

INTEROFFICE
MEMORANDUM

Date May 17, 1974

Subject Industrial Union Department
AFL-CIO vs. Hodgson - Asbestos
Standards Case

To A. R. Adams

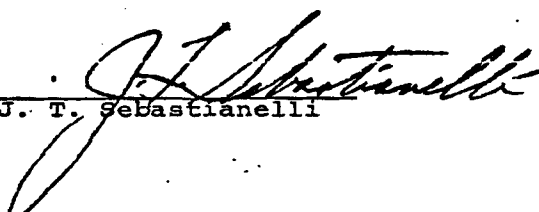
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From J. T. Sebastianelli

(Location, Organization, or Department)

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AP00000806

Occupational Safety and Health Cases

INDUSTRIAL UNION DEPARTMENT, AFL-CIO v. HODGSON

United States Court of Appeals
for the District of Columbia Circuit

On petition for review of the Secretary of Labor's standard for exposure to asbestos dust under the Occupational Safety and Health Act.

INDUSTRIAL UNION DEPARTMENT, AFL-CIO, et al., Petitioners v. JAMES D. HODGSON, SECRETARY, DEPARTMENT OF LABOR, Respondent; ENVIRONMENTAL DEFENSE FUND, INC., Intervenor, No. 72-1713, April 15, 1974.

George H. Cohen, Elliot Bredhoff, and Michael H. Gottesman for petitioners.

Walter H. Fleischer, Eric B. Chaikin, and Michael Kimmel, Department of Justice, and Michael J. Levin and Baruch A. Fellner, Department of Labor, for respondent.

Scott H. Lang and John F. Dienelt for intervenor.

Alan B. Morrison and Arthur L. Fox II for Health Research Group as *amicus curiae*, urging reversal.

Joseph W. Burns and John P. Keegan for Asbestos Information Association/

North America as *amicus curiae*, urging affirmance.

Before McGowan, Leventhal, and MacKinnon, Circuit Judges.

JUDICIAL REVIEW

1. Adequacy of standards—Secretary's obligation

Secretary of Labor, in defending standards that are challenged, must provide reviewing court with careful identification of reasons why he chooses to follow one course rather than another, whether choice purports to be based on existence of certain determinable facts or on policy judgments.

STANDARDS

2. NIOSH criteria document—Weight to be accorded by Secretary

Recommendations of National Institute for Occupational Safety and Health in form of criteria documents that describe safe levels of exposure to hazardous substances are meant as aid to Secretary of Labor in promulgation of standards, not as conclusive determinations on question of adequate exposure levels.

3. Factors considered in promulgation—Economic feasibility

Factor of economic feasibility can properly be considered in Secretary's decision to delay implementation of tougher standard in order to allow employers to make needed changes for coming into compliance.

4. Asbestos—Four year delay

Secretary's decision to retain five fiber standard for asbestos exposure for four years before requiring reduction to two fibers is appropriate to allow sufficient time to permit orderly industry-wide transition since indeterminate degree of risk involved is counterbalanced by considerations of feasibility.

5. Asbestos—Industrial compliance capability—Remand

Secretary's failure to explain "reasons of practical administration" for precluding variety of standards for different kinds of asbestos and of workplaces warrants remand of this aspect of standards to Secretary for clarification or reconsideration.

6. Asbestos—Compliance provision of standard

Compliance provisions of 29 CFR 1910.93a(f)(1), which requires that compliance program be undertaken if asbestos exposure limits are exceeded, and of 29 CFR 1910.93a(c)(1)(iii), which requires local exhaust ventilation systems for all tools that may produce or release asbestos fibers in excess of exposure limits, do not apply only in those instances in which violation has already been detected.

7. Asbestos—Records of exposure levels—Three year retention period—Remand

Secretary's failure to explain decision to require only three year retention period for records of asbestos exposure levels detected by monitoring and absence of adequate assurance in record that requirement will provide data needed for research into causes and prevention of asbestos related disease warrant remand of recordkeeping requirements to Secretary for clarification.

Full Text of Decision

McGOWAN, Circuit Judge:

This direct review proceeding presents a classic case of what Judge Friendly has aptly termed "a new form of uneasy partnership" between agency and court that results whenever Congress delegates decision making of a legislative character to the one, subject to review by the other. *Associated Industries v. United States Dept. of Labor*, 487 F.2d 342, 354 [1 OSHC 1340, 1348] (2nd Cir. 1973). The angularity of this relationship is only sharpened when, as here, Congress—with no apparent awareness of anomaly—has explicitly combined an informal agency procedure with a standard of review traditionally conceived of as suited to formal adjudication or rule-making. The federal courts, hard pressed as they are by the flood of new tasks imposed upon them by Congress, surely have some claim to be spared additional burdens deriving from the illogic of legislative compromise. At the least, it would have been helpful if there had been some recognition by Congress that the quick answer it gave to a legislative stalemate posed serious problems for a reviewing court, and that there would inevitably have to be some latitude accorded it to surmount those problems

consistently with the legislative purposes. The duty remains, in any event, to decide the case before us in accordance with our statutory mandate, however dimly the rationale, if any, underlying it can be perceived.

The petition before us seeks review of standards promulgated by the Secretary of Labor under the Occupational Safety and Health Act of 1970, 29 U.S.C. Secs. 651 *et seq.* (hereinafter OSHA). The standards in question regulate the atmospheric concentrations of asbestos dust in industrial workplaces. Petitioners are unions whose members are affected by the health hazards of asbestos dust. They challenge the timetable established by the standards for the achievement of permissible levels of concentration, and object to portions of the standards concerning methods of compliance, monitoring intervals and techniques, cautionary labels and notices, and medical examinations and records. We remand two of such issues to the Secretary for further consideration. In all other respects, the petition is denied.

I.

A. The Occupational Safety and Health Act.

Technological progress in industry appears not to have been accompanied uniformly by corresponding reductions in the health hazards of industrial working conditions. More than 2.2 million persons are disabled on the job each year, and in 1967 the Surgeon General estimated that approximately 400,000 new cases of occupational disease would occur in each succeeding year.¹ The Chairman of the Committee on Labor and Public Welfare summarized the problem as follows:

Not only are occupational diseases which first came to light at the beginning of the Industrial Revolution still undermining the health of workers, but new substances, new processes, and new sources of energy are presenting health problems of ever-increasing complexity.

¹ House Comm. on Education and Labor, Occupational Safety and Health Act, H. R. Rep. No. 91-1291, 91st Cong., 2d Sess. 14 (1970); Cohen, *The Occupational Safety and Health Act: A Labor Lawyer's Overview*, 33 Ohio St. L. J. 788, 789-90 (1972).

Foreword, Legislative History of the Occupational Safety and Health Act of 1970 (hereinafter Legis. Hist.)

OSHA, the first comprehensive attempt by Congress to deal with these problems,² covers every employer whose business affects interstate commerce.³ Eschewing any attempt to establish substantive provisions to control all these various employers, the Act erects a general framework to govern the development of regulations, and delegates the task for formulating particular health and safety standards to the Secretary of Labor. Civil and criminal sanctions are provided to enforce compliance.

OSHA specifies the procedure to be followed in the promulgation of standards, and provides for the establishment of a research institute and the appointment of advisory committees to assist the Secretary.⁴ The substantive provisions of the Act impose a general obligation upon employers to provide safe working conditions. 29 U.S.C. Sec. 654(a)(1)(1970). The Secretary is required to promulgate standards to control particular health hazards that come to his attention. Certain types of controls, including monitoring, medical examinations, warnings, record keeping, and specific protective measures are specified by the statute itself, but the decision as to when and how they should be required with regard to particular health hazards is left to the Secretary.

B. Asbestos.

Asbestos is a generic term applicable to a number of fibrous, inorganic, silicate minerals that are incombustible

² For summaries of prior regulation, see Cohen, note 1 *supra*, 785-89; Comment, *OSHA: Employer Beware*, 10 Houston L. Rev. 426, 426-28 (1973).

³ The United States, and state and local governments, are exempted from OSHA by 29 U.S.C. Sec. 652(5) (1970).

⁴ The Act establishes within the Department of Health, Education, and Welfare a National Institute for Occupational Safety and Health (NIOSH) which is authorized to "develop and establish recommended occupational safety and health standards" for transmission to the Secretary of Labor. 29 U.S.C. Sec. 671. The Secretary of Labor may also appoint an advisory committee to assist him in his standard-setting functions. In this instance a 5-member Advisory Committee on Asbestos Standards was constituted, consisting of two employer and two labor members, and one representative of the public.

in air. Its commercial value is high, and its uses are many and varied. Asbestos can be woven into cloth, used in powder form, or incorporated into materials of various shapes and consistencies. Almost one million tons of asbestos are used in this country annually; and, for many purposes, it cannot easily be replaced with other substances.⁵

Unfortunately, asbestos is as hazardous to health as it is useful to industry. During its production and use, tiny asbestos fibers are released as a dust in the air, and, over the course of this century, thousands of workers have been killed or disabled by the effects of inhaling these fibers. There are no precise figures concerning the number of workers involved, but it is estimated that three to five million workers are exposed to some extent to asbestos fibers in the building construction and shipyard industries alone.⁶ While OSHA was under consideration in Congress, the health hazards of the asbestos industry were among the examples used to stress the need for legislation.⁷

C. Proceedings before the Secretary

Within a few months of the effective date of OSHA, petitioners requested the Secretary to establish an emergency standard to control concentrations of asbestos dust.⁸ The Secretary promptly issued a temporary standard and set in motion the procedure for establishment of a permanent standard. Notice of the proposed rulemaking was published, and interested persons were invited to submit their views. NIOSH submitted its

recommendations, as did the Advisory Committee. These were made public, and the Secretary conducted a hearing at which various representatives and experts appeared on behalf of interested parties. On the basis of these recommendations and a formidable record of documents and oral testimony, including highly technical statements by expert witnesses, the Secretary established the standards in question.⁹ His statement of reasons covers some four and one-half pages of the Federal Register.¹⁰

Petitioners allege no procedural errors in the promulgation of these standards, but they characterize them as inadequate to protect the health of employees as required by the Act. They attack the Secretary's interpretation of OSHA in certain particulars, as well as the enforcement measures he has selected.

II

OSHA is a self-contained statute in the sense that it does not depend upon reference to the Administrative Procedure Act for specification of the pro-

⁹ A qualified hearing examiner presided over the four days consumed by the public hearing. At the close his only function was to certify the record to the Secretary, which consisted of the written statements and comments on the proposed standards received prior to the hearing in response to the notice of rulemaking, the transcript of the hearing itself, and many exhibits received during the hearing and in a further period allowed after the hearing for this purpose. The Joint Appendix filed in this court contains over 1100 pages, of which over 400 are from the hearing transcript. The testimonial pattern generally was for the witnesses to read long statements, at the close of which they were subject to cross-examination. The questions actually asked tended to be few, sporadic, and perfunctory, and the record resembles nothing so much as that of a typical legislative committee hearing.

¹⁰ The statutory direction is that the Secretary, whenever he promulgates a standard, "shall include a statement of reasons for such action..." 29 U.S.C. Sec. 655(e). The Secretary has by regulation, 29 C.F.R. Sec. 1911.18(b), as amended, 37 F.R. 8655 (1972), defined this task in these terms:

Any rule or standard adopted... shall incorporate a concise general statement of its basis and purpose. The statement is not required to include specific and detailed findings and conclusions of the kind customarily associated with formal proceedings. However, the statement will show the significant issues which have been faced, and will articulate the rationale for their solution.

Petitioners have not challenged the propriety of this formulation.

⁵ Occupational Exposure to Asbestos (NIOSH Criteria Document, 1972). App. 61-62.

⁶ *Id.* at 62.

⁷ Legislative History at 319, 412-13, 1002. The Secretary expressed the problem as follows (37 F.R. 11318):

No one has disputed that exposure to asbestos of high enough intensity and long enough duration is causally related to asbestosis and cancers. The dispute is as to the determination of a specific level below which exposure is safe.

⁸ Under 29 U.S.C. Sec. 655(e), the Secretary can issue an immediately effective emergency standard without observing the procedural requirements for a permanent standard if (1) employees are exposed to grave danger, and (2) the emergency standard is necessary to protect them. The Secretary must then publish a permanent standard within six months.

cedures to be followed. It prescribes that the process of promulgating a standard is to be initiated by the publication of a proposed rule. Interested persons are given a period of 20 days thereafter within which to submit written data or comments. Within this period any interested person may submit written objections, and may request a public hearing thereon. In such event, the Secretary shall publish a notice specifying the particular standard involved and stating the time and place of the hearing. Within 60 days after the completion of such hearing, the Secretary shall make his decision. Judicial review by the courts of appeals is provided.¹¹

This procedure is characteristic of the informal rulemaking contemplated by Section 4 of the APA, 5 U.S.C. Sec. 553, and it was so understood by the Congress. By regulation, however, the Secretary, although describing it as "legislative in type," has provided that the oral hearing called for in the statute shall contain some elements normally associated with the adjudicatory or formal rulemaking model. As indicated in the text of the regulations, set forth in the margin,¹² the Secretary appar-

ently concluded that this was necessary because of the necessity of having a record to which the statutorily mandated substantial evidence test could be meaningfully applied by a reviewing court. The only controversy we have in this case as to the procedural requirements of the statute is not with respect to the manner in which the rulemaking was done by the Secretary, but as to the reach of the substantial evidence test in the course of judicial review.

The substantial evidence test has customarily been directed to adjudicatory proceedings or formal rulemaking.¹³ The hybrid nature of OSHA in this respect can be explained historically, if not logically, as a legislative compromise. The Conference Report reflects that the Senate bill called for informal rulemaking, but the House version specified formal rulemaking and substantial evidence review. The House receded on the procedure for promulgating standards, but the substantial evidence standard of review was adopted.¹⁴

One question generated by this anomalous combination is whether the determinations in question here are of the kind to which substantial evidence review can appropriately be applied. The Government in its argument suggested that a proper accommodation could be effected by construing the statute to require substantial evidence review of

¹¹ 29 U.S.C. Sec. 655(f) reads in relevant part: "The determinations of the Secretary shall be conclusive if supported by substantial evidence in the record as a whole."

¹² In 29 C.F.R. Sec. 1911.15 ("Nature of Hearing"), the Secretary stated in relevant part:

"(a)(2) Section 6(b)(3) provides an opportunity for a hearing on objections to proposed rule making, and section 6(f) provides in connection with the judicial review of standards, that determinations of the Secretary shall be conclusive if supported by substantial evidence in the record as a whole. Although these sections are not read as requiring a rule making proceeding within the meaning of the last sentence of 5 U.S.C. 553(c) requiring the application of the formal requirements of 5 U.S.C. 556 and 557, they do suggest a Congressional expectation that the rule making would be on the basis of a record to which a substantial evidence test, where pertinent, may be applied in the event an informal hearing is held.

"(3) The oral hearing shall be legislative in type. However, fairness may require an opportunity for cross-examination on crucial issues. The presiding officer is empowered to permit cross-examination under such circumstances. . . .

"(b) Although any hearing shall be informal and legislative in type, this part is intended to provide more than the bare essentials of informal rule making under 5 U.S.C. 553. The additional requirements are the following:

"(i) The presiding officer shall be a

hearing examiner appointed under 5 U.S.C. 3105.

"(2) The presiding officer shall provide an opportunity for cross-examination on crucial issues.

"(3) The hearing shall be reported verbatim, and a transcript shall be available to any interested person on such terms as the presiding officer may provide."

¹³ See *Camp v. Pitts*, 411 U.S. 138 (1973); *City of Chicago v. FRC*, 458 F.2d 731, 744 (D.C. Cir. 1971), cert. denied, 405 U.S. 1074 (1972); *Automotive Parts and Accessories Ass'n. v. Boyd*, 407 F.2d 330, 334-38 (D.C. Cir. 1968); *Wirtz v. Baldor Electric Co.*, 337 F.2d 518, 525-28 (D.C. Cir. 1963).

¹⁴ This combination is made even more confusing by a statement in the report that seems to indicate that the Conference Committee thought the substantial evidence standard was less exacting than the standard of rationality ordinarily applicable to the results of informal rulemaking. H. Rep. No. 91-1765 (1970), p. 36. For a more detailed discussion of these legislative events, see *Associated Industries*, p. 2 *supra*, where the Second Circuit said that the Congressional intention was clear "to adopt the substantial evidence test for review as a trade-off for the House's abandoning its insistence on rulemaking on the record . . ." 457 F.2d at 349 [1 OSHC at 1344].

factual determinations, while weighing the inferences of policy drawn from those facts in terms of their freedom from arbitrariness or irrationality. We do not believe this approach would affect the rigorouslyness of our review to the extent the Government seems to suppose, or that petitioners purport to fear.¹⁵ The analysis may, however, be useful for the purpose of clarifying the diverse nature of the judicial task imposed upon us by a statute like OSHA.¹⁶

Another problem arising from substantial evidence review of informal proceedings concerns the adequacy of the record to permit meaningful performance of the required review. Although this issue has not been directly raised in argument, it underlies much of the controversy concerning the sufficiency of the evidence to support various specific determinations of the Secretary. Thus some explication of the procedural implications of the prescribed

substantial evidence standard of review should help to clarify our resolution of the particular substantive issues presented by this petition.

Faced with the fact that his determinations were commanded by Congress to be reviewed under a substantial evidence standard, the Secretary did voluntarily move his procedures significantly towards the formal model. He directed that (1) a qualified hearing examiner should preside over the oral hearing, (2) cross-examination should be permitted, and (3) a verbatim transcript made. The total record in this case was in part created under the conditions that obtain in a formal proceeding. In substantial remaining part, however, it consists of a melange of written statements, letters, reports, and similar materials received outside the bounds of the oral hearing and untested by anything approaching the adversary process.

Thus, in some degree the record approaches the form of one customarily conceived of as appropriate for substantial evidence review. In other respects, it does not. On a record of this mixed nature, when the facts underlying the Secretary's determinations are susceptible of being found in the usual sense, that must be done, and the reviewing court will weigh them by the substantial evidence standard. But, in a statute like OSHA where the decision making vested in the Secretary is legislative in character, there are areas where explicit factual findings are not possible, and the act of decision is essentially a prediction based upon pure legislative judgment, as when a Congressman decides to vote for or against a particular bill.

OSHA sets forth general policy objectives and establishes the basic procedural framework for the promulgation of standards, but the formulation of specific substantive provisions is left largely to the Secretary.¹⁷ The Secretary's task thus contains "elements of both a legislative policy determination and an adjudicative resolution of disputed facts." *Mobil Oil Corp. v. FPC*, 483 F.2d 1238, 1257 (D.C. Cir. 1973). Although in practice these elements may so intertwine as to be virtually inseparable, they are conceptually distinct and can only

¹⁵ The Government's theory in this regard was pressed upon the Second Circuit in *Associated Industries*, p. 2, *supra*, at 347-50. Judge Friendly, speaking for the court, felt obliged by reference to the face of the Act to reject it, at least as an abstract proposition. He also appears to have been impelled to this conclusion in some degree by what he considered to be the Secretary's own concession in his regulations (note 12, *supra*) of "a Congressional expectation that the rule making would be on the basis of a record to which a substantial evidence test, where pertinent, may be applied in the event an informal hearing is held," although his point in this respect seems weakened by the qualifying phrase, "where pertinent." He concluded, however, that very possibly "the controversy is semantic in some degree, at least in the context of informal rulemaking," and lacks "the dispositional importance" claimed for it by the Government.

¹⁶ Although formulated in the context of adjudication, the comments by Judge Leventhal on how a reviewing court should go about the discharge of its responsibilities in the court-agency partnership in furtherance of the public interest are helpful here. See *Greater Boston Television Corp. v. FCC*, 444 F.2d 841, 850-53 (D.C. Cir. 1970), *cert. denied*, 403 U.S. 923 (1971).

In a paper presented to the 1974 Judicial Conference of this Circuit, to be published in due course as part of the proceedings, Professor Roy Schotland, of the Georgetown University Law Center, has emphasized the degree to which the success of the partnership turns on clear thinking about the scope of the review to be afforded by the judicial member. Professor Schotland's useful perceptions are many, but none more so than his reminder that the concept of scope of review defies generalized application, and demands, instead, close attention to the nature of the particular problem faced by the agency.

¹⁷ For a comparison of this aspect of OSHA with the National Labor Relations Act, which defines specifically prohibited practices, see Cohen, *supra* note 1, at 798-800.

be regarded as such by a reviewing court.

From extensive and often conflicting evidence, the Secretary in this case made numerous factual determinations. With respect to some of those questions, the evidence was such that the task consisted primarily of evaluating the data and drawing conclusions from it. The court can review that data in the record and determine whether it reflects substantial support for the Secretary's findings. But some of the questions involved in the promulgation of these standards are on the frontiers of scientific knowledge, and consequently as to them insufficient data is presently available to make a fully informed factual determination. Decision making must in that circumstance depend to a greater extent upon policy judgments and less upon purely factual analysis.¹⁸ Thus, in addition to currently unresolved factual issues, the formulation of standards involves choices that by their nature require basic policy determinations rather than resolution of factual controversies. Judicial review of inherently legislative decisions of this sort is obviously an undertaking of different dimensions.¹⁹

For example, in this case the evidence indicated that reliable data is not currently available with respect to the precisely predictable health effects of various levels of exposure to asbestos dust; nevertheless, the Secretary was obligated to establish some specific level as the maximum permissible exposure. After considering all the conflicting evidence, the Secretary explained his decision to adopt, over strong employer objection, a relatively low limit in terms of the severe health consequences which could result from over-exposure. Inasmuch as the protection of the health of employees is the overriding concern of OSHA, this choice is doubtless sound, but it rests in the final analysis on an essentially legislative policy judgment, rather than a factual determination, concerning the relative risks of underprotection as compared to overprotection.

¹⁸ Where existing methodology or research in a new area of regulation is deficient, the agency necessarily enjoys broad discretion to attempt to formulate a solution to the best of its ability on the basis of available information. *Permian Basin Area Rate Case*, 390 U.S. 747, 811 (1968).

¹⁹ See *Automotive Parts and Accessories Ass'n v. Boyd*, 407 F.2d 330, 336 (D.C.Cir. 1969); *Boyd & Tank Corp. v. NLRB*, 339 F.2d 76, 78-79 (2d Cir. 1964).

Regardless of the manner in which the task of judicial review is articulated, policy choices of this sort are not susceptible to the same type of verification or refutation by reference to the record as are some factual questions. Consequently, the court's approach must necessarily be different no matter how the standards of review are labeled. That does not mean that such decisions escape exacting scrutiny, for, as this court has stated in a similar context:

This exercise need be no less searching and strict in its weighing of whether the agency has performed in accordance with the Congressional purposes, but, because it is addressed to different materials, it inevitably varies from the adjudicatory model. The paramount objective is to see whether the agency, given an essentially legislative task to perform, has carried it out in a manner calculated to negate the dangers of arbitrariness and irrationality in the formulation of rules for general application in the future.

Automotive Parts & Accessories Association v. Boyd, 407 F.2d 330, 338 (1968).

We do not understand Congress to have in this instance nullified this approach for all purposes by directing substantial evidence review. As noted above, that provision is important as an indication of how we should approach certain kinds of questions and what kind of record we should demand of the Secretary. But it is surely not to be taken as a direction by Congress that we treat the Secretary's decision making under OSHA as something different from what it is, namely, the exercise of delegated power to make within certain limits decisions that Congress normally makes itself, and by processes, as the courts have long recognized and accepted, peculiar to itself. A due respect for the boundaries between the legislative and the judicial function dictates that we approach our reviewing task with a flexibility informed and shaped by sensitivity to the diverse origins of the determinations that enter into a legislative judgment.

[1] What we are entitled to at all events is a careful identification by the Secretary, when his proposed standards are challenged, of the reasons why he chooses to follow one course rather than another. Where that choice purports to be based on the existence of certain

determinable facts, the Secretary must, in form as well as substance, find those facts from evidence in the record. By the same token, when the Secretary is obligated to make policy judgments where no factual certainties exist or where facts alone do not provide the answer, he should so state and go on to identify the considerations he found persuasive.

Judge Friendly concluded his ruminations in *Associated Industries* with an expression of doubt as to "whether judicial review of legislative standards resulting from informal rule-making will ultimately prove to be feasible."²⁰ That is certainly a serious and substantial question. Whether it can eventually be answered affirmatively must depend in large measure upon the care and good sense with which both the delegatee of what is essentially legislative power and the reviewing court go about their respective duties. In the case of OSHA, the Secretary has wisely acted by regulation to go beyond the minimum requirements of the statute and to expand his capacity to find facts by providing an evidentiary hearing in which cross-examination is available. We think it equally the part of wisdom and restraint on our part to show a comparable flexibility, and to be always mindful that at least some legislative judgments cannot be anchored securely and solely in demonstrable fact. Such a principle, far from being destructive of the Congressional purpose to provide judicial review, seems to us within the Congressional contemplation as essential to its preservation.

III

Before addressing the specific challenges made to the Secretary's action, we examine two further problems raised by petitioners involving statutory construction. One has to do with the weight to be accorded by the Secretary to the NIOSH recommendations. The other

relates to whether the Secretary may take economic considerations into account.

With respect to the former, the statute directs NIOSH to develop criteria documents that describe safe levels of exposure, and the Secretary is to promulgate standards that insure that employees are protected. The language employed by Congress in these two mandates is essentially identical except that the Secretary must consider elements of feasibility.²¹ From this similarity petitioners argue that the determinations of NIOSH are meant to be conclusive on the question of what exposure levels adequately protect health, and that the Secretary may deviate from the NIOSH document only to the extent dictated by feasibility.

The Act merely says that the Director of NIOSH shall immediately forward recommended standards to the Secretary without specifying how the Secretary is to use them, but the procedure prescribed for the formulation of standards militates against petitioners' position. It is the Secretary rather than NIOSH who conducts hearings and receives the comments of interested persons. The Secretary may also appoint a special advisory committee to assist him in his standard-setting functions, and receive recommendations from it, as he did here.

[2] The Act, or so it seems to us, must be taken as contemplating that the Secretary may consider all of this information as well as that received from NIOSH. Petitioners' argument would restrict the advisory committees and interested parties to comments relating solely to feasibility, a role petitioners

²¹ Compare 29 U.S.C. Sec. 669(a)(3):

[NIOSH] shall develop criteria dealing with toxic materials and harmful physical agents and substances which will describe exposure levels that are safe for various periods of employment, including but not limited to exposure levels at which no employee will suffer impaired health or functional capacities or diminished life expectancy as a result of his work experience.

with 29 U.S.C. Sec. 655(b)(5):

The Secretary, in promulgating standards dealing with toxic materials or harmful physical agents under this subsection, shall set the standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity even if such employee has regular exposure to the hazard dealt with by the standard for the period of his working life. . . . (Emphasis supplied.)

²⁰ After noting the twin dangers that the courts may do both too much and too little in this elusive area, Judge Friendly observes that there is much to be said "for the wisdom of Mr. Justice Brandeis in *Pacific States Box & Basket Co. v. White*, 296 U.S. 176, 186 (1935), that 'where the regulation is within the scope of authority legally delegated, the presumption of the existence of facts justifying its specific exercise attaches alike to statutes, to municipal ordinances, and to orders of administrative bodies.'" 487 F.2d at 354 [1 OSHC at 1348].

themselves clearly—and, we think, legitimately—exceeded at the hearing and in their arguments before this court. The NIOSH recommendation was undoubtedly important in the eyes of Congress as an aid to the Secretary, but we cannot see that it was intended as more than that.

In connection with the second issue, we note that the statutory authority for the promulgation of standards reads in relevant part:

The Secretary . . . shall set the standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity. . . . 29 U.S.C. Sec. 655(b)(5) (emphasis supplied).

[3] The standards as promulgated retain the concentration level specified by the temporary emergency standard until 1976 when a lower permanent standard becomes effective. The Secretary explained his decision to delay, two years longer than the period suggested by NIOSH, implementation of the tougher standard as "necessary to allow employers to make the needed changes for coming into compliance," and petitioners argue that the Secretary improperly considered economic factors in reaching this conclusion. We conclude that the factors entering into the Secretary's conclusion could properly include problems of economic feasibility.

There can be no question that OSHA represents a decision to require safeguards for the health of employees even if such measures substantially increase production costs. This is not, however, the same thing as saying that Congress intended to require immediate implementation of all protective measures technologically achievable without regard for their economic impact. To the contrary, it would comport with common usage to say that a standard that is prohibitively expensive is not "feasible."²² Senator Javits, author of the

amendment that added the phrase in question to the Act, explained it in these terms:

As a result of this amendment the Secretary, in setting standards, is expressly required to consider feasibility of proposed standards. This is an improvement over the Daniels bill, which might be interpreted to require absolute health and safety in all cases, regardless of feasibility, and the Administration bill, which contains no criteria for standards at all.

S. Rep. No. 91-1282, 91st Cong., 2d Sess., p. 58; Legis. Hist. at 197.

The thrust of these remarks would seem to be that practical considerations can temper protective requirements. Congress does not appear to have intended to protect employees by putting their employers out of business—either by requiring protective devices unavailable under existing technology or by making financial viability generally impossible.

This qualification is not intended to provide a route by which recalcitrant employers or industries may avoid the reforms contemplated by the Act. Standards may be economically feasible even though, from the standpoint of employer, they are financially burdensome and affect profit margins adversely. Nor does the concept of economic feasibility necessarily guarantee the continued existence of individual employers. It would appear to be consistent with the purposes of the Act to envisage the economic demise of an employer who has lagged behind the rest of the industry in protecting the health and safety of employees and is consequently financially unable to comply with new standards as quickly as other employers.²³ As the effect becomes more widespread within an industry, the problem of economic feasibility becomes more pressing. For example, if the standard requires changes that only a few leading firms could quickly achieve, delay might be necessary to avoid increasing the concentration of that industry. Similarly, if the competitive structure or posture of the industry would be otherwise adversely affected—perhaps

²² A discussion of some of the costs of dust control is found in Hills, *Economics of Dust Control*, 132 *Annals of the New York Academy of Sciences*, 322 (1965), App. at 442-54. Several industry representatives testified in detail concerning the cost of attempting to meet the standards. Cf. *H & H Tire Co. v. United States Dept. of Transportation*, 471 F.2d 350 (7th Cir. 1972); *Chrysler Corporation v. Department of Transportation*, 472 F.2d 659 (6th Cir. 1972). These cases support the proposition that "practical" as employed

in the Automobile Safety Act of 1966, 15 U.S.C. Sec. 1392(a), includes economic considerations, but the legislative history of that statute, unlike the history of OSHA, is more explicit on that point.

²³ Temporary variances may be obtained when timely compliance is technologically impossible.

rendered unable to compete with imports or with substitute products²⁴—the Secretary could properly consider that factor. These tentative examples are offered not to illustrate concrete instances of economic unfeasibility but rather to suggest the complex elements that may be relevant to such a determination.²⁵

With the aid of the foregoing analytic background of the procedural and substantive provisions of the Act, we turn to the specific objections raised by petitioners to the standards.

1. Effective Date for the Two Fiber Standard.

The most important aspect of setting the standards was the determination of an acceptable dust concentration level. Under the emergency standards, the eight hour time-weighted average airborne concentration of asbestos dust had been limited to five fibers greater than five microns in length per milliliter of air (hereinafter "the five fiber standard"). 36 F.R. 23207, 23208.²⁶ A principal issue at the hearings on the permanent standards was whether the standard should remain at five fibers or lowered to two. Proponents of standards ranging from zero to 12 fibers

appeared, and it is fair to say that the evidence did not establish any one position as clearly correct. The Secretary decided to resolve this doubt in favor of greater protection of the health of employees, and established the two fiber standard recommended by NIOSH and his Advisory Committee as the level ultimately to be achieved.

Industry representatives testified that they simply could not reduce concentrations to the two fiber level in the foreseeable future. In the course of formulating its proposal, NIOSH had undertaken a limited analysis of industry's capacity to comply and had recommended delaying the effective date of the two-fiber standard for two years, *i.e.*, July 1, 1974. The Secretary decided to retain the five fiber standard for approximately four years (July 1, 1976) before requiring the reduction to two fibers, in order to give employers time to prepare for the lower limit. Petitioners assert that the four year delay permitted by the Secretary is too long because (1) the health of employees is endangered thereby, and (2) employers do not need that much time.

a. Health Hazards Occasioned by the Delay.

The Secretary solicited the views of several experts on the question of the predictable health effects of maintaining a five fiber standard until 1976. The experts differed sharply in some of their opinions, but their responses are generally cautious and reflect deficiencies in available data concerning the relationship between exposure to asbestos dust and the likelihood of disease. The record indicates that no precise prediction of increased harm can be made at this time.²⁷

²⁷The Secretary directed his inquiries to Marcus M. Key, M.D., Assistant Surgeon General, Director of NIOSH; George W. Wright, M.D., Head of the Medical Research Division of St. Luke's Hospital, Cleveland, Ohio; W. Clark Cooper, M.D., Professor in Residence, University of California at Berkeley; and Duncan A. Holaday, Research Professor, Mount Sinai School of Medicine, City University of New York. Their replies are found in the Supplemental Joint Appendix. As examples of the responses, Dr. Key anticipated some increase in the effects of asbestosis, but not of significant proportions. Supp. App. 3b. With regard to potential carcinogenic effects, he said data was insufficient to make a prediction but that safety required proceeding on the assumption that exposure should be minimized. Dr. Wright replied that there is no evidence whatsoever to

²⁴Testimony of industry representatives predicted both of these results. See, e.g., App. at 960-62.

²⁵Since technological progress is here linked to objectives other than the traditional competitive, profit-oriented concerns of industry, accommodation of both sets of values will sometimes involve novel economic problems. *International Harvester Co. v. Ruckelshaus*, 478 F.2d 615 (D.C.Cir. 1973), illustrates some of these problems in the context of the automobile emissions standards of the Clean Air Act. 42 U.S.C. Secs. 1857 *et seq.* In the highly concentrated automobile industry the court deemed it likely that, by virtue of their size and importance to the economy, any one of the three major companies could obtain a relaxation of the automobile emissions standards if it could not meet them. If this occurred after other manufacturers had prepared to comply with the standard, the technological lagyard would enjoy a competitive advantage because installation of the control devices renders the vehicles less efficient to operate. This circumstance justified insuring that the standards could be met by all major producers before they became effective.

²⁶Although size and shape of fibers are relevant to this propensity to cause harm, the court is limited to fibers longer than five microns for practical rather than medical reasons. The most accurate sampling technique that can feasibly be employed, the membrane filter method, does not measure smaller particles. App. at 193-203, 225-227, 929, 939-42.

[4] The Secretary must establish those standards that most adequately insure that no employee will suffer material impairment of health. We cannot say, on the basis of the conflicting testimony in the record, that the Secretary erred in his prediction of the health effect of the four year delay,²⁸ but neither can we say that employees are not exposed to some additional risk of disease because of greater exposure. In view of the Act's express allowance for problems of feasibility, the Secretary's decision to allow a four year delay is not irrational with regard to those industries that require that long to meet the standard. It is appropriate to allow sufficient time to permit an orderly industry-wide transition since, in those cases, the indeterminate degree of risk involved is counterbalanced by considerations of feasibility; it is not, however, a risk to which employees should be needlessly exposed.

b. Industrial Compliance Capability

The evidence indicates that significant inter-industry, as well as intra-industry, differences exist concerning the time needed by employers to meet a two fiber standard. Within particular industries the concentration levels at some plants, usually newer ones, are much lower than at others. Supp. App. 12b. More importantly, some industries could implement a two fiber standard more quickly than others.²⁹ The Director of

indicate that asbestos *per se* is a carcinogen in the sense of being an initiator, Supp. App. 15b, and that it is currently unknown whether a reduction of concentrations below the five fiber level is biologically important. Supp. App. 14b. On the other hand, Dr. Holaday indicated that he did not see how a level higher than two fibers could be justified Supp. App. 43b.

²⁸ The Secretary concluded that "so long as the ceiling limit is complied with, no harm is reasonably expected to result from exposures during the transitional period." This judgment, although not compelled by the evidence, finds support in the record.

²⁹ On the question of feasibility in particular industries, the statements of the experts listed in note 27 *supra* may be summarized as follows:

1. insulation application—within two years (Wright, Cooper and Holaday);
2. marine insulation—within two years (Holaday); more than two years (Cooper);
3. asbestos textiles—more than two years (Wright and Holaday);
4. asbestos cement plants and friction products plants—almost immediately (Holaday).

NIOSH recommended that the Secretary require compliance sooner than 1976 where possible, and that he prohibit degradation of workplaces with concentrations currently below the limits.

Despite this recommendation and the evidence of these differences, the Secretary issued a single uniform effective date for all employers in all industries. He explained this decision as follows:

It is concluded there should be one minimum standard of exposure to asbestos applicable to all workplaces exposed to any kind of mixture of kinds of asbestos. Reasons of practical administration preclude a variety of standards for different kinds of asbestos and of workplaces.

We cannot say on this record that an attempt to assign differing effective dates to employers *within* an industry based on the time needed by each employer to alter his plant would be practicable. However, insofar as inter-industry differences are concerned, those reasons of practical administration are neither explained nor readily apparent.³⁰

Government counsel suggested at oral argument that the Secretary possessed insufficient information at the time of formulation of the standards to differentiate among industries. That may be true, but it is unclear whether the lack of information is a cause or result of the Secretary's approach. When the Secretary sought opinions concerning compliance capabilities, the responses suggested that some industries could comply almost immediately, some could comply within two years, and some might require longer. The lack of more specific information may be partially attributable to the Secretary's failure to seek it. The record reflects little, if any, effort to cross-examine industry witnesses on this point, and, notwithstanding their insistence that a two fiber standard was not practicable, such ques-

Dr. Key, the Director of NIOSH, did not respond in terms of particular industries, but he did say that some plants could reach a two fiber standard before 1976, and that they should be required to do so.

By listing these responses we do not mean to suggest any opinion as to the accuracy of these predictions. The record at present contains little data from which to draw such a conclusion.

³⁰ Similarly, problems of competitive advantage, relevant to intra-industry standards, are ordinarily inoperative at the inter-industry level. Cf. *International Harvester Co. v. Ruckelshaus*, note 25 *supra*.

tioning might have elicited some information pertinent to inter-industry distinctions.³¹

Separate standards for different industries would not appear to create opportunities for employers in one industry to challenge their standards on the grounds that standards for another industry were less demanding. The only relevant question would be whether the time schedule established for each industry was feasible for that industry; therefore, comparisons with the standards established for a different industry with different technological problems would be pointless unless the two industries were in competition with one another.³² If one industry could gain a competitive advantage over another by virtue of differing standards, employers in the disadvantaged industry might challenge the standards on a comparative basis, but the threat of problems of that type does not appear on the basis of the record before us to justify a uniform standard for all industries.

[5] It may be that the task of devising categories and classifying employers by industry would be unmanageable in view of the many diverse uses of asbestos. However, there is no evidence to that effect in the record, and it is not for the court to guess at the Secretary's reasoning or to supply justifications for his action. We have noted his cryptic reference to "reasons of practical administration," but, insofar as inter-industry distinctions are concerned, those reasons are not self-evident. Therefore, we remand this aspect of the standards to the Secretary for clarification or reconsideration.

2. Monitoring Requirements.

Within six months of publication of the standards, all employers are required to monitor workplaces to determine whether the concentrations of asbestos

dust are within the allowable limits; thereafter, monitoring must in all cases be of such pattern and frequency as to identify accurately the levels of exposure. Monitoring must occur no less frequently than once every six months where the concentrations may reasonably be foreseen to exceed the standards. Petitioners object that these provisions are inadequate to protect the health of employees.³³

The monitoring provisions are especially important because the results of that process often determine when and what protective measures are required.³⁴ Petitioners argue that the reasonable foreseeability qualification vests control of this key provision in the discretion of the employer. They suggest that an employer may evade the controls imposed by the standards simply by deciding that no violations can reasonably be foreseen at his plant, thereby exempting his business from the requirement that monitoring be conducted once every six months. Although it is true that the standards require the employer to exercise some judgment concerning the likelihood of a violation, we do not give the foreseeability exception the broad construction feared by petitioners.

Periodic monitoring is important to insure that concentration levels have not been allowed to increase since the initial monitoring. Further, monitoring techniques may not be entirely uniform,³⁵ and, in any event, concentrations of asbestos in the air may not remain stable throughout a working day or from one day to the next. Thus whether or not the initial monitoring reflects a violation will be the product of several variables other than the actual average concentration of asbestos dust in that plant. In light of these factors, satisfactory results in the initial monitoring would not necessarily justify a conclusion that concentrations in excess of the limits could not be foreseen. It might well require several samples demonstrating consistently low exposure levels before such a prediction could be made

³¹ It is possible that the Secretary failed to pursue this point because he interpreted the statute to require a single uniform standard for reasons of practical administration. If so, we disagree. The statutory scheme is generally calculated to give the Secretary broad responsibility for determining when standards are required and what those standards should be. If the Secretary determines that meaningful distinctions between the compliance capabilities of various industries can be defined, he is authorized to structure the standards accordingly.

³² Portland Cement Association v. Ruckelshaus, 486 F.2d 375, 389-90 (D.C. Cir. 1973).

³³ 29 U.S.C. Sec. 655(D)(7) requires that the standards where appropriate shall provide for monitoring or measuring employee exposure at such locations and intervals, and in such manner as may be necessary for the protection of employees.

³⁴ See, e.g., 29 C.F.R. 1910.93a (c), (f)(1).

³⁵ See, e.g., App. at 356-60.

with any confidence. Thus we consider the qualification based on reasonable foreseeability to be a narrow one applicable only when considerable information regarding the workplace is available. Even then occasional monitoring would be required in order to insure that no changes had occurred, but the six months schedule would not apply.

Some jobs pose particularly difficult monitoring problems, and petitioners argue that monitoring once every six months is inadequate to control such situations effectively.³⁶ That may be true, but the problem should be adequately handled by the general requirement that monitoring be tailored to reflect exposure levels accurately. Where excessive exposure may reasonably be foreseen, monitoring is required at least once every six months and more frequently where appropriate.

Petitioners seem to fear that, because of the imprecise language of this requirement, the six month maximum interval between monitoring samples will in practice become the minimum as well, and they consider that inappropriate. The imprecision is perhaps unavoidable, however, in view of the multitude of diverse industrial situations involved. The most effective manner in which to deal with problems of this sort would appear to be to invoke the procedures for detecting and correcting violations in particular workplaces.³⁷ In the context of a claim concerning a specific situation, it would be possible to develop a record on the question of the adequacy of the monitoring interval for that particular workplace—a record necessarily absent in the context of these proceedings to establish a general guideline.

C. Methods of Compliance— Scope of Applicability.

The Act specifies particular methods of compliance that must be employed in order to meet concentration levels, but

there is some ambiguity as to the situations in which those provisions are operative. Part of this uncertainty stems from the following sentence quoted from the initial monitoring requirement:

If the limits are exceeded, the employer will immediately undertake a compliance program in accordance with paragraph (c) of this section. 29 C.F.R. 1910.93a (f)(1).

Petitioners fear, and the Government brief seems to suggest, that this language restricts applicability of the provisions concerning methods of compliance to those situations in which the initial monitoring reflected a violation. Those provisions are not by their terms so restricted, nor does an examination of this language suggest that they were meant to be. They state broadly, for example, that engineering controls "shall be used to meet the exposure limits" The provision dealing with particular tools states:

All hand-operated and power-operated tools which may produce or release asbestos fibers in excess of the exposure limits prescribed in paragraph (b) of this section . . . shall be provided with local exhaust ventilation systems 29 C.F.R. 1910.93a(c)(1)(iii) (emphasis supplied).

The modifying clause italicized above would hardly seem necessary if this provision applied only to those workplaces where a violation has already been detected.³⁸ Finally, the work practices provisions are concerned with activities that may create high concentrations of asbestos for short periods of time—situations that can be identified as dangerous without resort to monitoring and as to which monitoring is least effective.³⁹

Specific control measures can be used not only to correct violations that have been discovered but also as a supplement to measures designed to deter employers from ignoring their responsibilities.

Petitioners attack this language as unduly imprecise, but that argument is governed by the same reasoning as the "reasonable foreseeability" modification of the monitoring requirement. The exception is a narrow one, limited to workplaces that present no serious question of compliance. It is noteworthy that the EPA speaks of this section as creating a general duty to use local exhausts with no mention of the exception. 38 F.R. 8821 (Apr. 6, 1973) (Statement accompanying 40 C.F.R. Part 61).

³⁹See, e.g., 29 C.F.R. 1910.93a(c)(2)(ii). (iii).

³⁶The standards recognize these problems and attempt to deal with part of them by establishing limits for peak periods.

(3) *Ceiling concentration.* No employee shall be exposed at any time to airborne concentrations of asbestos fibers in excess of 10 fibers, longer than 5 micrometers, per cubic centimeter of air. . . .

29 C.F.R. Sec. 1910.93(b)(3).

³⁷Employees may report to the Secretary conditions that they believe to be in violation of the standards, and request an inspection. 29 U.S.C. Sec. 657(f)(1). Coupled with the sanctions available for violations, these pro-

ment to the monitoring procedure. Whether monitoring detects impermissible concentrations of asbestos dust in a particular workplace may depend upon when and how the sample is taken. The danger that hazardous conditions will consequently exist undetected and unremedied can be reduced by requiring that certain objective control measures be employed as well. Whereas monitoring requires skilled technicians, anyone, including a labor union representative, could determine whether exhaust fans or wet handling methods were being employed.⁴⁰ Since the record indicates a shortage of monitoring personnel, this may prove to be one of the most important benefits of these provisions.

[6] For these reasons, we do not construe the methods of compliance provisions as being applicable only in those instances in which a violation has already been detected. Although the terms of those provisions are often sufficiently broad to allow considerable flexibility in the choice of methods, they are generally applicable to all workplaces covered by the asbestos standards.

D. Use of Moisturization as a Control Method.

The standards require that asbestos be moisturized before being handled and worked to avoid creating dust "unless the usefulness of the product would be diminished thereby."⁴¹ Petitioners argue that this requirement should not be modified by considerations of utility. In considering this issue it is important to recall that this is a supplemental regulation. The employer must comply with the concentration limits in any event; the issue is whether he must use this particular method.

Moisturization is effective and is subject neither to the uncertainties of monitoring nor to the technical problems of malfunction and repairs incident to dust collection and exhaust systems. The Secretary recognized these advantages and required that this method be employed where practicable, but left to the employer the opportunity to seek other methods in some circumstances. This solution seems to accommodate as nearly as possible the interests of safety and efficiency. Petitioners' objection is that

flexibility is again achieved by relying on a judgment by the employer. Although we can understand the concern on the part of labor representatives in a matter of this sort, it is too early in the history of this statute to presume that employers will not make a good faith effort to comply.

Further, this aspect of the Secretary's standards is consistent with the general Congressional scheme. OSHA applies to an estimated four million employers and 57 million employees, but the Secretary has only about 600 inspectors and 100 industrial hygienists. In this situation some reliance on self-policing by employers is clearly necessary. Although this self-regulatory aspect of the statute would make specific, objective standards desirable, devising standards of this sort that will be generally applicable to thousands of different situations involves enormous practical difficulties. Setting forth inflexible requirements of particular methods would be effective only if the Secretary could anticipate all possible problems and devise a uniform approach appropriate to each. Rather than attempt to do so, the Secretary has in some instances employed a somewhat open-ended scheme to allow development of different methods for different workplaces. As a safeguard against abuses by the employer, Congress has provided employees or their representatives with numerous opportunities to participate in the policy process or to instigate enforcement by the Secretary.⁴²

3. Labels and Warnings.

In order to insure that employees handle materials likely to produce asbestos dust carefully and to prevent persons from entering areas where they will be exposed to such dust needlessly, cautionary labels and warning signs are required by the Secretary's standards. Petitioners assert that the language selected by the Secretary is not strong enough for these purposes, and they have suggested alternatives that they consider better suited to the task.⁴³

⁴² See, e.g., 29 U.S.C. Secs. 655(b)(1), 656(a)(1), 657(c)(3)(u), (7)(1), 659(c). One commentator has described this opportunity for union participation as unparalleled in any other labor legislation. Cohen, *supra* note 1, at 799.

⁴³ The statutory mandate regarding labeling is as follows:

Any standard promulgated under this

⁴⁰ See App. at 227-28, 808-09.

⁴¹ 29 C.F.R. 1910.93a(c)(2)(f).

Although the language favored by petitioners was recommended by NIOSH and was included in the standards as originally proposed, we cannot say it is required by OSHA. After examination of the standards promulgated in light of the terms of the statute, we conclude that they are within the range of the Secretary's discretion.

4. Medical Examinations.

The standards require that all employers provide a medical examination (1) when an employee is first assigned to a job involving exposure to asbestos, (2) when he leaves that job, and (3) annually during his employment in the position. Petitioners do not attack this timetable or the substantive requirements governing the nature of the examination, but they do assert that the examinations should be given by a physician of the employee's choice, and that the results should be given to the employer only if the employee decides to do so.⁴⁴

subsection shall prescribe the use of labels or other appropriate forms of warning as are necessary to insure that employees are apprised of all hazards to which they are exposed. . . . 29 U.S.C. Sec. 655(b)(7).

The caution signs required by the standards read:

ASBESTOS DUST HAZARD
Avoid Breathing Dust
Wear Assigned Protective Equipment.
Do Not Remain In Area Unless Your Work Requires It.
Breathing Asbestos Dust May Be Hazardous To Your Health

29 C.F.R. Sec. 1910.93a(g)(1)(ii).
The warning labels state:

Caution
Contains Asbestos Fibers
Avoid Breathing Dust
Breathing Asbestos Dust May Cause

Serious Bodily Harm
29 C.F.R. Sec. 1910.93a(g)(2)(ii).

The language favored by intervenors would use the terms "Danger" and "warning" and would make specific mention of particular health hazards such as cancer and asbestosis.

⁴⁴ Petitioners also argue that the examination should be available to retired as well as to active employees. The statute requires that where appropriate the standards "prescribe the type and frequency of medical examinations or other tests which shall be made available, by the employer or at his cost, to employees exposed to hazards in order to most effectively determine whether the health of such employees is adversely affected by such exposure." 29 U.S.C. Sec. 655(b)(7). By its terms the protection of this provision extends only to employees and would terminate with that status. Although that language might conceivably be read to include former employ-

Petitioners argue that the standards violate the principle of physician/patient confidentiality because they would allow the physical examinations to be conducted by company doctors and would make the results available to the employer. Confidentiality is necessary, they argue, to avert the possibility that, in hiring and discharging employees, employers will discriminate against those with symptoms of asbestos-related disease or prior histories of exposure to asbestos dust. The Secretary recognized this potential problem, and stated that uses of the records would be scrutinized carefully. However, he did not consider the possibility of such abuse sufficient to outweigh the opposing considerations.

The standards require the employer to take into consideration the result of an employee's most recent physical examination in making assignments to jobs requiring the use of respirators. An employee who cannot safely perform such a job is to be reassigned without loss of seniority or wages. The Secretary reasoned that the salutary purposes of this provision could not be fulfilled if employers were denied access to the medical records.⁴⁵

Since the results are to be made available to the employer, allowing the employer to select the physician has the advantages of both convenience and efficiency. Some employers already maintain an industrial medical staff skilled in dealing with asbestos-related medical problems,⁴⁶ and the requirements of the standards as promulgated appear likely to encourage the development of additional staffs of this sort. The employee would then benefit from the expertise associated with specialization, and the state of medical knowledge concerning these diseases should likewise be improved. All of these factors, identified in the record, operate to make the Secretary's decision on this point a non-arbitrary one.

ees if such a construction were necessary to effectuate the purposes of the Act, we are not persuaded that the measures adopted by the Secretary have been shown to be inadequate by reference to the language of the statute.

⁴⁵ The ultimate choice remains in the hands of the employees in any event since the examinations provided by the employer are entirely voluntary insofar as employees are concerned.

⁴⁶ See App. 339-42, 569-70.

5. The Recordkeeping Requirements.

Many of the problems the Secretary faced in establishing standards regarding asbestos dust were directly attributable to the lack of reliable information concerning asbestos-related diseases. The Act attempts to correct this deficiency by requiring that:

Each employer shall make, keep and preserve, and make available to the Secretary or the Secretary of Health, Education, and Welfare, such records regarding his activities relating to this chapter as the Secretary ... may prescribe by regulation as necessary or appropriate for the enforcement of this chapter or for developing information regarding the causes and prevention of occupational accidents and illnesses. 29 U.S.C. Sec. 657(c)(1).

Under the standards promulgated by the Secretary to implement this provision of the statute, employers must retain for twenty years records of each employee's required medical examinations. The standards also require that employers keep records of personal and environmental monitoring, but these records need only be kept for the most recent three years.

Petitioners challenge both requirements as inadequate to protect the health of employees and to advance the present state of knowledge in this area. They argue that, in view of the long latency period associated with many asbestos-related diseases, all records, beginning with initial exposure and continuing throughout the life of each employee, should be retained. Since the recordkeeping requirements for medical examinations and monitoring differ not only in retention period but also in purpose, we treat each separately and reach different conclusions with regard to the two standards.

a. Medical Records

Records of an employee's prior physical examinations may assist a physician in the detection, diagnosis and treatment of that employee's illnesses. Although completeness would be desirable, it may be that the most critical medical records are the most recent ones, perhaps reflecting the examinations of the past two to five years.⁴⁷ Since Congress expressed the

desire to avoid unnecessary recordkeeping and to impose the "minimum burden upon employers," 29 U.S.C. Sec. 657(d),⁴⁸ the Secretary's decision to require retention of only records from the most recent twenty years was permitted him under the Act.

Records of past medical examinations may also be useful in research; for example, they may facilitate the plotting of the longitudinal course of disease or the evaluation of the long-term effects of various levels of exposure to asbestos fibers. These purposes might require a longer retention period than would often be critical for treatment of particular patients; however, even for research, records of some effects of exposure are detectable in the examinations.⁴⁹ Thus, even though that often will not occur until several years after initial exposure, the Secretary could reasonably conclude that the records of twenty years would ordinarily encompass the period during which disease could be detected and studied.

Further, we note that twenty years simply marks the minimum time which records must be maintained by employers. If retention is required for a longer period of time for purposes of research, the research organization can obtain copies of the records from the employer and keep them. The standards require an employer to supply these records to the Government upon request, and the twenty year period appears reasonably adequate for these purposes. This arrangement seems most practical since the records of every employee may not be needed for research. Ordinarily, sampling techniques would be employed to select limited numbers of representative records. After research groups have had a reasonable opportunity to obtain the records, and once the other records have been digested in statistical summaries, the remaining records arguably are of little utility.

b. Records of Exposure Levels Detected by Monitoring.

The three year retention period for the monitoring records seems sur-

Advisory Committee on Asbestos Dust Conference, App. 219.

⁴⁸See also S. Rep. No. 91-1282, *supra*, at 16-17, Legis. Hist. at 156-57.

⁴⁹See Advisory Committee Proceedings, *supra* note 47, at 100-05, App. J. 216-21; App. at 273.

⁴⁷See the statement of Dr. Johnson at page 103 of the Official Report of Proceedings before the U.S. Department of Labor

prisingly short in comparison to the twenty years requirement for medical records—especially in view of their respective functions. Whereas the medical records of primary importance may be those beginning with the first manifestations of a disorder, a complete record of an employee's history of exposure to asbestos prior to the development of disease would be important to research. At this point in time, relatively little is known about the causal relationship between exposure to asbestos dust and various diseases. Persons manifesting disorders are being studied, but that research is hindered by the lack of information concerning the exposure levels at industrial workplaces in the past. As the Secretary observed:

[W]e have now evidence of the consequences of exposure, but we do not have, in general, accurate measures of the levels of exposure occurring 20 or 30 years ago, which have given rise to these consequences. 37 F.R. 11318.50

For this reason, in the proceedings before the Advisory Committee two members of the committee suggested that a twenty year period for exposure records and a five year requirement for medical records would be appropriate.⁵¹

[7] The Secretary did not explain his decision to require only a three year retention period for exposure records, but the Government has suggested several justifications in its brief. Passing over the problem of considering a rationale advanced by counsel rather than by the Secretary, we have examined those arguments and conclude that they do not adequately clarify the Secretary's action.

The Government notes that the Act specifies that citations for violations must be issued within six months of the occurrence of the violation. Thus it would appear that a period of three years is more than adequate for enforcement purposes. This argument is accurate, but it does not speak to the Secretary's obligation under OSHA to require retention of those records necessary to develop information concerning the causes of disease.

The second justification offered is that it is the responsibility of NIOSH,

the Secretary, and HEW to collect the exposure data necessary to re-evaluate the standards. 29 U.S.C. Secs. 671, 673. Employers must supply records on request,⁵² and the Government asserts that three years is an adequate period of time to allow for the agencies to make such requests.

A single permanent storage center for all these records might well be the best solution. Since employees may change jobs and employers may cease operations, continuity may be best achieved if the agency collects and retains the records.⁵³ If such a program is in fact implemented, the three year period may be acceptable, but there is no indication that current agency procedure includes compilation of such records. Further, the following footnote from the Government's brief raises some question concerning the interpretation of the purposes of recordkeeping:

⁵²These records are not relevant concerning individual records of exposure. Monitoring of employee exposure is not continuously performed, therefore, worklife exposure is never truly obtainable. Unless specific employees are linked with exposure data these records are not relevant for purposes of determining cumulative employee exposure. Because these records are not relevant to total employee exposure there is no need to transfer monitoring records if a company goes out of business.

As noted above, data concerning prior exposure is considered very important in determining the causal relationship between exposure to asbestos dust and disease. To the extent that the note quoted above suggests that collection of such data is unnecessary, it reflects a misinterpretation of the Act. It may be that an adequate basis for research may be established on the basis of exposure levels generally prevalent in the industry without linking each employee to the particular samples taken from his workplace, but the purposes of the recordkeeping requirements

⁵²Records shall be maintained for a period of at least 3 years and shall be made available upon request to the Assistant Secretary of Labor for Occupational Safety and Health, the Director of the National Institute for Occupational Safety and Health, and to authorized representatives of either. 29 C.F.R. 1910.93a(f)(1).

⁵³See App. at 216.

⁵⁰See also EPA Statement, *supra* note 38, at 8820.

⁵¹App. at 221.

cannot be fulfilled without providing some adequate means of relating health records to exposure levels.

The Secretary has provided no explanation of the relatively short retention period for monitoring results, and we find no adequate assurance in the record that the requirement as promulgated will provide the data needed for research into the causes and prevention of asbestos related disease. Consequently, we remand the recordkeeping requirements to the Secretary for such modification or clarification as may be necessary to insure that the statutory objectives will be fulfilled.

Except for the remand we order for reexamination of (1) the uniform application of the 1976 effective date for the two fiber standard and (2) the three year retention period for monitoring records, the petition for review is denied. All of the challenged features of the standards appear to partake of an essentially legislative type of decision making by the Secretary in the performance of the broad delegation made to him by Congress. Had any one of these decisions been made in the first instance by Congress itself and embodied in the statute, its vulnerability to judicial scrutiny would have been dubious indeed. In this context, therefore, judicial review inevitably runs the risk of becoming arbitrary supervision and revision of the Secretary's efforts to effectuate the legislative purposes in an area where variant responses might each be legitimate in the sight of Congress.

What, in our view, differentiates the two provisions we have remanded from those we have left untouched is that the record, examined closely in relation to the relevant concerns of the Act, leaves nagging questions—even for the inexpert observer—as to the reason and rationale for the Secretary's particular choices. However the statutory standard for our review may be characterized, we consider that our dispositions fall within it.

BRENNAN v. SOUTHERN CONTRACTORS SERVICE and OSAHRC

U. S. Court of Appeals
for the Fifth Circuit

Reversal of order of Occupational Safety and Health Review Commission (1 OSHC 1240).

PETER J. BRENNAN, SECRETARY OF LABOR, Petitioner, v. SOUTHERN CONTRACTORS SERVICE and OCCUPATIONAL SAFETY AND HEALTH REVIEW COMMISSION, Respondents, No. 73-2682, April 12, 1974.

Stephen F. Eilperin, U. S. Department of Justice, Washington, D. C., for appellant.

Allen M. Sachel, Special Counsel, OSAHRC, Washington, D. C., for appellee.

Before Gwin, Coleman and Morgan, Circuit Judges.

SAFETY NETS

1. Interpretation of standard

Requirement of 29 CFR 1926.105(a) that safety nets be provided where use of ladders, scaffolds, catch platforms, temporary floors, safety lines, or safety belts is impractical obligates employer to use either safety net or one of other safety devices listed in standard.

2. Failure to provide nets or other devices

Employer's failure to provide either safety nets or any of alternative safety devices—ladders, scaffolds, catch platforms, temporary floors, safety lines, or safety belts—for workers exposed to falls of more than 25 feet constitutes serious violation of 29 CFR 1926.105(a).

Full Text of Decision

GEWIN, Circuit Judge:

Pursuant to 29 U.S.C. Sec. 660(b),¹ the Secretary of Labor appeals from a final order of the Occupational Safety & Health Review Commission (the Commission) which found that regulation 29 C.F.R. 1926.105(a) (1973), under which Southern Contractors Service Company (Southern) had been charged with a serious violation, was inapplicable to the facts alleged in the complaint. This regulation provides as follows:

"(a) Safety nets shall be provided when workplaces are more than 25 feet above the ground or water surface, or other surfaces where the use

¹29 U.S.C. Sec. 660(b) (Supp.1972-73):
"(b) The Secretary may also obtain review or enforcement of any final order of the Commission by filing a petition for such relief in the United States court of appeals for the circuit in which the alleged violation occurred or in which the employer has its principal office"

(c) The Deputy Administrator, Veterinary Services, upon request to him, may approve other identification systems in specific cases and under such conditions as he may prescribe if he determines that such systems provide the necessary information to allow for trace-back of the swine to their herd of origin.

Any person who wishes to submit written data, views or arguments concerning the proposed amendment may do so by filing them with Deputy Administrator, Veterinary Services, Animal and Plant Health Inspection Service, U.S. Department of Agriculture, Hyattsville, Maryland 20782 before August 12, 1974.

All written submissions made pursuant to this notice will be made available for public inspection at the Federal Building, 6505 Belcrest Road, Room 870, Hyattsville, Maryland 20782, during regular hours of business (8 a.m. to 4:30 p.m., Monday to Friday, except holidays) in a manner convenient to the public business (7 CFR 1.27(b)).

Comments submitted should bear a reference to the date and page number of this issue in the FEDERAL REGISTER.

Done at Washington, D.C., this 7th day of May 1974.

PIERRE A. CHALOUX,
Acting Deputy Administrator,
Veterinary Services, Animal
and Plant Health Inspection
Service.

[FR Doc. 74-16882 Filed 5-9-74; 8:45 am]

DEPARTMENT OF LABOR

Occupational Safety and Health
Administration

[29 CFR Part 1910]

(Docket OSH-36)

VINYL CHLORIDE

Proposed Standard

1. *Background.* Vinyl chloride (chloroethene) Chemical Abstracts Service Registry No. 75015, is a synthetic chemical made by oxychlorination of ethylene or by hydrochlorination of acetylene. It is the parent compound of a series of thermoplastic resin polymers and copolymers which are widely used for containers, wrapping film, electrical insulation, pipe, conduit, and a variety of other products. Vinyl chloride has been made commercially in this country since 1939 and present production is in excess of seven billion pounds per year.

Vinyl chloride (VC) is a gas at ambient temperature and pressure and is a chlorinated hydrocarbon which has moderate liver toxicity. The previous standard set a ceiling value of 500 parts per million (ppm) (29 CFR 1910.93, Table G-1).

On January 22, 1974, the Occupational Safety and Health Administration (OSHA) was informed by the National Institute for Occupational Safety and Health (NIOSH) that the B. F. Goodrich Chemical Company reported that deaths of several of its employees from a rare liver cancer (angiosarcoma) may

have been occupationally related. As a result of this notification and after consultation with the National Institute for Occupational Safety and Health (NIOSH), and a joint inspection of the plant by OSHA, NIOSH, and the Kentucky Department of Labor, a fact-finding hearing on possible hazards involved with the manufacture and use of VC was announced on January 30, 1974 (39 FR 3874) and held on February 15, 1974.

2. *Carcinogenicity of VC.* Information produced at this hearing demonstrated that exposure of laboratory animals (mostly Sprague-Dawley rats) to VC by inhalation at and below the then current OSHA standard of 500 ppm induced tumors, including angiosarcomas of the liver. Professor Cesare Maltoni, of the Instituto di Oncologia, Bologna, Italy, reported on a series of experiments on the effect of exposure of rats, mice, and hamsters to VC at concentrations of 10,000; 6,000; 2,500; 500; 250; and 50 ppm for varying periods of time (TR-43-63). Some of the experiments have been concluded, and others are still ongoing. The experimental results reported were that tumors have been observed in groups of animals exposed to VC at concentrations as low as 250 ppm. No tumors were observed in the group of animals exposed to VC at a concentration of 50 ppm. It also appears that the total number of tumors, as well as the numbers of angiosarcomas of the liver, decreased as the concentrations of VC were reduced to 250 ppm. Another experiment by Professor Maltoni was reported underway involving the exposure of 300 animals to VC at concentrations of 50 ppm, in order to assess in a more definitive way whether that level of exposure produces tumors in animals. Data reported by Torkelson, Oyen and Rowe (American Industrial Hygiene Association J 22: 254-361 (1961)) indicate that exposure to VC at concentrations of 50 ppm failed to induce tumors in rats, hamsters, rabbits, and dogs.

The employees of the B. F. Goodrich Chemical Company who died from angiosarcoma of the liver had an average exposure of approximately 19 years to vinyl chloride, at unknown concentrations, and variable exposures to other volatile chemicals. (TR 93). Some employees of Union Carbide, Firestone Tire and Rubber, and Goodyear were also reported in post-hearing comments to have had exposure to vinyl chloride and to have died from angiosarcoma of the liver. Finally, autopsies of four deceased employees revealed their liver angiosarcoma tumors were histologically indistinguishable from the angiosarcoma tumors observed in Professor Maltoni's experimental animals.

3. *The Emergency Temporary Standard.* On the basis of all information available at that time, and the fact that employees were being exposed at levels around the experimentally observed effect level of 250 ppm, an Emergency Temporary Standard (ETS) was promulgated on April 5, 1974 (39 FR 12342) as 29 CFR 1910.93q. This standard reduced

the level from a ceiling of 500 ppm to 50 ppm ceiling. It was expressly recognized that this standard limiting exposures to a 50 ppm level was intended to be a tentative, interim standard, to be in effect no longer than six months, during which time the whole question of possible safe exposure to VC would be reconsidered more fully and in the light of more information, especially results of experiments which were known to be underway at that time.

4. *Additional information.* On April 15, 1974, information and data were presented to representatives of OSHA, NIOSH and the EPA by the Industrial Bio-Test Laboratories, Northbrook, Illinois, concerning results of animal exposure studies with VC, sponsored by the Manufacturing Chemists Association (MCA). Although only preliminary in nature, these results revealed that 2 out of 200 mice exposed to VC concentrations of 50 ppm for 7 hours a day, five days a week, for approximately 7 months, developed angiosarcomas of the liver.

The Industrial Bio-Test Lab data indicate that exposure to VC at 50 ppm may well constitute a serious health hazard to employees. Also, the question of a safe level of exposure for humans cannot be determined at this time, and may continue as a matter for scientific deliberation for many years. We therefore conclude that it is now necessary to propose to change the 50 ppm level established in the ETS to as low a level as can be detected using methodologies outlined in this proposal.

(5) *The proposed permanent standard.* The requirements for a complete standard under section 6(b) of the Occupational Safety and Health Act of 1970 are much more comprehensive than the provisions of the ETS promulgated on April 5. The following proposals are responsive to the additional information on the carcinogenicity of VC, and the requirements of the Act.

A. *Level of exposure.* The proposed standard for employee exposure is set at no detectable level, as determined by a sampling and analytical method capable of detecting vinyl chloride at concentrations of 1 ppm with an accuracy of 1 ppm±50 percent. Although more sensitive methods may be available now or in the future, the methodological sensitivity proposed appears to be the most feasible and generally available. A method of 1 ppm sensitivity has been recommended to OSHA by NIOSH. To minimize the number of persons at risk, a requirement would be established for regulating areas where vinyl chloride is manufactured, reacted, stored, handled, released, repackaged, or used, including operations with polyvinyl chloride containing detectable levels of vinyl chloride. Access to the areas would be limited to authorized employees.

B. *Monitoring.* A program of monitoring would be required to establish whether there are detectable levels in regulated areas and to permit determination of employee exposures on an individual basis. Provision would also be

made for an opportunity to observe monitoring by employees or their designated representatives, as required by section 8(c) (3) of the Act.

C. Control methods. Where detectable levels of VC are monitored, two programs would be triggered: an engineering and work practice program to reduce levels below detectability; and while this is on-going, a respiratory protection program for employees in the regulated area.

Engineering controls and work practices are favored methods of compliance because they tend to avoid contamination of the ambient air in the workplace. Accordingly, it is proposed to require the institution of engineering controls and of work practice methods as soon as feasible, and to require the use of respirators pending the institution of such controls, to supplement such controls where they are insufficient to reduce concentrations of vinyl chloride below the detectable level, in specified work situations, and in cases of emergency. The proposal for continuous flow and pressure demand types of respirators is based on the recommendations of NIOSH, which has observed leakage through chemical cartridge respirators at high concentrations of VC.

A requirement would also be established for the provision and use of protective clothing for employees in the regulated areas. The protective clothing would minimize skin contact with VC vapor, and would provide some measure of protection from splash of liquid in the event of a spill or rupture of equipment. Food, beverages, and like products would be prohibited in the regulated area.

Written operational and emergency plans would be required, along with employee training in routine and emergency duties. Specific requirements would be established for emergency actions and for routine maintenance and decontamination operations, including vessel entry, which are known to present particular hazards.

The purposes of operational and emergency plans and training are to apprise employees of the hazards to which they may be exposed, of the precautions they must take to avoid such hazards, and to rehearse employees in the procedures they must follow in emergencies.

D. Medical surveillance. Comprehensive requirements for employee medical examinations are proposed, including necessary tests. Some additional guidance is included for the convenience of physicians. The proposed requirements have been recommended to OSHA by NIOSH as reasonably appropriate to detect liver dysfunction which may be indicative of, or predisposing to, the development of liver angiosarcomas.

E. Records and reports. Records of monitoring, medical examinations, and entry to regulated areas are proposed, with provision for access by appropriate OSHA and NIOSH officials. Specific provisions for employee access to monitoring records are included, as well as the requirement to furnish a copy of a medical

record to an employee's physician on the employee's request. Establishments conducting VC operations would be required to identify themselves to OSHA, and to report incidents (accidents) resulting in the release of vinyl chloride.

Accordingly, pursuant to sections 6(b), 6(c), and 8(c) of the Occupational Safety and Health Act of 1970 (84 Stat. 1593, 1596, 1599; 29 U.S.C. 655, 657), Secretary of Labor's Order No. 12-71 (36 FR 8754) and 29 CFR Part 1911, it is hereby proposed to amend 29 CFR Part 1910 by revising § 1910.93q as set forth below.

Written data, views, and arguments concerning the proposals may be mailed to the Docket Officer, Docket OSH-36, Room 230, 1726 M Street, N.W., Occupational Safety and Health Administration, Washington, D.C. 20210, postmarked not later than June 10, 1974.

Pursuant to 29 CFR 1911.11 (b) and (c), interested persons may file objections to the proposals, requesting an informal hearing with respect thereto, in accordance with the following conditions:

- (1) The objections must include the name and address of the objector;
- (2) The objections must be postmarked on or before June 10, 1974;
- (3) The objections must specify the provisions of the proposed rule to which objection is taken, and must state the grounds therefor;
- (4) Each objection must be separately stated and numbered; and
- (5) The objections must be accompanied by a summary of the evidence proposed to be adduced at the requested hearing.

As revised, § 1910.93q would read as follows:

§ 1910.93q Vinyl Chloride.

(a) **Scope and application.** (1) This section applies to any area or operation in which vinyl chloride (chloroethene), Chemical Abstracts Service Registry No. 75015, is manufactured, reacted, released, repackaged, stored, or used, including areas and operations involving polyvinyl chloride where detectable levels of vinyl chloride are released.

(2) This section does not apply to the handling or use of fabricated products made entirely or in part of polyvinyl chloride.

(b) **Definitions.** (1) "Assistant Secretary" means the Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor or his designee.

(2) "Authorized employee" means an employee whose duties require him to be in the regulated area and who has been specifically assigned by the employer; and any employee who enters such an area as a designated representative of employees to exercise an opportunity to observe monitoring and measuring of vinyl chloride.

(3) "Closed container" means any container which prevents the release of vinyl chloride to the environment.

(4) "Contaminated" means capable of releasing a detectable level of vinyl chloride.

(5) "Decontamination" means reduction of vinyl chloride concentrations to less than detectable levels.

(6) "Detectable level" means an airborne concentration of vinyl chloride measurable by a sampling and analytical method capable of measuring concentrations of 1 ppm, with an accuracy of 1 ppm±50 percent.

(7) "Director" means the Director, National Institute for Occupational Safety and Health, or any person directed by him or the Secretary of Health, Education, and Welfare to act for the Director.

(8) "Emergency" means an unforeseen circumstance or set of circumstances, resulting in the release of vinyl chloride into areas occupied by employees.

(9) "Exposure" means actual contact with vinyl chloride when unprotected by required personal protective equipment and clothing.

(10) "Fabricated product" means a finished product or part of such product, made of polyvinyl chloride, entirely or in part, including semifinished products such as film, sheet, block, bar, or extrusion stock.

(11) "OSHA Area Director" means the Director for the Occupational Safety and Health Administration Area Office having jurisdiction over the geographic area in which the establishment is located.

(12) "Polyvinyl chloride" means polyvinyl chloride homopolymer or copolymer before such is converted to a fabricated product.

(13) "Protective clothing" means clothing protective against vinyl chloride.

(14) "Vinyl chloride" means vinyl chloride monomer.

(15) "Waste resin" means any resin or other reaction products removed in the cleaning of equipment, such as vessels and piping.

(c) **Reference.** College of American Pathologists, 230 N. Michigan Ave., Chicago, Illinois 60601.

(4) **Regulated areas.** (1) A regulated area shall be established where (i) vinyl chloride is manufactured, reacted, released, repackaged, stored, or used; or (ii) polyvinyl chloride capable of releasing detectable levels of vinyl chloride is manufactured, reacted, released, repackaged, stored, or used.

(2) Access to regulated areas shall be limited to authorized employees.

(3) A daily roster of employees entering regulated areas shall be made and maintained. The rosters, or summaries thereof, shall be kept for at least 20 years.

(e) **Monitoring.** (1) Every regulated area shall be monitored for detectable levels of vinyl chloride.

(2) The monitoring shall assure that any exposure may be determined for each authorized employee with a confidence level of 95 percent.

(3) Employees or their designated representatives shall be afforded an opportunity to observe monitoring and measuring required by this paragraph.

(1) Where exercise of an opportunity requires entry to an area where the use

of protective clothing, equipment, facilities, or procedures is required, such clothing, equipment, facilities, and procedures shall be provided to all persons entitled to exercise the opportunity, at no cost to any of them.

(ii) Persons exercising the opportunity shall be instructed regarding:

(A) The toxicity and fire hazard of vinyl chloride; and

(B) The protective steps and measures necessary for their protection.

(iii) Observers shall be permitted, without interference to the persons performing the monitoring and measuring, to:

(A) Observe all steps and procedures related to the collecting, processing, and evaluation of particular monitoring and measurement samples;

(B) Record quantities and results obtained;

(C) Observe the condition of monitoring and measuring equipment;

(D) Receive a demonstration of the calibration and function tests of the monitoring and measuring equipment performed on site; and

(E) Examine instructions and documents related to the procedures and equipment for monitoring and measuring.

(4) Accurate and complete records of all required monitoring shall be made and maintained for not less than 20 years. Such a record shall (i) state the date of such monitoring and the levels determined; and (ii) identify the instruments and methods used.

(f) *Engineering controls and workpractice methods.* (1) Where detectable levels of vinyl chloride are measured, immediate protection shall be provided against exposure to vinyl chloride by the use of engineering controls, workpractice methods, and respirators as follows:

(i) Feasible engineering controls and workpractice methods shall immediately be used to reduce airborne concentrations of vinyl chloride below the detectable level;

(ii) Wherever feasible engineering controls and workpractice methods which can be instituted immediately are not sufficient to reduce concentrations of vinyl chloride below the detectable level, they shall nonetheless be used to reduce the concentrations to the lowest practicable level, and shall be supplemented by means of respirators in accordance with paragraph (g) of this section;

(iii) Wherever no feasible engineering control or workpractice method can be instituted immediately, immediate respiratory protection shall be provided in accordance with paragraph (g) of this section; and

(iv) In any case covered by paragraph (i)(1) (ii) or (iii) of this section, the employer shall also undertake as soon as practicable a program to reduce airborne concentrations of vinyl chloride below the detectable level, or to the greatest extent feasible, solely by means of engineering controls and workpractice methods and as soon as feasible.

(2) There shall be tests made for process or equipment leaks and for emission of vinyl chloride which may result from workpractice. The frequency of these tests shall be such as to insure the integrity of equipment and adherence to proper work practices.

(g) *Respiratory protection.* (1) A respiratory protection program in accordance with § 1910.134 shall be established and implemented where respirators are required to be used by this section.

(2) Respirators shall be used only in cases of emergency and where required by any other provision of this section. Respirators may not be used in lieu of feasible engineering controls or workpractice methods.

(3) Respirators or combinations of respirators for protection against vinyl chloride shall be selected from among the following:

(i) A positive pressure full facepiece self-contained breathing apparatus;

(ii) A pressure-demand full facepiece self-contained breathing apparatus operating in the pressure-demand mode;

(iii) A combination type "C" pressure-demand full facepiece respirator operating in the pressure-demand mode and a pressure-demand self-contained breathing apparatus operating in the pressure-demand mode; or

(iv) A combination type "C" continuous flow respirator and a pressure-demand self-contained breathing apparatus operating in the pressure-demand mode.

(h) *Protective clothing.* (1) Employees entering regulated areas shall be provided full-body protective clothing, footwear or shoe covers, and gloves, at no cost to them, and required to wear it while in the regulated area.

(2) Where polyvinyl chloride powder containing detectable levels of vinyl chloride is handled, employees shall also be:

(i) Provided and required to wear headcoverings;

(ii) Required to remove all protective clothing at each exit from the regulated area; and

(iii) Required to shower after the last exit of the day.

(3) Clean protective clothing shall be provided whenever contaminated or soiled, but not less frequently than weekly. Contaminated clothing shall be decontaminated before reuse by removal for laundering or disposal.

(i) *Shower facilities and practices.* (1) Where employees are required by this section to wear protective clothing and equipment, change rooms shall be provided in accordance with § 1910.141 (c).

(2) Where employees are required by this section to shower, shower facilities shall be provided in accordance with § 1910.141 (d)(3).

(3) Storage or consumption of food or beverages, storage or use of smoking or non-food chewing products, and the storage or application of cosmetics are prohibited in regulated areas.

(j) *Emergency situations.* (1) A written operational plan for emergency situations shall be developed for each regulated area.

(2) In the event of an emergency, appropriate portions of the plan shall be put into operation.

(i) Hazardous conditions created by the emergency shall be eliminated and the affected area shall be decontaminated prior to the resumption of normal operations.

(ii) Special medical surveillance by a physician shall be instituted within 24 hours for employees present in the affected area at the time of the emergency.

(iii) Where an employee has a known contact with liquid vinyl chloride such employee shall be required to shower as soon as possible, unless contraindicated by physical injuries.

(iv) An incident report on the emergency shall be reported as required in paragraph (q)(2) of this section.

(3) Each authorized employee shall be trained in a program relating to the hazards of vinyl chloride and the precautions for safe use.

(i) The program shall include:

(A) The nature of the fire hazard, and the necessary protective steps;

(B) The nature of the toxic hazard, including local and systemic effects, acute and chronic effects including specifically the carcinogenic hazard;

(C) The specific nature of operations which could result in exposure to vinyl chloride, and necessary protective steps;

(D) The purpose for and application of the medical surveillance program;

(E) The purpose for and application of decontamination practices;

(F) The purpose for and significance of emergency practices and procedures;

(G) The employee's specific role under normal operating or emergency conditions;

(H) Specific information to aid the employee in recognition and evaluation of conditions and situations which may result in the release of vinyl chloride;

(I) The purpose for and application of specific first aid procedures and practices;

(J) A review of this standard at the employee's first training and indoctrination program and annually thereafter.

(ii) All materials relating to the program shall be provided upon request to authorized representatives of the Assistant Secretary and the Director.

(k) *Signs and labels.* (1) Entrances to regulated areas shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT AREA
AUTHORIZED PERSONNEL ONLY

(2) Areas containing operations covered in paragraph (k)(1)(4) of this section shall be posted with signs bearing the legend:

CANCER-SUSPECT AGENT IN THIS AREA
FULL IMPERVIOUS AIR-SUPPLIED EQUIPMENT REQUIRED
AUTHORIZED PERSONNEL ONLY

(3) Containers of waste or other materials contaminated with vinyl chloride shall be labeled:

**VINYL CHLORIDE CONTAMINATED MATERIAL
CANCER-SUSPECT AGENT
NEEDS OF OR DECONTAMINATE USING
AUTHORIZED PROCEDURES**

(4) Containers of polyvinyl chloride containing detectable levels of vinyl chloride shall be labeled:

**POLYVINYL CHLORIDE
CONTAINS VINYL CHLORIDE
VINYL CHLORIDE IS A
CANCER-SUSPECT AGENT
ABSORBED BY BREATHING AND
THROUGH SKIN**

(5) Containers of vinyl chloride shall be labeled:

**VINYL CHLORIDE
DANGER
EXTREMELY FLAMMABLE GAS
UNDER PRESSURE
MAY POLYMERIZE WITH
EXPLOSIVE FORCE
POISON
CANCER SUSPECT AGENT AND
ANESTHETIC
ABSORBED BY BREATHING
AND THROUGH SKIN**

(6) No statement shall appear on or near any required sign, label or instruction, which contradicts or detracts from the effect of any required warning, information or instruction.

(1) Maintenance and decontamination. (1) Emphasis shall be placed upon immediate clean up of spills, periodic inspection, prompt repair of equipment and leaks, and proper handling, storage and disposal or decontamination of materials to prevent airborne contamination and accidental skin contact with vinyl chloride. Waste materials, equipment, and other sources of vinyl chloride in closed containers, may not be placed in areas of excessive temperature or sunlight since build-up of internal pressure may result in rupture of the container, fire or explosion.

(2) Waste resins or other materials contaminated with vinyl chloride shall be placed in closed containers pending disposal or decontamination.

(3) Appropriate procedures shall be developed and implemented for the decontamination or disposal of all such waste material.

(4) In maintenance or repair operations on contaminated systems or equipment, including vessel entry, employees engaged in such operations shall be (i) provided with and required to wear and use a whole-body air-supplied, suit impervious to vinyl chloride, and a respirator in accordance with paragraph (g) of this section; and (ii) required to shower after removing protective equipment.

(5) Protective clothing and equipment shall be clean and dry for each use.

(6) When vessels or piping systems are opened local exhaust ventilation shall be provided to remove the escaping vapor from all occupied areas.

(7) (i) Vessels to be entered shall first be ventilated and monitored so that the concentration of vinyl chloride is reduced to a level within the protection factor capability of the protective equipment.

(ii) When vessels are to be entered, all piping to such vessel shall be:

(A) Opened, blanked and tagged; or
(B) Where welded piping is in use, not less than 2 valves in series, which isolate the vessel from any other connection to such line, must be closed and secured.

(iii) No employee shall enter a vessel, except when another employee properly trained and equipped for entry is present and is observing the employee in the vessel. The observer shall have means for signalling for help in the event the employee experiences problems. Under such conditions, the observer shall signal for help, and shall not enter to assist the employee until another person is present to observe.

(m) Transportation loading and unloading. (1) Facilities for the loading and unloading of vinyl chloride to and from containers shall have each transfer line and vapor-equalizing line equipped with vent connections, and shall have an inert gas purging system. Vent and purge effluent shall be returned to a process stream or flared in a safe location.

(2) Procedures shall be developed and implemented for the transfer of vinyl chloride. Written copies of such procedures shall be provided employees engaged in such operations, and such employees shall be fully trained and rehearsed in all procedures.

(3) Employees engaged in transfer operations shall be provided with and required to wear respirators in accordance with paragraph (g) of this section.

(n) Polymer handling operations. (1) Containers of polyvinyl chloride releasing detectable levels of vinyl chloride shall be opened and transferred only under local exhaust ventilation which reduces the concentration of vinyl chloride below the detectable level.

(2) Hot operations, such as but not limited to milling, calendaring and extruding, which release detectable levels of vinyl chloride, shall be carried on only under local exhaust ventilation which reduces the concentration of vinyl chloride below the detectable level.

(o) Medical surveillance. Not later than 1974, a program of medical surveillance shall be instituted, and shall provide each authorized employee with an opportunity for examinations in accordance with this paragraph. All medical examinations and procedures shall be performed by or under the supervision of a licensed Doctor of Medicine (MD) or Doctor of Osteopathy (DO). All medical examinations and tests shall be provided without cost to the employee.

(1) At the time of initial employment, or upon institution of screening, a physical examination shall be performed with specific attention to detecting enlargement of liver or spleen by abdominal palpation.

(2) At the time of initial employment or upon institution of screening, and annually thereafter, a medical history checklist shall be completed by the employee. This list shall include questions concerning:

(i) Alcohol intake;
(ii) Past history of hepatitis;
(iii) Past exposure to potential hepatotoxic agents, including drugs and chemicals;

(iv) Past history of blood transfusions; and

(v) Past history of hospitalizations.

(3) At the time of initial employment, or upon institution of screening, a serum specimen shall be obtained for screening with respect to the following biochemical determinations of liver function:

(i) Total bilirubin;
(ii) Alkaline phosphatase;
(iii) Serum glutamic oxalacetic transaminase (SGOT);
(iv) Serum glutamic pyruvic transaminase (SGPT); and
(v) Gamma glutamyl transpeptidase (GGTP).

(4) Additional tests that may optionally be considered for use in screening include:

(i) Lactic dehydrogenase;
(ii) Serum protein determinations;
(iii) Serum protein electrophoresis; and
(iv) Platelet count.

(5) Laboratory analyses for all biological specimens included in medical examinations shall be performed in laboratories accredited by the College of American Pathologists or licensed under 43 CFR Part 74.

(6) If the results of screening required in paragraph (o) (3) of this section are normal, screening shall be repeated:

(i) Every six months for employees who have been employed in vinyl chloride related operations for 10 years or more; and

(ii) Annually, for all other employees entering regulated areas.

(7) If one or more liver function tests performed are abnormal, serum testing shall be repeated as soon as possible, preferably within two to four weeks. If no abnormalities are present upon re-screening, serum testing shall be repeated in three months.

(8) If abnormalities persist upon re-screening, the employee shall be withdrawn from areas where contact with vinyl chloride is possible, and an individualized medical workshop shall be instituted. Suggested as initial steps are a complete physical examination and various special procedures such as hepatitis B antigen determination and liver scanning. If liver function abnormalities are determined to be unrelated to liver disease, the employee may be permitted to return to vinyl chloride-related employment, subject to individual medical evaluation.

(9) A complete and accurate record of the results of medical examinations shall be made and maintained for the duration of employment plus five years, or for 20 years, whichever is longer.

(p) Records. (1) Records of monitoring and measuring, medical records, and regulated area entry rosters and summaries, shall be made available for examination and copying upon request to authorized representatives of the Assistant Secretary and the Director.

PROPOSED RULES

(2) In the event that the employer ceases to do business and there is no successor to receive and retain his records for the prescribed period, these records shall be transmitted by registered mail to the Director, and each employee individually notified in writing of this transfer.

(3) Employees and their designated representatives shall be provided access to examine and copy records of monitoring and measuring.

(4) Former employees shall be provided access to examine and copy records reflecting their own exposures.

(5) Upon written request of any employee, a copy of the medical record of such employee shall be furnished to a physician designated by the employee in such request.

(q) *Reports.* (1) Not later than ----- the following information shall be reported to the OSHA Area Director. Any change in such information shall be reported to the OSHA Area Director within 15 days of such change.

(i) The address and location of each establishment which has one or more regulated areas; and

(ii) The number of employees in each regulated area during normal operations, including maintenance.

(2) Incidents which result in the release of vinyl chloride into any area where employees may be exposed shall be reported in accordance with this paragraph.

(i) A report of the occurrence of the incident and the facts obtainable at that time including a report on any medical treatment of affected employees shall be made within 24 hours to the OSHA Area Director.

(ii) A written report shall be filed with the OSHA Area Director within 15 calendar days thereafter and shall include:

(A) A specification of the amount of material released;

(B) A description of the area involved and the extent of known and potential employee exposure and area affected;

(C) A report on any medical treatment of affected employees and any medical surveillance program implemented; and

(D) An analysis of the circumstances of the incident, and measures taken or to be taken, with specific completion dates, to avoid further similar releases.

(3) Upon completion of any monitoring and measuring which discloses that any employee has actually been exposed to detectable levels of vinyl chloride, each such employee shall be individually notified in writing. The notice shall:

(i) Be delivered not later than 10 working days after completion of the monitoring and measuring;

(ii) State the actual exposure in terms of concentration and time; and

(iii) State the steps which have been taken, are being taken, and will be taken, with specific completion dates, to terminate the exposure and prevent a recurrence.

(Secs. 6(b), 6(c), and 8(c), 84 Stat. 1593, 1596, 1599 (29 U.S.C. 655, 657); Secretary of Labor's Order No. 12-71 (36 FR 8754))

Signed at Washington, D.C. this 6th day of May, 1974.

JOHN STENDER,
Assistant Secretary of Labor.

[FR Doc. 74-10748 Filed 5-9-74; 8:45 am]

DEPARTMENT OF
TRANSPORTATION

Federal Aviation Administration

[14 CFR Part 25]

[Docket No. 13696; Notice 74-19]

TRANSPORT CATEGORY AIRPLANES

Type A Passenger Emergency Exit Capacity

The FAA is considering rule making to revise the passenger seating configuration limit that is applicable to Type A exits on transport category airplanes. Sections 25.807(c) (2) and (3) of the Federal Aviation Regulations (FARs) currently provide that for each pair of Type A exits (consisting of one on each side of the fuselage) the airplane may have a maximum passenger seating configuration of 100.

This advance notice of proposed rule making is being issued in accordance with the FAA's policy for early institution of public proceedings in actions related to rule making. An "advance" notice is issued to invite early public participation in the identification and selection of a course or alternate courses of action with respect to a particular rule making problem.

Interested persons are invited to participate in the rule making by submitting such written data, views, or arguments as they may desire. Communications should identify the regulatory docket or notice number and be submitted in duplicate to: Federal Aviation Administration, Office of the Chief Counsel, Attention: Rules Docket, AGC-24, 800 Independence Avenue, SW., Washington, D.C. 20591. Communications should be received on or before July 9, 1974, to assure proper consideration. All comments submitted will be available, both before and after the closing date for comments, for examination by interested persons.

The regulatory provisions relating to Type A exits that are contained in § 25.807 of the Federal Aviation Regulations were adopted by Amendment 25-15, effective October 24, 1967. That amendment also established the provision, in § 25.803(c), that manufacturers show by demonstration that the maximum seating capacity of an airplane having a capacity of more than 44 passengers can be evacuated to the ground within 90 seconds, under conditions prescribed in the regulation. As discussed in the preamble to Amendment 25-15, the allowable passenger seating limit of 100 that was established for each pair of Type A exits was less than the evacuation capacity that had been demonstrated by test. As a result of receiving data and information tending to indicate that some of the considerations leading to the

conservative limitation may no longer be applicable, the FAA has instituted a regulatory study project to reevaluate the limitation. The study will include the factors originally considered in establishing the limitation as well as any other factors found to be pertinent. Those factors originally considered include pertinent evacuation tests and demonstrations, exterior slides, the number, location, and size of aisles and passageways, and evacuation system reliability.

Data available to the FAA on in-service evacuations, slide deployments, and evacuation demonstrations indicate that more than 100 passengers have been evacuated through a Type A exit within 90 seconds. The data further indicate that Type A exit systems may have higher in-service reliability than was anticipated at the time the limitation was established in the regulations. However, the FAA believes it is important to review all relevant data on safety and cost considerations that may be applicable to any proposed change in the Type A exit passenger seating limitation. To this end, the FAA solicits data, views, and arguments from all interested persons on the questions set forth below. Data supporting an answer should be submitted or identified sufficiently that the FAA may obtain or develop it.

1. Do the data available on evacuation tests and in-service incidents that relate to the evacuation capacity of Type A exits under emergency conditions indicate that the 100 passenger limitations may safely be increased?

2. What reliability has been demonstrated for Type A exit systems by service experience and tests?

3. What relationships may be established between reliability and passenger emergency evacuation capability of Type A exits?

4. How would the emergency evacuation capability of Type A exits be affected by specific increases in passenger seating capacity and by specific passenger seating configuration considerations?

5. If there are other factors that should be considered, how should the relevant data be related to the emergency evacuation capability of Type A exits?

6. If the commentator recommends specific passenger capacities for consideration, what economic and safety benefits or penalties would be associated with them?

Issued in Washington, D.C., on May 2, 1974.

C. R. MELUGN, JR.,
Acting Director,
Flight Standards Service.

[FR Doc. 74-10787 Filed 5-9-74; 8:45 am]

[14 CFR Part 39]

[Docket No. 74-NW-4-AD]

AIRWORTHINESS DIRECTIVES

Boeing Model 737-100/200 Series
Airplanes

The Federal Aviation Administration is considering amending Part 39 of the

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration
WASHINGTON, D.C. 20210



Public Hearing - Proposed Standard for Occupational
Exposure to Vinyl Chloride

Tentative Schedule of Appearances
To Begin Tuesday, June 25, 1974
Departmental Auditorium of U. S. Department of Labor
Constitution Avenue between 12th and 14th Streets, N. W.
9:30 a.m.

Administrative Law Judge - Gordon J. Myatt
Hearing Management Officer - Julius Jimeno
Office of Standards Development - Daniel Boyd
Gene Regad
Office of the Solicitor - Ed Kline
Dave Kichenbecker

LEGEND

T- Testified
W- Submitted written testimony
in lieu of oral testimony

<u>Date</u>	<u>Appearance</u>	<u>Exhibits</u>
June 25, 1974	1. U. S. Department of Labor. Daniel P. Boyd, (T) Director of Standards Development for OSHA Herman F. Kraybill, Ph. D. (T) Scientific Coordinator for Environmental Carcinogenesis National Cancer Society Marvin Schneiderman (T) Associate Director of the Institute for Field Studies and Statistics National Cancer Society Edwin C. Hyatt (T) Industrial Hygiene Consultant Los Alamos, New Mexico	1 - 9 10a, 10b 11 12
	2. National Institute for Occupational Safety and Health Marcus M. Key, Ph. D. (T) Director of National Institute for Occupational Safety and Health Accompanied by Messrs. Baier, Rose, Fairchild, Waxwiller, Harris, Carson Hill, Caplan, and Lloyd	13

AP00000830

<u>Date</u>	<u>Appearance</u>	<u>Exhibits</u>	
June 25, 1974	3. United Rubber, Cork, Linoleum and Plastic Workers of America Peter Bommarito (T) President of United Rubber Workers and Chairman of IUD Committee on Health and Safety Louis Beliczky United Rubber Workers Director of Industrial Hygiene Accompanied by Sheldon W. Samuels	14	
	4. New England Plastic Corporation John Guelch (T) Marketing Manager for New England Plastic Corp.	15	
	5. Canvas Products Association International Michael J. George (W) Director - Coaters and Laminators Division of Canvas Products Assoc. International.	16	
	6. PVC Belting Manufacturers Committee Earle F. Webster Technical Superintendent and Assistant to the Vice-President of Operations Unilok Belting Division of the Georgia Duck and Cordage Mill Accompanied by Harold F. Jones and Harry J. Lambeth	17	
	7. Mt. Sinai School of Medicine Irving J. Selikoff, M.D. Professor of Medicine and Director of the Environmental Science Laboratory at the Mt. Sinai School of Medicine William J. Nicholson, Ph. D. Professor, Mt. Sinai School of Medicine	18a, 18b, 18c	
	June 26, 1974	8. Society of the Plastic Industry, Inc. Joseph Francis Tomashefski, M.D. Head of the Pulmonary Disease Department of the Cleveland Clinic Ralph L. Harding, Jr. President and Chief Staff Officer of the Society of the Plastic Industry, Inc.	20a
		Jerome H. Heckman, Esquire General Counsel to the Society of the Plastic Industry, Inc.	20b 20c

<u>Date</u>	<u>Appearance</u>	<u>Exhibits</u>
June 26, 1974	8. Society of the Plastic Industry, Inc.	
	Anton Vittone (T)	20d
	President of B. F. Goodrich Chemical Co.	
	Division of the B. F. Goodrich Co.	
	M. L. Keplinger, Ph. D. (T)	20e
	Manager of the Division of Toxicology,	
	Industrial Bio-Test Laboratories	
	Vince P. Ficcaglia (T)	20f
	Economic Analysis and Forecasting,	
	Arthur D. Little, Inc.	
	Accompanied by Charles H. Jenest	
	John E. Ertel (T)	20g
	General Manager of Robintech Incorp.	
	Accompanied by Carl U. Dernehl-	
	Director, Union Carbide Corp.	
	Submitted working notes from SPI	20h
	Kepner-Tregoe conference	
	Carl U. Dernehl, M.D. (T)	20i
	Associate Medical Director of	
	Union Carbide Corp.	
	Submitted Tabershaw-Cooper report.	20j
June 27, 1974	Maurice N. Johnson, M.D. (T)	20k
	Director of Environmental Health	
	B. F. Goodrich Co.	
	Rudolph H. Stehl, Ph. D. (T)	20l
	Senior Analytical Specialist	
	Dow Chemical Co.	
	Robert D. Soule, Ph. D (T)	20m
	Vice-President, Industrial Hygiene	
	Services for George D. Clayton	
	and Associates,	
	Roger W. Strassburg, Ph. D (T)	20n
	Director of Environmental Affairs	
	for the B. F. Goodrich Co.	
	Louis J. Molinini (W)	20o
	Vice-President	
	Gollob Analytical Service Corp.	
	Paul Beebe, Jr. (T)	20p
	Development Manager, Division	
	of Films and Flooring	
	Goodyear Tire and Rubber Co.	
	Arthur A. Smith (T)	20q
	Vice-President of Operations	
	Robintech, Incorp.	
	Rodney P. Becker (T)	20r
	Manager, PVC Application and	
	Technical Service, Plastics Div.	
	Diamond Shamrock Chemical Co.	
	Philip J. Weaver	20s
	Director of Industry Affairs	
	B. F. Goodrich Co.	

<u>Date</u>	<u>Appearance</u>	<u>Exhibits</u>
June 27, 1974	9. Tenneco Chemicals, Inc. Joseph Fath (T) Vice-President Tenneco Chemicals, Inc. Accompanied by Philip Scarito- Works Manager- Burlington, N.J., Paul Lobo, Director- Technical Group, Organics and Polymers Div.	21
	10. Air Products and Chemicals, Inc. Richard Fleming (T) Group Vice-President of Air Products and Chemicals, Incorp. Accompanied by A. Ross Adams, T. L. Carey, Joseph Sebastianelli John G. Barr (T) Technical Manager, Manufacturing Paul Kotin, M.D. (T) Consultant on Vinyl Chloride Monomer Medical Matters for Air Products and Chemicals, Inc.	23a, 23b 23c
	11. Dow Chemical Company V. K. Rowe (T) Director of Toxicological Affairs in Health and Environmental Research Dow Chemical Co. Karl Oelfke (T) Production Manager, Texas Division Dow Chemical Co. Roger Daniel (T) Manager of Industrial Hygiene Texas Division Dow Chemical Co. Ralph Cook, M.D. (T) Midland Division Dow Chemical, Co. Ben Holder, M.D. (T) Medical Director for the Midland Division of Dow Chemical Co. Perry Gehring, Ph. D. (T) Director of the Toxicology Research for the Dow Chemical Co.	24
June 26, 1974	12. Prevue Products, Inc. (T- change in original schedule) Zvi Cohen President of Prevue Products, Inc.	19
July 11, 1974	13. Posh Chemical, Inc. (T- change in original schedule) Chris Seibel, Jr. Vice-President, Posh Products, Inc.	51

Date
July 11, 1974

Appearance

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14. Superior Products Co., Inc. 52
(T- change in original schedule)
Frank D. Gaus
Owner of Superior Products Co., Inc.

July 8, 1974

15. B. F. Goodrich Chemical Co. 27a
John L. Nelson (T)
Vice-President,
Manufacturing of B. F. Goodrich
Chemical Co.
Accompanied by Anton Vittone,
Philop J. Weaver, Roger W. Strassburg,
Maurice N. Johnson
Condict Moore, M.D. (T) 27b
Professor of Surgery and Director
of the Cancer Center
University of Louisville School of
Medicine

June 28, 1974

16. Diamond Shamrock Chemical Co. 25a
Diamond Shamrock Corp.
Harry E. Connors, Jr. (T)
Vice-President of Diamond Shamrock
Chemical Co. and General Manager
of the Plastics Division of Diamond
Shamrock Chemical Co.
Richard W. McBurney, M.D. (T) 25b
Corporate Medical Director of Diamond
Shamrock Corp.
George D. Williams (T) 25c
Production Manager, Diamond Shamrock
Chemical Co.
Howard E. Everson (T) 25d
Director of Safety and Environmental
Engineering for Diamond Shamrock
Chemical Co.
Document entitled: PROPOSED OSHA PERMANENT 25e
STANDARD FOR POLYVINYL CHLORIDE PIPE
AND PIPE FITTING MANUFACTURING OPERATIONS

17. GAF Corporation, Chemical Division (W)
Rene Berni
Product Manager for Acetylene Chemical
Line, GAF Corporation

18. Johns-Manville Corporation 28a
Richard P. Carter (T)
Director, Government Relations
Environment Affairs, Johns-Manville Corp.
Letter submitted on the subject of the
SIZE AND NATURE OF J-M'S PIPE AND 28b
PIPE FITTING OPERATIONS

<u>Date</u>	<u>Appearance</u>	<u>Exhibits</u>
June 28, 1974	18. Johns-Mansville Corporation Exhibit submitted on the subject of- VINYL CHLORIDE MONITORING Exhibit submitted on the subject of- PROPOSED OSHA PERMANENT STANDARD FOR POLYVINYL CHLORIDE PIPE AND PIPE FITTING MANUFACTURING OPERATIONS (Preface) Statement submitted on the subject of- PROPOSED OSHA PERMANENT STANDARD POLYVINYL CHLORIDE PIPE AND PIPE FITTING MANUFACTURING OPERATIONS	28c 28d 28e
	19. American Plastics Howard J. Amster President, American Plastics	
July 11, 1974 (53)	✓ 20. Calgon Corporation Albert Knight (T- change in scheduling) Secretary and Counsel of Calgon Corp. William D. Lovett Development Engineer- Air Purification	53
	21. Olin Corporation B. W. Smith (W) Vice-President, Manufacturing and Engineering, Olin Corp.	61
	22. National Association of Food Chains Paul Korody, Jr. (W) Director of Governmental Affairs National Association of Food Chains United Fresh Fruit and Vegetable Assoc. (W) National Association of Retail Grocers (W)	58a 58b 58c
June 28, 1974	23. Brunswick Corporation Edgar Vanneman, Jr. (T) General Attorney, Brunswick Corp.	26
	24. Johnson Plastic Corporation (W) William F. Miller, Jr. President, Johnson Plastic Corp.	
	25. Genova Company K. V. Pepper (W) Vice-President, Genova Company	59
July 8, 1974	26. Rimar Manufacturing, Inc. (T) Robert I. Martin President, Rimar Manufacturing, Inc.	29

<u>Date</u>	<u>Appearance</u>	<u>Exhibits</u>
	27. PPC Industries, Inc. (W) Z. G. Bell Director of Environmental Control for the Industrial Chemical Div.	78
	28. Amalgamated Meat Cutters and Butcher Workmen Arnold Mayer (W) Legislative Representative Accompanied by Ralph Quattrocchi	80
	29. United Steelworkers of America (W) Adolph E. Schwartz Director- Safety & Health Department Accompanied by Marco D. Vestich and Frank Grimes	60
July 9, 1974	30. International Association of Machinists and Aerospace Workers Angelo Cefalo Special Assistant to the President of the Machinists Union in the Safety and Health Field Statement submitted: TOXICITY OF VINYL CHLORIDE IN NORTHERN PIKE	34a 34b
	31. Amalgamated Clothing Workers of America AFL-CIO Peter J. Nord Research Industrial Hygienist	
July 10, 1974 4-811 + B	32. Firestone Plastics Company, Firestone Tire and Rubber Company Todd C. Walker (T) President, Firestone Plastics Company Accompanied by Francis H oy, Walter Connelly, Lawrence Ballow, George Wilson, Robert Brookman, Michael . Baden F. F. Boyd Plant Manager of the Perryville, Md. plant Document submitted by Firestone	48a 48b 48c
July 8, 1974	33. Armstrong Cork Company (T) Louis Bibri Vice President and Director of Employee Relations with Armstrong Cork Co. Accompanied by David T. Zentmyer and George W. Nickel	30
	34. Cities Service Company John W. Swanson (W) Coordinator-Occupational Health	62

<u>Date</u>	<u>Appearance</u>	<u>Exhibits</u>
	35. Moore Chemical Corporation James T. Moore(W) President, Moore Chemical Corp.	63
	36. R. & G. Sloane Manufacturing Co., Inc. J. T. Hickey Director of Engineering J. J. Blumenkranz Director of Product Research and Design	
July 9, 1974	37. Oil, Chemical, and Atomic Workers International Union Anthony Mazzocchi(T) Citizen-Legislative Director Accompanied by Steven Wodka, and Vernon Jensen Sanford Beck (T) President, Local 3-727 OCAW	35a 35b
July 8, 1974	38. Rubber Manufacturers Association William R. Miller (T) Manager of Corporate Safety and Workermen's Compensation Administration for the Goodyear Tire & Rubber Co. in Akron, Ohio Accompanied by William T. Wickman, Dennis Markusson, C. W. Wadelon, Walter Harris, Frank Ryan	31
	39. Certain-Teed Products Corporation Paul I. Weiner(W) Associate Counsel Attached is a cover letter from Pepper, Hamilton & Scheetz	82
July 9, 1974	40. American Chemical Society Stephen T. Quigley (T) Department of Chemistry and Public Affairs Howard H. Fawcett (T) Chairmen of the Committee on Chemical Safety of the American Chemical Society	32
July 9, 1974	41. Virginia Plastics Company (T) Steven Bogese President, Virginia Plastics Co.	33
July 9, 1974	42. RJR Archer, Inc. (T) RJR Filmco George Field Vice-President and General Manager	40
	43. Emery Industries, Inc. John D. Farr (W) Technical Service and Development Manager, Plasticizers	

<u>Date</u>	<u>Appearance</u>	<u>Exhibits</u>
	44. United States Concrete Pipe Co., (W) and its subsidiary- Sedco Corp. Addison Hawley President, United States Concrete Pipe Co. William R. Cribbs Vice-President, Sedco Corp.	83
	45. Valley Industrial Plastics, Inc. Harvey R. Robinson President, Valley Industrial Plastics, Inc.	
	46. Rubatex Corporation (W) William A. Spickard Technical Director, Rubatex Corp. duVal Radford Attorney for Rubatex Corp. W. Raymond Cash Assistant Technical Service Director Rubatex Corp.	
July 9, 1974	47. Alco Standard Corporation Onslow B. Hager (T) Environmental Advisor Alco Standard Corp.	36
	48. Organization Resources Counselors, Inc. Wayne T. Brooks (W) -Consultant	57
	49. PCI Industries, Inc. M. Martin Maglio Executive Vice-President	
	50. A. Schulman Inc. H. M. Zimmerman (W) Director of Manufacturing for For A. Schulman Inc.	81
July 9, 1974	51. Uniroyal, Inc. Martin Kleinfeld (T) Commercial Planning Director of Uniroyal Chemical Division Accompanied by Walter Harris, Benton Leach	37
July 10, 1974	52. Kessler Products Company, Inc. Gerald Kessler (T) Corporate Officer of Kessler Products Co.	47a, 47b

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<u>Date</u>	<u>Appearance</u>	<u>Exhibits</u>
	55. Health Research Group	
	Submitted reprint of - article:	39o
	THE ECONOMIC IMPACT OF POLLUTION	
	CONTROL-A SUMMARY OF RECENT STUDIES	
	Submitted petition of the Health Research	39p
	Group submitted before EPA	
	Submitted petition of the Health Research	39r
	Group submitted before FDA	
	Submitted three attachment- proposed	39s
	rules under the Federal Register	
	released from the FDA	
	56. Hooker Chemical and Plastics, Ruco Div.	
	Raymond F. Abramowitz (W)	55
	Technical Director, Ruco Div.	
July 9, 1974	57. General Dynamics Corporation	38.
	C. R. Pelino	
	Director of Procurement	
	Stromberg-Carlton Corp., subsidiary	
	of General Dynamics Corp.	
	Accompanied by David Lavalette	
	58. Aldan Rubber Company (W)	
	Alan J. Hirsch	
	Technical Operation Manager for the	
	Aldan Rubber Company	
	59. Union Carbide Corporation	
	Richard J. Hughes (W)	65a
	Vice President, Chemicals and Plastics	
	Appendix to Hughes statement	65b
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July 10, 1974	60. General Cable Corporation (T)	42
	William Nuckols	
	Director of Corporate Planning for	
	General Cable Corp.	
	61. Health Industries Association and	66
	Medical-Surgical Manufacturers Assoc.	
	W. Stanton Halverson, Jr. (W)	
	President of HIA	
	62. Witco Chemical Corporation	
	Lawrence R. Brecker	42
	Director of Product Development	
	Speaking on behalf of	
	Otto S. Kauder, Vice President	
	of Research and Development for	
	Argus Chemical Corp. (subsidiary	
	of Witco Chemical Corp.)	

Union Carbide
65A

<u>Date</u>	<u>Appearance</u>	<u>Exhibits</u>
	63. Goodyear Tire & Rubber Company Donald H. Francis (W) Director of Domestic Chemical Production Accompanied by Paul Bethe, Jr.	56
July 9, 1974	64. Carlon David A. DeGhetto (T) Manager of Environmental Control for Carlon	41
	65. Harvel Plastics, Inc. (W) Harold A. Wagner Vice President, Research & Development	67
	66. Lyncor Plastics Corporation Saul Goldstein President, Lyncor	
	67. Jomac, Inc. (W) R. F. Kalmbach Technical Coordinator for Jomac, Inc.	72
	68. Harvey Hubbell Incorporated (W) William H. Gatenby Vice President of Harvey Hubbell Inc.	68
July 10, 1974	69. American Footwear Industries Assoc. Norman Germany (T) Senior Vice President Accompanied by Barton Menitove	45, 45a, 45b, 45c
	70. Georgia-Pacific Corporation (W) Paul L. Armstrong, Jr. Technical Manager for Georgia-Pacific Corp.	
	71. General Motors Corporation Milford Barron (W) Executive in charge of General Motors Procurement and Logistics	
	72. Lyall Electric, Inc. (and affiliated companies) (W) Lyall D. Morrill, Jr. Secretary - Treasurer	69
	73. Clow Corporation (W) John Madden, Jr. Vice President - Operations Clow Corp.	73

<u>Date</u>	<u>Appearance</u>	<u>Exhibits</u>
July 10, 1974	74. Steere Enterprises Incorporated Frank W. Steere, Jr.(T) President of Steere Enterprises, Inc.	44
July 10, 1974	75. Fields Plastics and Chemicals, Inc. Warren L. Schnur (T) Vice President of Fields Plastics and Chemicals, Inc.	49
	76. Mercury Plastics, Inc. W. A. Rowley	
	78. Crane Plastics Jameson Crane President, Crane Plastics	84
	79. Thermoclad Company (W) Alan I. Renkis President, Thermoclad Co.	
	80. American Hospital Association Billy F. Simmons Director- Division of Federal Agency Liason, American Hospital Assoc.	70
	81. Industrial Union Department AFL-CIO Sheldon W. Samuels Director, Health, Safety and Environmental Affairs Industrial Union Department.	
June 27, 1974	82. John M. Peters, M.D(T-change in scheduling) Harvard School of Public Health	22a, 22b

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FURTHER WRITTEN COMMENTS

<u>Name</u>	<u>Exhibit Number</u>
Cover letter and statement from Congressman John P. Seiberling	54
Statement of Arthur A. Smith, Vice President of Operations of Robintech, Inc.	64
Borden, Inc.	71
Statement of Fabricall Corporation	74
Statement of Pep Industries, Inc.	75
Statement of Inflight Food Services Assoc., Inc.	76
Statement of Sheller-Globe Corporation	77
Statement of Associated Industries of New York State, Inc.	79