

be separately coded in the international classification of diseases. It may account for one death in several thousand in the absence of an environmental or occupational asbestos exposure. In some groups of asbestos workers, it may account for one death in ten.

Once established, the other asbestos associated cancers differ little from those occurring in the general population, although there may be variations in the location of the primary site. Appropriate treatment and prognosis follow for the particular tumor. There is very limited long term survival from lung cancer therapy; and only somewhat better from treated cancer of the colon or rectum.

Asbestosis and asbestos cancer—whether it be lung cancer, pleural mesothelioma, peritoneal mesothelioma, cancer of the stomach, colon, rectum—usually do not become clinically evident until more than 20 years have passed from onset of exposure. This time-frame is now widely recognized. While some such cancers may appear during the second decade following onset of occupational exposure, peak incidence is often not noted until the 30-years-from-onset point, or later. This is true both with regular, long-term asbestos work, and following short-term, brief or intermittent exposures. While variations in the time of occurrence may depend upon intensity and duration of exposure, with heavier exposure often being associated with shorter latency periods, variations among individual cases make it impossible to predict the latency period for the risk of any particular worker.

B. PRIOR HISTORY

In 1971, in response to a petition of the Industrial Union Department, AFL-CIO, OSHA considered development of a standard regulating occupational exposure to asbestos. At that time, it had been well established that asbestosis was a major cause of disability and death among workers regularly exposed to asbestos dust in occupational circumstances in the United States, where the principal opportunity for such exposure occurred in the manufacture of asbestos products, and their use (Mancuso and Coulter, 1963; Selikoff, Churg and Hammond, 1964; Selikoff, 1965; Enterline and Kendrick, 1967; Selikoff, Hammond and Churg, 1968). The hazard of lung scarring resulting from the inhalation of asbestos ("asbestosis") had been a continuing problem from the time of its first identification (Departmental Committee, 1907; Cooke, 1924; Merewether and Price, 1931 and Driesen et al. 1933).

Data suggest that the incidence of asbestosis would be markedly diminished by reduction of occupational exposure to identified levels, in factories and during end product use. The British Occupational Hygiene Society reported in 1968 (Subcommittee on Asbestos, British Occupational Hygiene Society, 1968) that it had been given data by a single large asbestos textile mill which indicated that there was comparatively little clinical and/or roentgenological evidence of asbestosis at this factory in a survey com-

pleted in 1966. Recent measurements, using modern fiber-counting methods, were correlated with earlier dust assessments using other techniques. This allowed estimates of 4-16 fibers/ml to be made of worker's exposures since 1933 in the factory (Berry, 1973). These reported data carried considerable weight because information on both exposures and their effects were available. Moreover, all of the 290 individuals examined and x-rayed by the company medical department had been employed for at least 10 years; 112 had been employed for 20 years or more. There had thus been some opportunity to observe the incidence of asbestosis associated with longer exposure to asbestos, a factor of some importance since abnormal findings are often not seen until a significant period of time has elapsed from first exposure.

The Committee of the British Occupational Hygiene Society, in evaluating the information given to it on the recorded exposures in this plant and the infrequency of disease among the workers exposed to dust at these levels, came to the conclusion that, by lowering the permitted level still further, to 2 fibers/ml as a time-weighted average, employees could be permitted to work in such environments for a full working life-time (50 years) without substantial risk of developing asbestosis. It was calculated that workers exposed to 100 fibers/ml, that is, to 2 fibers/ml for 50 years, 4 fibers/ml for 25 years, or 10 fibers/ml for 10 years) would have a 1% risk of developing early signs of asbestosis.

The British Committee published in 1968 its report "Hygiene Standards for Chrysotile Asbestos" for the prevention of Asbestosis" in 1968. At the time, there were few data of comparable nature in the United States. While extensive clinical and epidemiological studies of the health effects of asbestos exposure on American workers had been made, comparatively few dust counts had been recorded during the years in which the exposure of these workers had occurred. Moreover, the dust counts that had been taken had utilized techniques other than the new membrane filter counting methods. For these reasons, NIOSH, in its evaluation of considerations relating to a standard for occupational exposure to asbestos (NIOSH, Criteria Document, 1971) stated that the recommendation of the British Occupational Hygiene Society was "given great weight in the development of this standard."

The asbestos standard set by OSHA in 1972 was thus based on a number of well-characterized observations. Lung scarring ("asbestosis") had been described as an important complication of occupational exposure to asbestos during the original descriptions of the problem in Great Britain. It had been found equally important in U.S. studies in the 1930's, and more recent investigations in the 1960's had demonstrated that it had continued as a serious problem. However, from the British Occupational Hygiene Society's evaluation of factory data relating the incidence of disease it ap-

peared that the recognized, continuing important health hazard of asbestosis could be controlled on the basis of current observations.

It was known at the time that asbestosis was not the only disease that could occur as the result of asbestos exposure. Reports were available that workers so exposed were also at increased risk of developing several types of cancer, and these reports had demonstrated that such risks were present during the use of asbestos in the United States, in factory production of asbestos products, and in their subsequent use (Mancuso and Coulter, 1963; Selikoff, Churg and Hammond, 1964; Enterline and Kendrick, 1965). However, these data had not yet been fully evaluated in terms of the extent of risk in large parts of the asbestos industry in the United States and there were few data which would allow judgment concerning intensity and extent of exposure to asbestos in relation to the subsequent risk of asbestos-associated cancer. The British Occupational Hygiene Society's Committee had recognized this problem in Great Britain as well, but developed its standard based on information related to the risk of developing asbestosis, noting in its report (1968) that it was "not possible, at this time, to specify an air concentration which is known will be free of [cancer] risk. In setting its standard, OSHA hoped that reduction of exposure levels designed to prevent asbestosis would also serve to control the hazard of asbestos-associated cancer. In this, it placed considerable reliance on an additional facet of the British experience. Concurrently, a published report from the same factory by its medical director and recognized statisticians (Knox Holmes, Doll and Hill, 1968) had indicated that no significant increase in cancer mortality had been found among workers first employed in this plant subsequent to 1933, when the improved conditions mandated by the 1931 Factory Regulations came into effect.

Since the promulgation of the U.S. permanent asbestos standard, considerable new information has been forthcoming on the toxic effects of asbestos. This has been in two areas: in the widening spectrum of cancers associated with asbestos exposure, and in various manifestations of asbestos disease in individuals exposed to relatively low concentrations of dust. This extension of the initial data within recent years now requires refocusing of OSHA's concerns from a primary function of prevention of asbestosis with the expectation of concomitant reduction in the incidence of asbestos-associated cancer, to a new orientation, that of primary concern with the prevention of asbestos-cancer. There is an additional logic in this reorientation. Reduction of asbestos exposure to levels sufficient to prevent asbestosis is known, at least in some instances, to be insufficient to prevent asbestos-cancer. On the other hand, a reduction of asbestos exposure to an extent sufficient to prevent asbestos-associated cancer will also prevent asbestosis.

These new observations should not diminish OSHA's prior focus on the prevention of asbestosis, since significant pulmonary and/or pleural scarring have not been an important feature of low-level, short-term, intermittent exposure. Rather, it should emphasize the incomplete perspectives of the current standard derived from considerations concerned with prevention of asbestos-related lung scarring rather than those needed for the prevention of asbestos-associated cancer, particularly mesothelioma.

C. THE NEW EVIDENCE

(1) Asbestosis. Subsequent to the hearings on the current standard, uncertainty has arisen as to whether the existing British asbestos standard and the mandated 2 fiber/ml U.S. standard provides effective protection even against asbestosis. The data from Great Britain obtained in 1966 indicated that little clinical disease, including x-ray evidence of asbestosis, had occurred among workers first employed in that factory at some time after 1933, when important improvements in work practices had been achieved. In 1972, results of evaluation of new x-rays that had been taken in 1970, of the work force then employed in the same factory, were reported as showing that many now had abnormal findings either in the lung or in the coverings of the lung pleurae (Lewinsohn, 1972). There was thus a difference between the prevalence of abnormal x-ray findings among workers x-rayed in 1966 as reported to the British Occupational Hygiene Society, and evaluation of other x-rays of workers in the same factory four years later.

Additionally, clinical data are becoming available concerning asbestos lung scarring in individuals exposed at levels much lower than those of occupational circumstances. Among 210 family contacts of former asbestos factory workers, 38% have been reported to have x-ray changes characteristic of asbestos exposure (Anderson, Selikoff, Lillis and Daum, 1975).

(2) Cancer. In December 1972, important new information on the spectrum of asbestos cancer³ was presented at the Conference on the Biological Effects of Asbestos, sponsored by the International Agency for Research on Cancer of the World Health Organization. At this conference, and subsequently, data on large groups of asbestos workers became available (Selikoff, Hammond and Seidman, 1973; Enterline, 1972). As expected, the high risk of bronchogenic carcinoma and mesothelioma persisted among factory employees and insulators. Moreover, these later studies confirmed the excess gastrointestinal cancer that had been suggested earlier, and extended the spectrum of asbestos related cancers.

(a) Lung cancer. The most important cancer afflicting asbestos workers is cancer of the lung, although mesothelioma has attracted considerable attention because of the high frequency among asbestos workers and infrequent occurrence in the population as a whole.

In many groups of asbestos workers, approximately 20% of all deaths are caused by lung neoplasms. This has been true both among asbestos product factory workers (Selikoff, Hammond and Churg, 1972; and Nicholson, 1975) and among users of these products (Selikoff, Hammond and Seidman, 1973). The exact percentage varies with circumstances of exposure, age of the workers, duration of the workers' exposure and, perhaps most of all, according to the duration from the onset of their asbestos work history. In addition, the last several years have seen the discovery of another critical variable affecting the incidence of lung cancer among asbestos workers. In 1968, Selikoff, Hammond and Churg reported that lung cancer was not significantly increased in incidence among asbestos workers with no history of cigarette smoking, although when such history was present, the incidence of lung cancer increased markedly over what would be expected among other cigarette smokers, in the absence of asbestos exposure. Thus, these scientists calculated that an asbestos worker who smoked cigarettes had 92 times the risk of dying of lung cancer, as compared with like individuals without cigarette smoking or asbestos work. This finding has been confirmed by larger studies (Hammond and Selikoff, 1973) where, again, it was found that non-smoking asbestos workers had few lung cancers while those who smoked had much more lung cancer than would have been expected had they not been asbestos workers. Calculations suggest that cigarette-smoking asbestos workers have approximately eight times the risk of developing lung cancer compared to other smokers.

(b) Pleural and peritoneal mesothelioma. In 1960, Wagner, Sleggs and Marchand demonstrated an important association between asbestos exposure and pleural mesothelioma. This cancer, which appears to be unrelated to smoking, had previously been considered to be a very rare tumor. Numerous reports have confirmed the finding of Wagner and his colleagues that mesothelioma can be commonly associated with asbestos exposure. A subsequent report by Enticnap and Smither, 1964, concerning workers in a British asbestos factory demonstrated that the same tumor could be commonly found in the abdomen (peritoneal mesothelioma), as well as in the chest.

The exact risk of death of these invariably fatal neoplasms has not been as well defined as has lung cancer, although recording of cases from hospitals near one large asbestos factory has indicated that it must be very common indeed (Borow, Conston, Livornese and Schalet, 1973). Information available from the experience of asbestos insulation workers suggests that approximately five to seven percent of deaths may be due to this neoplasm (Hammond, Selikoff and Churg, 1965; Selikoff, Hammond and Seidman 1973). More recently, it has been suggested that this estimate is too low, on the basis of the experience

of workers in a British asbestos factory, where calculations predicted that between 10 and 11 percent of deaths would be due to mesothelioma (Newhouse and Berry, 1975).

(c) Gastro-intestinal cancer. Gastro-intestinal cancers (cancer of the stomach, colon and rectum) are also increased in incidence among asbestos workers, but the increase is less pronounced than that of lung cancer or mesothelioma. A number of studies now indicate that the increase is on the order of two or three times the number of expected tumors (Selikoff, Hammond and Seidman, 1973; Elmes, 1968). Although this increased risk is relatively limited, especially when compared with lung cancer and mesothelioma, it is nevertheless of considerable importance since a two- or three-fold increase in such common tumors becomes an important cause of death for the workers involved.

It has been suggested that other tumors are also increased in incidence among asbestos workers, particularly cancers of the larynx (Stell and McGill, 1972; Newhouse, 1973) and neoplasms of the oropharynx (Selikoff, Hammond and Churg, 1970), and of the esophagus (Selikoff, Hammond, and Seidman, 1973). However, data concerning these neoplasms are less extensive than for lung cancer, mesothelioma and gastro-intestinal cancer and further experiences are awaited. In any case, they are not very common tumors in general and any increase does not weigh heavily on the overall cancer risk of asbestos workers.

Considering all neoplasms, among some groups of asbestos workers, employed either in asbestos factory work or in the use of asbestos products, as much as 40 to 45 percent of all deaths have been due to one or another type of cancer, an approximately three-fold or four-fold increase.

Of significant importance, new data have recently been made available concerning the cancer risk of workers at the textile mill reviewed for the British standard, including those workers first employed after 1933 (Howard, Kinlen, Lewinsohn, Peto and Doll, 1975). It was found that there was excess mortality from lung cancer among those workers who entered scheduled areas after 1 January 1933. There was "clear evidence of some excess of lung cancer and respiratory deaths among those first exposed between 1933 and 1950." Equally important was the finding that "there still appears to be an excess of deaths due to lung cancer after 15 or more years' exposure" even among those first exposed in 1951 and subsequently. Indeed, it is known that mesothelioma deaths have occurred among the specific group of 290 workers whose experience prior to 1966 had led to the development of the current standard, as detailed above (Brody, J. E., 1974).

There are further data indicating the necessity for revaluation of the asbestos standard, albeit less directly derived from asbestos worker exposure. This information is derived from occurrence of asbestos cancer among individuals ex-

to low levels of asbestos, as in environmental circumstances, or to brief or intermittent exposures to higher levels. Analysis of the history of asbestos exposure among individuals in a large series of cases of mesothelioma in Great Britain and South Africa have provided evidence that brief or intermittent exposure to asbestos may, after the passage of decades, result in mesothelioma (Greenberg and Lloyd Davies, 1974; Webster, 1973). In such circumstances, it appears that the lifetime exposure was less than the 100 fiber-years/ml envisaged by the current standard. The same discrepancy between present projected exposures and the risk of asbestos cancer exists when considering cases of mesothelioma resulting from household contact to asbestos among members of families of asbestos workers (Lillington, 1974) or among residents living in the vicinity of asbestos plants.

Of considerable industrial importance, has been the recent description of asbestos disease among shipbuilding and ship repair workers, few of whom actually work with asbestos, but many of whom were, in the past, inadvertently exposed to the asbestos dust resulting from the use of asbestos products by a relatively few of their work mates. In 1968, Harries of the Royal Navy reported cases of mesothelioma among shipyard workers at the Royal Navy dockyard in Devonport, in trades which did not directly involve worker exposure to asbestos, but in which there had been occasional opportunity for exposure merely by virtue of working in the same areas. This original finding has been widely confirmed and numerous cases of mesothelioma have since been reported in former shipyard workers (Whitwell and Rawcliffe, 1970; McEwen et al, 1970; Stumphius, 1968; Greenberg and Lloyd Davies, 1974). Studies of populations of current shipyard workers have shown much radiological evidence of asbestos abnormalities among workers in trades only indirectly exposed to asbestos in the yards (Sheers and Templeton, 1969; Fletcher, 1972).

Gillam et al (1975), studying the mortality and reviewing the chest x-rays of 439 underground metal miners exposed to an asbestiform mineral, found three times the risk of malignant respiratory disease than expected. The fiber concentrations averaged 0.24 fibers/ml.

Further, evidence has indicated that asbestos also acts as a lung carcinogen at levels much below those which will produce asbestosis. Two surveys of shipyard workers who had x-ray evidence of pleural plaques, but generally not of pulmonary fibrosis, showed a 2.5-fold excess risk of death from lung cancer and high risk of mesothelioma. (Fletcher, 1972; Edge, 1975). In a study of the mortality experience of a large U.S. asbestos products manufacturing facility, it was found that workers in low-dust areas, with a minimum risk of death from asbestosis, had the same high risk of death from various cancers as workers in dustier areas (Nicholson, 1975).

III. CERTAIN CONSIDERATIONS CONCERNING CARCINOGENICITY

In the case of asbestos, we are dealing with a substance that poses a range of health risks to the working population. These include the threat of cancer, as well as asbestosis. In considering the controversial issue of carcinogenicity, OSHA is relying upon not only the new data reviewed above, but the leading scientific principles and opinions believed to reflect the research conclusions of international cancer experts, which were developed since or not known to OSHA at the time that the original standard was promulgated.

A. THE LATENCY OF CARCINOGENIC EFFECTS

In humans, the latency period for chemical carcinogens may well extend between 20 to 40 or more years. Analogous periods exist for test animals. This means that the disease may undergo a long development before a tumor is actually detected. At that point, it has reached a stage where removal of the worker from the workplace may be of no avail and where treatment may be extremely difficult, if not futile. Prudent policy would therefore seem to indicate that every reasonable measure should be taken to eliminate human exposure to chemical compounds as soon as their carcinogenic nature is identified.

B. VARIABILITY IN INDIVIDUAL SUSCEPTIBILITY IN RELATION TO THE CONCEPT OF A THRESHOLD

Cancer development may be influenced by such factors as the differing susceptibility of various body organs. In animal studies it has been found that individual variability in response to carcinogens is great depending upon factors such as age, sex, hormonal status, diet, and genetic factors. Thus, in the working population, certain groups, such as those already biologically compromised, may be more susceptible than other groups.

C. A "THRESHOLD" LIMIT

Because of the variability of individual response to carcinogens and other factors, the concept of a "no effect" or "threshold level" may have little real significance on the basis of existing knowledge. While some level, below which exposure to a carcinogen does not cause cancer, may conceivably exist for any one individual, other individuals in the working population may have cancer induced by doses so low as to be effectively zero. This is not to say that researchers will never find a threshold level for a carcinogenic substance, but it does mean that the threshold concept for carcinogens is, at present, more a matter of responsible regulatory policy than a precise, scientific determination.

These theoretical concepts have a bearing on the asbestos issue, particularly as to the question of the existence, or nonexistence, of a threshold level of carcinogenic effect. A "no effect" level

theoretically may exist, but it has not been demonstrated.

In previous rulemaking proceedings, OSHA has considered these issues and determined that in the absence of evidence to establish a safe level on the basis of present knowledge, employee exposure must be reduced as low as feasible. (See the preambles to the carcinogen standards 29 CFR 1910.1003-10016 (39 FR 3758); the vinyl chloride standard 29 CFR 1910.1018 (39 FR 35892); the coke oven emissions proposal (40 FR 32268), and the beryllium proposal.)

OSHA welcomes all views and comments on these subjects.

IV. PERTINENT LEGAL AUTHORITY

The primary purpose of the Act is to assure, so far as possible, safe and healthful working conditions for every working man and woman. One means prescribed by Congress to achieve this goal is the authority vested in the Secretary of Labor to set mandatory safety and health standards pursuant to Section 6(b) of the Act, 29 U.S.C. 655(b). The standards setting process permits the participation of interested parties in the consideration of medical data, industrial processes and other factors relevant to the identification of hazards and the selection of appropriate control measures. Occupational safety and health standards provide notice of the permitted exposure levels and provide a basis for ensuring the existence of safe and healthful workplaces. Section 6(b) (5) of the Act, 29 U.S.C. 655(b) (5), provides that:

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 such standard for the period of his working life. Development of standards under this subsection shall be based upon research, demonstrations, experiments and such other information as may be appropriate. In addition to the attainment of the highest degree of health and safety protection for the employee, other considerations shall be the latest available scientific data in the field, the feasibility of the standards, and experience gained under this and other health and safety laws.

Sections 2(b) (5) and (6), 20, 21, 22, and 24 of the Act reflect Congress recognition that conclusive medical or scientific evidence, including causative factors, epidemiological studies or dose-response data, may not exist for many toxic materials or harmful physical agents. Nevertheless, standards cannot be postponed because definitive medical or scientific evidence is not currently available. Indeed, while final standards are to be based on the best available evidence, the legislative history makes it clear that "it is not intended that the Secretary be paralyzed by debate surrounding diverse medical opinion." H.Rpt. No. 91-1291, 91st Cong., 2d Session, p. 18 (1970). This Congressional judgment has been supported by the



Current Report

Asbestos

OSHA PROPOSAL HAS ALTERNATIVE LIMITS, CONSIDERS 'FLEXIBILITY' IN COMPLIANCE

The Occupational Safety and Health Administration April 10 issued a proposed rule for occupational exposure to asbestos containing two alternative permissible exposure limits of 0.2 fibers per cubic centimeter of air or 0.5 f/cc as an eight-hour time-weighted average.

This supplemental proposal, together with the agency's Nov. 4 notice of emergency temporary rulemaking on asbestos, constitute proposed revisions to the permanent standard regulating occupational exposure to asbestos in general industry, the maritime industry, and the construction industry, according to OSHA (49 FR 14116). A 1975 notice of proposed rulemaking, which had excluded the construction industry, was withdrawn and replaced with this proposal.

OSHA noted that the emergency standard — which was struck down by a U.S. appeals court in March on the grounds that the agency failed to show any necessity for emergency action (11 OSHC 1817) — had set a 0.5 fiber limit. At that time, available evidence indicated that this level was the lowest attainable. However, the agency's current regulatory analysis indicates that for most industries, a lower limit of 0.2 f/cc is feasible, the notice stated.

In addition, OSHA is "considering allowing flexibility" in the methods chosen to achieve compliance with a PEL below two f/cc. The agency is considering allowing respirators to be used in place of engineering controls or work practices to reduce worker exposure to the lower PELs of 0.5, 0.2, or 0.1 f/cc, rather than considering respirators as a supplemental method to be used only after engineering controls and work practices have achieved maximum feasible results. Engineering controls and work practices, however, remain the mandated methods of achieving air concentrations of two f/cc.

An informal rulemaking hearing is scheduled to be held at 10 a.m. on June 19 at the Department of Labor, the notice stated.

In addition to believing that employees exposed to asbestos at the previous two f/cc limit face a significant risk to their health, OSHA stated that it "also believes that a significant risk remains at exposures to the proposed alternative PELs." However, recent available evidence indicates that either 0.2 f/cc or 0.5 f/cc is an appropriate limit to propose in light of feasibility limitations, particularly regarding asbestos measurement accuracy at low levels, according to the notice.

At the conclusion of the rulemaking, OSHA plans to adopt a PEL which reflects evidence in the record concerning health risk and technical and economic feasibility, and which may be higher or lower than the limits proposed.

OSHA Seeks Comment

The agency requested submission of written comments, data, and other evidence from interested persons on several major issues raised in the proceeding including:

- What exposure limits would provide protection of employees against known and suspected workplace hazards of

asbestos and what feasibility limitations exist in setting any given limit.

- Whether the permissible ceiling limit should be reduced and, if so, what the revised limit should be.

- To what extent, if any, should the standard be modified for workplaces which are of a non-fixed nature or otherwise engage a highly transient workforce.

- Whether the changes in the definitions of "asbestos" and "asbestos fiber" would clarify the standard's intended scope, and properly relate to known or suspected workplace hazards.

- Whether OSHA should modify the existing medical surveillance provisions to change the frequency of exams or their content.

- Whether an expanded medical removal program should be provided where, as a result of the medical surveillance program, it is determined that an employee is at an increased risk of material impairment of health from further exposure to asbestos.

- Whether and under what circumstances it is feasible to reliably measure asbestos concentrations at levels of 0.1, 0.2, and 0.5 f/cc.

- Whether the evidence associating asbestos exposure with lung cancer, mesothelioma, and gastrointestinal cancer is adequate and whether OSHA's assessment of risk is scientifically valid.

- Whether regulatory distinctions should be made for different asbestos fiber types.

- Whether OSHA should require the use of engineering controls and work practices to reach the new permissible exposure limits.

- Whether the provisions of the proposed standard are cost-effective.

Construction and Asbestos

In addition, OSHA is considering three different approaches to the format of regulations governing asbestos exposures in the construction industry. The approaches are: to continue to apply the same standards as amended, to all industries, perhaps adjusting certain requirements for the construction industry; to limit the scope of an asbestos standard for the construction industry to setting permissible exposure limits, with additional protection provided by recourse to relevant OSHA standards of general applicability; or to develop a separate standard for asbestos exposure in the asbestos industry.

The agency is requesting comments concerning a number of major issues, including:

- Whether the TWA permissible exposure limit adopted for general industry should apply to the construction industry.

- Whether the present requirements for initial determinations for each place of employment are feasible for non-fixed workplaces that may exist for short periods of time.

- Whether any change from the present rule should be allowed concerning sampling frequency and patterns.

- Whether the nature of the exposure patterns in demolition necessitates special provisions.

► Whether more explicit fit testing requirements should be mandated for construction employment and the content of such programs.

► Whether the present requirements for personal protective equipment are adequate to protect asbestos workers in the construction industry.

► What facilities and hygiene practices are appropriate to protect construction industry employees exposed to asbestos.

► What, if any, recordkeeping requirements should be mandated for the construction industry.

Upon completion of this rulemaking, OSHA said it will consider whether changes in the present standard for the construction industry are warranted, and if so, what those changes should be and how they should be made. OSHA may, on the basis of information submitted as part of this rulemaking, adopt specific changes in the current standard for the purpose of addressing unique construction industry concerns. The agency also may issue a separate standard, in whole or in part, dealing with occupational exposures to asbestos in construction work, the notice remarked.

In any case, OSHA stated that it intends to codify the asbestos construction standard at the place designated for construction standards, 29 CFR Part 1926.

Written data, views, and arguments should be submitted by May 25 to the Docket Officer, Docket No. H-033C, Occupational Safety and Health Administration, Department of Labor, 200 Constitution Ave., N.W., Washington, D.C. 20210. All material submitted will be available for public inspection at the above address.

Persons desiring to participate at the hearing must file in quadruplicate a notice of intention to appear by May 10 addressed to Tom Hall, OSHA Division of Consumer Affairs, Docket No. H-033C, Room N-3635, DOL, Third St. and Constitution Ave., N.W., Washington, D.C. 20210; telephone: (202) 523-8024.

The notice of proposed rulemaking appears in the Full Text section of this issue.

Lead

D.C. APPEALS COURT WILL VACATE STAY; OSHA TO DETERMINE DATE FOR COMPLIANCE PLANS

A draft order that would vacate a current stay of two lead standard provisions for primary and secondary smelters and battery manufacturers was submitted by the Occupational Safety and Health Administration to the U.S. Court of Appeals for the District of Columbia Circuit.

OSHA was directed by the appeals court April 6 to write the draft order, at a hearing before Circuit Judges Wilkey, Mikva and Bork in the case of *United Steelworkers of America v. Auchter* (Nos. 83-1022 and 83-1126).

The court indicated it will use the OSHA draft document as the basis for an official court order vacating the stay effective June 1. The court also noted that the order would be issued "without prejudice" to rulemaking on related topics. OSHA spokeswoman Susan Fleming told BNA April 10 that the court order is expected soon.

In ordering OSHA to submit a draft order, the appeals court gave attorneys for the union and for the industry groups involved an opportunity to review and comment on the draft. This review was to have been completed by 5 p.m. April 10.

The smelting and battery manufacturing industries were granted the administrative stay in December 1982. The stay

relieved employers in those industries from having to comply with lead standard provisions at 29 CFR 1910.1025(e)(3)(ii)(B) and (E), which require employers to tell OSHA how they specifically intend to achieve compliance with the lead standard, and what schedule they will follow in implementing the compliance program (Reference File, 31:8422).

In granting the stay in response to industry petitions, OSHA noted that it was at that time conducting a general re-evaluation of the lead standard, which had been issued by the Carter Administration in 1978. The stay, OSHA said, was intended to spare employers in the smelting and battery manufacturing industries any unnecessary costs that they might incur in complying with requirements that were "under agency reconsideration" (Current Report, Dec. 9, 1982, p. 563).

The United Steelworkers of America filed suit against the agency, contending that Assistant Secretary Thorne Auchter did not have authority to issue the interim and final stays. The union also argued that OSHA's reason for granting the stay was no longer valid, since the agency had not issued a revised lead standard.

Notice Superseded

Prior to the hearing, OSHA had written a notice for publication in the *Federal Register* proposing to vacate the administrative stay, and asking for public comment on the proposal within 30 days. In that notice, OSHA acknowledged that it had not issued a proposal to modify the compliance plan requirements of the lead standard.

It also noted a recent initiative by the Steelworkers, ASARCO, and the agency to develop tripartite agreements on lead controls at ASARCO plants (Current Report, Feb. 2, p. 947). Such efforts to determine feasible engineering controls "will be aided by the development of compliance plans," the notice said.

The notice was filed with the *Federal Register* the morning of April 6, before the hearing, but then withdrawn after the court issued its order for a draft document from OSHA lifting the stay.

OSHA spokeswoman Fleming noted that the agency now must determine the date on which employers in the smelting and battery manufacturing industries must have their compliance plans ready. OSHA is preparing a notice for the *Federal Register* that will propose an effective date for the compliance plan requirements, and request public comment. Fleming said that the notice probably will appear "within the next week or so," after the appeals court formally issues its order vacating the stay.

OSHA Deputy Administrator Patrick Tyson told BNA in February that a proposed lead standard revision currently under review by the Office of Management and Budget would give a five-year extension to secondary lead smelters for installing engineering controls (Current Report, Feb. 23, p. 1014). Tyson, who currently is serving as acting administrator for the agency, said April 10 that "If we do make any changes to the lead standard involving compliance deadlines, we will make appropriate revisions to the provisions covering compliance plans."

Electrical Safety

HEARING PARTICIPANTS ASK OSHA TO RELY ON NEC FOR ELECTRICAL SAFETY STANDARDS

Numerous participants in the Occupational Safety and Health Administration's public hearing on the agency's pro-