

March 30, 1979

D O C U M E N T

SUBJECT: Proposed Strategy for Investigation of A/C Exposure
Controls Under TSCA (Toxic Standards Control Act)

FROM: Stephen D. Jellinek, Assistant Administrator for TSCA
TO: Priority Committee

We have concluded that several sources of asbestos cement exposure warrants in-depth investigation leading toward the development of a rule under Section Six of the Toxic Substance Control Act. Development of rules under other Federal authority may also be recommended pending findings of the investigation. This memorandum briefly presents our reasons for these conclusions and proposes a strategy for investigation of asbestos controls under TSCA. A detailed discussion of our considerations and analysis in arriving at these conclusions is presented in the attached report.

I would appreciate your advice on the feasibility and soundness of our proposed strategy and, if we proceed, your cooperation in performing the proposed investigation.

BASIS FOR CONCERN

Asbestos is a human carcinogen. Epidemiologic evidence link asbestos exposure to cancer exposure for anatomic sites, thereby presenting an unprecedented degree of general carcinogenicity. Excess risks seen in the asbestos workplace vary from about two to threefold for cancer of such organs as the esophagus and

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stomach to hundredfold of excess of lung cancer observed among cigaret smoking asbestos workers. Pleural and pertoneal mesothelioma approach being identified as "marker diseases " for exposure to asbestos, because nearly all cases have had some previous exposure.

Biodisposition studies and an occurrence of an epidelological evidences are sufficient for us to conclude that the ingestion of asbestos fibers increases cancer risks.

A number of the epidelological studies provide data which are very consistent with a linear dose-response relationship for total respiratory cancer. In addition, excess mesothelioma risks have been observed after very brief and possibly high level exposures. Quantitative extrapolations to cancer risk by low exposure levels are speculative and uncertainty is involved in the interpretation of short term high peak exposure. Nevertheless, the observed drop-response relationships make quantitative risk determinations more justified for asbestos than for most other chemical carcenogens.

OTHER FRDERAL ACTIONS

There are about 20 Federal rules and regulations promulgating standards on worthwhile controlling asbestos exposure for various sources. We are ~~concerned~~ concerned that these are not sufficient to adequately reduce and prevent population exposure.

Regulations developed under the Clean Air Act have not been able to establish numerical emission standards for the major industry sources of asbestos. This is principally because of measurement and other practical problems. Similar problems and economic considerations also limit OSHA and MIHSA in setting more restrictive workplace standards. Their responsible authorities require that standards be set at a level detectable by generally available and economic practical analytical techniques.

The Consumer Product Safety Commission has banned two product categories which could have introduced free fibers into air. However, rather than expanding this effort, the CPSC Staff has recommended deferring further asbestos regulation to EPA. CPSC authorities limit their regulations to only products used directly by consumers. Consequently, the Staff believes that, for the CPSC, product bans need not greatly reduce overall risks from asbestos exposure. Further, they believe that under TOSCA, EPA could develop comprehensive asbestos control strategy that could incorporate any action CPSC might take.

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POTENTIAL FOR LARGE POPULATION EXPOSURE

The seriousness of health risks associated with asbestos exposure suggests that population exposure be kept to the minimum practicable. Dramatic reductions ~~in~~ asbestos used, or new greatly improved control methods, are needed.

Over 100 products and use categories contain asbestos. In order to make these products, thousands of tons of asbestos have to be mined, milled, processed, and manufactured annually. For each pound of asbestos in a product, several pounds may be released as emissions for waste during mining, milling, and processing.

Analyses of the exposure potential of the various asbestos sources to specific population segments suggest that workers have the greatest potential to exposure. People living around manufacturing and processing facilities also have serious exposure potential. Particularly if the facilities are not using the best available control technology. In general, except for products that contain readily releasable fibers, commercial and consumer products have considerably less exposure potential than these other sources. Because of the multitude of sources, large populations may be exposed.

ADVANTAGES OF TSCA

A key advantage of regulations under TSCA is that we can act on a basis of the total risks associated with asbestos products and exposures. In view of the exposure problems associated with workers, people near facilities, and consumers and the difficulties encountered by OSHA and OAQPS (Office of Air Quality Standards) in bringing about adequate risk reduction, such a comprehensive approach under TSCA may be warranted.

The proposed approach is based on determining whether specific asbestos products and uses present unreasonable risks in light of total asbestos exposure over the asbestos life cycle. Using this approach, the risk posed by a product or use is not assessed in isolation. Rather, for specific products or categories of uses, we would estimate the risk posed from the original mining of asbestos and from the various processing and manufacturing stages, as well as from the final product. Although the end product may not prevent a high risk, serious risks may have occurred in its production steps. By assessing the life cycle risks in balancing this with the economic impact and other factors, we can thoroughly judge whether the product presents an unreasonable risk and should be banned or otherwise controlled.

PROPOSED TSCA STRATEGY

We believe that the control of products will be an important element in pursuing the life cycle approach.

Thus, our in-depth investigation would be to:

1. Ban nonessential asbestos products and uses unless a significant economic hardship will arise;
2. Ban products containing readily releasable asbestos fibers unless the products have no reasonable substitutes;
3. Require technical controls on products that present serious economic health risks that are not suitable for banning; and

4. Restrict field fabrication of certain consumer and commission products.

Definitions of key terms such as "nonessential" is critical to this approach and will undoubtedly be subject to modification as we further investigate the problem. For purposes of this discussion, a nonessential product or use is one that has little benefit or one where another product could be substituted with no loss in performance at little increased cost. In considering products having readily releasable fibers, a reasonable substitute is one which can be technically used, although it may have inferior qualities. In evaluating products containing readily releasable fibers, more emphasis would be placed on our goal of greatly reducing exposure to these particularly hazardous materials than to the specific cost of substitutes. The instructions on field fabrication would be designed to prevent high exposure situations that could easily arise from uncontrolled sawing and sanding of various asbestos products.

We have crudely estimated the economic impact that might result from regulations developed using this approach. Of 120 major asbestos product categories that we examined, we believe that 40-50% might be candidates for control. The total product value lost to the ~~asbestos~~-related industry could be about \$500 million, and the total cost of alternative products could be about \$580 million.

This strategy would address existing products as well as new products and uses. However, we would expect the greatest impact to be on existing products, since asbestos is not a material that is generally critical to technical innovation. Most products and uses have been in existence for many years.

While this strategy is directed toward asbestos fibers, we must actively consider other mineral fibers in our control action. Laboratory studies suggest that fiber size is an important determinant of carcinogenic potency. This implies that non-asbestos fibers of similar physical dimensions may also present health risks. Therefore, our analyses of substitutes must carefully weigh the relative health effects of other substitutes. Further, it may be necessary for us later to expand our efforts to reduce exposure to all mineral fibers should they be demonstrated to pose comparable health risks.

RELATED ACTIONS

OTS (Office of Toxic Substances) has already initiated a program to provide guides and technical assistance to states and local governments involved in identifying and controlling asbestos insulation exposure hazards in schools. We are encouraged that this voluntary program will be vigorously adopted by the states and believe that it would be prudent to stay a decision on beginning regulatory efforts in this area

until this program has had an opportunity to work. However, during this trial period, we plan to gather data about the problem in schools and other buildings, including exposure information so that we may be in a position to make a more informed decision in about one year.

We are also planning to explore the initiation of a joint program with OSHA, NIOSH, and CPSC to reduce asbestos exposure to mechanics and other people working with brakes and clutch linings. This would be a voluntary program with Federal agencies providing guidance and technical assistance to groups such as the National Institute for Mechanical Service excellence, small garages, and trade schools.

As you know, there are a few hundred thousand miles of asbestos-cement pipe installed in the United States. Particularly in areas of aggressive water, this pipe may pose undesirable risks. In addition, in some areas of the country, water containing naturally occurring asbestos may present similar risks. We believe that the Safe Drinking Water Act and the Clean Water Act are the most appropriate authorities to address these problems. We understand that efforts are underway in the Office of Water and Waste Materials to develop standards for aggressive water and to consider asbestos in the water quality criteria and National Primary Drinking Water Standard. We recommend that provisions be included in all of these activities for protection of the public from the ingestion of asbestos in their water supplies.

There are several other sources of asbestos exposure in the environment due to the buildup of products and uses over the past several decades. These include installed brake linings, flooring, and roofing. However, it might be highly impractical and expensive to control the population exposure from some products.

STRATEGY IMPLEMENTATION

To implement the proposed strategy, we plan to develop a decision memorandum for the Administrator requesting his concurrence to our approach. We then plan to develop an ANPRN for publication in the Federal Register by early summer. Further, we will initiate technical analyses to focus on identifying the specific products in categories to be controlled, estimate the anticipated risk reductions, assess the impacts of substitutes, and estimate the overall economic impact. We would hope to be able to isolate the products in categories of interest and complete an initial draft rule by the end of the calendar year.

Clearly, after the in-depth studies are completed, data may indicate the need for appropriate regulatory control under authorities other than TSCA or combine controls under several authorities. We will keep you informed of our progress and findings in this regard. Nonetheless, we believe that at a minimum, some type of regulatory action under TSCA will probably be necessary.

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We believe ORD (Office of Research Development) can provide valuable assistance by sponsoring work to investigate and develop non-asbestos substitutes, particularly for friction products. Further, we believe that internal cooperation of EPA activities regarding asbestos could be improved to help our respective efforts.

JCJ/gj
7/5/79

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PLAINTIFF'S EXHIBIT

CAP-1792



A/C Pipe
Producers Association

W. F. W. Hitley
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H. Brackley

Internal Correspondence

TO Regulatory Affairs Committee
Associate Members

FROM *J. F. Welch*
J. F. Welch, Director, Public Affairs

J.F.W.
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DATE

April 29, 1980

SUBJECT OSHA-Revised Asbestos Standard
(NIOSH)

On April 17, 1980, the U.S. Occupational Safety and Health Administration (OSHA) announced that it would begin work immediately on a revised asbestos standard. Among the highlights of the press conference, OSHA and the National Institute of Occupational Safety and Health (NIOSH) asserted:

- that virtually all uses of asbestos can be eliminated
- that "there is no safe exposure limit for asbestos."
- that a new exposure limit of 100,000 fibers per cubic meter of air (0.1 f./cc.) should be established
- that the revised standard would apply to all workplaces including the construction and maritime trades.

Enclosed are information materials released at the time of the announcement. If you have any questions, please do not hesitate to call.

JFW/sgg

Enclosures

cc: A. Kahn, Esq.
N. Rahn, Esq.

copies to: Regulatory Affairs Committee

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NEWS

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

CONTACT: NIOSH Information Office (301) 443-2140

FOR RELEASE: 1:00 P.M., EST
Thursday, April 17, 1980

REMARKS BY NIOSH DIRECTOR ANTHONY ROBBINS ON
THE NEED FOR A NEW ASBESTOS STANDARD

Good afternoon, I am Dr. Anthony Robbins, Director of HEW's National Institute for Occupational Safety and Health, NIOSH. With me are Dr. Eula Bingham, the Assistant Secretary of Labor for Occupational Safety and Health; Dr. Bailus Walker, Jr., Director of Health Standards for OSHA; and two NIOSH scientists, Mr. Richard Lemen and Mr. John Dement.

We are here to announce the findings of a joint NIOSH/OSHA Work Group that has reviewed recent scientific information about the health effects of asbestos.

The Group reconfirmed that--

- o There is no safe exposure limit for asbestos.
- o All commercial and several non-commercial forms of asbestos cause disease.

On the basis of the Work Group's findings and recommendations, which we endorse, we are today recommending to the Department of Labor that it

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promulgate a safer standard for workers exposed to asbestos and that it eliminate from the workplace all exposure from new non-essential uses of asbestos.

We have asked that the new standard set a maximum workplace exposure limit of 100,000 fibers per cubic meter of air, the lowest level which can be accurately measured. The present level, set in 1972, is two million fibers per cubic meter of air.

Asbestos poses a grave danger in the workplace. At least 1.4 million workers are exposed to asbestos in the United States. In conducting a National Occupational Hazard Survey from 1972-74, NIOSH found that 45 percent of the occupations observed involve exposure to the substance. Nearly three quarters of a million tons are used annually in this country in a wide range of products including floor tiles, cements, acoustical products, brake linings, and roof coatings. Between 8 and 11 million workers have been exposed to asbestos since World War II.

Asbestos is ubiquitous and its effects, measured in disease and death, are staggering. Asbestos causes a very serious form of lung fibrosis known as asbestosis. It also causes lung cancer and mesothelioma, a cancer of the membrane that lines the chest and abdominal cavities. Exposure to asbestos has also been related to significant increases in lung, laryngeal, and gastrointestinal cancers.

In 1972, OSHA promulgated a workplace asbestos standard setting the maximum exposure level at 2,000,000 fibers per cubic meter of air. Since then both NIOSH and OSHA have ~~mon~~itored asbestos health effects research and the development of asbestos substitutes. In 1975, OSHA proposed lowering the

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standard to 500,000 fibers per cubic meter of air. In 1976, NIOSH recommended lowering the standard to 100,000 fibers.

NIOSH and OSHA established an Asbestos Work Group in the fall of 1979. Its charge was to review all health effects data since the 1976 NIOSH recommended standard was transmitted to OSHA and to determine whether any changes to that recommendation were warranted. Was there health damage occurring at the level of the current standard? The Work Group consisted of four experts from NIOSH and three from OSHA.

The Work Group has completed its report and NIOSH has formally recommended that OSHA adopt the Work Group's findings. A copy of the report is in your press kit.

The Group reconfirmed that there is no safe exposure level for asbestos. Although data suggest that lower exposures result in lower risks of developing cancer, there is no known level below which asbestos-related diseases do not occur.

The Group reconfirmed that all commercial and several non-commercial forms of asbestos cause disease. There has at times been debate over which types of asbestos fibers cause disease. The Group found strong evidence that all forms are dangerous, including chrysotile; crocidolite; and fibrous cummingtonite-grunerite including amosite, fibrous tremolite, fibrous actinolite, and fibrous anthophyllite. The Work Group found no basis for regulating one type of fiber and not another.

With these two premises in mind, let me enumerate some of the specific findings of the Work Group:

- o Optical microscopy continues to be the most reliable and economically feasible method for determining airborne levels of

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asbestos. Its lowest reliable detection limit is 100,000 fibers per cubic meter.

- o Substitutes for asbestos should be used whenever possible so that non-essential uses of the carcinogenic fiber are eliminated.
- o The report contains recommendations for medical testing procedures including chest X-rays, pulmonary function tests, observation of respiratory and other clinical symptoms. The Group also recommends that sputum cytology be evaluated as a surveillance technique.
- o Results of medical examinations should be reported directly to the employee, and aggregate medical information--without individual identifiers--should be reported to an employer's entire workforce.
- o Asbestos workers showing respiratory problems should be afforded the opportunity to transfer to jobs where there is no asbestos exposure. They should suffer no cut in pay or benefits to do so. The Group suggests that this program should be similar to the one now enforced by OSHA for lead workers.
- o Regulations should protect all workers exposed to asbestos, including those in the construction, shipbuilding, and maritime industries, where high exposures have historically occurred.

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- o Asbestos product manufacturers should perform air sampling in all possible processes involving their products to determine probable airborne asbestos levels. This information should be passed on to the products' potential users.

Thank you for your time. I would now like to open the conference to questions.

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Dr. Eula Bingham

ASSISTANT SECRETARY OF LABOR
OCCUPATIONAL SAFETY AND HEALTH

REMARKS AT NIOSH NEWS BRIEFING
April 17, 1980

Thank you Dr. Robbins, and good afternoon to all of you. For quite some time, a number of us in the public health community, both in and out of government, have expressed concern about the health effects of exposure to asbestos. In recent years, the substance has become the focus of public attention as well; asbestos is now perhaps the foremost symbol of this country's concern about toxic substances in the environment and in the workplace. Considerations of asbestos health effects and regulatory protection have always been complex and controversial. In this light, the current data and solid recommendations to come out of this NIOSH/OSHA project are especially welcome and important.

The report released today is certainly a cause for concern--concern for the numbers of workers still exposed to dangerous levels of asbestos. But this report, and OSHA's response to it, should also be a cause for hope among American workers everywhere.

It should be a cause for hope because it confirms that occupational health research is not a static

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science. On the contrary, under Dr. Robbins' direction, NIOSH has demonstrated an ongoing commitment to the re-evaluation of all available data with only one thought in mind: the protection of the worker. The current workplace standard governing asbestos exposure was OSHA's first comprehensive health standard. It is based on data that was assembled and analyzed during the mid-sixties, if not the infancy certainly the childhood of occupational health. Much has been learned in the laboratory and in the workplace since then, as this report indicates. In view of what we know now, OSHA's current standard needs major improvements.

The report is cause for hope because, contrary to some of OSHA's critics, the agency's regulations are not carved in stone. They are instead a reflection of the best science available. As science continues to improve, so will OSHA's health standards, and worker protection. The report we are issuing today demands corrective action. We will begin immediately.

We have designated a team within OSHA to begin working on a proposed revision to the present OSHA

asbestos standard. We will be developing that proposal pursuant to the OSHA cancer policy announced last January. I can't tell you yet what permissible level will be proposed or whether we will issue an emergency temporary standard or pursue the proposed permanent standard route. But the severity of the threat posed and the very high numbers of workers exposed to the asbestos hazard dictate that we move with all deliberate speed in amending the present standard of 2 million fibers per cubic meter, average over a workday. I am confident that the procedures set down by the cancer policy and the synthesizing effect of the rulemaking procedure will result in a much more protective standard so that we can finally move toward an end to fatal asbestos-related diseases such as lung cancer, asbestosis, and mesothelioma.

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