrous materials that are being suggested or used. Nevertheless, we don't know everything we should know about them.

There is no point in going on with the remaining priorities other than to say that each has available a useable science, a research reality in terms of the questions that can be formulated. In fact, there are scientific institutions which are already pursuing these questions. And it just so happens that a few of the people who are ready to pursue such research are represented on this afternoon's panel.

I think these priorities have to be critically looked at by industry and by AIA/NA in a way in which they

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haven't before. I really wept a little when I saw what those in Johns-Manville know I have argued against again and again, the grandiose program for a world conference on asbestos next spring. I wouldn't be Paul Kotin and I would be less than honest if I didn't say that there is no number that I can think of big enough to express the returns that I think would come from focusing the resources used for the conference on the research priorities that I have mentioned or that others -- Bill Weiss, Hans Weill, any one of a group of specialists in the field -- could come up with. And I think that this is the direction the industry should take. Certainly my advice to Johns-Manville, and you have heard part of it today, is that the Corporation should devote virtually all of its efforts in the future to the world of biology. This research does not relate to commerce, legislation or regulation exclusively. It will also affect what we all need to know so that the headline, the scare headline, the alarm headline that inevitably results from the word "asbestos" in any media situation can be diluted, and I am optimistic enough to think that it could even be dissipated.

It has really been fun being part of all of you for the last seven years. I have enjoyed my meetings with the

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AIA/NA. Pleased with them all? No. Enjoyed them? Yes.

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Remarks

William Weiss, M.D.
Professor of Medicine
Hahnemann Medical College

I don't think what I have to say will bolster those of you who smoke and I am glad to notice that there are very few in this audience who are smoking. I hope there are no spies from the tobacco industry here either.

(Slide) The information about the relationship of smoking and asbestos to lung cancer is pretty well established now, and I am just going to spend a little bit of time on it, primarily for the purpose of trying to estimate the savings in lives which could be obtained if the asbestos industry were not to hire smokers to be exposed to asbestos or had not hired them in the past. We don't know what the risks would be at the current levels of exposure.

I will just mention three studies with recent updates. The first of these is the Hammond-Selikoff Study of U.S./ Canadian insulators. The latest data I have seen which include information on smoking was in December of '79. The prevalence of cigarette smokers amongst the insulators -- This is countrywide in both countries -- was 83%. And so it can be calculated that the attributable risk of lung

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cancer due to cigarette smoking itself is 89%. This is dependent partially on the fact that the percentage of smokers amongst the insulators is so high and the relative risk is quite high. This is simply based on how much lung cancer would have been prevented if all the insulators were non-smokers.

(Slide) The next study is again by Selikoff and Seidman and Hammond in 1980. It concerns the amosite factory workers in Paterson, New Jersey. And here the frequency of cigarette smoking was a little lower, 74%. And so it can be calculated that the percentage of lung cancer cases which could have been prevented in this population would be down a little, to about 64%.

(Slide) The third and last study in which I was able to find the necessary data to make this calculation is in the chrysotile miners, a paper published last year by Lidell and McDonald. Here the prevalence of cigarette smoking in the miners was 61.5% and the preventable proportion of lung cancers if all had been non-smokers would be 59%.

It is obvious, I think, that if smokers were not being exposed to asbestos in the past four or five decades, a lot of this disease would have been prevented.

(Slide) I would like to spend more time, however, on

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a less well known relationship and that is with regard to pulmonary fibrosis or pulmonary asbestosis and also with regard to the pleural changes that Paul mentioned as having a high priority for research.

The interrelationship between smoking and asbestos and the frequency of occurrence of asbestosis is based largely on prevalence studies and doesn't go back as far as the observations on lung cancer. In fact, they go back to a rather small study that I did and published in 1971 on 100 asbestos textile workers, which shows that when the x-rays were examined without knowledge as to who was a smoker or how long the individual had been exposed to asbestos, the frequency of asbestosis on the chest film comes out this way. On the lefthand side there is the absence of a bar among 11 workers who were not cigarette smokers and had been exposed to asbestos for less than 20 years. That is a very small group, but we didn't pick up any asbestosis.

In a group of 45 workers exposed less than 20 years who were cigarette smokers, the frequency jumps to 29%, and then for those exposed more than 20 years it goes on up. For those who were nonsmokers it was 43% and for those who were smokers, it was 57%.

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I have to admit that I have been accused in a number of situations, particularly in court, as being the only person who believes this. So when I got asked to talk about the interrelationship between smoking and asbestos here, this was a good stimulus to review all the literature that really is available, and there is a surprising amount.

(Slide) Here is a report not published but is an official British report concerning dockyard workers and it shows the frequency of pulmonary fibrosis in a very large number of shipyard workers in England with regard to the number of years of exposure and the presence or absence of smoking or ex-smoking. And though the frequency is quite low, down around a maximum of about 3%, you can see that in the current smokers the frequency rises up fairly early, beginning around five years after initial exposure, and goes up to a maximum of about 3% at around 15 years from onset of exposure. The ex-cigarette smokers follow at a little bit lower frequency, and the nonsmokers have a more delayed and lower frequency.

(Slide) This is pretty good evidence, I think. In trying to update the additional information that has appeared up through 1981, so far this year, I have come across a total of 19 studies in which there is sufficient information

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to see what the relationship is. And I divide them up in the next few slides according to the type of study and the kind of occupation.

The first three slides are going to deal with the prevalence ratio and it is the ratio of the presence of disease in a cross-sectional study done at one point in time in smokers compared to nonsmokers.

Starting with the miners, we have a report in 1975 by Fournier, Massey, and Becklake in which they suggested that there was a higher risk in smokers of pulmonary asbestosis than in nonsmokers. But this was implied from their pulmonary function data and does not provide any raw figures from which to calculate a ratio.

Then there is a study by Viallat in 1980 which used, I believe, regression analysis, so that we don't know exactly what the relative risk was, but it was in excess of one; that is, the risk was higher in the smokers than in the nonsmokers.

(Slide) We have a couple of studies by myself in manufacturing, beginning with the study that I have mentioned already in 1971 in which the ratio is 1.74; that is, there is 74% more pulmonary fibrosis in smokers than in nonsmokers.

And in a more recent study in two plants reported in

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1978, one of these never had any exposure except to chrysotile, and the ratio is very low, 1.16, not significant. But in a plant in which there was a mixture of chrysotile and amosite used in manufacturing -- This, again, is a small study -- 42% in the smokers and zero percent of only 10 workers in the nonsmokers.

(Slide) Amongst users there is a series of reports, starting from 1971, the first year in which I reported the association, in an English study authored by Langlands in which the data were provided but no comment was made by the authors. Nevertheless, their data do show that the ratio is 1.41. Nothing very striking, nothing to the extent that we tend to see with lung cancer.

And then there are a couple of studies on English dockyard workers, actually four of these that run down this list. Harries first reported in 1972; the ratio is 1.21. Another study four years later by Harries in the same population, a jump to 3.95. The methodologies of the studies differ, and this probably explains the reasons why they didn't get completely consistent results.

Jumping down a little bit to Rossiter and McMillan's studies in 1979-1980, in 1979 it is 2; for the McMillan study it was 1.34% in smokers and zero percent in nonsmokers

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in a very large population.

Going back to a study by Hedenberg, we have a very high ratio, 6.4. And a recent study by Samet in Boston in 1979, in which they used complicated statistical analysis, so that all that can be said is that the ratio is over one, but how high it is, I can't tell you.

(Slide) There are a few studies in which cohorts of workers have been followed over a period of time, and here we get into a little bit of difference in the results that are difficult to explain.

In the miners -- These are x-ray studies -- a study reported by Lidell in 1977 showed just the reverse. This is the only study which is not consistent with all the other studies I have been able to find in the medical literature; that is, the risk was higher in the nonsmokers than in the smokers. There are reasons to suspect why this study may be inconsistent in that it is a rather small study with considerable opportunity for selection, and we don't know in what direction the selection process may have introduced a bias. But it is the only exception really.

In Rubino's study in Italy, the ratio is 2.18.

In another study by Lidell on a much larger cohort, of Quebec miners, it is 1.11, which is essentially not

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elevated, but you see that it is not consistent with the previous small study reported in 1977.

(Slide) And then we have a couple of studies in manufacturing. We have a study by Berry, and I think, Hilton, you were involved in this, in 1979. This is interesting because for those who were exposed before 1951, the relative risk was not very high, 1.69 or 69% higher; but for those exposed after 1950, it is quite high, five times higher than in nonsmokers. And in Selikoff's amosite factory study in 1980, there is no significant elevation of risk. So there is not complete consistency.

(Slide) Amongst users we have the study in 1973 in insulators by Hammond which shows two-and-a-half times the frequency of asbestosis in smokers as a cause of death compared to nonsmokers. And a study by Rossiter again of the English dockyard workers in 1980 showing 11% in smokers compared to zero percent in nonsmokers.

(Slide) Pleural plaques. A few data are available on this. And, again, this is the 1976 unpublished report on the dockyard workers in Great Britain which shows the same kind of leftward shift of the curves, from the nonsmokers to the smokers and ex-smokers. Here there may be a little higher risk in the ex-smokers than in the current smokers, but there

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is a fairly marked leftward shift, indicating that, although after about 30 years of exposure all three groups end up at about the same level, somewhere close to about 13%, in the earlier years the frequency is considerably higher in the current and ex-smokers.

(Slide) And some additional studies of the prevalence ratio in miners. Again Viallat's study showed an increased risk, but we don't know how high.

In manufacturing, my report showed an elevated risk only for those individuals exposed to chrysotile and amosite, not those exposed only to chrysotile. But the study is very small. And a recent study of mine, which is an extension of the data shown on the line above, with a smaller elevation of risk.

(Slide) In the users we have four studies which all show an elevated risk, but not very striking. We have a cohort study by Rossiter in the dockyard workers which shows a doubling of the risk.

(Slide) How do we explain this? I think the explanation is fairly obvious. Here, for example, is a curve from a recent study published in 1980 on the Tyler workers which shows a correlation between the frequency of getting a positive sputum for asbestos bodies and the concentration of asbestos bodies

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in the lung.And the correlation is fairly decent, so that the use of sputum findings of asbestos bodies could be a substitute and we don't have to have a piece of lung tissue.

(Slide) In this report by McLavty there is a set of bars which shows that if we divide the asbestos workers according to whether they are smokers or not and then again according to the duration of their exposure to asbestos in months, the smokers, those with the striped bars, usually are higher, that is, they show more frequently the presence of asbestos bodies in the sputum than the nonsmokers do.

(Slide) And I think to those of us who are in pulmonary disease it is quite obvious that smoking does a lot of damage to the respiratory function and with particular respect to the clearance of particulate matter, there is a recent study here which shows these curves, published in Science two years ago by Cohen in Boston, which was a study of individuals asked to inhale particles of magnetite, and then the retention of these particles can be estimated by periodically subjecting these individuals to a strong magnetic field and measuring the change -- or rate of loss of magnetism over a period of hours as an indicator of how much magnetite there is in the lung.

Here you see a marked distinction between the smokers

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and nonsmokers. The curves for three smokers up above show marked retention of iron particles compared to the nonsmokers in which clearance over a period of 12 months is quite good.

So I think we have an adequate and plausible mechanism for believing that smoking is a serious matter for people who are exposed to asbestos.

Thank you very much.

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Hans Weill, M.D.
Professor of Medicine
Tulane University

Thank you, Jim.

As the concluding speaker I would like to say that my first conclusion is that I should have acceded to the urge to resist being the last speaker after Paul Kotin and Bill Weiss have in fact informed you of most of the new things that are going on and some of the things that we still need to do in the future.

I will, however, resist that temptation and chat with you for a few moments about two general topics, with some specific information. The general topics are "How does biomedical science related to asbestos health effects help you with your everyday sort of problems?" and my information and my perception are that some of the everyday problems you have can perhaps be dichotomized into the public policy areas, which, of course, would include regulation, standard setting being just one aspect, and the other being litigation. And I think that in both instances the public policy and the litigation questions are in fact very much attuned to what the science is saying. And if they are not attuned to what the science is saying, they ought to be, and I think that is where we should be moving. Some of the

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messages that you have been getting today have in fact been concordant with this view.

Obviously in the few minutes that I plan to spend I can't cover the whole area, so I would like to highlight those things that either have been new or merit, in my view, some summary and bringing to your attention.

I am going to stand over here because I have a couple of transparencies. I hope you will be able to hear me. I will speak as loud as you like.

(Slide) We know that asbestos-related effects on health occur and because we know they occur, whether or not we are going to be able to live with them as a society depends a lot on whether or not the risk is acceptable, that is, acceptable by those who are taking that risk. Which means that in the first sphere of public policy we have to have some sort of mechanism by which that risk can be assessed or quantified. That mechanism generally is by way of population-based or epidemiologic studies, and very often those are the ones that you are hearing about.

Unfortunately, as is the case with science all too often, the studies don't all tell us the same thing. There may be true differences between the health effects or risk in various parts of this industry and sometimes the

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methodology is different. And I would say that probably both are often contributing to these differences in this particular instance.

First of all, let me show you that there are, indeed, very important differences that regulators will have to take into account before public policy can be not only promulgated, but accepted, the latter being just as important to the health of workers and people exposed in the general environment as the former, because standards don't work unless they are being complied with.

This is a table that comes from the Simpson Report, which some of you know is the attempt by the British Government to develop data on asbestos and health. It was published a couple of years ago and is a very well done study. The science is generally attributable to Professor Acheson, an epidemiologist, and his biostatistical partner, Gardiner, and the work is very good.

I want to concentrate on the key figure in this report, showing various dose/response relationships. I have added a couple of slopes which we will get to in a moment. What they have done is look at the world literature on the population studies of asbestos-exposed workers and decide which of those have adequate information on reconstruction

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of dose in relation to respiratory health effects. In this case we are talking about lung cancer and for many reasons it is probably the most important health effect to consider in assessing risk.

As you can see, there are several slopes here that are different, but not drastically so. This one is the McDonald Quebec miner and miller slope; these two are studies by Phil Enterline which involve maintenance workers here and production workers here. And, again, the steeper the slope, the greater the response or risk of lung cancer for a particular reconstructed cumulative dose of exposure. And then I have added here, which wasn't available at the time this study was published, our own study, which is now published, of New Orleans asbestos-cement manufacturing workers in two plants. This shows a dose/response relationship which is in between the production and maintenance workers of Phil Enterline, which in fact is pretty much what one would expect, since both types of workers were involved in our study.

About a year ago, John Dement, who at that time was working for NIOSH, presented a paper in Cardiff -- Some of you know about it and, although it has not been published to date, the paper has been pretty widely circulated in

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its preliminary form. It gives us a very different picture with a very steep dose/response curve, a curve which has shifted so far toward the left, toward a greater response per given dose, that one has to be seriously concerned that either there is something different about this asbestos textile operation, or any asbestos textile operation, from these other populations or there are some methodologic reasons for these differences.

The first point I think can be reasonably addressed by looking at something which I will show you in a moment, which is the study done in a British textile plant, the Rochdale plant, and which Hilton Lewinsohn and others have had a lot to do with. And recently Peto has published the mortality information. I can just tell you that in general he is somewhere down in this area, rather than over here, in terms of the dose/responsiveness or dose-relatedness of this effect.

So there is a very major difference. And if somebody wanted to just look at this information or emphasize that information, one might come to very different public policy decisions, as I will show you.

(Slide) This is a figure which comes from a recent document prepared by NIOSH for MSHA on chrysotile exposures,

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particuarly concentrating on chrysotile mining, but also giving the information from the Dement study, since it is alleged that the predominant exposures in that plant were chrysotile.

And you can see that -- This is the Dement data again -- the slope is different, but this is the same relationship between risk of cancer and cumulative dose, this time in fibres rather than particles. At the present standard, which is here, 100 fibres over 50 years, or about 2 fibres on average, the risk, the standard mortality ratio for lung cancer, according to the Dement study, would be over five fold, or an SMR of 500.

You can see in relation to some of these other studies that that is a very, very substantial risk, a risk that I don't think any of us here, if it were true, would find acceptable. Five times the expected risk for developing lung cancer is not an acceptable risk for any occupational exposure, nothing near that, obviously.

So we have the problem of epidemiology giving different answers and I think we are going to have to reconcile what some of these differences are due to.

(Slide) As far as the Dement study is concerned, what are some possibilities?

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Let's assume for the moment, since we are dealing with dose and response, that response ascertainment is correct, and I think that there is every reason to believe that it is. The deaths were properly counted, the causes of death were properly ascertained by death certificates, which is what most people have to do in these kinds of studies. There may be some question, however, about whether the expected values, which give you the risk ratios or SMRs, are appropriate, since in Charleston where this plant is located there are some unusual things going on regionally in regard to lung cancer risk. But let's assume that in general there isn't much wrong with or methodologically peculiar about the response part.

What else is there in this equation? Obviously there is dose. And reconstructed dose when it is established by estimation of past exposures depends a lot on how those estimations are made.

Our standards today and since 1972 have been in fibres. Data in the past have been in particles. So there has to be some sort of accommodation made. And obviously if biomedical science is going to be responsive to the needs of regulators, industry and labor and if we really believe it is the fibre that is important, we have to come up with

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some answers in terms of fibres. So that is what Dr. Dement attempted to do. And he developed conversion factors which would convert past particle counts to fibres.

We don't have a lot of time to go into this, but let me just show you the kinds of differences the choice of conversion factors might make to the results, the interpretations of such a study, and ultimately regulatory decisions.

If you look at the three-to-one conversion factor, which is the one he chose, you get the steepest or most pessimistic dose/response curve. Six to one, you get this one; nine to one, you get this one. And then I promised to show you something about another textile plant in the British Midlands and that is this one. Unfortunately, slopes can't be constructed because individual exposures haven't been reconstructed, but on average this is where Mr. Peto and his colleagues have found the risk to be in terms of lung cancer, and it is closer to the nine-to-one conversion ratio data than any other. The lesson is that one study might not be a very good way for basing decisions unless it can be shown that methodologically and in other ways that study is the most relevant, the most accurate, and easily extrapolatable to other industrial settings.

So I think we are going to have to focus more on some

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of these differences in study results.

(Slide) As an example also from the NIOSH report to MSHA, they compared what the excess risk would be for various conversion factors in the McDonald study of Quebec miners and millers and in the Dement study of manufacturing workers and have shown the importance of which conversion ratio is used for the miners and millers. You get anywhere from a 1 to a 7% increase in lung cancer risk in people exposed to 2 fibres per ml., using their regressions, or less than 2% at any level of conversion factor using a half a fibre, which is the proposed OSHA standard.

On the other hand, if you look over here again, you can see that at 2 fibres, Dr. Dement predicts a 500% increase in lung cancer as opposed to somewhere between 1 and 7%, or over a 200% increase, as opposed to something less than 2%.

So we are talking about orders of magnitude difference in risk in two populations, both allegedly exposed occupationally to chrysotile fibre. It's not easy.

In addition to the Dement work, other discouraging results in terms of whether or not we can live with the risk associated with occupational asbestos exposures come from the Seidman work. And, although there was no reconstruction of exposures, time periods were assessed. And in the amosite

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New Jersey plant that was alluded to previously, he found that people exposed for very, very short periods of time had substantial increase in lung cancer risk. Those were workers, though, who also were exposed very heavily. Unfortunately, it is not going to be possible to develop the kind of information from that study that would help in resolving the kinds of questions that we have been discussing today.

On the other hand, there are a number of studies that suggest that at low levels of exposure there is risk which some might consider acceptable, particularly if levels are lowered even further.

One of those is the McDonald study, which I suppose in a sense provides the most optimistic results and suggests that there are levels of exposure where no detectable risk is encountered, even concordant with a linear dose/response relationship. Such a level might be considered acceptable.

(Slide) Our own study, which is now being updated with a substantial increase in trace to already well over 90%, shows pretty much the same thing, that at low levels of exposure excess risk for lung cancer is not in fact detectable.

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In addition to that, it shows that by using 95% confidence limits one can see what possible shapes of the dose/response curve there may be. A number of possibilities can be considered with our data, and this is probably true with data from most studies. It is down here, in fact, that public policy is going to be focusing, of necessity, because that is where the exposures are.

First of all, a linear dose/response relationship fits very well into our confidence limits, with an intercept at a relative risk of one. What that simply means is that there is some potential increased risk with any exposure and it goes up in a linear fashion.

On the other hand, our data are also compatible with a logistic or a cumulative normal curve which says that at these very low levels of exposure there is essentially no detectable risk, but perhaps a theoretical risk. Risk increases with increasing exposure. And this particular line also goes through all of our 95% confidence limits, which, of course, from a statistical standpoint means that you cannot reject that type of a slope for this particular relationship.

And, as a matter of fact, some of you may be happy to know that our data are even compatible with a threshold

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limit, which means that there is a level of exposure where no increased risk, theoretical or actual, can be demonstrated. And, again, that threshold type model fits our 95% confidence limits.

So what I am trying to say, before I get to the last few remarks dealing with litigation and biomedical science, is that the epidemiology is not giving us uniform answers; there are different answers. There may be reasons for that and those reasons have to be carefully examined. Input has to be sought widely, the scientific community has to be given an opportunity to evaluate these studies. This has recently been done by the British, as I have already mentioned, and by Professor McMahon at Harvard who has had a chance to review the asbestos epidemiologic studies as well. Judgments are being made, and more of these judgments have to be made available to our government agencies and regulators so that meaningful answers can ultimately emerge.

Now let me just make a point or two about the specific asbestos-related health effects that are being considered in our courts and hearing bodies today.

First of all, I think it should be recognized, if some of you don't already, that the most frequent effect of asbestos exposure, particularly in users of asbestos-

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containing products, is either focal or diffuse pleural thickening. Focal pleural thickening is generally called a pleural plaque. These are seen in shipyard workers, they are seen in plant maintenance workers and marine engineers, people who have often had intermittent exposures. We have just done a study of marine engineers who are not "asbestos workers" but who are exposed to asbestos in the course of their work in engine rooms. We have also just recently reviewed a number of cases from a regional Gulf Coast shipyard and plaques were seen often. As a matter of fact, that is the most common cause of concern in these individuals, is that they have these effects of asbestos exposure. That is the first point. It is an indicator of exposure.

Paul Kotin has already alluded to and I think decried the use of the term asbestosis when it is related to pleural effects. I couldn't agree more. I think the term is inappropriate. Asbestosis applies to pulmonary fibrosis, it always has in scientific quarters and should continue to. Pleural effects should be so indicated, so described.

It is important to know that pleural changes in our study and the McDonald study are time-related or age-related and not primarily dose-related. Pulmonary fibrosis, that is,

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asbestosis, lung cancer and probably even mesothelioma are dose-related. However, time is one component of dose and obviously there may be some dose effect as well. But once a critical amount of fibre has been inhaled, then the likelihood of seeing pleural changes increases with time, whether or not exposure continues. I think the data clearly support that view.

Also, most pleural effects do not produce changes in lung function and, ergo, changes that would cause disability per se. Pleural plaques, limited diffuse pleural thickening, have in essentially all studies been shown to be free of lung function abnormalities. There is an exception and that is the rare case, but it does occur, when presumably asbestos-related pleural thickening is very extensive, involving both lungs, when lung volumes are reduced. And those cases have to be considered differently in terms of litigation and compensation than the usual case of pleural effect that I have been mentioning.

And then lastly -- And Paul, of course, discussed this at length -- there is the question of whether or not a plaque or other effects in the pleural surfaces are predictors of another asbestos-related event in the future.

Plaques indicate exposure and exposed individuals have

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an increased risk of developing all of the asbestos-related effects. The real question is when exposure is the same, and pleural plaques are present in one individual and they are not visible in another individual, does the person with pleural abnormality have a different risk than the person who doesn't? So far there is no credible evidence that would suggest that the answer to that is yes. And that includes lung cancer or mesothelioma.

As far as asbestosis is concerned, again Bill Weiss has mentioned this and discussed it very nicely, and I just want to make one or two comments which have to do with individual cases that come up for adjudication.

Bill Weiss discussed fibrosis and the effect of smoking --and the analysis of our most recent data confirms your data that smoking does in fact influence the presence of small opacities on the chest x-ray. It should, however, be clear that we are not really seeing fibrosis when we are talking about x-ray changes, we are seeing small opacities. Most of us, when there are small opacities distributed diffusely in somebody who has been exposed to asbestos, lean over backwards and say that you can't exclude fibrosis and will in general say that there is pulmonary fibrosis or asbestosis, even though fibrosis is a diagnosis which can

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only be made with assurance under the microscope.

The important matter is that there is "noise" in the system of reading the x-ray, and particularly at these low levels of abnormality. The fact that smokers and, for that matter, aging non-smokers can have small opacities and both age and smoking are important influences on risk of having opacities in our population, this doesn't necessarily mean these low levels indicate asbestosis. From a practical standpoint most of us say it is, but from just as accurate a standpoint we know that in people who have not been exposed to fibrogenic dusts and have reached a certain age or length of smoking, small opacities, at these low levels particularly, may be present and the risk is increased because of smoking and age without necessarily having a fibrogenic exposure.

I don't know how to deal with that on most individual cases, but it is a fact that you ought to keep in mind and perhaps in the future we will be able to deal with it in a more effective way.

In general, because of the decreasing exposures in this industry in the last 15 to 30 years, which is the latency period range for asbestosis, and lung cancer, we are now seeing mostly low-level asbestosis which is going to be

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more difficult to distinguish from radiographic appearances that are seen in nonindustrially exposed individuals. And it is a point that may have relevance, obviously, to adjudication in the future.

Some of you may know that in one or two studies an increase in the adenocarcinomas in asbestos-exposed populations has been found and perhaps more tumors in the lower zones than in the upper zones. In an individual case I don't think knowing cell type or tumor location is going to be very helpful.

The GI cancer question, though, and the "other" cancer question does deserve one or two minutes.

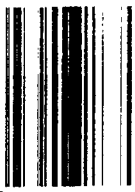
I think it has already been suggested that in the Rochdale study -- and in the Dement study an excess has not been found -- and in our studies, no excess gastrointestinal carcinoma has been found. As a matter of fact, in the McDonald study the over-all excess was not there either and it was only in the most heavily exposed individuals that GI cancer excess was present.

In summary, the GI cancer question is unsettled at the moment, and since it is unsettled one has to be very cautious in making judgments in individual cases.

In regard to larynx, kidney and other sites, the

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evidence at the moment is also not conclusive.

I think because I have gone about the time that my colleagues have, I am going to spare you my annual message about fibre type and its influence on the risk of some of these asbestos-related disorders. I would just say to you that there is new evidence and some of the new evidence does support differences in pathogenicity. Whether that is due to differences in dustiness of various asbestos fibre types, I don't know and I don't think one is going to be able to tell. But certainly the case continues to be made that there are differences in biologic potency.

Finally, for any of you who haven't heard yet that there are other causes of mesothelioma, there is continuing work being done in Turkey in regard to the fibrous zeolites or erionite fibres and their association with endemic mesothelioma which has probably been occurring for a long time. If this mineral is associated with mesothelioma risk, then perhaps there are other exposures that account for some of the background cases where no occupational or nonoccupational exposure to asbestos has been found to explain pleural or peritoneal mesothelioma.

Again, as usual, there is more to cover than there is time to do so. I hope I have not only raised the questions

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that we will have to be thinking about in the future but also indicated some of the directions that we need to go to resolve some of these public policy and individual adjudication-of-injured-worker cases that we are all immersed in on a day-to-day basis.

Thank you very much.

Questions and Comments
Asbestos and Health Panel

MR. CLIFTON: Bob Clifton, Bureau of Mines.

I would just like to make a comment, Dr. Weill. You said something about zeolites being connected with mesothelioma. The only reason that -- I am not only a friend of the asbestos industry, I am a friend of the emerging zeolite industry. But the only thing that connects zeolites to mesothelioma is the fact that they could find no asbestos in the area and they started looking for some elongated mineral particle, and erionite was the only thing they found.

DR. WEILL: One other bit of evidence. The actual erionite fibres have been found in the lungs of patients with mesothelioma by Fred Pooley and by Sebastian in Paris. So the fibres are in fact in the lungs of people with these tumors.

MR. CLIFTON: But they are also in the lungs of the people in the nearby villages who have no mesothelioma.

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DR. WEILL: That almost certainly is the case. But that is the case with asbestos as well.

MR. CLIFTON: Oh, I know. But in the words of another fellow, the data are equivocal. And this is one of the points that I would like to make to the asbestos industry here. You said that there are cases of increased pathogenicity from different types of asbestos. Yet the industry wants to go along with a nonspecific method of analysis of asbestos in the workplace. And I think they are cutting their own throats when they do that. They should make it specific, as for the zeolites or the chrysotile or the crocidolite or the amosite or whatever, and put the controls only where controls are necessary and on offenders only.

PRESIDENT REIS: Yes.

DR. MALCOLM ROSS: I'm Malcolm Ross, U.S. Geological Survey.

More on the zeolite business. That whole area in Turkey is covered with rock that was developed from ash fall that came down, similar to that at Mount St. Helen's. So geologically 1,000 square miles is geologically very similar. It's a very soft rock, about 90% glass, containing minerals, a few other minerals.

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There are two villages in this area where there is mesothelioma, one in particular, Karain. And there are many other villages nearby and people are living in the same kind of environment, they are building their houses out of dimension stone from the same kind of rock. But there are only two villages where this disease is prevalent. In one village, the control village, the larger village, they surveyed the whole population and there is no mesothelioma, yet some of the rocks contain a lot more zeolite, fibrous zeolite, than Karain.

So here is a case of epidemiology jumping on the bandwagon, saying, Here, we've got it, without looking at the big picture.

To me, there is a real problem with what is going on in Turkey. And it is not over just because we found some fibres in the lungs.

DR. WEILL: No. I don't think I was suggesting that.

Actually, Peter Elmes from Britain, Dr. Bohlig from Germany, and I have now twice at the request of WHO, IARC in Lyons reviewed films from those villages. And, as a matter of fact, the films of people in the villages don't just in some instances show tumors, but they show some of the other stigmata that we have come to associate with

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occupational exposure to asbestos.

I can't, of course, discuss the geology with you. That is your forte and I know you're very good at it. But I am told that it isn't quite as clear as just seemed to emerge in your discussion, that the same geological deposits, the same fibrous zeolites, are present in villages where there is no increased risk from mesothelioma.

All I am doing is casting some doubt based on what I have been told. I couldn't possibly know which position is the correct one. But I am sure there are questions still to be answered, as there are with asbestos.

DR. ROSS: I have one other question concerning the Dement study.

If there is a risk of fivefold for 2 fibres, a significant portion of this worker population, if they were the usual 60, 70% cigarette smokers, would have died of lung cancer, far more than -- you know, 30, 40, 50% mortality. What was the mortality in that group?

DR. WEILL: The mortality for lung cancer was as he stated it, that it was in fact, at 100 fibre years, five times the expected, or a 500 standard mortality ratio.

It is a much smaller study than the other mortality studies, including ours, in terms of population.

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There are some questions, as I have already mentioned, about the appropriate comparison group, i.e., how do you get your expected rates? They chose to use the U.S. rates. Some people would say because there are higher than U.S. rates in Charleston, you ought to use regional rates and even county rates, which would, of course, give you lower risks.

But, in fact, even if you took all that into account and even if you took some of the questions that I brought up about which conversion factors, particles to fibres, to use and how exposure was estimated, you still come up with data which suggest a very substantially higher risk in that population than those found in comparable industrial populations that have been published to date.

It would all tend to work in the same direction of lowering the risk, but it wouldn't eliminate the differences.

DR. HILTON LEWINSOHN: Hilton Lewinsohn, Perkin-Elmer.

I would like to say that I heartily agree that cigarette smoking is probably the greatest social evil as far as lung cancer is concerned and that, if more attention were paid to the pollution of the environment in confined spaces which subjects the nonsmoker to the sidestream of the cigarette smoke, I would heartily support any regulations to that

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effect.

However, I also believe that Hans Weill is correct that asbestosis is a condition which we are going to find great difficulty in detecting in time to come.

Now, having said that about asbestosis and smoking, I am a little bit puzzled by the data that Bill Weiss showed, simply in my own mind. I am quite sure that it is correct. But methodologically, does it take account of the duration of cigarette smoking and the duration of asbestos exposure, the dose of asbestos exposure, and the dose of cigarette smoking? How do you correct for those? How do you correct for age in that whole mixed-up correlation? And if you can't do all that, I'm not quite certain that I can go along in my own mind with cigarette smoking having anything to do with asbestosis. I am much happier with the other explanation that age is a factor and that cigarette smoking is a factor in producing lung changes perhaps of its own account and that some of these have been mistakenly called asbestosis, using the ILOUC classification.

DR. WEISS: That's an important question, Hilton. And it really is difficult to justifiably lump all these studies together because of the differences in the studies, some of which you mentioned, for factors which are not controlled

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for, like age. Cigarette smoking alone has been shown to cause pulmonary fibrosis but only of a mild degree, probably not in excess in the ILO standard films of 1/0.

Some of these studies that I quoted figures from are limited to the occurrence only of 1/1 or greater, which I think would take it out of the field of slight pulmonary fibrosis due to cigarette smoking alone. So that is something.

The other thing is that on the pleural plaque frequencies -- and pleural plaques are much easier to distinguish from anything else, I think, certainly than pulmonary fibrosis due to one factor or another -- I think the figures simply support the relationship, if you only look at pleural plaques. And, as one lawyer once asked me on cross-examination in court, if the fibres get across the pleural membrane to produce pleural plaques, they have to have traversed the lung, and so obviously there must have been some damage along the way. That isn't necessarily so. But it seems to me that the consistent relationship of pleural plaques being more common in smokers than in nonsmokers is support for the idea that probably the frequence of asbestosis of significant degree, like 1/1 or greater, is also related to smoking.

DR. LEWINSOHN: Thanks. I didn't realize you had gone

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into the pleural plaques effect. I must have missed that.

DR. WEISS: There are only a few studies on pleural plaques, the last one being one that I published in a very small study in Journal of Occupational Medicine in, I think it was June. And here I tried to control for age and for asbestos dose, reconstructed in retrospective manner. This isn't easy. But whatever the effort was, it looked as if those factors were not sufficient to explain -- or compound the relationship.

PRESIDENT REIS: Joe.

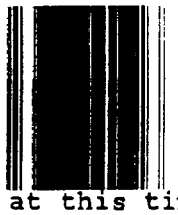
MR. JOE JACKSON: I'm Joe Jackson with the A-C Pipe Producers.

Hans, I'm back to my perennial/annual question and I need some clarification. Paul mentioned something about restudying the ingestion issue. You mentioned something about the ingestion issue and I didn't quite read you. Was there some incidence or wasn't there some incidence? What was the cause or what wasn't the cause?

A little bit of background here. With but few exceptions, most of the epidemiology is coming out negative; with but few exceptions, most of the animal feeding studies are coming out negative, and I believe the preliminary results of the NIEHS feeding study are negative.

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Do we at this time have a body of scientific evidence which, upon critical re-examination in its totality, can answer the ingestion question? And if not, when are we going to have that body of evidence?

DR. WEILL: Joe, you are so rarely wrong, it's a pleasure. I didn't even mention the ingestion issue at all.

(Laughter.)

I mentioned inhalation-in-the-occupational-setting and how it relates to finding excess gastrointestinal cancer risk. And I indicated that the worker population studies have not been in agreement on that. Some have not found an excess, such as the two textile studies, here and in Britain, and in ours, and some have.

Okay. Now, having dispensed with that, I agree with you. I think in terms of the ingestion question the studies are as you indicate, largely negative, both the epidemiologic studies and the animal studies. And until we get more information that would suggest a hazard, I am willing to say there isn't one at this point in time.

(Applause.)

PRESIDENT REIS: Bill, you wanted to ask a question?

DR. WEISS: Yes. I would like to ask Hans a question, to clarify in my own mind what to do.

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I think we are all pretty much in agreement that if we see a case of pulmonary asbestosis we recommend the cessation of further exposure.

What do you do, Hans, with regard to seeing a pleural plaque if there is no pulmonary disease?

DR. WEILL: I believe on the basis of our studies, which have now been confirmed by the Quebec data, that since the pleural effects are not dose-related but are time-related, I think you can make a very good case -- And this is what we suggest to people -- the presence of pleural effects is not sufficient to advise discontinuing the low-level exposures likely to be present now, because those pleural effects are going to appear in the future or progress if they are already there, irrespective of continuing low-level exposure.

So we do advise workers differently in terms of whether they have pulmonary fibrosis, evidence of pulmonary change, or pleural change. At this point we would not necessarily advise removal from exposure of an individual with just the pleural effects alone.

Would you agree with that?

DR. WEISS: Yes.

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The Honorable John H. Chafee
United States Senate

Senator Chafee began his career in public service over 20 years ago when he was first elected to the Rhode Island House of Representatives. He was elected as governor in 1962 and was re-elected for a second and third term.

In January, 1969, he came to Washington as the Secretary of Navy and held that position until May, 1972. He returned to the nation's capital in 1976 as Rhode Island's first Republican United States senator in 46 years.

Senator Chafee serves on the Senate's Finance Committee along with membership on the Environment and Public Works, and Intelligence Committees.

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Remarks
The Honorable John H. Chafee
United States Senate

Thank you very much, Jim, for that very kind introduction. I want to say it is a treat for me to be here tonight before the Asbestos Information Association.

What I thought I would do this evening, if that was agreeable, would be to make some comments on some issues that are before us in the Senate of a general nature and then some issues that are of specific concern to you in the asbestos industry, and then I would be glad to entertain any questions that you might have, all of this to be concluded before the Hearns fight tonight.

(Laughter.)

Now something about the situation and the issues we are confronted with. We left Washington on August 3rd with an economic program that everybody thought was wonderful, and we came back on September 9th with an economic program that everybody has got worries about, and this is a program that hasn't even gone into effect yet. Now, I don't know what has happened in that short period, but I think everybody is blowing the panic whistle a little early. Let's give this thing a chance. Interest rates were at 20% before we started and they came down and hopefully they will come down

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again. And I think probably high interest rates are the greatest single concern that you have here. And I might say that when I go home, interest rates are of greater concern than inflation has been in the past. People seem to adjust to inflation, they send their wife to work or make some fine arrangement like that.

(Laughter.)

But interest rates are the things that really get to them. Either they can't buy a house or their children can't buy a house or they cannot find the funds to buy an automobile or to maintain sufficient inventory in a small business. Whatever it is, high interest rates have a far greater crushing effect as far as the anger index with the general populace than does inflation.

I personally think inflation is a terribly wicked thing and I am glad we brought it down on an annualized rate below 9%, but, of course, we have got to keep working on the interest rates.

It is interesting to find Republicans campaigning Wall Street. I thought we were an alliance all these years, but it has now become a convenient target for Republicans to beat over the head as well, whatever Wall Street is.

So now we are going back to the economic issues that

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we thought we had settled and there are suggestions that we can cut the budget some more. Let me just say on that, I have great skepticism about whether we are going to be able to make any significant cuts or whether I would support any significant cuts in nonentitlement programs. When you take the federal budget, you will soon find after you set aside defense, and we will get to that in a minute, after you set aside the interest on the debt, after you have considered the expenses of Social Security, which is untouchable, Medicare and Medicaid, retirement benefits of individuals, that is, the Post Office, civil servants, military, you have got a very, very limited amount that you can work with, the so-called untouchable items, which amount to about $140 billion. If you try and save significant amounts of that, you have got extremely difficult problems.

I personally am not terribly anxious to go back, for instance, and cut Title I of the School, Elementary and Secondary Education Program. And I don't think you are going to find others are either. So I think any suggestions that there are going to be significant cuts in the budget right away in the nonentitlement programs is a fantasy. Something may be taken out, but not much.

So then you look at the untouchables. First of all,

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defense. I think defense is going to be cut much more than the President suggests. Secondly, I think that there is not much leeway to move in the other programs. And I think that the most dangerous minefield for any politician to walk through is to start tampering with Social Security. You can talk of all kinds of programs, but there is one program that touches everybody in the United States of America and that is Social Security. And poll after poll that we have had, whether it is in our state, which I have run, or whether it is nationally, whether the newspapers have run them, whatever it is, shows that the people don't want it changed. And when the choice comes, "Do you want benefits cut or do you want taxes increased?" the answer is "Neither".

(Laughter.)

So any suggestion that there be changes in Social Security in connection with the budget is an absolute loser. The only changes that would ever be acceptable in Social Security are changes to preserve the sanctity of the fund. But don't talk Social Security changes in connection with balancing the federal budget. There may be some modest changes we will make in Social Security, but they, I hope, will be smart enough to phrase them in terms of having a fund there so that the benefits will be available not only

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for the current retirees, but for the retirees in the future.

And, secondly as far as Social Security goes, we had better not do any changes dramatically. I see some people here who might be eligible for Social Security in the not too distant future and I think they probably share my views. I'm having my 59th birthday this year, so I want to preserve the fund.

(Applause.)

And another interesting factor that violates all the concepts about the Puritan ethic is that there are an awful lot of citizens in the United States who want to retire at 62 and can't wait to get out of their jobs and think that they have had it. And any suggestion such as the President came up with that the retirement-age benefits be reduced from 80 to 50% is a straight way to retirement for any politician who endorses it.

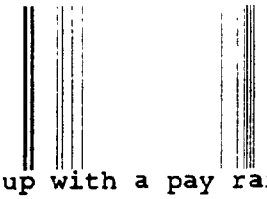
(Laughter.)

And therefore it is not a popular one with politicians.

Other issues that we will be struggling with will be the armed services retention. The problems are not so much the recruitment of good people as much as they are the retention of the people we have got in the military services.

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We have come up with a pay raise that is rather significant. The Senate passed a Pay Raise Bill that is targeted to those in the middle brackets rather than to the entry recruits; whereas the House has passed a bill that is 14% across the board. I personally think that the Senate bill makes much more sense.

As was indicated in the introduction, I spent three and a half years as Secretary of the Navy, and our problems haven't changed since then. I think you find it in your industry, certainly we find it in government, that the same problems are there that we left ten years ago. And when I left, the problems were recruitment and retention and they are still the same. People are the biggest single difficulty with our military. And if we can get and, as I said, more importantly, keep the good people, we will have a lot of our problems straightened out. And keeping the good people requires a pay raise for those who are in the staff sergeant, master sergeant level, the lieutenant commanders, commanders, and captain or colonel area. Those are the people that we have got to manage to retain in the military forces, particularly those with skills such as nuclear submariners, aviators and so forth.

Now a word about environmental issues. Somehow the

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suggestion has gotten abroad in this nation that as a result of the election in 1980 the environment is out and what is in now is the sagebrush rebellion and let's get rid of those kooks running around in sneakers talking about the environment.

But that isn't what the people of the United States are thinking. And Mr.Watt, I have kept good relations with. It was mentioned that I am on the Finance Committee, but I am also on the Environment and Public Works Committee. That is the Committee that deals intensively with Mr. Watt, particularly on fish and wildlife matters. And Mr. Watt has very definite ideas which he has expressed. But I think you are going to find that his ability to bring those ideas to fruition or the support that he has when he gets those ideas down to specifics are not going to be there. And I have noticed already the cries of outrage from California from Republicans saying slow down. And the suggestion that the wilderness areas be opened up for development is not received well in Wyoming and the other places. I think that there is going to be a considerable damper on the views of Mr. Watt. He is a vigorous proponent of his thoughts, but the general idea, like so many ideas, has appeal, "Let's show those people in Washington who is boss and they never agree on

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anything and we can't get a decision out of them," but when he gets to specifics, I think it is going to be a different problem.

Now something of the matters that you specifically are concerned with. I would like to touch on the Clean Water Act which we are currently in the process of marking up. The part that we are dealing with on the Clean Water Act is the wastewater treatment grants this year. And I don't think that is deeply involved with your industry, but right now we have completed our hearings. We are going to hopefully reduce the federal contribution. Presently it is 75% for municipal wastewater treatment facilities. We believe that we will bring that down over several years to 55%.

It has been my experience--As was mentioned, I served as governor for six years--any time you have a federal program that is more than 55, or certainly more than 60%, the locals don't get concerned.

I will never forget when the highway program was being constructed and I was governor during the full fruition of that. We were building those interstate highways with 90% federal funds lickety-split. And once I went out and I saw all those arc lights all over the place and I said to our

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Director of the Department of Public Works,"What do you have to build all of those lights for? They don't need them." And his clinching argument was, "Ah, Governor, don't worry. It's 90% federal money." "Oh, in that case go ahead and build them!"

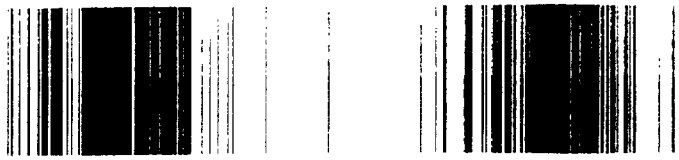
(Laughter.)

So that is the way it is with any federal program that gets over the 55 or 60%. And so it has been with the wastewater treatment facilities. They have been too big; they have refused to cooperate with local communities; there is an ability to exercise local pride and have your own sewage plant, particularly when the non-federal share is only 25% and of that, the state sometimes pays 12.5 or 15%. So the local contribution gets down to only 12.5 or 10%. And, therefore, it is easy to be expansive and expensive. We are marking up that program now.

The next big program that we are dealing with is the Clean Air Act. We had some 23 days of hearings on the Clean Air Program. The Administration has not submitted a bill. Instead, EPA submitted some principles. On those principles it seems to me both sides could think we're great; the environmentalists could think we're great and the industry could think we're great, because they are so vague, no one

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quite knew what they said.

One of the things those principles say is that the air quality standards are not going to be based on cost, instead they are solely going to be on health reasons. That is a clear victory for the environmentalists.

Secondly, on the prevention of significant deterioration, the so-called PSD program, it looks like the Administration is recommending that we get rid of the so-called Class II and Class III areas and go to the normal air quality standards in those areas that are extra-clean areas.

Another principle set forth was that we ought to research more on acid rain. That is of concern to me; I'm from Rhode Island, the Chairman of our Committee is from Vermont. We are all downwind from you folks out in the West who are burning all that coal. So we have a different approach to coal than somebody in Montana or even Illinois and Indiana has.

And the fourth area that they mentioned was the extension of deadlines for achieving the air quality standards in those areas that don't currently meet the standards, the non-achievement areas.

How are we going to approach the Clean Air Act? We have had the hearings. We will have some option papers that

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will present the views of industry. I might say I don't think anybody from the asbestos industry appeared before the Clean Air hearings. So if you have got objections, they weren't registered and silence indicates assent, I suppose. So we are going to have option papers that will show the views of industry, what the Air Quality Commission proposes, what industry proposes, what the environmentalists propose, and we will consider those and I think we will mark up a bill this year and bring to the Floor -- by "this year" I mean this calendar year -- a Clean Air Act, but it won't be acted upon this current calendar year.

In conclusion, I would just like to talk a little bit about the Act that Gary Hart submitted a couple of years ago, the Asbestos Health Hazards Compensation Act, which I understand affects some of your companies. Hearings were held on that in the past. The Act hasn't been introduced again. I think most of you know what the bill would do. It would be sort of a workmen's compensation act involving contributions by the federal government, by some of the companies as well.

What are the chances of that Act? I would say not very good, for a couple of reasons. First of all, any new legislation has an extremely difficult task this year. You

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couldn't even get through a resolution praising Orphan Annie this year.

(Laughter.)

It's a tough year. And anything new is looked on with great reluctance.

Secondly, we have dealt with some of these programs that treat those affected by industrial hazards, if you would. I am particularly thinking of the black lung program, and that is just completely out of control. It was a $200 million program five years ago and then we, so called, reformed it and the reforms resulted in the fact that if you have seen a coal mine, you're entitled to collect. And now the costs have jumped to about a billion dollars a year. So that has made everybody extremely jumpy.

I will give you one little illustration of the black lung program. The black lung program provides that if you have worked in a coal mine for more than 25 years, no matter what happens to you, when you die you are entitled to collect black lung benefits. For example, if you are working in a coal mine and a beam falls on your head and you are killed, you get black lung benefits.

What is the rationale? I objected to this. I said, If you're in East Providence, Rhode Island, working on a roof

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and you fall off and you have worked on roofs for 25 years, you don't get anything special, you just get workmen's compensation. "Aha, you don't understand the difference. If you have worked in a coal mine for 25 years and a beam falls on your head and you are killed, if you had lived, you would have had black lung disease and therefore you are entitled to collect."

That left sort of a sour taste. And I think that is held over to some degree in any of these types of programs, although I must confess I am not completely familiar with the Asbestos Health Hazards Compensation Act.

So there you are on some of the matters that we are dealing with. I think that the thrust this year is to get through the economic matters, it is to stay away from the issues that are considered so divisive, and I am talking abortion and Davis-Bacon and school prayer and school busing. Even though we have gotten into some of those, the idea of the leadership and I think of the White House is to stay away from them as much as possible and stick with the issues that unit rather than divide us.

We are going to have a great big problem that is going to take tremendous energy on the part of the White House and everybody else concerning the AWACS plane sale to the Saudi Arabians. It seems that this issue certainly isn't of any

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concern to the Asbestos Information Association, but that is the kind of thing that consumes energy and attention on the part of the White House and the leadership. I am particularly speaking of the Senate. And when that happens, other important matters are diverted from accomplishment.

It is a treat to be with you, and I appreciate your attention. I would be glad to answer any questions that you might have.

Thank you very much.

(Applause.)

Questions and Comments

MR. BOB CLIFTON: Senator, this morning some people from the regulatory agencies led us to believe that they were going to be constrained in their regulations by several guidelines, among them demonstrated hazard.

When you are rewriting these bills such as the Clean Water Act and the Clean Air Act, are you going to put this effect in law? For example, EPA declared asbestos a hazardous air pollutant seferal years ago without one shred of evidence, just because they read an article in the New Yorker Magazine and so on.

And we heard this morning that there is no definitive data that say that asbestos in the water is any danger to

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anybody.

What we want to know is, if you are marking up these bills, are you going to put some restraints on the regulations that would say "demonstrated hazards"?

SENATOR CHAFEE: Let me turn to my expert here. This is Bob Hurley. Bob, come on up and help us on that one.

My feeling is that, frankly, this is not an issue that has been trumpeted in the hearings we have held. Bob was there throughout them. What have you got to say on that?

MR. HURLEY: With respect to asbestos being regulated as a hazardous pollutant, it has been identified by the Environmental Protection Agency as a hazardous pollutant, but I don't believe standards have been set for that particular substance. I believe only six or seven substances have had standards set, out of perhaps 20 or 25 different substances.

We are familiar with the process and I am sure a lot of you are concerned about the process by which EPA does set these standards for not only the primary pollutants, but also the hazardous standards. And that is an issue that we are looking at in the Committee. We are going to be taking up the hazardous pollutant issue. Asbestos will be included in that. And one thing we certainly want to insure is that

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when EPA does set a standard for that pollutant, it is a standard that is well thought out and based on sound scientific data. That is one of the big problems that you and a lot of other people have had with the Act; they feel that EPA has gone ahead and set those standards without regard to adequate scientific information. And we want to make sure that that is done before they are set.

SENATOR CHAFEE: There's nothing like a good staff man.

MR. JOE JACKSON: I've got a series.

SENATOR CHAFEE: Don't make them too hard, now.

(Laughter.)

MR. JACKSON: We'll start with --

SENATOR CHAFEE: One question per customer.

(Laughter.)

MR. JACKSON: I've got four.

SENATOR CHAFEE: Well, choose which one you want. We'll allow you two.

MR. JACKSON: From a taxpayer's standpoint, with Social Security as an untouchable, which you have eloquently --

SENATOR CHAFEE: No, no, no. I think I said on Social Security that Social Security must not be considered in connection with budget deficits, that the only way you can deal with Social Security is in connection with the

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preservation of the fund. And if it is phrased that way, yes, we can make some modest changes, but the changes in Social Security must not be abrupt, they must give whoever is affected by them plenty of warning.

MR. JACKSON: Senator, this is what we are complaining about. You answered before you heard the question.

If Social Security is an untouchable, why is Congress reluctant to include federal and state employees under the same retirement umbrella when they constitute somewhere from -- approximately 20% of the working people in the United States?

(Applause.)

SENATOR CHAFEE: First of all, lots of state people are under Social Security.

MR. JACKSON: Lots aren't.

SENATOR CHAFEE: Lots aren't.

MR. JACKSON: And none of the federal employees are.

SENATOR CHAFEE: And none of the federal are.

That is one of those historical anachronisms, if you would, that grew up. And undoubtedly there will be efforts to blend the federal employees into the Social Security system. But that is not the easy -- Look, none of these decisions are easy. And maybe they should be. But whatever

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we are going to do will take time to do.

MR. JACKSON: That was my taxpayer question. I've got two industry questions. Is the Congress, in revision of any of the regulatory laws, whether it is the Toxic Substances Control Act, the Clean Water Act or the Clean Air Act, what-have-you, going to consider putting as a part of the statute benefit/cost analysis as a base for regulation?

SENATOR CHAFEE: The Reagan Administration is saying yes, that they will have a cost/benefit analysis.

The Air Quality Commission specifically said that as far as the Clean Air Act and setting the primary standards, the cost/benefit analysis should not be considered, that you should say, "What are the standards that we need for clean air to protect the health of the people?" and start with that and then subsequently we can consider whether we delay reaching these standards or postpone them or something like that.

But as far as setting the standards goes, the Air Quality Commission, and I am absolutely certain the Committee, will follow this, and the Administration, indeed. And Mrs. Gorsuch, the Administrator of the EPA, in her points she made, the four points in the guidelines, also said, Do not use a cost/benefit analysis for the Clean Air primary

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standards.

But in other things, yes, we will see more of the cost/benefit ratio considered. That is the thrust of the current Administration.

MR. JACKSON: One more question, Senator, and I will sit down.

On the occupational disease issue, recognizing the presumptive guilt and also the presumptive pitfalls of black lung disease, I mean the Act, and also taking into consideration the issue on white lung, if you want to call it the asbestos issue, that Senator Hart is bringing up, I think the thing that is being hid in this whole thing and if there is one serious thought I would give you, it is that it is like the Titanic sailing across the ocean and there is the tip of an iceberg, and it happens to be white right now. The amount in terms of dollar amount, in terms of social responsibility and occupational disease in terms of third party liability suits, has not surfaced. And I think the Congress must address how this nation is going to face occupational disease, not only on the presumptive issue, but on the fact that those diseases were generated in years past on the basis of ignorance rather than science that is evolving today. And I think it is a major issue of concern

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to me. We have got companies, including the insurance carriers, who could very easily go out of business. I have seen stories, at least in the newspaper, if you can believe what you read in the newspapers, that we are going to sink everybody if we don't find an equitable solution to how do we compensate people who have been harmed by occupational exposures by companies who did not know they were harming those employees.

SENATOR CHAFEE: I won't argue with that. I think you have made a very good point. I agree with that.

MR. EDWARD WARREN: Senator, I think there is a widespread perception in industry that in the last ten years environmental health and safety controls have become increasingly expensive, with billions and billions of dollars spent for environmental controls, and that ultimately this in itself has been a drag on the economy, has reduced productivity.

The Reagan Administration has chartered a Task Force for Regulatory Relief chaired by the Vice President and has identified a number of regulations for prompt action by this Administration.

I wonder if you support that program and what you think can be done to improve the process so as to avoid

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regulations which cause this kind of inordinate expenditure on behalf of industry.

SENATOR CHAFEE: Of course, the easy answer is that everybody is against unnecessary, inordinately expensive regulations. So, am I against them? Sure. Who isn't?

But let me take that a step further in answer to what I think was the real thrust of your question: Is anything going to be done about it?

The problem is that spotting these so-called unnecessary, expensive, non-cost-effective regulations is easier said than done. Everybody here, if we took a poll, would say, OSHA is wrong, they have overdone it. And then they would come up with an illustration about being held liable for the broken rung on the ladder. I have heard that example so many times about the company being fined because the bottom rung on the ladder was broken, that ladder must have been all across the United States.

But I think the truth of the matter is, at least when I discuss this question with businesses at home, that the answer they give is that in the last five years since Eula Bingham took over OSHA, the administration in OSHA, in their judgment -- She's out now, but she was there with Carter -- has been effective and has not been harassing and they would

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give it high marks.

Let me take a poll here. Now, don't be prejudiced.

(Laughter.)

Let me try it. Maybe I will lose this one right down the line.

In the last four years how many people think that OSHA has been a bummer?

(Half the people in the room raising hands.)

Okay. Now let's see the other side. How many think that OSHA has conducted its business in a fair manner and has done all right? Don't be afraid to raise your hands, those two or three of you.

(Laughter.)

(Five hands raised.)

In the Clean Air Act, Ed, which we are marking up now, we are trying to do this. Let me just give you a tiny illustration, in the Clean Water Act. In the currently existing wastewater construction grants program, which we are changing, it says that every piece of equipment must have two manufacturers or equal. I don't know how many of you have ever dealt with a program like that. Always it is, at worst, in what you have to deal with, one named manufacturer or equal. Is that not so?

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And here we have had two or equal. And that has provoked more problems in trying to get a bidding process set up and determining how they can go out and buy their equipment. We are changing that.

And so it is with a whole series of steps. We are eliminating Phase I and Phase II, for example, where we won't provide federal funding and there is no EPA monitoring of that. This is a very specialized thing, but I am just pointing this out in connection with one program. And I think all the Committee, the President, and the Vice President are working on this, as well. And I think we are going to make progress.

What I would ask of you when each of you here or through your committees comes forth before Congress and testifies is to be specific. If there is one thing that brings a glaze to the eyes of everybody on a committee, it is to hear somebody rant and rail about overregulating and pestering us and so forth. If you have got something you object to, name the specific. But just don't say, That wicked Federal Government is driving us bananas, because we can't get a grip on that.

QUESTIONER: On interest rates.

SENATOR CHAFEE: On interest rates. Thank you very

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much. It was very nice being here this evening.

(Laughter.)

QUESTIONER: If the interest rates stay fairly high, let's say, for a number, 18% by the end of the year and, as you mentioned, there is continued pressure on a lot of businesses, most businesses, certainly all of ours, what type of pressure will Congress really put on the Federal Reserve to reduce interest rates, even though it might turn out that there might be higher inflation?

SENATOR CHAFEE: I think the Republicans are in a very, very difficult position. We have adopted a philosophy that excessive government spending is the item that drives up interest rates and it is the fact that the Federal Government goes into the money markets and tries to borrow that crowds everybody out. And so for us to suddenly turn around and say it's a bunch of people down there in wicked Wall Street who are sitting around in a cabal in the evening, all seven of them, and saying, let's make interest rates 21% tomorrow is a little ridiculous.

And I think we should give this economic program a chance, there are items coming along in it that will help create more savings and thus more money available for borrowing.

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For example, on October 1st the All Savers Certificate is going to come into effect. At the same time, at the first of the year we will be starting a very considerable enlargement of the individual retirement accounts; they will be available to everybody who has earnings; regardless of whether you are in a qualified pension plan or not, everybody will be able to contribute into an individual retirement account.

We have expanded the Keogh's, which apply to self-employeds.

So on all of those, give them a chance. And I am personally opposed to the government trying to change the membership on the Federal Reserve or limiting the term of the Chairman or any of those steps. To me they are artificial steps. This problem of high interest rates is a supply and demand matter, and give us a chance under the programs that everybody said were great on August 3rd. And they can't be lousy on September 16th.

SAME QUESTIONER: Senator, I understand what you are saying, and properly so, and I hope that is right, that supply and demand work.

Let's say they don't work, let's say the interest rates are still high, for whatever reason. Do you think from a

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political point of view that Congress is going to put a great deal of pressure to try to reduce them to some significant extent?

SENATOR CHAFEE: Yes. We'll talk about it. I'm up for election next year.

(Laughter.)

I've got a deep personal concern in this matter. And for us to go into an election with interest rates at 20% would be, I don't want to say suicide, but difficult. And if we can show some progress -- I saw tonight that the prime came down. But, in any event, my answer to your question is that I think it is highly unlikely that we will be able to do anything.

QUESTIONER: Senator, government spending seems to be the problem, as you say, in forcing up interest rates because the government has to compete with everybody for funds.

The people gave an overwhelming victory to the Republican Party and their philosophy made sense about reducing government spending. But you can't take the defense establishment and set it off aside. That is the biggest place. You talk about retention of people. That's great. But we have got so many nuclear weapons and we've

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got so many machines and everything. There must be -- GAO has shown all the waste that is in the defense establishment. There must be places where you can reduce that. And I think that is where Congress ought to really come down hard.

SENATOR CHAFEE: The question was on coming down hard on defense. And I think you are going to see the Congress go beyond the President. The President is standing firm on whatever, his $3 billion, cut.

I will mention one thing about defense. We work in the budget on what we call obligations and outlays, and in defense in the first year it is darned hard to cut outlays. It is much easier to cut obligations. When we vote great new programs and then say we are going to cut them back, we are not cutting back outlays very much, because it takes a long time to build a submarine or whatever it is.

One last question.

I must say this. Let me just say that there is great danger in the last question.

(Laughter.)

And I do this with some trepidation, because I get home and I give what I think is a stem-winding speech and all 14 Republicans are thrilled.

(Laughter.)

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And then I ask for questions and things go pretty well and I think, Well, one last question from that little lady in the back row, and she always gets up and says, What are your views on abortion?

(Laughter.)

So as long as it is not about abortion.

QUESTIONER: My question is directed at the oversight function of Congress and is directed also at what I consider to be the fallacy of the last four years or so, particularly with the direction of OSHA and the NIOSH fiasco and such.

The acts, the 15 acts, requiring recordkeeping and reporting are fairly well crafted. They have some good procedures in them, but there is a tendency on the part of the directors of the Executive agencies to ignore what they don't want to do in those acts and substitute policy for evidence in making their decisions.

I would like for you to respond, if possible, to how your oversight functions could reverse this trend of substituting policy for evidence, particularly in areas like the generic carcinogen policy and similar matters and the failure on the part of OSHA, for example, to act on NIOSH recommendations on some 50 standards.

My question is How can you use your oversight function

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to correct what I perceive as a defect in the administration of these acts, the substitution of policy for evidence?

SENATOR CHAFEE: I think there are two ways we can conduct oversight. I think as committees we don't conduct adequate oversight. We get so busy and we really figure, Put it off until we come up for the reauthorization every three years or whatever it is. So there is no question but what we fail in oversight.

However, there is another way to conduct oversight and that is through the phone call to the agency from the Senator as a result of a valid complaint, documented, from a constituent or from an association in some manner. And that in a way is an oversight, and an extremely effective oversight.

So again we get back to documentation. And I am saying this as just one of 100 Senators. We all get the same thing. If you want to have a complaint, document it and make it specific so we will know what you're talking about. But on just a general complaint about "You're harassing us," we don't know where to go.

And I think we are guilty for not conducting more just straight oversight hearings and saying, "Let's see what RCRA is doing this year; never mind, it's not a

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reauthorization, let's just listen to how things are going and get some people in to comment on how they are performing. We don't do that enough.

Thank you all very much. It's a treat to be here.

(Applause.)

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The Honorable W. Eugene Johnston
U.S. House of Representatives

Mr. Johnston was elected to the United States House of Representatives in 1980. Prior to his election, he was active in several business ventures; he began in the late 1960s development of these business enterprises and is currently a board member and former president of Fisher-Harrison Corporation, a diversified graphics firm. He is a director of a number of companies both national and multi-national. Mr. Johnston received his law degree and CPA certificate from Wake Forest University.

Mr. Johnston serves on the House Budget Committee, the Committee on Education and Labor, and the Subcommittees on Labor Standards, Health and Safety and Labor-Management Relations.

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Remarks

The Honorable W. Eugene Johnston
U. S. House of Representatives

As Jim mentioned, my background is in business. For 18 years I have been involved in American business and industry and I am very proud of it. For the last eight months I have been involved in the government of the United States and I am not equally proud. So the remarks you hear from me are going to come from that perspective.

Let me first assure you that Congress is not comprised of great minds of the Western World.

(Laughter.)

As nearly as I can tell, it is an aggregation of 535 egomaniacs, all trying to get on the Today Show.

(Laughter.)

Every now and then we succeed. That is just enough encouragement to keep us trying.

The one thing I figured out -- And as a CPA I did a lot of tax work -- is that when you get involved in the government, there is no alternative. Have you ever tried, when an IRS agent came to examine you, saying, Hey, I don't think you're approaching this right, I don't think you're fair, I think your charges are too high, I'm going to another Internal Revenue Service?

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(Laughter.)

It doesn't work that way, does it?

The greatest protection of the American consumer is not the Consumer Product Safety Commission or the Federal Trade Commission or any of these alphabet soup agencies up here. It is his alternatives. If you get mad at Kroger, you can go to A & P, if you get mad at Winn Dixie, you can go to Best Way. But when you get mad at the United States Government, what do you do? You grin and bear it. Or at least that is the way we were taught in the 1970s.

I am here to tell you, ladies and gentlemen, the people I left impressed me a lot more than the ones I have met since I got up here. And I say that, incidentally, as someone who served on the Board of Directors of the Star Davis Company in Greensboro, a company involved in the fabrication of asbestos. So I coped with OSHA as counsel to Star Davis a bit in the late '60s and early '70s.

And let me tell you. Last year Don Ritter talked to you about risk, how we have got to balance risk. The first thing you have got to understand is that the mentality of people working for the bureaucratic agencies up here precludes the concept of risk, because that is precisely why they are there - they don't want any.

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(Laughter.)

Have you ever examined the contracts that these people enter into? I was talking to the Department of Labor, for example. Last year -- You know, we have unions representing these bureaucrats up here, the people with inflation-proof pensions who can't get fired. Incidentally, how many of you have any idea how many people in the Civil Service were fired last year? Less than 1/10th of 1%. Think about that. If you have 100 employees, that is saying that in the last ten years you fired one of them. What a morass of mediocrity your company would be if that had been your corporate policy, wouldn't it?

But that is the United States Civil Service and that is the institution over to which you have been willing to turn more and more of your life. And I am here to tell you that we are paying the price.

Think about this too, think about the fact that for 90% of the Congress of the United States this is the best job they have ever had.

(Laughter.)

It has got more in pay, more in perks, more in prestige. Think about that. Isn't that awful? What went wrong? I'll tell you what went wrong - We have a professional cast of

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congressmen. You know the people who wrote the Constitution never envisioned congressmen coming up here and spending all their time and getting paid $60,000 a year to create laws. They envisioned bankers and businessmen and merchants and doctors and lawyers coming up here and serving their country 90 days a year or every two years and then going back and living under the laws they passed, not a professional group of legislators whose professional careers depend on the infinite expansion of programs.

You know, one of the things that is wrong up here is that you don't get your picture in The Washington Post because of your oversight committee activity or because you ran a program well; you get your picture in The Washington Post and on the evening news because you created a new program or a new bureaucracy or a new agency or a new regulatory body.

And in government, the process is the product. All we do is have meetings and coordinate and shift and this and that and paper, paper, paper. You know the worst thing that ever happened to the Congress of the United States? I used to think the fall of this country dated from the Great Society. It didn't. I am here to tell you that ain't the problem. It's the Xerox machine.

(Laughter.)

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Because we quit running laws through our brains and started running them through the Xerox machine.

But go back and think about this professional cast of legislators that have so much power and actually can influence your economic destiny a great deal more than you can. Let's think about it.

You know, we pass a lot of laws. Now, you may think we're stupid, but we're not; we're very, very clever. I'll tell you why. We make sure those laws don't apply to us. Have you ever been in a congressional office? We don't have to comply with OSHA. You ought to see the extension cords going all the way around the room. We're exempt from OSHA. That's for you clods.

(Laughter.)

You can fire a black female over 45 with impunity if you're a congressman. EEOC doesn't apply to us. That's for you clods. And you don't think we're dumb enough to pay Social Security taxes, do you, on ourselves or our staff? That's for you clods.

That is what is wrong. And that is precisely why the economy of this country hasn't been growing and is in deep trouble, is not providing the jobs that we need for young people, and, most importantly, doesn't offer the opportunity

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for expansion and growth and really a truly improved standard of living to my children's generation.

And I would like to talk with you for a few minutes about what I see our problems are going to be in the 1980s and especially as they are impacted by the role of the regulatory agencies and specifically OSHA, over which my subcommittee or one of the subcommittees on which I serve, Health and Safety, has oversight.

To begin with, I want you to envision what we are going to need in the way of capital in the next decade by simply saying to you that in the next decade American business in order to maintain a growth picture in real terms of 2.5% -- And, incidentally, these figures are within $300 billion for the decade of each other, Chase Econometrics, Horton School, OMB, and CBO. So I am going to use an average figure in all of this. But in the next decade we are going to need somewhere around $5.3 trillion to keep this economy moving at a 2.5% real annual growth each year.

Where is it coming from? Because let me say this, in the last 50 years we haven't invested $5.3 trillion, and we are going to need it in one ten-year period of time. Why? Think about the fact -- Let me give you something that I was talking to a group of airline executives about the other

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night, so I will translate it in terms of their industry. In 1970 Piedmont Airlines' total fleet of 40 planes had cost less than $100 million. One 747 SP costs almost $100 million now. Obviously, it only takes a pilot and co-pilot to fly it. So it is only giving -- Sure, it has got more cabin crew than those planes back then. But basically the cost of giving people jobs is going up, up, up. And for the last 15 years our willingness and our ability to accumulate money to provide those jobs, or capital -- You know, all economic activity basically divides itself into two categories, either the production of a capital good or the production of a consumer good. Now, a given item, an automobile, can be a capital good while used by a taxi company or it can be a consumer good while used by your wife to take the children to school. But it is nonetheless an allocation between capital and consumption that we have got to determine in order to provide the jobs necessary and the real economic growth necessary to keep this economy like we like to have it.

At the start of the Great Society, corporate profits were almost 6% of the gross national product each year. I am not very pleased to report that they are down to less than half of that now. And obviously retained earnings provided at the start of the Great Society a lot of the capital that

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was necessary to provide jobs, and that is no longer doing the job.

But, as near as we can tell, that $5.3 trillion, which is more money than we have invested in the last 50 years, that we have got to have in this decade, about half of it will come from internally generated funds, depletion, depreciation, and retained earnings.

Now, where is the other $2.7 trillion -- And I can see some of your faces glazing over when I say trillion, because none of you envision it, neither do I. But if you can translate it back down to your own company and you will sit down and honestly project the money your company is going to need over this next decade, I think you will be awed.

This other $2.7 trillion has got to come from outside sources, people who retained their income and saved it or from pension plans or other places. And let's just say, for example, that we follow the Japanese model and highly leverage these new investments and it is 90% and it is 10% equity, we are still going to need $270 billion in new equity -- let's get it down to something you can envision -- $270 billion in new equity in this coming decade. That is $27 billion a year. That sounds reasonable, doesn't it? The only problem is that during the 1970s you know how much we

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invested in new equities? About $6 billion. We got 25% of the way there.

Where is it coming from? You have probably heard that we enacted a tax cut. Just as an aside, I hope you will go back and tell your wives, because it is very important that the wives know that Reagan is not anti-women. The post-election survey showed that 58% of the men voted for Reagan and 42% of the women and the other way for Jimmy Carter. Women didn't vote for him. You know, he was going to get us into war, he was going to strike down their rights and so and so. As a practical matter, Reagan has probably done more economically for women, or the Administration, than any President or any Administration in my lifetime. First, by simply acknowledging that a husband and wife were an economic unit and that when the husband died, as he is more likely to do first than the wife, by a four-to-one margin, that Tip O'Neill and company weren't going to get a crack at his estate before the wife did. Think about that. Next year you can die and everything can go to your wife or husband without us getting a share of it. That is a rather novel idea.

(Laughter.)

But it is now into effect. It took us a long time to

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get to it.

The next thing is that we began the elimination of the marriage penalty tax. Frankly, I would have liked to have gotten rid of it altogether, but we are phasing it out over the next three years.

But we enacted a tax cut bill and, as I mentioned at the table a little earlier, you know, there are very few things to discipline Congress. You have the threat of being kicked out of office by the voters. Well, let me tell you, 90% of the voters out there really don't know how their congressman votes. They know whether or not he is a good guy, whether he wrote them on their 25th wedding anniversary, whether he got their son a compassionate leave to come home when Aunt Mary died. But few of them really know how their congressman votes.

As a matter of fact, I have a colleague over there -- I am going to have to disguise the guy. But let's just say he ran a used car lot and he came to the Congress of the United States along with me as a freshman here last January. And I really think this guy will probably be up here forever. Why? Because he knows the issues and he reads the briefing papers and all that? No, not in the least. He will stay here forever because when he comes to a committee room or on the Floor of

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the House, he has got a stack of this -- You have probably seen it -- Monarch size stationery that we have with the big gold eagle on the top and "Congress of the United States," really impressive. And he writes: "Dear Sam, Congratulations on being named Kiwanian of the Year. It is guys like you in the volunteer segment of our society who keep American growing great and strong. My best to you and Sally. Signed X." And he can generate those things one a minute.

(Laughter.)

And let me tell you, that's all he does. He sits in that Committee and he doesn't pay any attention to what is going on; he just sits there and writes those notes. And, you know, by the time you get 20 - 25,000 of those things out in your district and you go to run -- And, incidentally, I have seen them written by me framed on walls -- and Sam tells his wife and his brother-in-law and this, that, and the other, that his congressman wrote him that congratulatory letter, that fellow is going to be hard to beat. Because Sam doesn't know how he votes; that is more trouble. And you don't see voting records set out on CBS in the evening, do you? You just hear that the Congress did so and so. Well, if it's bad, my congressman didn't do it, it was somebody else's.

So basically, once you get in office, unless you take

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an awfully unpopular stand or you are redistricted out of your seat or whatever, staying in office is pretty easy. So now how are we going to control Congress?

The best way I know to keep Congress from spending money is to never let them get their hands on it in the first place. Just like my children. If I don't give them the money, they don't spend it. Unfortunately, they, like Congress, have learned that they have a reserve on their Master Charge.

(Laughter.)

That was the worst thing that ever happened, is when I gave them a Master Charge. That is what happened to Congress; you gave us a Master Charge and we know that we can run up a deficit. And once we start running up a deficit, we begin to get a little squeamish about it. "Deficit" is a bad word. Very few words are bad up there, but "deficit" is still a bad word on the Hill. So that is one way you keep Congress under control.

There has been a little talk here this morning about the gold standard. That is another way to keep Congress under control, because Congress, when it sees all the foreigners exchanging their paper, their dollars, for gold, will get the message they had better quit printing paper.

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But the threat of deficit or the threat of foreign withdrawal of funds are the two basic economic threats to the Congress of the United States. Otherwise, we will just spend, spend, spend. So the less money you give us to play with, the better off you are going to be. And that is why the tax cut was so important.

Now let's get back to what I regard, as Jim mentioned, as one of the key steps to the economic recovery of this country, and that is a balanced budget. Ladies and gentlemen, there is no substitute for a balanced budget.

As you probably saw, they want us to vote to increase the national debt limit to over one trillion dollars. Let me simply say -- I came to Greensboro in 1962 to start practicing accounting. In that year, -- A few of you can remember back that far; some of you are too young. The total federal budget in 1962 did not equal what we are going to pay out in interest on the national debt next year. That is not funds over which we have any control. We have got to spend it and we have got to pay whatever the market charges, and the market is charging more and more and more, as you no doubt are well aware. And for every point the market charges, additional point, you add around $4 billion to federal spending. So controlling that debt is going to be an awfully, awfully

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important factor. And the only way we can control the debt is to stop having deficits. And the only way we can stop having deficits is to stop spending money, and that is the message you have got to get across to the Congress of the United States. Because if we don't -- You know how many dollars of your own company's money was diverted into OSHA compliance in the 1970s and you know what it did to productivity and I have explained to you the capital needs we are going to have in the 1980s to give people jobs -- We are not going to have the economic growth to keep America the richest, freest country in the world.

A substantial amount of money is going to have to be devoted to compliance. But that compliance cost as a percentage of total investment should be in the 1980s about half of the percentage it was in the 1970s. That is good news. But the bad news is that we are starting from behind the eight ball; we are capital-short. That is one reason interest rates are so high.

The one question I got through the district last month was: When are interest rates going to come down? If I knew, I would be a billionaire next year this time, because I would either go short or long or sideways in the T bill and T bond market and I would make a killing. I don't know. But

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I will give you these items of happy news.

Alice Rivlin is no friend to the Reagan Administration. She is head of the Congressional Budget Office and her views or her forecasts have missed the target in a number of ways, both up and down. The only consistent error that I have seen in the CBO forecasts over the last five years has been in forecasting interest rates. So we are going to move her out as a forecaster of interest rates -- Incidentally, she forecasts they are coming down -- and put her off to the side there. However, they have been fairly accurate in forecasting inflation.

In March of this year, when we began hearings on the budget, Alice Rivlin was forecasting 11 to 12% inflation for calendar 1982. Her most recent forecast is down in the 7.4-7.6 range. That is five points in about six or seven months.

There is no instance in our economic history where interest rates remained substantially above inflation rates for any sustained period of time. I am here to tell you that in my considered opinion, inflation for the last six months of this year will average in the 7 to 8% range. There are a number of things working for us. Energy prices, as you know, have started to fall. Now, all of this can go haywire if Iran tries to blow up the Saudis or Israel starts a war

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with Libya or whatever. This can change. However, I think one of the most accurate appraisals of our economy has come from the rest of the world over the last three to six months. They recognize there is a high-risk factor here because Congress is still in session.

(Laughter.)

But they have given us some encouragement, simply because they have been buying something, and it is called dollars. And I don't have to tell you that against many major foreign currencies the dollar is up about 20% so far this year. That means your Sony TV sets are going to be cheaper, and your Mercedes's hopefully or your cars are going to be cheaper, and that is good news from the inflation fighter's viewpoint.

But during the last half of this year I think inflation is going to be in the 7 or 8% ballpark. To put that in perspective, that is less than half of the rate of the last six months of last year.

You will recall that last year you could borrow money at 11 or 12% and gold was $800 and going to $1,000. This year you have got to pay 18 or 20% and gold is $450 and going to $350. But, most importantly, if inflation runs in there at 7 or 8%, you are now losing money by borrowing money, at

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the rate of 10 or 12% a year. That is not a very appealing prospect. As a matter of fact, that is not the way the system was designed to work, according to the thinking of most of the young people of the country.

You know, when I came to Washington -- There are not but two subjects up here. One is politics and the other one is real estate. The first question at a cocktail party is: What do you do? Well, I try and avoid telling them I'm in Congress because you get better reactions when you just are vague and you can let them really tell you what they think about things, and I often say: I work on the Hill. And then generally that is sufficiently vague and noninteresting that they don't go any further.

(Laughter.)

So then they say, Where do you live? Oh, you're just moving up here? Oh, yes. Where are you going to live? I said, I don't know. Buy anything; there is no way you can lose. Well, that was precisely the frame of mind of this country in January and February of this year. I don't think it is equally as strong in September of 1981, because people up here are actually losing money on real estate, they are actually having to sell houses that they bought last year at $150,000 for $130,000 and $140,000. That is an

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idea that never crossed their minds. Because, you know, what America has never been willing to -- or the government of America -- We all understood it, we understood that there were companies that were going to succeed and companies that were going to fail and that in order to have winners, you had to have losers.

I made a commencement address this spring and I directed it to the bottom half of the class because they were indispensable. They made the top half of the class possible.

(Laughter.)

You know, our system was designed to provide winners and losers. You know, if you bought smart and you financed right and you took care of it, you were supposed to make money. If you bought dumb, financed wrong, and neglected it, you were supposed to lose. But with inflation, everybody was going to win. But the inflationary expectations are beginning to grind down. And in my considered opinion, the attractiveness of borrowing money at 20% in an inflationary environment of 7 or 8 ain't going to be particularly appealing. So I think you are going to see interest rates start to come down.

The one thing that scares me is the fact that we are so critically capital-short because we haven't saved and we

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are badly in need of tremendous investment, especially in a lot of the basic industries, as you are well aware.

What does regulation have to do with it, what does OSHA? I think you are going to see a friendlier attitude on the part of the regulatory agencies up here, simply because there are a number of people in the Congress of the United States -- My class of 52 freshmen, Republicans and including Democrats, was the first class since the memory of man runneth not to the contrary where the number of businessmen outnumbered the number of lawyers. Now, think about that. That is a novel approach, isn't it?

How many of you know this, that the legal profession's share of the gross national product last year exceeded that of the steel industry's? Think about it. Go check it out. We don't have the Great Society, we have got the Litigious Society.

(Laughter.)

And I am a lawyer. My father was a superior court judge and lawyer. I have never yet figured out what a lawyer produced. They are redistributors. They are essentially parasitic.

(Laughter.)

Really. Think about it. They are a necessary evil.

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But now their share of the gross national product exceeds that of what we would have to acknowledge is a basic industry. And if we don't begin to divert those resources back into productivity, then you may have to -- Your last will and testament may be: I bequeath to my beloved son my share of a four million dollar lawsuit against Johns-Manville Corp. for asbestosis.

(Laughter.)

But the regulatory environment up here is going to be a little more pragmatic, we hope, simply because you have got a few more pragmatics up here.

I would like to close by saying this. Ask yourself this question about your own congressman or congresswoman: Is he or she a friend of the working people of this country and the companies that employ them, or is he or she a friend of the working people? And if you say yes to the former, by all means support that person. Go back and work in their campaign, contribute to them, get involved, and make sure they get re-elected. If they are not, go back and work for their opponent if you think their opponent is going to be a friend of business. Because that is the way we change things in this country.

Government doesn't have to be bad. We get the kind of

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government we work for and pay for and deserve. And nobody is invulnerable. It always appalls me to see people who don't think a thing of going out and spending $100 for dinner with their wife and another couple on Saturday night who would never think of contributing $25 to a political campaign.

Have you ever stopped to think about the fact that you work for government from January 1st till May the 11th of each year? And yet you think you can stand off and play like it will go away. It won't. Because if you have ever stopped to think about the fact, there aren't but two categories of people up here in Washington in the bureaucracy, as nearly as I can find out. One group's professional career depends on the infinite expansion of regulation and control. After all, you have got an army of lawyers and Ivy League graduates sitting out in that room and you have got to keep them employed. What can you do? You can write more regulations or create more investigations of business. The other group depends for their professional career on the infinite expansion of handouts.

So, with those two groups as the prime source of employment at this place, you had better think about how much of each year you are willing to give to them, because their share gets bigger and bigger and bigger. And in the case of

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most of the people in this room, I think probably if you got to examining it, over half the year is devoted to the paying of taxes, sales taxes, property taxes, income taxes and excise taxes and all the other taxes we have got.

So if you don't like the system, you had better get in there and do something about it, because the world we live in in the 1990s will be made in the 1980s, and if you want a happy retirement -- And let me give you one other little interesting fact that I came up with. A friend of mine is 35 years old and he started figuring out -- I gave him the good news that I thought inflation was going to be down to 7 or 8 %. And he said, I don't think we can live with that. I said, I know we can. So he started figuring out what he was going to need to bury himself. He thought it would be reasonable that he not leave that burden to his wife. And if he lives out his life expectancy and he has the average priced funeral in Greensboro, North Carolina, adjusted for 7% inflation from now till his expiration, do you know what he is going to need to bury himself? To just put him in the ground, to just get rid of him. $134,000!

(Laughter.)

Now, how many of you have provided $134,000 in your estate plan for your funeral? If you have, you are remarkably

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foresighted. And you probably have also provided an $8 million insurance policy to take care of your wife. If you have, your company is doing real well by you and I congratulate you. I have enjoyed talking with you. Thank you.

Questions and Comments

MR. JOHN LONNQUIST, JR.: Do you have an opinion on the radio station's suggestion this morning that Reagan is going to work on some of the budget cuts by getting rid of the Departments of Education and Energy and essentially getting rid of 75,000 federal employees? And what I mean is, how much of that is likely to really happen?

MR. JOHNSTON: Let me answer it -- That is a very complex question. To put it in context -- And this is one of the things that worries me. I happen to be very much a proponent of Mr. Reagan, but as a member of the Budget Committee, I'll tell you, he has got our hands sort of tied in a lot of areas. One, he will not let us fool with Davis-Bacon, which is an act that if ever there was one that should be repealed, it should be repealed immediately. It adds $2 billion to costs -- I am sure you all are well aware that we are going into a terrific military construction period, all of which is subject to Davis-Bacon and the Service Contract Act.

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But the Administration has said it is not interested in us cutting -- eliminating Davis-Bacon. You probably saw he said, Don't mess with Social Security. That's a political hot potato. Let's see, there is one other -- I have forgotten what, there is one other area that he doesn't want the budget cutters to get involved in. So that narrows our perspective.

The second thing I would like to say is that I am totally supportive of getting rid of the Department of Energy and the Department of Education. If you will examine -- Do you realize the Department of Energy in 1978 or '9 -- the budget for that department exceeded the total profits of the seven sisters put together? Think about that. A group of regulators. They are not producing any energy, they are just regulating energy. Their expenditures exceeded the profits of the seven largest oil companies in this country. So getting rid of the Department of Energy would be the biggest favor we could probably do the country.

And, as for the Department of Education, the SAT scores speak for themselves.

(Laughter.)

But the thing that worries me is this. And I'll tell you, nothing would make me happier than to see unemployment

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at 50% in Washington, D.C.

(Laughter.)

Getting rid of 75,000 of these guys is an expensive undertaking. I started thinking about it when we were going merrily through the budget-cutting process in the late spring and I went out and got the severance pay provisions of the Civil Service Act. And, boys, I am going to tell you, getting rid of these guys is a lot harder than you think. We have terrific severance obligations under that Act. And you talk about getting rid of 75,000 of them, buying our way out of that contract, it is going to be billions of dollars.

How many of you know that when ConRail was created, we guaranteed all the workers on those seven constituent railroads that they would never make less for the rest of their lives than they made in, I think, 1974? Do you know that the Congress of the United States gave them that guaranty? We are now trying to buy our way out of it. We don't know what it is going to cost, but we know it is going to be expensive. Why? Because the Congress in its infinite wisdom failed to take into account the fact that during the designated year two of the railroads were on strike. As a consequence, two other of the railroads had tremendous

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amounts of overtime. Guys who had never made $12,000 a year in their whole lives made $18 and 20,000 that year, because of overtime. And we guarantee them that from now on, from now until they reach age 65, you the American taxpayer.

So getting rid of those 75,000 people -- We wouldn't miss them. I can guarantee you we wouldn't miss them.

(Laughter.)

But buying our way out and all the severance pay scare me.

The problem you get into is when you get these guys on the government payroll, they have to justify their existence and they run around looking for programs to create. And it becomes a self-sustaining exercise. But if we could get rid of them, it is one of the ways we can work.

But I would say this, we could save as much money by getting rid of Davis-Bacon as it would cost in severance. But the big difference -- Incidentally, I don't know whether you all used a comparison of the Jones budget and the Gramm-Latta budget. Frankly, the savings under Jones in fiscal '82 were greater than the savings under Gramm-Latta. It was the outyears that were killing us. Because Jones kept a lot of programs intact at a lower funding, where we thought to get -- we tried to get rid of total programs. We did not succeed.

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Legal Services Corp., brought to you by those wonderful people who brought you Brown and a lot of these cases, and that same group that got more of the gross national product than the steel industry, Legal Services Corp., which is -- You know, when I came along, I was taught by my dean of my law school that I owed a certain amount of pro bono work -- in essence a subsidy for these Wall Street law firms. They don't have to do it any more. The American taxpayers pay for the fact that they don't want to do it. Legal Services Corp., that is $300 million we could save.

MR. LONNQUIST: I guess what you are saying, though, is that you may not have the political courage to get rid of those 75,000 because it is going to cost too much. Is that right?

MR. JOHNSTON: No. I'm not saying that. I am saying that the savings from getting rid of the 75,000 aren't going to show up right away, and therefore a lot of people may want to use savings that show up in fiscal '82 rather than the outyears. You see, if we start buying out in '82, getting rid of 75,000 people at an annual savings of, say, $2 billion in salaries, but paying $2 billion in severance pay is not doing anything for the '82 deficit. Whereas a dramatic cut in, say, some capital item, stopping a dam,

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that is a fiscal '82 outlay.

You see, the budgeting process involves what we call budget authority, BA, and BO, budget outlays. The Congress authorizes some governmental agency to, say, contract for a dam. That dam may be built over a ten-year period of time. The outlays are the money required to fund that year's expenditure on the project. And what we have been doing, we have got so much in the way of budget authority out there already in the stream -- I mean, after all, if you've got a dam halfway built, you can't just stop it there or really, without penalizing the taxpayer, dramatically slow down construction of it. So your budget outlays are often pretty well fixed. But that won't help '82. Your budget authority will help '83, '84, '85.

Remember, government is your competitor and government is the borrower with the best credit rating in the country. It shouldn't have, but it does have. And so if we go into the bond market, we can outbid Johns-Manville or U.S. Steel or anybody else any time we want to on interest rates. And outlay deficits require that we go into the credit markets and take that money away. That is why I think it imperative that we control outlays in '82.

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Gary J. Nash
Director, Metals and Minerals Group
Resources Industries Branch
Department of Industry, Grade and Commerce
Federal Government of Canada

Mr. Nash is an economist by training having graduated from Queens University. He is a career public servant and has held positions in various Canadian government departments, including those of Labour, Regional Economic Expansion, and Energy, Mines and Resources.

Mr. Nash has been an active member of the Canadian Institute of Mining and Metallurgy for over 10 years. His responsibilities have caused him to be particularly active on matters pertaining to asbestos during the last few years.

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Remarks

GARY J. NASH

Director, Metals and Minerals Group
Resource Industries Branch
Industry, Trade and Commerce
Government of Canada

First of all, let me say it's a pleasure to be here this morning because basically what I'm here to do is to sell the symposium. I hope that I do at least a reasonable job of that because how many conferences have you been to lately on asbestos sponsored by governments? Not one, but three. So I think we may have something special to offer next year in Montreal.

Let me tell you first of all a little bit about the organization of this particular conference and I'll get into why we decided to sponsor it. In terms of the organization of the conference, we have a steering committee which comprises labor, industry and government and people from the scientific community so that all of the interests involved in the asbestos issue have an input to the type of program. As a result of that, the program itself will involve speakers who fall on various sides of particular issues, like we're hoping -- and I can't say that it's a certainty but we're hoping to have people like Dr. Selikoff be a speaker in the conference.

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We know at this stage that Mr. Bill Simpson, Chairman of the Simpson Committee in the U.K., will indeed be there. I believe he has confirmed his participation. So we'll be having a wide spectrum of people from various parts of the world, from the various communities involved with asbestos presenting their particular points of view bringing forward, hopefully, the latest scientific data that relate to the health aspects of asbestos, because the theme of the conference is Asbestos, Health and Society.

Obviously, when you look at the asbestos markets and what's happened over the last number of years, we find that, so far as Canadian exports and production are concerned, it hasn't been too rosy. Obviously, the recession in the industrialized world has in part affected that but an awful lot of the reduction in the use of asbestos has surrounded the question of the health controversy and hopefully this conference will bring together enough people to in part contribute to the resolution of some of these controversies.

When we look at the press and what we've seen in the press, I think just about everything has been on the negative side. I don't know that we've had a balanced view on the health consequences, the uses and control of asbestos and, hopefully, this conference will indeed provide that balance.

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If it does nothing else than say to the press and to the public the answers aren't simple, because quite often we do get some simplistic views on asbestos. In fact, the other day I was interviewed by both the Swedish press and the Canadian press on the question of asbestos and they don't want to hear about certain things, they're looking to pull out a particular point of view. This conference will not allow them to do that, I don't think, because I don't think they'll be able to ignore the range of aspects that you have to look at in, shall we say, making a judgment on whether asbestos can be used in a particular way, et cetera, et cetera.

Let me say in terms of the types of questions that the conference will address, if I may I'll just read from the symposium program, some of the questions are:

Is there a practical no-effect level for asbestos? We expect a panel to deal with that question.

Are workers exposed to excessive risk?

Should we replace asbestos? This will follow the session on substitutes.

Is the general population at risk from cancer due to asbestos exposure?

To what extent are regulations and legislation in accord with present scientific knowledge? And

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What should be the pattern for future legislation and regulations?

These are the types of very fundamental questions that we hope that the conference or the symposium will address and we hope that many of the regulators from various parts of the world who will be attending the conference will be able to walk away with some clearer views on the matter.

I think one of the key aspects with regard to the conference too is a question of philosophy. We note that there are two basic philosophies right now surrounding the question of asbestos control. Some countries, such as Canada, have taken the position and we basically say that asbestos poses no risk to the public or to the workers if regulations requiring low exposure levels are properly enforced. Other countries say that there is no safe level. And so this is one of the key issues.

Why, when we all look at the same scientific data, do we come to quite different political decisions on the matter? Obviously it is a question of what is socially acceptable in the particular country but nevertheless we are all looking at the same data and we've come to different conclusions.

I believe the European community, in looking at their latest proposed directive, leans toward, I would think, the

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Canadian approach. For some of you, that may be a sign of optimism for the future.

When we look at the question of substitutes, the Canadian Government is stressing the point that we should look at the relative safety of substitutes. Many countries just move into substitutes without having to prove that the substitute is indeed safer. So there is a difference in approach again that would be discussed probably at the symposium.

When we look at consumer products, why is it in Canada, for example, we would say that in general consumer products containing asbestos do not pose any particular risk, undue risk to the public, with the exception of certain types of products such as sprayed-on asbestos insulation or jointing compounds, things like that.

In many other countries they go further than that. They would say asbestos-cement pipe is a dangerous product and yet, once again, we're looking at the same scientific data and we've come to totally different conclusions.

In the area of the question of fibers, the Canadian Government says that there is a difference between the health consequences of different types of fibers. The United States, for example, so far does not make that distinction, as I

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understand it, and, once again, why?

And we believe that there is a technology basically to control asbestos down to very low limits, depending on the type of manufacturing operation that you're talking about. If you're talking mining, that's one thing. If you're talking the manufacture of pipe, that's another, or textiles, totally different but nevertheless we believe that the technology is generally there to keep it at low levels.

So these are the types of issues that I believe that the conference will be in a sense addressing. I say, Because some people have said that the symposium will maintain the controversy, it will be in the public eye. Well, yes, it will but it will be in the public eye and it will be credible from the point of view of the sponsors and from the point of view of the participants and hopefully will be able to give a reasonably balanced picture as to what the issues are and how they can be addressed.

I should just say in terms of the participation we're hoping that we'll have -- first of all, we're limited to 600 participants. The building that we're using, which is the U.N. Building in Montreal, the Civil Aviation Building, can only accommodate 600 people, so we're suggesting that we allow 175 people from the scientific community -- these are

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our objectives -- 150 from industry, 150 from government, 50 from labor and 75 press. This is the type of distribution that we're looking at and we have to allocate seats on a world-wide basis and we're doing that now. We've had the cooperation of the AIA in London and their various associations around the world in at least identifying some of the key people who have an interest in this particular field, and lists have already been sent in.

I don't think I'll say very much more than that other than to say that I hope that those of you who are interested will let us know. There will be information circulars distributed over the next coming months. You'll all be aware of it and we can't guarantee that everybody will be allowed to sit in because we do have a limited number of seats but, for those of you that do want to express an interest, please let us know and we have a list of all the attendees at this particular meeting and we intend to send out circular information to all of you.

Thank you very much.

Questions and Comments

MR. ROBERT CLIFTON: One question. You seem to not be touching on economics any at all on the program you've got set up on this thing and even our regulatory agencies in the

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United States are looking now at the economics. Don't you think that the effects of a lack of asbestos on the economies and so on and so forth should be a facet of your conference?

MR. NASH: That's a fair comment and, indeed, the symposium will, indeed, cover the economics. I didn't want to give the impression that it's solely on health. The main thrust of it is on health. I just didn't want to go into too much detail at this particular meeting but there is a session on the economics, the cost-benefit analysis, with regard to the use of asbestos, its technical and economic consequences between substitutes and asbestos. So there are a number of these speakers who will deal with that issue.

There will be something in there for everyone, so to speak.

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Jacques Dunnigan, Ph.D.
Director General
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University of Sherbrooke, Quebec

Dr. Dunnigan has served as Director General of the Institute for Research and Development on Asbestos since February, 1980. He first joined the University of Sherbrooke in 1971; he has filled a number of important positions on the staff.

Dr. Dunnigan is a member of the National Research Council of Canada Advisory Committee on Toxicology. He received his doctorate in physiology from the University of Ottawa.

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Remarks

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Institute For Research and Development on Asbestos
University of Sherbrooke, Quebec

At this moment, in my country, some very important decisions are about to be made which will, I think, have far reaching implications on the future of the asbestos industry.

The Royal Commission on Matters of Health and Safety Arising from the Use of Asbestos in Ontario, which was set up last year and began its hearings, will soon be in the process of formulating its recommendations, and I am informed that this should be completed, in September 1982.

I think it is fair to say, from my personal point of view, that at the outset, the commissioners subscribed to the proposition that in a free society, the reasonable resolution of complex problems are best served by open and frank debate of all the issues, by all concerned. Without trying to anticipate on the actual content of their final report, I am personally convinced that the report will be based on all the scientific evidence available at this time, and will reflect the common interest of all concerned: the industry, the government, the workers and the general population.

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Such was the main intention behind the setting up of I.R.D.A., a little over a year ago, by the government of Québec and the Q.A.M.A., in a joint commitment to try and best serve the common interest of all concerned through research in both the safety aspects of the use of asbestos and technological innovation. And thus, I.R.D.A. was set up, with those avenues of research as guidelines for its activities.

I am not going to reveal corporate secrets, and will certainly not make headlines, by saying that the development of the asbestos-related industry, now more than ever, relies very heavily on the capacity to scientifically demonstrate that the use, by the consuming public, of asbestos-containing products can be safe, and on the capacity to develop the technology to ascertain this safety where it may not be completely satisfactory. You will have noted that I have stressed "... the safe use of asbestos-containing products by the CONSUMING PUBLIC".

We share the view that while it is important that discussions and actions to correct unwarranted regulations continue, we feel that it is of the utmost importance that the general public become the key audience of the message we might wish to convey. There are a number of reasons for this.

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The first reason stems from the national experience in Canada, which shows that while asbestos cannot be handled with impunity, it can, with readily available technology, be handled with a reasonable degree of acceptable risk. As a matter of fact, this has been the case in the mining and milling industry in Québec. As a result of the McDonald epidemiological study in Québec miners and millers, it has been said by those who are familiar with risk analysis and risk comparison questions, that the risk associated with the present standard of 2f/cc is equivalent to smoking less than a cigarette per day.

If the Quebec experience, which is still carefully and continuously monitored, demonstrates that the worker's safety situation is now settled satisfactorily in the work place, the consuming public still hears and reads about horror stories on the risk associated with the use of asbestos-containing products: the risk of drinking water which is carried by asbestos-cement pipes; the risk of contaminating the environment with all those asbestos-based construction products, and so on. Furthermore, we must recognize that public opinion is the prime motor of action of those holding public office, and who are eventually responsible for the formulation of government regulations.

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This was the rationale for selecting, as one of our prime objectives of research, the assessment of the safety associated with the use by the consuming public of asbestos-based products. As you see, this was first a strategic reason.

There was also a second reason, and this was a scientific one, which I will try to put in a nutshell. First, it is our belief, which is now shared by many scientists, that when pure, virgin asbestos fibres are incorporated in a mixtures with other compounds (cement, organic substances, etc.), and processed into a new final product, the resulting product should not be regarded as a simple agglomerate of the various ingredients, but may very well be a final product in which the individual ingredients have been modified chemically.

Let us turn now to the important question of scientifically supported assessment of health hazards associated with the use of asbestos.

Most data published to this day on biological effects of chrysotile asbestos can be divided into two main categories: <u>epidemiological</u> surveys, and <u>biological experimentation</u> in animal models, and tissue and cellular systems.

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The bulk of epidemiological data are either related to health effects observed in asbestos mining and milling workers, after relatively long exposure of high levels of "native" fibres, conditions which have prevailed before low level standards were implemented in the industry, or related to the health effects observed in workers of specialized trades (for example: insulation workers using sprayed asbestos in structural steel or shipbuilding activities, using "native", i.e., chemically unchanged fibres.)

Data from biological experimention published in the past have been, for the great majority, based on effects observed in IN VIVO and IN VITRO systems, using UICC samples of asbestos. Again, the data obtained from these experimentations must be ascribed to effects produced by chemically unaltered asbestos fibres, i.e. "native" fibres.

As a result, government health protection agencies in many countries, including Canada, have over the years issued laws and regulations governing the use of asbestos. Employers, labor unions, government agencies and the media have all dealt with the problem with varying degrees of intensity and interest. The attitudes ranged from regulating the handling and use of asbestos by applying the "best available technology" to the total banning of all forms of asbestos and asbestos-

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based products. But all have based their action on the basis of health effects and biological data arising from exposure to "native" asbestos.

Let us next go to some recent scientific data which show that a clear distinction must be made between the biological hazards attributed to raw or "native" asbestos, and those of chemically-altered asbestos.

Native vs. modified asbestos.

As I have said earlier, it must be recognized that in the majority of studies related to emission of asbestos fibres, there is an unstated presumption that the fibrous particles emitted from asbestos-based products are "intact", and in all aspects physically, chemically or otherwise, similar to what they were before their incorporation into the composite mixture of the finished products, or end-use. Barring a few exceptions, such a presumption is not supported scientifically. On that score a recent report to the United States Protection Agency (EPA-600/1-79-063, July 1979) states that "... further work should be undertaken concerning the physical and chemical properties of asbestos fibres and the biological effects of altering these properties". Distinctions between the use of pure, "native" chrysotile asbestos-containing finished products have been mentioned occasionally

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in the past. In a paper which appeared in 1973 (Biological Effects of Asbestos, Proc. of a Conf. WHO, IARC, Lyons 1973), Nicholson and Pundsack state:

> "Once an asbestos-containing product has been manufactured, whether or not it constitutes a source of asbestos in the environment will depend to a great extent on whether or not the asbestos is firmly "locked-in" the product with a binder, saturant, coating or bonding agent such that normal handling, application and use do not release it. Asbestos-cement products are a good example of "locked-in" products which probably do not constitute a significant source of asbestos to the environment under normal conditions of use."

However, the difference between the various uses of asbestos does not lie only in the fact that "ASBESTOS" is less likely to be released from locked-in asbestos materials than from materials in which asbestos is in the free form. There is a more important, additional difference when we consider some asbestos-containing finished products such as asbestos-cement, brake linings, molded thermosetting-resin objects, etc. Numerous data can be found in the scientific

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literature which show that the incorporation of asbestos fibres into a composite mixture results in the alteration of the physicochemical characteristics of the asbestos fibres. I will mention only two cases to illustrate the point.

Case 1: Asbestos and thermosetting resin

In a publication entitled "Detection of Chrysotile Asbestos in Airborne Dust from Thermosetting Resin Grinding" (Faulring, G.M. et al., Journal of Testing and Evaluation 3: 482-490, 1975) the authors have found that the number of "intact" chrysotile fibres emitted varies from 1 to 2 per thousand particles.

"Electron microprobe methods are presented that distinguish between chrysotile completely encapsulated in resin and chrysotile with a free surface. The airborne chrysotile in the grinding dust was usually nonfibrous, encapsulated in resin, and closely associated with other materials. In the samples analyzed, the number of chrysotile fibres with a free surface varied from zero to two per thousand dust particles".

Case 2: Asbestos and cement

Fairly recent data (Deruyttere A., Baeten J. and Helsen J: Characterisation and Properties of Asbestos-Cement

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Dust. Fourth International Conference on Asbestos, Torino, May 1980) show that asbestos fibres undergo important physico-chemical modifications resulting from their association with cement, as observed by comparing X-Ray fluorescence spectra of "virgin" fibres to those of fibres obtained from cutting of asbestos-cement sheets and pipes. The authors state:

> "Therefore, conclusions which have been reached for pure asbestos dust should not automatically be applied to asbestos-cement dust".

BIOLOGICAL EFFECTS OBTAINED WITH "NATIVE" VS "MODIFIED" ASBESTOS

The likelihood that physicochemical modifications, produced by the very processes of mixing the asbestos fibres with the other compounds of the finished composite, result in a modification of the biological effects ascribed to "pure" or "native" asbestos, has recently been verified, and may be illustrated with two cases.

Case 1: <u>Biological effects of inhaled asbestos-cement dust</u>

In an inhalation study*, using 192 hamsters exposed to respirable asbestos aerosol (5hrs/day, 5days/week), the animals were sacrificed after 3, 6 and 15 months of exposure.

* WEHNER, A.P., DAGLE, G.E., CANNON, W.C. and BUSCHBOM, R.L. (1978) Asbestos-Cement Dust Inhalation by Hamsters. Environ. Res. 17: 367-389

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It was found that the asbestos-cement dusts, whose asbestos concentrations were 0.1 and lug/L, had no significant effect on body weight and mortality of the animals. Furthermore, no primary carcinomas of the lung and respiratory tract and no mesotheliomas were found. By comparison, a 100% incidence of severe asbestosis and a high incidence of adenomas was observed in hamsters that were exposed to pure chrysotile.

The authors of this study propose the hypothesis that "... chemical reactions during mixing of the base materials (cement powder and asbestos fibres) and their processing into a new material (asbestos-cement) change the physico-chemical properties of the asbestos fibres and/or possibly coat them with cement so as to make them less pathogenic".

Case 2: Pure vs asbestos-cement dust as carriers of carcinogenic agents

Samples of pure asbestos, pure cement and asbestos-cement have been compared with regard to their ability to adsorb carcinogens. It was shown in a study mentioned above (Deruyttere et al.) that the adsorption of benzo-a-pyrene (a carcinogen associated with tobacco smoke) to asbestos-cement dust is much smaller than the adsorption by pure chrysotile dust.

This indicates that chemical modifications of pure

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chrysotile fibres alter their ability to act as carriers of known carcinogens. It is noteworthy to mention here that the major environmental cause of lung cancer is inhaled cigarette smoke, which is related to 80-90% of lung cancer in the United States, as reported recently by Dr. Rothman of the Harvard University School of Public Health.**

The same view is expressed in the 1979 Annual Report of the "Centre international de recherche sur le cancer" (World Health Organization) in the following terms:

> "Most studies in countries where cigarette smoking has been of long duration, indicate that 80-85% of lung cancers are due to cigarette".

I would like to close my presentation here by showing the results of studies published in 1978 by scientists at the Mt. Sinai Hospital, which to me show clearly that when treatment of asbestos tend to affect the chemistry of the fibres, there follows an alteration of the biological properties.*

For instance, in 1978, scientists in Dr. Selikoff's laboratory have observed that when ball-milling is used for

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* LANGER, M.A., WOLFF, M.S., ROHL, A.M. and SELIKOFF, I.J. (1978) Variation of Properties of Chrysotile Asbestos Subjected to Milling. J. Toxicol. Env. Health 4: 173-178.

** ROTHMAN, K.J. (1978) Epidemiology of Head and Neck Cancer. The Laryngoscope 88: 435-448

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the production short fibres to be used in biological experimentation, there occurs a chemical modification resulting in a dramatic decrease in biological activity. This can be seen in this slide showing an alteration of the infra red spectrum at 1020 cm-1. This alteration is concomitant with a dramatic reduction in the biological activity of the modified fibres. (Slide I)

Recently, researchers in Sherbrooke have also observed that a chemical treatment of chrysotile, which results in the disappearance of the IR absorption peak at 1020 cm-1, again results in the passivation of the biological effects. This is seen in the next slide. (Slide II)

Altogether, these observations point to an important conclusion which should be borne in mind by regulating agencies: fibrous particles which may be emitted or released from asbestos-containing finished products may very well be physicochemically different from the original asbestos particles. This in turn may very well lead to a modification in their biological effects. And therefore, I personally think that regulations concerning the use of finished asbestos-containing products are not scientifically supported, if arrived at by extrapolation of the biological or epidemiological data obtained after exposure to pure, virgin asbestos.

Thank you.

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Daniel Perlstein
President
Societe nationale de l'amiante
Province of Quebec

Mr. Perlstein's academic background is in engineering and economics. Prior to joining the Quebec Government, he taught econometrics and statistics in Lyons, France, until 1967.

Mr. Perlstein assumed his present position as head of Quebec's National Asbestos Corporation in 1978. Prior responsibilities included Director of Development at the Quebec Government Treasury Board and Assistant-Deputy Minister at the Department of Natural Resources.

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Remarks
Daniel Perlstein

President
Societe nationale de l'amiante
Province of Quebec

Thank you very much for giving me the opportunity to address you on that difficult topic of the future of asbestos and maybe first a brief reminder for those who do not really know our corporation, which is quite new in the business. We were created three years ago. We were created by a law passed in the Quebec Parliament. That law allows us to do everything in the asbestos business, except maybe fascinate the anti-asbestos lobbyists.

(Laughter.)

In fact, we have three objectives, which, I repeat, are legal and voted by parliament. The first objective is to develop asbestos mining. The second objective is to develop asbestos processing. And the third objective is to develop research and development of asbestos.

We have $250 million capital which is reserved for us by the Minister of Finance and he sometimes shows some difficulty in keeping up with that promise which is in the law and now we are in several asbestos sectors. We are in asbestos mining with Bell Asbestos Mines. We are in

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asbestos-cement with two plants, one in British Columbia, which shows that asbestos-cement can be very profitable, and one in Montreal, which shows that asbestos-cement can be very unprofitable.

(Laughter.)

We have a new friction-materials plant for disc break pads; we built it in 1980. We have an asbestos paper plant, flooring felt, which has been built out of an old paper machine in 1979. We have now going onstream a new, small, asbestos yarn and textile plant. We also now are onstream with a small synthetic refractory sands plant out of asbestos ore in Thetford Mines, and we are building a magnesium-oxide plant, a chemical process which we hope will enable us to make asbestos ore a substantial source of magnesium-oxide.

We also have a research center, since a year and a half. There are 50 people working there and we have a protected annual budget of $3 million on R and D. Until now we have invested in the last 3 years $50 million in the asbestos business. We sell around $100 million a year. For the moment we're still a small company and we have 1200 people. So you must be rather puzzled to see a corporation going maybe not exactly the same way the rest of the

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asbestos industry is going for the moment, but we have that legal mandate to develop our sector.

Now, what's the picture for us, according to us, for the next 3 years? I won't give too many figures because I'm sure Mr. Wilbur will flood you with figures, but let's say that in the products we know we forecast zero or very slight growth for asbestos-cement in Canada. We forecast slight growth for flooring felt worldwide because we're selling flooring felt not only in North America but everywhere now.

We are forecasting zero growth for textiles but a big growth for the Canadian sector because of the number of firms that are closing down, especially in the U.S., and we are forecasting very rapid growth for friction materials for the same reason. A number of U.S. firms hesitate in expanding or in modernizing and some of them are even closing down because of the uncertainty of the regulations and we observe that the general outlook in the U.S. for the moment is that the United States are hurting themselves because of the lack of clear long-term regulations. This is profiting us but we still think it's a very unhealthy situation.

On the health issue, we now think that a certain number of factors since the beginning of 1980 are showing a new

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image or, if you want, are giving us ammunition in our stand on asbestos and the fact that we are more and more convinced that in the future scientific studies, lab or epidemiological studies, will show that there is no excess risk at low levels of dust, there is no excess risk in working in the asbestos industry or using asbestos products.

So we believe that since the beginning of 1980 a number of scientific studies, some of them have been cited by Dr. Dunnigan -- we might also cite, for instance, on the ingestion side the Canadian study on asbestos-charged waters, either naturally or industrially, and the lack, total lack of correlation between asbestos-charged waters in Canada and the cancer risks of the population.

We might also cite, apart from the McDonald epidemiological study, the Quebec Department of Health Study on the general population of the Thetford and Asbestos area which shows no increase of risks at all for people not professionally exposed to asbestos and that study took the female population as an approximation of people not professionally exposed to asbestos because usually we men would be working in mines, so theywould be either paraprofessionally or non-professionally exposed to asbestos.

So we really think that we're beginning to have some

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ammunition to defend the asbestos case in a more reasonable way and especially to try to get the Canadian Government to act as quickly as possible with countries which we think have overreacted in the past as far as regulations are concerned. I am thinking mainly of Sweden, Denmark and generally the Scandinavian countries.

This kind of action we would like the Canadian Government to take is in fact under way and we want to supply them with enough scientific data and circumstantial evidence that exist in these countries showing that what at first was a health issue is becoming now an economic issue. And, while I might maybe tell you -- I don't think I'm betraying any secrets -- at the beginning of this year I was part of a Canadian delegation that met the Germans, the Swedish and the Danish people. We wanted to see the regulators on asbestos because we haven't got every day the opportunity to really see the hardliners. We met with them and I remember one instance in Denmark where you know that one of the regulations specifies that in 1985 asbestos-cement, in particular, is going to be banned, except, of course, if they decide not to, because the law always provides for exceptions.

We were very curious to meet the people who had issued

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these regulations, especially on asbestos-cement, and we met with them and we asked them, we said, Surely you must have awful studies on asbestos-cement, some things we've never heard of showing that asbestos-cement is so dangerous you've got to ban it and they said, No, we have no special studies on asbestos-cement, we just looked at the international literature on that and we decided that asbestos was dangerous and that any asbestos-containing product should not be admitted in Denmark.

So we looked at them, we were a little puzzled, and they said, Well, look, we have no asbestos in Denmark. Why should we import asbestos products? Then we looked at them again and we said, You mean, you have no asbestos? You have some natural asbestos, you have some asbestos, some background, asbestos background in the air and the water? They said, No, we have nothing, no asbestos at all.

So we just breathed easier, you know, no asbestos air. We were quite astonished to learn that and we had a very good lunch, drank well, you know, no asbestos in the water.

(Laughter.)

And we ate well. It was a very healthy situation. Then in the afternoon we met the equivalent of the director of environment in Denmark who was a very witty guy, extremely

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intelligent and full of humor. I mean, it is quite normal, but for an environment guy? But still --

(Laughter.)

And we said, Are you working on asbestos? And he said, No. No, the labor people, the regulators you met this morning just took my job away because in 1985 there won't be any asbestos products in Denmark, so why should I work on asbestos? He was probably giving us a hint of the way with which OSHA could suppress EPA.

(Laughter.)

You know, just every 5 years ban all industrial substances and then you don't get any more EPA.

And so we told him, we said, Well, look, we heard an astonishing statement this morning. It seems that there's no natural asbestos in the air, in the waters or in the ground in Denmark. He said, That's true, that's perfectly true, and that will be true as long as we don't make any measurements.

(Laughter.)

So we had very interesting discussions in these countries. More and more we became convinced and we hope that we can bring enough evidence to our federal government to convince that the issue now is really becoming economical and no more

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a health issue.

We very much would like to get on the level where these countries are asked to reconsider their regulations.

We also, as a corporation, consider that we should have clear corporate strategy in the sense of rehabilitating asbestos and we have contributed on the Canadian position on asbestos -- Mr. Nash maybe hasn't mentioned too much what that position is but I think it's a platform from which we can really discuss with the EEC countries and with the United States on what we consider safe and what we do not consider unsafe or what we consider unsafe so far as asbestos products are concerned and it gives to the Canadian industry a long-term view, and I think this is important, on what the future regulations might be.

We also are working on strategy toward substitutes and we think we've got to fight them exactly the way they are fighting the asbestos industry. We are going to give more than normal attention to our pricing in fibre and in asbestos products in these troubled times, so we're going to fight the introduction of substitutes economic-wise and we are also going to fight substitutes by the same way but on an industrial basis as Dr. Dunnigan explained.

For the moment one of our most expensive research

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programs is on that phosphated fibre Dr. Dunnigan was talking about. At the moment, we are experimenting with fibre on an industrial basis to verify its industrial properties on asbestos-cement and textiles and we will soon be extending it to asbestos paper. So we're going to fight substitutes with modified asbestos fibres. Dr. Dunnigan has talked about phosphated fibres and we have also some research lined up for nickel and titanium-modified asbestos fibre.

Also, then a third level of the fight against substitutes is going to be done by comparing biological effects of substitutes with asbestos. In vitro tests now are fairly rapid and with the equipment we have now at the Sherbrooke University we can very quickly determine what the relative cytotoxicity of a ceramic or even an aramid fibre can be compared with an asbestos fibre. We've got, especially since some European countries and some European agencies are thinking of recommending a substitute to replace asbestos, we've got to be ready as soon as possible to show exactly what we think the relative cytotoxicities of these substitutes are compared to asbestos.

Then a third thing maybe we're going to do in the industry for the future is that we are getting accepted by

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our government at the present time, our shareholder, the Minister of Finance, a $120 million investment plan for the next 5 years in the asbestos sector, mining as well as in asbestos processing and in new asbestos products.

So, if I can sum it up, the next 5 years for us will be 5 years of investments and a fight for rehabilitation of asbestos.

Thank you very much.

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D. Elliott Wilbur, Jr.
Vice President
Arthur D. Little, Inc.

Mr. Wilbur manages his firm's Resource Consulting Section. This division of Arthur D. Little is responsible for management consulting in the areas of metals, minerals, the construction industry, forest products, and solar and other forms of energy conservation. He has worked for a number of major mining and building materials companies developing products and market strategies. He has considerable expertise in the asbestos and asbestos-containing products field.

Mr. Wilbur graduated from Haverford College and studied business and management at New York University and the Massachusetts Institute of Technology.

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Remarks

D. Elliott Wilbur, Jr.
Vice President
Arthur D. Little, Inc.

It's a pleasure to be here this morning. I think it's morning now. I was not paid enough to prepare a formal speech and give all the numbers that Mr. Perlstein said I would give to you. The honorarium was very modest in this Association.

(Laughter.)

So I decided rather to scrape up an old speech that I gave 4 years ago and dust it up and try and make it a little more modern. I have also been advised that the time is running short so I'll try and compress it.

I do want to tell a tale at the beginning which I've told before but it is so relevant for this discussion I can't resist repeating to those of you who have heard it before. It relates to a strange part of the world where there are still cannibals and these cannibals are very modern and they have super markets. They don't go out and catch people, they go to super markets for their people. One particular woman went to the meat counter of the super market, which is by far the largest department in the cannibal super market.

She was looking at brains and in the first bin there

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were brains of asbestos-industry people at $1.29 a pound. In the next bin there were brains of government people at $2 a pound. In the third bin there were brains of consultants at $3.39 a pound.

(Laughter.)

And she asked why the brains of the consultants were so expensive and the butcher, I guess they'd call him, --

(Laughter.)

-- said, We have to find so many consultants to get a pound!

(Laughter.)

The relevance of that story is very obvious. We have here today three groups, probably many more but we have the industry, we have the government, and we have one lonely consultant up here. I, with my limited brain power, don't think I can contribute much to what has been said but maybe the perspective of being somewhat outside both the government and the industry will offer me some credibility which I might not otherwise deserve.

What I'd like to do very briefly this morning is to approach your issue from a very different direction. We've all been talking about the same issue so I'd like to sort of make an end run on this industry and find out where we end

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up relative to the future of the industry.

Forgive me for being a little academic. I would like to talk about the construction industry. I think the other products of the asbestos industry are important but I'd like to focus on construction for two reasons. First of all, because it's the biggest part of your industry and, secondly, because the conclusions that one draws from that industry may well be applicable to the other parts of the industry.

Construction is the biggest industry in the world. It represents typically 10% of our gross national product, 50% of that is materials, so we're dealing with 5% of GNP representing building materials. It is a huge market. It grows faster in the developing countries and much slower in the developed countries. Because most of our economic activity is in Western Europe, Japan and the United States and we're very mature, our growth rate in construction is going to be lower than GNP. Our GNP worldwide and in the U.S. is going to be slower than it has been for the last decade, so the construction industry outlook is very grim.

We are dealing with a construction outlook of perhaps 2.2% a year, about a percent less than GNP. While that's different in the developing countries where their GNP still will be lower in growth than it has been in the last decade,

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their construction activity will grow faster than GNP.

The construction industry has never been a growth industry. It's a market share industry. Companies fight in generic product against generic product, asbestos versus steel versus plastic and then companies fight within that product sector for market share. One should not be disappointed because it's not a growth industry, it never has been, it always has been a market share game. So we're dealing in a flat growth industry where market share is the name of the game.

It is very cyclical. That creates all sorts of problems.

How do you know whether your market share is changing because of the cyclicality of the GNP worldwide or nationally or because asbestos is indeed losing share? This makes a wonderful market for consultants who can fuzz up the data and prove anything they want but it is a cyclical industry and that suggests to investors that they want to keep capital investment down because you want to keep your investment working fulltime. The construction industry is the worst industry for highly-capital-intensive products.

It's slow to change. The construction industry has three speeds: slow, damn slow and stop. Trying to introduce new products to the construction industry is very frustrating.

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Many big companies try to develop miracle widgets and gidgets for the construction industry which usually fall flat on their face because the acceptance of the industry of new concepts, new technologies and new products is very slow.

It's cost-sensitive. Another word for saying that is it's cheap. The construction industry does not like to buy expensive things when they can buy cheap things.

The construction industry is different all over the world. Basically it is a slow growth, slow change, pragmatic, entrepreneurial industry that provides 10% of our GNP. Now, it doesn't sound like I'm talking about asbestos but I may come back to some of those general characteristics because when one is looking at a product one must look at the environment, and I use that word hesitantly here, in which this industry survives.

Now, let's look again from the building products point of view and find out what makes a building product an acceptable building product. It's a fair question. We have three people who buy the product. First of all we have the contractors and the specifiers and the owners and then we also have the product manufacturers. Now, let me tick off for you very quickly the things which I think are

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important and I might say that many marketing people seem to think are not important.

To a contractor, the product must be well known. They must know how to install it, how to use it. It must be available. They don't want to go around the world to get their product or across town. They want the product to be generally available.

It must have a stable price. They don't like these products where you bid a job at one price and by the time you do the job it costs twice as much as it did when you bid it.

Quick and easy to install. It must be finished, so they don't have to paint it and scrape it and sand it and caulk it and gook it up.

It must have no problems. One thing constractors hate is problems, problems of any kind. They want answers, not problems. They're very pragmatic. And they must be cheap.

Now, what does the buyer want, the owner, the specifier of a good project? He wants a maintenance-free product. He wants aesthetics. He wants it to look nice. Now what that is is different to different people but I think the tone today is toward earth tones, muted tones,

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mother earth and not the shiny plastic look.

He wants things that are safe in terms of fire. Fire is becoming a bigger and bigger issue in buildings and I twitch when I enter hotels these days. And he wants it energy-efficient in the use of the building.

What does the manufacturer want if he's going to be successful in building products? He wants high value added because you can make good money on the value you add to a product.

He wants low investment so he's not buffeted by the cycles in the construction industry and he wants a product that is accepted by the marketplace.

Now I've given you a quick, cheap lecture on the construction industry, let's superimpose upon that background asbestos-cement and I really believe asbestos-cement, of all the products I have looked at, studied, made market studies for, strategic studies for, conceptually asbestos-cement is a damned good building material. It's hard to find anything better. It's very well known, maybe too well known in the States. It's generally available, and these generalities don't always apply to the States but they certainly do in Western Europe and other parts of the world.

It is price-stable. I'm going to come back to that

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in a minute or two.

It's certainly quick, easy, finishable, cheap, maintenance-free and energy-efficient.

It does have low investment for the manufacturer, not so low that every garage shop can put it in but it's certainly no steel mill or a cement plant in terms of investment to sales.

It has high value added because the cost of materials is only about 40-50% of your selling price.

So it's a pretty good material. Now, I'm going to come back to substitutes later on. I'm trying to look at this sort of from above. Is this thing we're worrying about worth anything or does only the asbestos industry think it's worth something?

I've been a student of the construction industry for 20 years and I am convinced that the concept of mixing very inexpensive cement with a magic "foo foo" dust to make a reinforced concrete is the kind of product we're going to be using more and more in the future because it makes sense from all these dimensions, aspects, that I've just talked about.

I didn't mention three of the advantages or the properties that are looked for that asbestos can provide.

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The three I did leave out, and these are the problem areas, are that to the contractor it represents a problem. He doesn't want a bunch of women in tennis shoes picketing the job site. He doesn't want laborers creating a ruckus. It creates a problem which is sort of a soft problem in his head so he can turn away from it. It's not tangible but it's enough to turn off the sale, the esthetics of asbestos-cement.

Well, I'm not going to worry about the look of the pipe because we're not going to see them too much but there is nothing uglier than a piece of corrugated asbestos. It has been used in the same form since 1880 or some ridiculous time long ago. The industry has never seen fit to upgrade this old corrugated product to a 20th century product.

The steel industry went from corrugated galvanized iron to a nice color-embossed boxed rear panel and so forth but the same old cruddy 4.2 corrugated asbestos still exists.

(Laughter.)

Now, that's the fault of the industry. Eternit and other companies have gone a long way in moving that product which basically has value to the construction industry into the 20th century and made the new higher value-added finished sheets and they really mean a lot and are the kind

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of product we should be using.

The third area where asbestos-cement falls short is in market acceptance. The producer, because of this noise, doesn't feel there is a market for his product.

What I've tried to tell you is that there are the inside issues and in every technical, economic way asbestos-cement in all its forms is a product that you couldn't design any better and the places where it falls down relate to the areas where it is affected by a combination of the government and the industry. As I told you, the consultant would be added to that but the consultants don't enter into that equation. In other words, all those issues lie in the people represented in this room that are holding it up.

The point is it's hard to push toothpaste back into a tube. It's hard to sell some products that don't make basic value to the end user but asbestos-cement clearly does. It's being wrapped by an ineffective, weak, scared asbestos industry and by a wishy-washy government that can't make up its mind. So that the industry is not dying, it's atrophying. It's sort of fiddling away because no one is paying it any attention.

The government should care that the building products we use in the future meet basic technical

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requirements: safety, economy, strength, and economics. One of the things we're going to see in the eighties is much more concern about capital costs. We were told this morning that we are going to have a capital shortage, so that people are not going to build gold-plated skyscrapers, they're going to build buildings where the materials make sense.

Why should A-C take a bum rap for inattention and the lack of ability to make decisions? I have to shut up very quickly. Let me make one or two more points and then I'll quit.

Substitutes. Daniel talked about substitutes and he said, We're going to fight these other materials, and that is the proper response for a manufacturer of materials. I sell corn flakes, you sell wheat flakes or something. I'm going to fight for my product to survive but I don't have that vested interest that you do, that he does, that governments do. I'm going to look at it from, again, hopefully, what is the relative value of these substitute products in that environment that I described relative to asbestos-cement.

Now, I don't want to stick my neck out but I think plastics are awful building materials. I can't imagine anything worse, and I'm very serious about this. I used to

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work for Union Carbide; maybe that was a bad start.

(Laughter.)

Plastics burn. Plastics, by definition, bend. When plastics burn, they smell bad, they kill you just like other things do. Life is terminal.

They are expensive per cubic centimeter of psi of flexural strength. I don't know why we want to make buildings out of plastics. There are certain very, very valuable uses for plastics: coatings, adhesives. But why do we want to take all our oil and make flimsy building materials out of them? I really do not believe there is basic value in structural plastics in the building business. I happen to be one of those earth mother types who likes sand and gravel and stone and cement and clay, good organic, hard, nonburning, cheap stuff. I don't know how we got sold on this plastic kick. I wouldn't have a piece of urethane foam in my house for anything.

There is one major problem more for plastics from the producer side. I've talked about capital intensivity and value added. Plastics is the worst thing in the world for a company to make money in because about 70 to 80% of your selling price is in the cost of the resin. What are you doing, trading dollars?

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Furthermore, most plastic processing is with the cheapest capital investment you can make. Anybody can buy an extruder, put it in his garage and screw out pipe or solder or any damn thing he wants.

So from the basic value of a product in the marketplace and from the producers' point of view, I don't think plastics really have it. Now, a lot of companies have jumped to plastics just to save their ass, so to speak, because they see they're in one product. What is the sort of classical wisdom about where I would go from here? We'll go to plastics. I think that is often -- not always -- often wrong.

Metals. I consult with the metals industry. Metals are very essential in structural steel buildings and so forth but should it be a siding material? First of all, they're either very capital-intensive or there's a low value added if you just buy sheet and roll-form it or corrugate it. Thermally they're a disaster. Condensation, and they're bad. They're bad in terms of coatings, protection, corrosion, finish.

I'm not knocking these materials. Everything has its place but I'm trying to say to jump from the frying pan into the fire just because you're panicking is not

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necessarily the wise way to go.

I get mad at my wife sometimes and I'm tempted to sort of, you know, jump into another market but --

(Laughter.)

-- in the long run I think I've got a pretty good deal where I am. I think things fit this way very well.

Now, a lot of people are saying, Let's try and use all those hatcheck machines and stuff some other fiber in them and make some other product. Again, a desperation move. But if you fill up cement with wood and all these sorts of things you're downgrading the product, you're not getting the high properties that asbestos-cement provides, you're selling a product of less value and probably of less margin and it's sort of a defensive rather than an offensive move.

When we get carbon fibers or silica fibers, maybe so, they're going to be expensive but in the meantime these defensive moves may be appropriate short-term corporate strategy but I don't like defensive moves, I like offensive moves and, when something makes sense, let's stick with it.

So substitutes will come but I think basically I don't want to give up on this old horse yet when there is a lot of basic reason for it being.

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Let me not pick on the government and the industry quite yet. Let me make one or two more points.

Assuming my scenario, let me give you some numbers. They want numbers, I'll give you some numbers. Numbers are not very good because they don't really say much and it depends on whose numbers you believe. In my judgment, if we stay in the direction we're going in in this industry, we're going to see in North America a significant decline in the industry in both the demand for fiber and production of fiber. I would say the demand for fiber in the U. S. will decline at 5% a year for the next -- how long will it take to get down to nothing? I think the supply will go down. We're seeing signs of that now.

In Europe I expect to see the demand decline less than 5% but probably decline. This is if we keep on heading our car at full speed for the mountain. And that supply was not much over there anyway but it probably will decline also.

I really, truly believe that worldwide asbestos in asbestos-cement will grow at 2 or 3% a year. I think that the non-asbestos-cement will probably hold its own or lose.

So that, when you put those all together, and here we sit, the United States Government, the Quebec Government, the industry of North America, unless we're careful, this

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industry is just going to go someplace else. The capacity, the production, everything is going to go to South Africa, Russia, you name it and that's where it's going to go.

This wouldn't be so bad if there wasn't an inherent value in the product. I think this applies to brake linings and to other asbestos procucts but let's keep in the A-C context.

I said before it appears to be the inability of the government and the industry to make the decision which is making it follow what might be a less than optimal strategy. They really seem to have given up in a product that makes sense and I might ask the question: Should an industry or a government or a society survive if, indeed, they can't make up their minds?

I tend to like things that are decisive. The reason I'm a consultant, I'll tell you a little story, besides the fact that I can't make a living anywhere else, is that I have a very short attention span and I'm not so sure I can wait for the government or the industry to decide what they're going to do because, like our pragmatic builder we talked about, time is money and every year that nothing happens there's a ratchet effect going downhill.

So, in summary, I'm very optimistic for the

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asbestos industry, for the asbestos-cement industry in foreign countries, in Southeast Asia, Brazil, South America, Mexico, Africa, the Comcon countries. I think the United States, and maybe Canada, Canada seems to be a little more on the ball than we are, is going to kill the industry by itself. Inefficient, indecisive management in government has succeeded in giving the Japanese our electronics industry, our automotive industry, and are we going to give away the asbestos industry too? Unless we get off our duff I suggest we are.

Now, I don't want to wish away the health issue, but I think it is manageable. I think all of these problems are manageable, if we would decide to manage them. I was intrigued by our speaker at breakfast, for those of you who got up that early, who said that, you know, the government doesn't always work in the most efficient way. But unless we're careful, this inattention, this hesitation, this dull waiting is going to just wear us, grind us down and the reason that it's tragic is because there's so much basic, inherent value in the industry that you represent.

I know you're harried and picked on and beat on, and I don't want to do it any more to you, but I do believe that this can work out. Certainly, it's going to work out

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outside the United States but is it going to work out here? It really depends on getting our act together.

The industry, in a way, reminds me of a guy named Pete and Pete was a sailor with John Paul Jones many years ago and Pete was the guy who sat up in the tower in the top of the boat, I should know what the term is, the lookout on the very top of the boat and they got -- as you know, they got into a big fight out there in that boat and the shells were coming and there was fire and explosion and screaming and yelling and Pete got his arms knocked off, his clothes torn up and an eye pushed out, bloody, bleeding, hanging on up there on the top of that mast and John Paul comes up on the deck, on the quarter deck and says, We have not yet begun to fight. And Pete, up in the top of the tower said, Some bastards never get the word.

(Laughter.)

So I don't know whether I said what I was supposed to say today. I'm sure you're tired of fighting, everybody swinging at you. I tried to say to you that this is one of those rare cases where truth and beauty are on your side but it just depends on the government getting their collective act together and you getting your collective act together and I think we can reverse some of those

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projections that we talked about, not so you can make more money but so we can do something essential to our country.

Thank you very much.

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MR. ROBERT CLIFTON: I have one question for Mr. Perlstein about the phosphatized asbestos he's talking about. In the questions I always get about substitutes for asbestos in the market and so on and so forth, the economics come into it very much. Now, what are the economics going to be of the phosphatized asbestos as regards the pure asbestos or as regards the alkali-resistant glass products?

MR. PERLSTEIN: At the moment we're producing that fiber at the rate of 100 pounds a day, something like that. We'll be producing from January that fiber at the rate of a ton a day to be able to accommodate industrial users that just want to try it and see if the physical, mechanical, et cetera, industrial characteristics are correct, suit them.

At the moment the process is a gaseous process, it's gaseous impregnation so it's not expensive. It's 1% gaseous penetration of the fiber and it just occurs in a vessel that just turns the fiber over and over so that the gas can impregnate it. So it's a cheap process for the moment. It's at room temperature. There is no energy involved and the fiber is not broken at all. So I can't see that it could bring any kind of substantial increase in the cost.

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Forrest I. Rettgers
Executive Vice President
National Association of Manufacturers

Mr. Rettgers is responsible for the day-to-day functioning of NAM's headquarters and field offices. He joined NAM in 1974 and was promoted to his present position in 1977.

Before joining NAM, Mr. Rettgers had broad experience in the military, government and private industry. His education includes an M.A. in International Relations from George Washington University and extensive studies toward his doctorate in International Economics at American University.

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Forrest I. Rettgers
Executive Vice President
National Association of Manufacturers

Whenever I have to address an audience like this I always remember three things that my mother told me. She was a teacher for 40-some years. She said, Forrest, people are trying to get out of there and you are the last person that is going to talk. She said, The good Lord should have invented a beatitude. He didn't but that was because He did not have the time. And that is, Blessed are they who are brief, for they shall be reinvited.

(Laughter.)

She said, Another thing that I want you to remember is that the combined intelligence of the group is greater than the intelligence of any one individual who stands before them on any given subject.

And, thirdly, she said, It's going to be a little tough for you, Forrest. I spent a long time building up your ego so that it is as big as all outdoors, but the last thing I want you to remember is Be a little bit humble.

And the story that I am going to tell you will show you that I know how to be a little bit humble, at least one time in my life.

When Richard Nixon was elected the very first time,

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a United States Senator from Vermont by the name of George Aiken, who was the senior Republican Senator in the United States Senate at that time, and a young man from Michigan -- They are just dedicating a library to him -- who was over on the House side as the minority man on the House side at that time, Gerald Ford, recommended me to be the Secretary of the Air Force, and so I went up to the Pierre Hotel and I was interviewed and they filled out the normal background investigation, the national agency check and all those other neat things. And they intrusted them to a young man who now lives in Alexandria by the name of Flemming. His father had been in Eisenhower's Cabinet. And on the way down he proceeded to lose four of them. And I was there in Byrd's office and never heard any more and four of us were not appointed.

Well, time went by as it does in Washington and I was down at NAM, I had been there about three weeks, when my secretary came in and said, The President wants to see you, talk to you, and I thought it was the President of NAM. So I gathered up my pencils and my notebooks and I headed out the door. She said, Where are you going? I said, I'm going up to see Doug Getta, President of NAM, you said he wanted to talk to me. She said, No, no, the President of the

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United States is on the phone.

Well, by this time Gerry Ford had become the President of the United States. And when I got on the phone I said, Mr. President, and of course it wasn't him, he wouldn't have got on the phone for me; it was his secretary.

(Laughter.)

And so Gladys said, Rett, I'll put the man on. And so when he came on, I said, Mr. President. And he said, Rett, we found the file. I said, Good for us. Who are we? And he said, The one that we recommended you to be the Secretary of the Air Force. He said, We are moving Curt Tarr across the river and the position will be open for eight months, the final part of my Administration; if you would like to have it, you can have it for eight months, I can assure you that much and you can have it for the next four years if I am re-elected.

I said, Well, Mr. President, I'm a pretty conservative fellow and the United States Senate is a pretty liberal place. I said, There may be some problems in confirmation. He said, Oh, Rett, there won't be any problems with confirmation. I said, Mr. President, how can you be so sure? He said, Well, Rett, it's because you're a

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nobody.

(Laughter.)

When you stand holding the phone and the leader of the free world has told you you're a nobody, believe me, you're humble.

(Laughter.)

And there was a long, dull silence. And knowing Gerry Ford, who is a very nice man, he said, Well, Rett, what I meant was .... and I said, Please, Mr. President, you'll only make it worse.

(Laughter.)

These comments are only to show you that since I have been in Washington, since 1955, I have witnessed a great many changes in Administrations. There have been changes from Republicans to Democrats, there have been changes from Democrats to Republicans, they went from Eisenhower to Kennedy and Kennedy to Lyndon Johnson. And in all those times I have watched the bureaucracy and the government, and on every occasion that there was a change in Administrations, there was a change in party but there was never a change in philosophy. Not until the arrival of Ronald Reagan. And there is now a change in philosophy.

It puts me in mind of a story about Everett

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Dirksen, who was the leader in the Senate and he spoke so eloquently. He was jealous of Lyndon Johnson having a telephone in his car. And so he bugged the hell out of the C&P Telephone until they finally put a telephone in his car.

And he had it arranged between John Gomien, his Administrative Assistant, and between Walter Jenkins, who was the Administrative Assistant to Lyndon Johnson, the majority leader. And so Jenkins notified him when Lyndon was heading to his car. So Dirksen rushes and Everett gets in his car and dials. And he says, Lyndon, this is Everett. I'm calling you from my telephone in my car. And Lyndon said, Just a minute, Everett, my other phone is ringing.

(Laughter.)

With the arrival of Ronald Reagan in our nation's capital, another phone is ringing. It is a different phone. It is one of a different philosophy. It is one that believes that the American people are ahead of their Congress and ahead of the bureaucrats in Washington and that the American people believe that the government is too much in their business. They proved it with the seat belt affair. Big Brother is watching, you'd better wear your seat belt, we are going to fine you, we are going to have you stopped. And the people in America said, We don't want it. We know

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that it will save our lives, we know that it will take care of us in a crash, but we want to decide, we do not want our government to play God and protect us and take care of us to the exclusion of everything else.

The people said, There are too many regulations. When we get to 1126 pages that tell us how to safely use a six-foot stepladder,they have gone too far. And I could show you that piece of information that was put out by your government, how to safely use that six-foot stepladder.

Business said that they would cooperate with the government and with the Consumer Product Safety Commission and they would help them to design a safe lawnmower. $1,300,000 later they produced a lawnmower that would be safe and it would cost the consumer $1185.

(Laughter.)

It would be cheaper to buy a horse, a goat or a sheep to keep the lawn cut.

(Laughter.)

Do you know the funny thing about it? The bureaucrats believe Ronald Reagan and we are going to have to change a joke that we used to use on the speaking circuit. We said that the three most mistrusted statements in the world were: Certainly I will respect you in the morning.

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The check is in the mail. And I'm here from the government, I'm here to help you.

(Laughter.)

Because we now find in business that the government is trying to help us. We truly find a different reception for ideas. We find a different group of administrators. Their names are the same, they look the same, but somebody took a child's enema bulb, stuck it in a glass of water, shoved it in their ear and gave them a mental douche and now they want to help business.

(Laughter.)

They want to help us produce jobs, they want to help us put people to work. And they don't want to pass a silly regulation that is going to cost the consumers billions of dollars and not help them at all.

And that is exactly what all of the researchers found, that many of the regulations added additional cost to things and didn't help anybody, except that it made us fill out paperwork.

I have a very fine friend by the name of Bixler. I will be happy to give you his address in Connecticut. He has a very, very small business. He had four girls in the front office and himself. He had 35 people in the back shop

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and he turned out so many widgets out the back door. That was 20 years ago. Four years ago he had eight women in the front office. He still has 35 people in the back shop and he still turns widgets out the back door, only they cost a lot more because he has to pay for the extra four women in the front office who did nothing except type out governmental required forms. And he will be happy to show them to you and he has them stacked up in his office. He was the Chairman of NAM's Tax Committee, he was a small businessman, and he had them all stacked up there for anybody to come in and see, and he will say, This is what they do and I have to have them just to take care of the government regulations, and these are the ones who still do the same business of turning out the same widgets out the back door.

In fact, it got so bad that Bill Worley of Ingersoll-Rand has a small businessman for a nextdoor neighbor, a guy by the name of Joe and he knew that Joe never drank more than two martinis in any one evening. And he looked out off the patio and he saw Joe out there getting his barbecue ready and he belted down a martini. And he looked at him a little while later and saw him belt down another and as he looked at him he was fixing up the third one.

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Well, this got Bill Worley's curiosity up and he went out and he said, Joe, you never drink more than two martinis. And he said, No, but he said, You guys in big business, you have computers, you have personnel sections, you have all the other people to fill out the governmental forms; we little guys in business, we don't have anybody but ourselves. The other day I got a request from the government that asked me to list all of my employees broken down by sex. I have interviewed each one of them, I had nobody else to do it but myself. And I found three drunks that I didn't know I had, but I didn't find any of them broken down by sex.

(Laughter.)

You see, that is the key. When you get something from the government, you first have to figure out what they want.

Well, it is changing and it is changing under this Administration. And certainly the President doesn't change all of these things himself, but there is a different philosophy, a different phone ringing, a different reception among the people who work for government. They are not different people, they are just looking at it in a different light because they feel that they are

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representing the American people and the American people no longer want what they thought they wanted before; they no longer want a sterile, academic environment in their home life that will only work out well in the classroom of any one of our schools.

I cannot relate to you about all the problems that you have. You could scratch this piano and you would find it was not solid mahogany. I can only tell you that in generalities people are trying to find solutions to these problems. But in order to find solutions they must find an industry that is united in what it wants and what it is willing to settle for. It will not deal with an industry that is divided among itself, because if it is, they will do two things: One, they will conquer it; or, two, they will ignore it.

This industry must agree on what it can agree on. The policy of getting by in Washington is very, very simple. There are no permanent friends in Washington, there are no permanent enemies in Washington. And you must learn to disagree without being disagreeable, because the man that you fight today on one issue will be the strongest champion that you have next week on another issue.

Those of you who used to be in the business, those of

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you who are now in the business and those of you who may some day be in the business of producing some of these items must agree on those items that you can agree on, must seek out the angels who are willing to tackle this very, very difficult and unpopular problem that you find that you have throughout your industry. And if you can find yourself such an angel and such a champion on Capitol Hill, it will have to be one who is at the end of his career, not one who is at the beginning, and one who is willing to work on principle and on the interests of those people of the United States and in the interests of an industry that will have to compete with the entire world. You will have to do this by involving yourself in politics, a terrible and nasty business, because I leave you with one battle cry: Either you people involve yourself in politics or politics will put you out of business.

Thank you.

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Concluding Remarks
James F. Reis
President, AIA/NA
Conference Chairman

That concludes our program. I have a very brief comment to make before we adjourn the meeting.

Yesterday when we opened up at lunch time, I commented that I thought you would see some very different attitudes and that the axiom of change would be very visible. We started off with Tom Hopkins yesterday afternoon from the Office of Management and Budget. I think you heard, based on what I have heard at the reception, some unique and changing attitudes on the part of the regulators. Congressman Johnston this morning certainly had some different comments from what we normally are used to hearing. Our friends from Canada expounded, I think, very well on the commitment Canada and the Quebec corporations have to the asbestos industry. And Mr. Rettgers, I think, has pointed out very clearly that there is a changing attitude here in Washington.

That is only part of the battle, though. The changing attitude is here, the reception is here, but somebody has to be here to carry that battle, to give these people the background, so that regulations that we can live

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with but that protect workers and protect the environment are put into effect.

We encourage those of you who are not members of the Asbestos Information Association/North America but have an interest in the asbestos industry to give serious consideration to joining the Association and working with us. Many of you have assisted us in the past and for that we express our appreciation, but there is a lot more that must be done and can be done, with everybody's help.

We appreciate the participation of our speakers, the time they have taken; we appreciate your participation in our Annual Industry-Government Conference and we look forward to seeing you all again next year.

Thank you. The Conference is adjourned.

(Applause.)

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