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4TH CASE of Level 1 printed in FULL format.

BORG-WARNER CORPORATION

OSHRC Docket No. 10757

Occupational Safety and Health Review Commission

6 OSHC (BNA) 1393; 1978 OSHD (CCH) P22,555

February 22, 1978

Before CLEARY, Chairman; and BARNAKO, Commissioner.

COUNSEL:
Baruch A. Fellner, Office of the Solicitor, USDOL

Charles W. Houchins, Borg-Warner Corporation, for the employer

OPINIONBY: CLEARY

OPINION:
DECISION

CLEARY, Chairman:

This case is before the Commission for review pursuant to section 12(j) of the Occupational Safety and Health Act of 1970. n1 At issue is respondent's alleged serious violation of section 5(a)(2) n2 of the Act due to its failure to comply with the occupational safety and health standard at 29 CFR § 1910.93a(b)(3). n3 After a full hearing and the submission of extensive briefs by both parties, Administrative Law Judge Jerry W. Mitchell issued his decision affirming the citation. Respondent petitioned the full Commission for review of the Judge's decision and its petition was granted. We affirm the Judge's decision insofar as it is consistent with this opinion.

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n1 29 U.S.C. § 651 et seq. Referred to infra as "the Act."

n2 Section 5(a)(2) provides:

Each employer . . . shall comply with the occupational safety and health standards promulgated under the Act.

n3 Two citations were issued to respondent. Citation number 1 alleged four nonserious violations and proposed penalties totalling $90. Respondent did not contest this citation and it has become a final order by operation of law. Section 10(a) of the Act.

Citation number 2 alleged a failure to comply with eight separate paragraphs of § 1910.93a. These eight items were deemed to constitute a single serious violation and a $600 penalty was proposed. The parties agreed that if item number one (failure to comply with § 1910.93a(b)(3)) was proved, then the remaining seven items would be conceded. Therefore, the proof and discussion at the hearing was limited to § 1910.93a(b)(3), the text of which is set forth infra.

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I. Background

The cited standard provides:

§ 1910.93a n4 Asbestos.

* * *

(b) Permissible exposure to airborne concentrations of asbestos fibers --

* * *

(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, as determined by the method prescribed in paragraph (e) of this section.

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n4 29 CFR § 1910.93a was recodified as 29 CFR § 1910.1001 on May 28, 1975. To be consistent with the discussion by the parties and the Judge, we will refer to the standard as § 1910.93a.

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During an inspection of respondent's plumbing products manufacturing facility in Mansfield, Ohio, conducted on July 9, 1974, an employee was observed "dusting" plaster tank molds as the molds passed his work station on a conveyor line. The dusting operation involved patting the molds with a talc-filled bag. The trade name of the particular tale being used in this operation was NYTAL 200. n5 Because he observed a heavy concentration of airborne talc dust in this area, the compliance officer proceeded to take air samples by placing a sampling air pump and a filter cassette on the employee.

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n5 NYTAL 200 is a talc mined by the R.T. Vanderbilt Co. in the Gouverneur mining district of New York. The use of NYTAL 200 talc for dusting the molds had begun about one week prior to the inspection; its use was discontinued about one week after the inspection.

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Following the inspection, the air samples were analyzed by the OSHA laboratories in Columbus, Ohio, and Salt Lake City, Utah; the NIOSH laboratory in Cincinnati, Ohio; and by an independent firm retained by respondent. The individuals performing the various analyses testified at the hearing before Judge Mitchell. On the basis of the testimony by these witnesses and other evidence entered at the hearing, Judge Mitchell concluded that the Secretary had established that the employee was exposed to concentrations of airborne asbestos fibers in excess of the limit permitted by § 1910.93a b)(3).

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On review respondent raises three major exceptions to the Judge's decision. n6 Respondent argues that:

(1) The cited standard is invalid and unenforceable because the version promulgated is substantively different from the proposed standard, thus depriving respondent of a fair opportunity to participate and comment in the rulemaking proceedings;

(2) Assuming that the standard is enforceable, the Judge erred in concluding that the evidence established the presence of an excessive concentration of asbestos fibers;

(3) Assuming that the existence of a violative condition was established, the Secretary did not show that respondent had knowledge of the violation within the meaning of section 17(k) of the Act.

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n6 In addition to the three major exceptions discussed in respondent's petition for review, respondent also briefly noted its exception to certain specific findings and conclusions in the Judge's decision concerning whether the citation was issued with "reasonable promptness" within the meaning of section 9(a) of the Act, and whether the air samples taken by the compliance officer were valid and adequate samples of the working environment.

Aside from noting its exception to the Judge's disposition of these issues, respondent has not argued on review the reasons for its disagreement with the Judge's decision. In view of respondent's failure to seriously pursue these issues on review, extendeu discussion of them is not warranted. We note our agreement with the Judge's disposition of these issues and adopt his findings and conclusions relevant thereto.

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II. The Validity Issue

In his decision, Judge Mitchell comprehensively summarized the chronological history of the asbestos standard. The relevant chronology is as follows.

(1) On May 29, 1971, the Secretary published, as an occupational safety and health standard, 29 CFR § 1910.93 regulating exposure to "Air contaminants." 36 Fed. Reg. 10503-06. The threshold limit values (TLV's) of exposure to mineral dusts were stated in the accompanying Table G-3. 36 Fed. Reg. 10506. In Table G-3, the minerals "tremolite," "asbestos," and "talc" were separately listed and assigned TLVs of 5, 2, and 20 mppcf (millions of particles per cubic foot of air), respectively.

(2) On August 13, 1971, the Secretary published a revision of § 1910.93 correcting and clarifying certain portions of the stardard. 36 Fed. Reg. 15101-04. However, Table G-3 was not affected by this revision.

(3) On December 7, 1971, an "Emergency Standard" was issued amending § 1910.93 to regulate employee exposure to asbestos dust. 36 Fed. Reg. 23207-08. This emergency standard revised Table G-3 by specifically deleting the references to "asbestos" and "tremolite" previously stated therein. The emergency standard also added a new section, § 1910.93a, entitled "Asbestos

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Dust." Permissible limits for employee exposure to "asbestos dust" were stated in this new section. However, no definition of "asbestos" appeared in § 1910.93a.

(4) On January 12, 1972, a "Notice of Proposed Rulemaking" was published concerning the standard for exposure to asbestos dust. 37 Fed. Reg. 4668. In all relevant aspects, the Notice paralleled the provisions of the emergency standard previously published, i.e., "asbestos" and "tremolite" were specifically deleted from Table G-3 and a new section, § 1910.93a, was proposed to regulate exposure to "asbestos dust." The proposed standard also did not provide a definition of the term "asbestos."

(5) An Advisory Committee was formed pursuant to sections 6(b)(1) and 7(b) of the Act for the purpose of submitting recommendations to the Secretary concerning the proposed standard. A public hearing on the proposed standard was held on March 14-17, 1972.

(6) On June 7, 1972, a "Standard for Exposure to Asbestos Dust" was published at 37 Fed. Reg. 11318-22. Like the emergency standard and the notice of proposed rulemaking, the new standard specifically deleted "asbestos" and "tremolite" from Table G-3, and added a new section, § 1910.93a, regulating exposure to "asbestos dust." Unlike the former provisions, however, the new standard defined the terms "asbestos" and "asbestos fibers." Subpart (a) of the new standard provides:

(a) Definition. For the purpose of this section, (1) 'Asbestos' includes chrysotile, amosite, crocidolite, tremolite, anthophyllite, and actinolite.

(2) "Asbestos fibers" means asbestos fibers longer than 5 micrometers.

(7) On October 18, 1972, a revision of 29 CFR Part 1910 was published. 37 Fed. Reg. 22102-22356. The purpose of the revision was to consolidate Part 1910, to correct typographical and clerical errors in the standards, and to publish an index. In this revision, Table G-3 was amended by replacing the single talc TLV entry with two entries, and by adding a tremolite reference, as follows:

Talc (non-asbestos form)	20 [mppcf]
Talc (fibrous). Use asbestos limit	
Tremolite (see talc, fibrous)	

(footnote omitted).

The accuracy of this chronology is not disputed by respondent. Rather, respondent argues that the chronology illustrates the procedural irregularity in the promulgation of the standard under which it was cited. Respondent points out that in the original standard talc, asbestos, and tremolite were separately listed in Table G-3 and assigned different TLVs. Respondent asserts that this separate listing reflected the common view at that time that talc and tremolite were not asbesti materials. Therefore, respondent argues, the deletion of asbestos and tremolite from Table G-3, and the simultaneous inclusion of a new asbestos st provision in the emergency standard and the notice of proposed rulemaking, did not provide notice that tremolite was henceforth to be regulated as asbestos. In this regard, respondent emphasizes that it was not until the publication of the final standard on June 7, 1972, that a definition of "asbestos" was included in the regulation. For these reasons, respondent concludes, it was not provided a fair opportunity to participate in the

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amendment proceedings and to comment on the desirability of the revised standard.

The procedure required to be followed by the Secretary in promulgating, modifying, or revoking an occupational safety and health standard is set forth in section 6(b) of the Act. n7 In relevant part, section 6(b) provides:

The Secretary may by rule promulgate, modify, or revoke any occupational safety or health standard in the following manner:

* * *

(2) The Secretary shall publish a proposed rule promulgating, modifying, or revoking an occupational safety or health standard in the Federal Register and shall afford interested persons a period of thirty days after publication to submit written data or comments. . . .

(3) On or before the last day of the period provided for the submission of written data or comments under paragraph (2), any interested person may file with the Secretary written objections to the proposed rule, stating the grounds therefor, and requesting a public hearing on such objections. . . .

(4) Within sixty days . . . the Secretary shall issue a rule promulgating, modifying, or revoking an occupational safety or health standard or make a determination that a rule should not be issued. . . . (Emphasis added.) Although these provisions of the Act supplant the rulemaking procedures of the Administrative Procedure Act (APA), n8 they are characteristic of the familiar informal "notice and comment" procedures provided for in section 4 of the APA. Industrial Union Dep't., AFL-CIO v. Hodgson, 499 F.2d 467, 472 (D.C. Cir. 1974); Associated Industries of New York State, Inc. v. U.S. Dept. of Labor, 487 F.2d 342, 345 (2d Cir. 1973).

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n7 The Secretary has also published regulations relating to the publication of proposed rules. 29 CFR § 1911.11 provides:

The Assistant Secretary may promulgate, modify, or revoke a standard . . . in the following manner:

* * *

(b) The Assistant Secretary shall publish in the Federal Register a notice of proposed rulemaking. . . . The notice shall include:

(1) The terms of the proposed rule;

* * *

(3) An invitation to interested persons to submit . . . written data, views and arguments. . .;

(4) Either the time and place of an informal hearing or the proposed rule . . ., information to interested persons that they may file . . . written objections to the proposed rule . . . and request an informal hearing on the objections.

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. . .

Also see 29 CFR § 1911.18.

n8 5 U.S.C. § 551 et seq.

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When issuing a final standard pursuant to these procedures, the Secretary is not constrained to adopt the identical version of the standard previously published in the notice of proposed rulemaking. GAF Corp. v. O.S.H.R.C. & Dunlop, 561 F.2d 913, 918-19 (D.C. Cir. 1977). Cf. South Terminal Corp. v. E.P.A., 504 F.2d 646 (1st Cir. 1974). The purpose of requiring that notice of a proposed regulation be given, and of allowing interested parties to comment or request a hearing, "is to educate an agency to approaches different from" that proposed to be taken. South Terminal Corp., supra, 504 F.2d at 659. The record developed directly in response to a notice of proposed rulemaking provides a useful basis for evaluating the desirability and effect of the proposal. In order to use the notice and comment procedure effectively, an agency must be free to adopt a regulation different from that proposed without incurring a concomitant obligation to solicit further comment. GAF Corp., supra; South Terminal Corp., supra; Ethyl Corp. v. E.P.A., 541 F.2d 1, 48 (D.C. Cir. 1976).

Therefore, the relevant inquiry in determining whether adequate notice under the Act has been given is not whether the final regulation differs from that originally proposed, but whether the proposed regulation sufficiently alerts interested parties to the opportunity to offer their informed criticism and comments. Cf. South Terminal Corp., supra, 504 F.2d at 659; Ethyl Corp., supra, 541 F.2d at 48. Measured against this standard, we conclude that the adequacy of the notice provided in the present case is patent.

As described previously, the Notice of Proposed Rulemaking in the present case set forth the text of the emergency standard and announced the intent to adopt this provision as a final standard. The notice repeatedly stressed the opportunity for interested parties to participate in the proceedings. The availability for public inspection of all comments received was stated. A public hearing was set, and the availability of the hearing transcript was specified. The intent to form an advisory committee was announced, and the availability of the committee's recommendations was stated. Also, it was expressly stated that the proposed standard might be adopted with or without changes.

As had the emergency standard, the notice expressly deleted "tremolite" and "asbestos" from Table G-3 and added a new provision specifically regulating exposure to "asbestos dust." Although the proposed standard did not contain a specific definition of "asbestos," we agree with Judge Mitchell that the proper inference to be drawn from the deletion of tremolite and asbestos, and the addition of the asbestos dust provision, was that the deleted substances were to be regulated by the new provision. n9 Furthermore, the proposed regulation provided sufficient notice to parties interested in the regulation of the deleted substances that the regulation of those substances was being affected. Even if it is assumed that the precise parameters of the proposed standard were unclear to an interested party, ample opportunity was afforded to accomodate inquiries or comments concerning any uncertainties. If participation had been undertaken, the intent of the Secretary to regulate tremolite as asbestos

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would have been known. n10

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n9 During its consideration of the proposed standard, the advisory committee was aware that this would be the effect of the proposed revisions. Exhibit P, Advisory Committee On Asbestos Dust Conference, at 78-9 (hereinafter referred to as the "Advisory Committee Report").

n10 See Exhibit F, National Institute for Occupational Safety and Health, criteria for a recommended standard. . . . Occupational Exposure to Asbestos, at III-1 [hereinafter referred to as the "NIOSH Criteria Document"]; Advisory Committee Report at 78-9.

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For these reasons, respondent's argument that the cited standard is invalid because it was denied the opportunity to comment on the proposed asbestos dust provision is rejected. n11

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n11 Respondent states in its brief that the "presence of tremolite does not in any way, shape or form confirm the presence of asbestos." Brief at 5. From the context in which this statement is made it is apparent that respondent is not disputing the legality of the Secretary's action of including tremolite in the definition of asbestos for purposes of the standard. In fact, respondent has conceded that "there exist certain varieties of tremolite that are properly termed asbestos." Petition for Review at 1. Rather, the statement appears to be made in relation to the argument that only tremolite that is "fibrous" from a mineralogical viewpoint should be considered "asbestos," an argument rejected infra.

To the extent that respondent's argument can be read as a challenge to the legality of regulating tremolite as a form of absestos, we conclude that respondent has not carried its burden of proving that such regulation is illegal. Atlantic & Gulf Stevedores, Inc. v. O.S.H.R.C., 534 F.2d 541, 551-52 (3d Cir. 1976). To the extent that respondent challenges the wisdom of regulating tremolite as asbestos, we need only note that it is not the function of the Commission to review the wisdom of a standard. The Budd Co., 74 OSAHRC 12/A2 1 BNA OSHC 1548, 1973-74 CCH OSHD para. 17,387 (Nos. 199 & 215, 1974), aff'd, 513 F.2d 201 (3d Cir. 1975).

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III. Merits of the Citation

Respondent also argues that the Judge erred in concluding that a failure to comply with § 1910.93a(b)(3) was established. Respondent asserts that the evidence fails to prove the presence of excessive amounts of asbestos fibers in the air samples taken at its workplace. According to respondent, the procedures followed by the Secretary in identifying particles present in the samples as asbestos are erroneous in that they result in the counting of non-asbestos particles as asbestos fibers. Our review of the record, however, convinces us that Judge Mitchell correctly affirmed the citation.

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A. The Meaning of the Term "Fiber."

Section 1910.93a(b)(3) provides that "[n]o employee shall be exposed at any time to airborne concentrations of asbestos fibers in excess of 10 fibers. . . ." (Emphasis added.)

Although the standard specifies six minerals considered asbestos for the purposes of the standard, and provides that for counting purposes "'asbestos fibers' means asbestos fibers longer than 5 micrometers," the term "fiber" is not further defined in the standard.

Judge Mitchell found that a fiber "is a particle which has an aspect ratio of 3 to 1 or more and is 5 microns or more in length." n12 Respondent argues that this finding is erroneous. The Secretary urges that this finding is supported by a preponderance of the evidence. We affirm the Judge's finding.

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n12 Finding of Fact No. 6.

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The Secretary's witnesses testified that, when air samples are analyzed to determine their asbestos content, a particle is counted as a "fiber" if its length is at least three times greater than its width, i.e., if the particle has at least a three-to-one aspect ratio. Conversely, a particle with an aspect ratio of less than three-to-one would be considered "non-fibrous." n13

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n13 See, e.g., Transcript at 375-6, 552, 555-56, 788-89.

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The use of the three-to-one aspect ratio test for determining whether a particle is a fiber has its basis in the Criteria Document submitted to the Secretary by NIOSH during the promulgation of the asbestos dust standard. In the section of the NIOSH Criteria Document discussing the methodology to be followed in obtaining and analyzing air samples, it is stated:

The filter samples mounted in the manner previously described are calculated in terms of the concentrations of asbestos fibers greater than 5 micrometers in length. . . . Twenty fields located at random on the sample are counted and total asbestos fibers longer than 5 micrometers are recorded. Any particle having an aspect ratio of three or greater is considered a fiber. (Emphasis added.) n14

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n14 NIOSH Criteria Document at VIII-6. The three-to-one aspect ratio formulation of a fiber was based on the experience gained from the development of a standard for asbestos dust in Britain. The Criteria Document stated that the development of the British standard "was given great weight in the development of this standard," and admitted that "the standard recommended in this [criteria] document is similar to the standard adopted" in Britain.

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V-10, 17. In this regard, it is important to note the statement at page VIII-2 of the Criteria Document that "the British define a 'fiber' as a particle, of length between 5 microns and having a length to breadth ratio of 3:1. . . ."

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Respondent argues that application of an aspect ratio test is an incorrect method of determining whether a particle is a fiber. According to respondent, "non-fibrous" mineral particles, referred to as "laths" or "cleavage fragments," can also have aspect ratios of three-to-one or greater, and under an aspect ratio test these particles erroneously would be counted as asbestos fibers.

Respondent's argument is based on the testimony of two witnesses called in its behalf, Sarkas G. Ampian n15 and C. Sheldon Thompson. n16 These witnesses testified that, from a mineralogical viewpoint, a "fiber" is a mineral particle that forms in an "elongated" "threadlike" fashion, and which is "delicate," "flexible," and capable of being separated into individual "fibrils" of "high tensile strength." According to these witnesses, the distinguishing characteristic of asbestos fibers is their capacity for being woven and pressed into commerically useful products, whereas "non-fibrous" particles lack similar attributes. For this reason, respondent asserts, laths or cleavage fragments are not considered "fibers" even though they might have aspect ratios of three-to-one or greater. n17

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n15 Mr. Ampian was identified as the Chief of the Ceramics and Clay Section of the U.S. Bureau of Mines. He possessed a Bachelor's degree in geology and a Master's degree in chemical petrology, and was pursuing his doctorate in crystal chemistry, geochemistry, and x-ray crystallography.

n16 Dr. Thompson was identified as the Manager of Research and Development for the Ceramics, Paper, and Specialties Department of the R.T. Vanderbilt Company, the manufacturer of NYTAL 200. Dr. Thompson's Bachelor's degree and Doctorate were obtained in the field of mineralogy.

n17 Respondent also asserts that the Judge erred in excluding OSHA "Field Information Memorandum #74-92" from the record. That memorandum announced certain changes in the guidelines to be followed in determining the asbestos content of talc samples. The memorandum stated that to be considered asbestiform or fibrous the particles "must appear to be fibrous rather than as crystals or slivers" and that the aspect ratio of the particle must be at least 5 to 1.

Judge Mitchell did not admit the memorandum into evidence since it had been issued more than four months after the inspection in this case had occurred. We need only note that any question concerning the relevancy of the memorandum has been obviated. The memorandum was rescinded by former Assistant Secretary of Labor Morton Corn on January 19, 1977. 6 BNA OSHR Current Report 1135 (Feb. 3, 1977).

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Where the proper meaning of a term used in a standard cannot be determined on the face of the standard, it is appropriate to interpret the term in

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accordance with the intent of the drafter, where that intent is discernible. United States Steel Corp., 77 OSAHRC 64/C8, 5 BNA OSHC 1289, 1977-78 CCH OSHD para. 21,795 (Nos. 10825 & 10849, 1977).

As previously discussed, as used in the standard recommended by NIOSH, the term "fiber" referred to any particle having an aspect ratio of at least three-to-one. The Secretary is the drafter of the involved standard, however, and it is his intent that governs our interpretation. n18 In this regard, we find nothing in the record suggesting that the Secretary intended the term "fiber" to have a different meaning in the standard adopted. The evidence shows that in performing analyses under the standard, the Secretary has consistently applied an aspect ratio test. Although this practice might be considered a subsequent interpretation of the standard rather than evidence of intent contemporaneous with the standard's promulgation, it nevertheless is probative on the question of intent. U.S. Steel Corp., supra. Furthermore, although the Secretary did not accept the NIOSH recommendations in all particulars, see, e.g., GAF Corp. v. O.S.H.R.C., supra, the recommendations concerning permissible exposure level concentrations were accepted. Compare Criteria Document, Recommendations For An Asbestos Standard, Section 1(a), with 29 CFR § 1910.93a(b)(1)-(3). Permissible exposure level concentrations are the crucial aspects of any standard regulating exposure to toxic substances or harmful physical agents. Since the exposure level concentrations in both the recommended and adopted standards were expressed in terms of "fibers," to attach a different meaning to that term as used in the adopted standard, would be to alter the premise upon which the exposure level recommendations were made. The Secretary's intent to do so can not be inferred on the basis of the record before us.

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n18 NIOSH recommendations have only advisory force and can be accepted or rejected by the Secretary. GAF Corp. v. O.S.H.R.C., supra, 561 F.2d at 913; Industrial Union Dep't. v. Hodgson, supra, 499 F.2d at 477. The involved standard was adopted following full rulemaking proceedings commenced under section 6(b) of the Act. Compare U.S. Steel Corp., supra, involving a standard adopted as a national consensus standard under section 6(a) of the Act, in which the present members expressed differing views on whether the Secretary was the "drafter" of that standard.

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For these reasons, we conclude that Judge Mitchell correctly found that, for the purposes of § 1910.93a, a fiber is a particle with an aspect ratio of at least three-to-one.

B. Proof of Excessive Concentration of Asbestos Fibers.

Respondent also argues that, even if a fiber is defined in accordance with an aspect ratio test, the evidence does not establish the presence of an excessive concentration of "asbestos fibers." Respondent submits that the Judge's contrary conclusion is erroneous and is the result of his failure to make the proper distinction between a "fiber" and an "asbestos fiber." We disagree.

To prove a failure to comply with the cited standard, it must be established that an employee was exposed to an excessive concentration of asbestos fibers,

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i.e., fibers of chrysotile, amosite, crocidolite, tremolite, anthophyllite, or actinolite. That respondent's employee was exposed to an excessive concentration of fibers is clear. The two air samples obtained during the inspection were subjected to four independent analyses. n19 In each of these analyses, the method of measurement specified in the standard was used and a three-to-one aspect ratio test was applied. The samples were first analyzed at the OSHA laboratory in Columbus, Ohio, where it was determined that they contained 76.42 and 17.42 fibers per cubic centimeter of air. A subsequent analysis performed at the OSHA laboratory in Salt Lake City, Utah, resulted in fiber counts of 80.1 and 15.9 fibers per cubic centimeter of air. Further analysis by the NIOSH laboratory in Cincinnati, Ohio, yielded fiber counts of 122 and 23 fibers per cubic centimeter. Finally, a consultant retained by respondent found that the air samples contained 81 and 4.1 fibers per cubic centimeter of air. n20

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n19 Much of the evidence and discussion in this case concerned the analysis of bulk samples of talc used at respondent's plant. These samples were given to the compliance officer near the end of his inspection. The samples were of a variety of talcs used at the plant, including NYTAL 200. Tr. at 62.

Three of the bulk samples were subjected to various analyses, and of these one sample, i.e., sample #4711, was found to contain fibers. Although we can find no explicit acknowledgment in the record, from the treatment given to this sample by all those concerned, it is apparent that sample 4711 was a bulk sample of NYTAL 200.

Since the cited standard addresses only "airborne concentrations" of asbestos fibers, however, the analyses of the bulk sample of NYTAL 200 are relevant only insofar as they reveal the mineralogical composition of the talc. The results of the bulk sample analyses are discussed infra.

n20 There was no dispute between the parties that the fibers being counted were greater than 5 micrometers. See § 1910.93a(a)(2).

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With the exception of the 4.1 figure reported for one of the samples by respondent's consultant, each of the analyses showed fiber counts well in excess of the 10 fiber ceiling limit set by the standard. Thus, it is clear that the preponderance of the evidence establishes the presence of fiber concentrations in excess of the standard's permissible limit. However, to establish a violation, it must also be shown that the fibers were one or more of the six minerals specified to be asbestos.

The standard does not state a method for determining the mineralogical composition of fibers found in a sample. It does state a method for counting the number of fibers, i.e., optical microscopy with phase contrast illumination, which is used for observing the size and shape of a particle. However, in the course of the extensive analysis performed at the NIOSH laboratory, the air samples were also examined under "transmission electron microscopy" and "selected area diffraction."

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Transmission electron microscopy was described as a procedure whereby the fiber being examined is "bombarded" with electrons which are absorbed by the fiber, resulting in an image of the fiber being projected on a screen. n21 This type of analysis also enables the analyst to perform selected area diffraction on the fiber. Selected area diffraction is an analysis performed at a particular point on the fiber which provides the analyst with a visual crystal pattern of that fiber. Since a crystal pattern is unique for a particular mineral, the pattern obtained from the fiber being observed is compared with the crystal patterns obtained from mineral standards to determine the fiber's mineralogical composition. n22

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n21 Transcript at 483.

n22 Transcript at 483-84, 517-19.

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Exhibit 19, entered into evidence at the hearing by the Secretary, summarizes the results of the electron analyses performed on the air samples by the NIOSH analysts. Figures 15 and 16 in Exhibit 19 show the results of the analysis performed on a representative fiber found in the first air sample. Ralph Zumwalde, one of the NIOSH analysts who performed the electron tests, testified that the sults obtained warrant the conclusion that the fibers found in that air sample were tremolite and anthophyllite fibers. n23 Figure 18 in Exhibit 19 shows the results of the electron analyses performed on a fiber in the second air sample. According to Zumwalde, the results establish that this fiber was a tremolite fiber.

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n23 A single chrysotile fiber also was identified in the sample through selected area diffraction. The presence of this single fiber was attributed to "ambient" contamination. Exhibit 19; Transcript at 530-31.

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The fibers depicted in Exhibit 19 were not the only fibers examined by NIOSH under electron microscopy. Approximately 100 fibers were examined under selected area diffraction and the resulting diffraction patterns were observed. The fibers depicted in Exhibit 19 were selected because they were typical of all those examined, with the exception of the single stray chrysotile fiber observed. n24 Based on their analyses, the NIOSH analysts concluded that the fibers in the air samples were tremolite and anthophyllite fibers, and, therefore, that excessive concentrations of asbestos fibers were present in respondent's workplace.

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n24 Transcript at 580-82, 598-99.

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Respondent did not introduce evidence rebutting the results of NIOSH's electron microscopy analysis. In light of the unrebutted evidence that the fibers contained in the air samples obtained from respondent's workplace were tremolite and anthophyllite fibers, n25 we conclude that Judge Mitchell correctly found that respondent's employee was exposed to excessive concentrations of asbestos fibers.

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n25 The analyses performed on the bulk sample of NYTAL 200 also warrant the conclusion that the fibers present were tremolite and anthophyllite fibers. The NIOSH analysis concluded that approximately 70 percent of the fibers observed in the sample were tremolite and approximately 30 percent were anthophyllite. The analysis performed at the OSHA laboratory in Salt Lake City concluded that the bulk sample was "50 to 60 percent fibrous tremolite asbestos."

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IV. Respondent's "Submittal of Newly Discovered Authority"

While this case was pending review by the Commission, respondent filed with the Commission a document captioned "Submittal of Newly Discovered Authority." The submittal consisted of a brief statement requesting that the Commission dismiss the citation and vacate the Judge's findings on the basis of a document prepared by the National Bureau of Standards (NBS) entitled, "A Report on the Fiber Content of Eighty Industrial Talc Samples Obtained from, and Using the Procedures of, the Occupational Safety and Health Administration," n26 a copy of which was attached to respondent's submittal. According to respondent the NBS report "supports Respondent's position throughout this procedure and is dispositive of the issues."

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n26 Referred to infra as "the NBS report".

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The Secretary replied by filing a "Motion to Strike" respondent's submittal. The Secretary contends that the NBS report is "irrelevant to the issues before the Commission" and states several reasons why the NBS report should not be considered.

The NBS report was prepared pursuant to a request made by Morton Corn, former Assistant Secretary of Labor for Occupational Safety and Health. In correspondence initiated with NBS on September 1, 1976, Dr. Corn noted that the OSHA methodology for determining the asbestos content of talc samples was being disputed by regulated parties. In an effort to resolve the dispute, NBS was requested, among other things, to perform an independent analysis on bulk samples of industrial talc to determine their asbestos content using the OSHA procedures. The samples involved in the analysis were provided by OSHA.

The results of the NBS study were stated in a report dated May, 1977. The conclusion of the report relied upon by respondent in requesting that the citation be dismissed is the following:

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It is the opinion at NBS that, even under favorable circumstances (e.g., homogeneous samples, easily identifiable samples, etc.), the existing OSHA procedure is useful only for determining 'fiber' content and not 'asbestos' content. n27

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n27 NBS report at 17.

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The posture in which respondent's submittal appears before us must first be determined. We construe the submittal to be a request to reopen the record for the purpose of introducing the NBS report as evidence, and that, on the basis of the record as supplemented, the citation be dismissed.

Assuming that it is proper to consider the NBS report at this stage of the proceedings, we find that reversal of the Judge's decision is not warranted. The conclusion of the NBS report relied upon by respondent, i.e., that "the existing OSHA procedure is useful only for determining 'fiber' content and not 'asbestos' content," does not cast doubt upon the validity of the findings in the present case. The "OSHA procedure" referred to in the report is phase contrast optical microscopy. As noted previously, this procedure was used only to determine the number of fibers present in the air samples. It was established that the fibers observed were asbestos fibers through the use of additional procedures that were neither discussed nor considered in the NBS report. Therefore, even if the NBS report were received in evidence, the finding that the fibers present in the air samples were asbestos fibers would not be disturbed. 6A Moore's Fed. Practice, § 59.08[3] at 59-118 (2d ed. 1974); Borg-Warner Corp. v. Mall Tool Co., 220 F.2d 803 (7th Cir., 1955), cert. denied, 349 U.S. 946 (1955).

Accordingly, respondent's request that the record be supplemented is denied.

V. Knowledge

Respondent's final argument is that a "serious" violation cannot be found because the Secretary failed to prove that respondent had knowledge of the existence of the violative condition within the meaning of the section 17(k) of the Act. n28 According to respondent, it had no actual knowledge of the presence of asbestos in NYTAL 200. Respondent also asserts that, due to the brief period of time that the talc was used and the "special testing procedures" involved in an asbestos analysis, its failure to determine whether asbestos in fact was present in the talc does not display a failure to exercise reasonable diligence. We disagree.

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n28 Section 17(k) provides:

[A] serious violation shall be deemed to exist in a place of employment if there is a substantial probability that death or serious physical harm could result from a condition which exists . . . unless the employer did not, and could not with the exercise of reasonable diligence, know of the presence of the violation.

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A divided Commission had held that as part of the proof of a serious violation, the Secretary must establish employer knowledge. D.R. Johnson Lumber Co., 75 OSAHRC 54/A2, 3 BNA OSHC 1124, 1974-75 CCH OSHD para. 19,695 (No. 3179, 1975).

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The evidence establishes, and respondent does not dispute, the serious adverse health consequences associated with excessive exposure to asbestos. The evidence also establishes that the possibility that talc could contain asbesti minerals was well known at the time of the inspection. Table G-3, which was in effect at the time of the inspection, reflected this possibility. The evidence further establishes the availability of procedures to determine the mineralogical composition of a particular talc. The record does not establish that, prior to the use of the talc by its employees, respondent undertook to determine whether the talc contained asbesti minerals. In light of these facts, we conclude that with the exercise of reasonable diligence respondent could have known of the presence of asbestos. Accordingly, respondent's argument that it lacked knowledge of the violation fails.

VI. Penalty

The Secretary proposed a $600 penalty for this serious violation. Judge Mitchell assessed the proposed penalty taking into consideration respondent's size, its history under the Act, its good faith in removing the talc from use following the inspection, and the gravity of the violation. n29 Although respondent noted its exception to the assessment of the penalty, it has not argued that the penalty is unreasonable. We conclude that the $600 penalty is appropriate.

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n29 Section 17(j) of the Act.

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VII. ORDER

Accordingly, insofar as it is consistent with this opinion, the Judge's decision, affirming the citation for a serious violation of the Act for failure to comply with the standard at 29 CFR § 1910.93a and assessing a $600 penalty, is affirmed.

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