

## OSHA Case Studies

### OSHA's Concrete and Masonry Construction Safety Standards (Short)

#### Background

A year before Congress created OSHA, it passed the "Construction Safety Act (Pub. L. 91-54; August 9, 1969), which provided for federally promulgated safety and health standards for employees of the building trades and construction industry in Federal and federally-financed or federally-assisted construction projects. OSHA promulgated standards implementing this statute in December 1971. (36 FR 25232). In the intervening years between 1971 and 1988, accidents continued to occur in the concrete and masonry construction industry, including the widely publicized collapse of a power plant cooling tower at Willow Island, West Virginia and the collapse of Skyline Tower Plaza in Fairfax County, Virginia. In addition, many workers had been injured or killed in masonry wall collapses that were not widely reported. An OSHA review of dozens of accidents revealed ambiguities, redundancies, gaps in coverage, and, in some cases, requirements that did not allow use of state-of-the-art technological changes. Based on that review, OSHA decided to revise the 1971 standard, and it issued an ANPR in February 1982 soliciting information and comment on the effectiveness of the existing standards. (47 FR 5910).

#### The Case

OSHA promulgated an NPRM in September 1985 (50 FR 37543) and a NFRM in June 1988 (53 FR 22612). The agency received 51 written comments from companies, trade associations, labor unions, federal agencies, state agencies, and individuals. The agency also held an informal hearing in which an ALJ hear testimony from two OSHA expert witnesses and seven witnesses representing various interest groups. The Final Rule "remove[d] ambiguities that have existed; close[d] gaps in coverage; recognize[d] technological changes; and finally, where possible, use[d] language that states the performance to be achieved by the employer without specifying unnecessary details as to how the employer must meet the requirement."

One important change was to remove the previous rule's incorporation by reference of a standard written by the American National Standards Institute, a private standard-setting organization. Another change "revised its requirements for concrete testing, allowing employers to use methods other than the one specified in the existing rule." This represented a move in the direction of greater employer discretion in deciding how to test for dangerous walls and structures that could collapse and kill or injure workers.

The NFRM noted that the agency decided not to revise the requirements for "lift-slab operations" at that time, but it instead reopened the record to receive additional information and evidence. The reason for doing this was that additional evidence had recently become available to the agency that was not

available in the public rulemaking, and it decided to propose regulations governing lift-slab operations in a separate rulemaking. The additional evidence mostly related to the collapse of the 13-story L'Ambiance Plaza building in Bridgeport, Connecticut, which killed 28 workers and injured many others.

Three months later, on September 15, 1988, OSHA published a NPRM re-proposing its construction safety standards for lift-slab operations. (53 FR 35972) The purpose of the re-proposal was to update the lift-slab requirements that were incorporated in the most recent edition of the ANSI standards and to codify additional new requirements directly into the OSHA standards. The agency held a hearing on the proposal, and it received 26 written comments. It finalized the proposal on October 18, 1990. (55 FR 42306)

On October 5, 1989, OSHA published a direct final rule correcting what the agency characterized as a "technical error" in the final rule. The 1989 rule changed the word "should" to "shall" in a provision involving "lifting inserts for tilt-up precast concrete members." The agency explained that it never promulgates regulations using the term "should," and it meant for the provision to say "shall." The agency explained that it was not soliciting public participation on this change because it had good cause to find additional public participation "unnecessary." Apparently, no one objected to the change.

### **General Thoughts**

This rule revised a previously promulgated regulation in a substantial way, and the revisions seem to have survived the test of time. The only subsequent rulemakings involve a topic specifically left unaddressed in the original rulemaking exercise because important new information came in after the public comment period had closed. The agency sensibly re-proposed the relevant provision and promulgated a somewhat more stringent rule after receiving that comment. This was a separate rulemaking exercise with respect to which OSHA followed its normal rulemaking procedures. Interestingly, the rulemaking applied to only two construction contractors that engaged in lift slab operations and that employed only a tiny portion of the construction industry.

One point of interest is that the motivating force behind both rulemaking efforts was one or more highly publicized tragedies in which many workers were killed. Both rulemakings were self-initiated, but both were undertaken in response to external events.

Although the agency characterized the other change -- the direct final rule correcting the original rule -- as a mere error correction, the change appeared to be significant as a legal matter. It changed the relevant provision from a voluntary standard to a mandatory standard. Apparently, none of the covered companies were sufficiently put off by the change to submit a comment objecting to the abbreviated procedure.

### **OSHA's Formaldehyde Health Standard (Medium)**

#### **Background**

On December 4, 1987, OSHA promulgated an occupational health standard for formaldehyde. The agency had previously promulgated a “national consensus standard” for formaldehyde pursuant to a congressional direction that the agency promulgate within 60 months standards for hazardous air contaminants based on standards already promulgated by private and quasi-private standard-setting entities like the American National Standards Institute and the American Conference of Governmental and Industrial Hygienists. The so-called “Table Z” standard for formaldehyde established a permissible airborne exposure limit (PEL) for formaldehyde of 3 parts per million (ppm) averaged over an 8-hour period with a ceiling of 5 ppm that could be exceeded for up to 30 minutes as long as it stayed below 10 ppm. That standard was meant to address formaldehyde’s irritant effects on eyes and the respiratory system.

### **The Case**

In December 1976, the National Institute for Occupational Safety and Health (NIOSH) recommended that OSHA reduce the permissible exposure limit (PEL) for formaldehyde to 1 ppm measured over a 30-minute period. In October 1979, the Chemical Industry Institute of Toxicology (CIIT) sent preliminary findings to EPA of an animal bioassay that inhalation exposure to formaldehyde caused nasal cancers in rats exposed to 14.3 ppm. The final version of the study, completed in 1981, found that formaldehyde caused nasal cancers in rats exposed to 5.6 and 14.3 ppm and mice exposed to 14.3 ppm. Based on these and several other studies and reports, OSHA on December 4, 1987 promulgated an occupational health standard for formaldehyde that established a PEL of 1 ppm as an 8-hour time-weighted average and 2 ppm as a 15-minute short-term exposure limit. (52 FR 46168)

#### *Hazard Communication Stays*

On March 2, 1988, OSHA published a notice in the *Federal Register* stating that the Office of Information and Regulatory Affairs at the Office of Management and Budget had approved some of the information collection requirements in the formaldehyde rule and disapproved other requirements pursuant to its review powers under the Paperwork Reduction Act. In particular, OIRA had disapproved the hazard communication requirements of the standard. The notice stated that “[u]ntil OSHA determines what further steps to take in response to OMB’s denial,” OSHA would continue to enforce the [generic] labeling of its previously promulgated Hazard Communication Standard, but would not enforce the hazard communication requirements of the formaldehyde standard. (53 FR 6628).

On July 12, 1988, OSHA published a notice in *Federal Register* stating that it was resubmitting the hazard communication requirements to OIRA along with the determination that, given the hazard communication requirements in its existing Hazard Communication Standard, the formaldehyde standard’s

requirements would impose no new recordkeeping burdens on the affected industries. (53 FR 26329) OSHA published a notice stating that OIRA had approved the final rule's information collection requirements on November 8, 1988. The agency announced that it intended to provide a sixty-day start-up period from the date of OMB's approval to give companies a chance to create and affix proper labels to formaldehyde containing containers and pipes. (53 FR 45080). On November 22, it announced that it was extending the startup date for another three weeks, until December 20, 1988. The extension was necessary "to permit judicial consideration of a motion filed by the Formaldehyde Institute on November 10, 1988, seeking a court-ordered stay of the cancer labeling requirements of the standard." (53 FR 47188).

On December 13, 1988, OSHA announced that it had granted an "administrative stay" of the hazard communication provisions of the standard for nine more months to give the agency an opportunity to propose and finalize its decision to revoke those requirements. (53 FR 50198). On August 29, 1989, OSHA extended the administrative stay for another nine months. It explained that it was considering changes to the generic Hazard Communication Standard that would affect the sections that the agency had hoped would accomplish the same result as the hazard communication sections of the Formaldehyde rule. The extension was necessary to allow the agency to consider "further developments in the Hazard Communication rulemaking." Employers were still subject to the relevant provisions of the Hazard Communication Standard until such time as it was amended. (54 FR 35639). On June 13, 1990, OSHA extended the stay again for an additional 60 days to allow it to complete its evaluation of the Hazard Communication Standard. (55 FR 24070). For the same reason, it extended the stay for 120 days on August 10, 1990 (55 FR 32616), for another 90 days on December 7, 1990 (55 FR 51698), for another 90 days on March 12, 1991 (56 FR 10377), and for another 60 days on June 12, 1991 (56 FR 26909).

#### *Effective Date Deferral for Laboratories.*

On September 1, 1988, OSHA deferred the effective date of the formaldehyde standard for most laboratories to allow additional time for the agency to decide whether to cover those laboratories under the formaldehyde standard or under the "Toxic Substances in Laboratories Standard," which had not yet been published. (53 FR 33807)

#### *Correcting Typos and Dealing with Inadvertent Omissions.*

On July 13, 1989, OSHA published a direct final rule to "correct typographical errors, include some information inadvertently omitted, and to correct some inconsistencies in the preamble and regulatory text." (54 FR 29545). The corrections of typographical errors were truly minor. One of the three changes to correct "inadvertent" errors added the word "pressure" to prevent employers from interpreting the rule's respirator requirement to allow

negative pressure respirators. This change appeared to favor employees. Another change added powered air purifying respirators to the table referenced in the requirement that employers make powered air purifying respirators meeting the specifications of that table available to any employee who experiences difficulty wearing a negative pressure respirator to reduce exposure to formaldehyde. This change simply rendered operative a requirement that was intended to be included in the rule but was inoperative because the absence of reference in the amended table. The final change came about because someone (probably an employer representative) brought to OSHA's attention the fact that the rule had omitted any reference to chin style gas masks for use in formaldehyde atmospheres. OSHA characterized this omission as "inadvertent," and the direct final rule added that option for employers to consider in selecting respirators for their employees exposed to asbestos. This change appeared to favor employers.

Another direct final rule, published on August 1, 1989, corrected a single typographical error, changing "of" to "or" in a table. (54 FR 31765)

*Response to Judicial Remand.*

On June 9, 1989, the D.C. Circuit Court of Appeals held that OSHA had not adequately explained its conclusion that formaldehyde exposures of 1 ppm to workers over an 8-hour period posed an insignificant risk and its attendant refusal to require a lower PEL for that chemical. In particular, its explanation for choosing a convex, rather than a linear dose-response model for predicting the risk of contracting cancer at low exposure levels was "impenetrable" to the court. It also failed to justify its decision not to require employers to provide medical removal protection (temporary financial assistance to workers whose health is affected by exposure to a toxic substance). *International Union, AFL-CIO v. Pendergrass*, 878 F.2d 389 (D.C. Cir. 1989).

Since the hazard communication section of the formaldehyde standard was affected by the remand, OSHA extended the ongoing stay for successive 90-day intervals on August 8, 1991 (56 FR 37650), November 13, 1991 (56 FR 57593), January 23, 1992 (57 FR 2681), and May 5, 1992 (576 FR 19262).

On May 27, 1992, OSHA amended the formaldehyde standard in response to the judicial remand. It lowered the PEL to 0.75 ppm as an 8-hour time-weighted average and added a medical removal protection requirement. It also changed the hazard communication requirements to establish specific hazard labeling requirements for all forms of formaldehyde, including mixtures and solutions composed of 0.1% or greater of formaldehyde in excess of 0.1 ppm and to require a specific cancer hazard warning when worker exposures could potentially exceed 0.5 ppm. (55 FR 22290)

On June 18, 1992, OSHA published a direct final rule correcting three typographical errors in the May 27 publication and adding a sentence stating that OMB had approved an information gathering request that had inadvertently been

omitted when it republished the entire rule for the convenience of readers. (57 FR 27160)

## **General Thoughts**

The history of OSHA's Paperwork Reduction Act notices suggests that publication of a final rule in the *Federal Register* may not ensure that any information collection requirements in the rule are final. In this case, OIRA ultimately approved the agency's requirements, but the agency concluded that they were not directly applicable in enforcement actions until they had received that approval.

The saga of the hazard communication sections of the formaldehyde rule shows that agencies can find ways to forestall a controversial requirement for a considerable period of time if they are so inclined. The hazard communication section of the rule was one of the most controversial, because it required employers to inform employees that they were being exposed to a known animal carcinogen. Employers and upstream suppliers of formaldehyde were not anxious to put this provision into effect. The agency made it clear that the relevant provisions of the existing generic Hazard Communication Standard were applicable to workplaces in which employees were exposed to formaldehyde. It is not clear whether those provisions were more or less acceptable to the industry than the provisions in the formaldehyde standard. Ultimately, OSHA decided to require specific hazard communication provisions in the formaldehyde rule, but it changed the requirements slightly in the rulemaking that it undertook following the judicial remand.

One wonders whether some "inadvertent" omissions were really inadvertent. It is easy to see how the omission of a type of respirator from a table was truly inadvertent when the text of the regulation mentioned that type of respirator and the conditions under which it was required and referenced the table that did not include that type of respirator. It is also easy to see how the agency could inadvertently omit a sentence stating that it had received OMB approval for an information-gathering requirement. It is less clear that the omission of a type of respirator from the text of the regulation was inadvertent when it was brought to the agency's attention after publication of the final rule by an outside party and was nowhere mentioned in the lengthy preamble to the final rule. Since the agency accomplished the addition of an additional respirator option by an 8-paragraph direct final rule, employee representatives may not have had an opportunity to focus on the advisability of the change.

## **OSHA's Asbestos Health Standard (Long)**

### **Background**

Asbestos is perhaps the best-known occupational health hazard. Scientists have known for decades that occupational exposure to asbestos could cause a debilitating disease of the lungs called "asbestosis." By the mid-1960s,

they discovered that it also caused mesothelioma, a cancer of the tissue surrounding the lungs. In the 1970s, some epidemiological studies concluded that asbestos also caused lung cancer.

Asbestos was one of the many airborne contaminants for which OSHA established national consensus standards on May 29, 1971. That standard established a PEL for asbestos of 12 fibers per cubic centimeter (f/cc). (36 FR 10466). Later that year, on December 7, 1971, OSHA promulgated an Emergency Temporary Standard (ETS) setting a PEL of 5 f/cc as an 8-hour time-weighted average with a ceiling limit of 10 f/cc.

In June 1972, OSHA published an occupational health standard for asbestos and the related minerals tremolite, anthophyllite, and actinolite, establishing an 8-hour PEL of 5 f/cc with a ceiling of 10 f/cc. It was the agency's first full-fledged occupational health standard. The standard was intended primarily to protect employees from the risk of contracting asbestosis, and not cancer. Under the 1972 standard, the 8-hour PEL was lowered to 2 f/cc as of June 1976. The standard was challenged in the D.C. Circuit, and the court upheld the standard except in two minor regards. *International Union Dept., AFL-CIO v. Hodgson*, 449 F.2d 467 (D.C. Cir. 1974)

### **The Parent Rule.**

On June 20, 1986, OSHA published a new occupational health standard for asbestos, tremolite, anthophyllite, and actinolite applicable to all industries covered by the Occupational Safety and Health Act. This time the standard took into account the fact that asbestos caused cancer in human beings. The new standard established a PEL of 0.2 f/cc determined as an 8-hour time-weighted average. The standard also specified requirements for methods of compliance, personal protective equipment, employee monitoring, medical surveillance, communication of hazards to employees, regulated areas, housekeeping procedures, and recordkeeping. Finally, the standard established an action level of 0.1 f/cc and provided that many of the requirements, such as employee training and surveillance, would not apply to workplaces that kept exposure levels consistently below the action level. (51 FR 22612)

#### *Reopening the Record to Consider Non-asbestiform Tremolite, Anthophyllite and Actinolite*

On October 17, 1986, OSHA published an "administrative stay" of the final rules (that had become effective on July 21, 1986) insofar as they applied to occupational exposure to non-asbestiform tremolite, anthophyllite and actinolite. The purpose of the stay was to allow the agency to reopen the record, review new submissions, and conduct a "supplemental rulemaking" that would be limited to the issue of whether non-asbestiform tremolite, anthophyllite and actinolite should continue to be regulated under the same standards and to the same extent as asbestos, or should be treated in some other way. The 1986

occupational health standard remained in effect for asbestos and asbestiform tremolite, anthophyllite and actinolite, and the 1972 standard remained in effect for non-asbestiform tremolite, anthophyllite and actinolite. To provide clear notice of that fact, the agency republished and redesignated the 1972 standard to a different section in the CFR and made some minor changes to that standard to clarify its continued applicability to non-asbestiform tremolite, anthophyllite and actinolite. Since it was republishing the entire 1972 standard, it decided to delete the paragraph containing an emergency temporary standard that a court of appeals had previously set aside. The impetus for OSHA's reopening the record was a number of letters and petitions from both participants and non-participants in the rulemaking (probably from various regulated industries) concerning the appropriateness of regulating non-asbestiform tremolite, anthophyllite and actinolite in the same way as the asbestiform versions of those minerals. (51 FR 37002).

OSHA determined that the temporary administrative stay and minor amendments to the 1972 standard came within the APA §553(b) good cause exception to its notice and comment requirement. Public comment on the administrative stay was "impracticable and unnecessary" in view of (a) the limited duration of the stay; (b) the need to provide the relief requested before the standard went into effect; and (c) the continued applicability of the 1972 standard to non-asbestiform tremolite, anthophyllite and actinolite during the period of the stay. It likewise found that notice and comment was impracticable and unnecessary on the "technical amendments" to the 1972 standard because the revisions (1) implemented a policy already determined after full rulemaking to continue to enforce parallel provisions of the 1972 standard where a stay or judicial action renders provisions of the 1972 standard unenforceable (see 51 FR 22704, 22732) and (2) deleted provisions which were no longer effective. In neither case was "an evidentiary issue involved." (51 FR 37002).

On April 30, 1987, OSHA extended the "temporary" administrative stay of the asbestos standard as it applied to non-asbestiform tremolite, anthophyllite and actinolite until July 21, 1988 to allow OSHA to conduct the supplemental rulemaking. (52 FR 15722). It extended the stay again until July 21, 1989 (53 FR 27345), and again until November 30, 1990 (54 FR 30704), and again until August 31, 1991 (55 FR 50685), and again until February 28, 1992 (56 FR 43699), and again until May 30, 1992 (57 FR 7877).

#### *Corrections and Technical Amendments*

On May 12, 1987, OSHA published a direct final rule making many corrections and "technical amendments," and noting OIRA approval under the Paperwork Reduction Act of several information-gathering requirements. (52 FR 17752). The vast majority of the changes consisted of correcting typographical errors. One of the "technical" amendments was to add the phrase "other than a disposable respirator" to the description of the class of respirator allowed to be worn in airborne concentrations not in excess of 2 f/cc. The agency explained that although the preamble to the final rule clearly stated OSHA's intention to

prohibit the use of disposable respirators and made that prohibition clear in the appendices to the rule, it had “omitted” the phrase from the relevant tables because “the purpose of the respirator selection tables is primarily to state which respirators are permitted in specific air concentrations, not to list explicitly those which are not allowed.” The agency decided to amend the tables to include the phrase in order “to ensure that the respirator selection tables, when read alone, are clear.”

### *Promulgating an Excursion Limit*

During the 1986 rulemaking, OSHA decided not to promulgate a short term “excursion limit” (EL) to protect workers from high exposures over a short period of exposure. Soon after the standard was published, the D.C. Circuit published an opinion in a case involving OSHA’s standard for ethylene oxide that rejected the agency’s rationale for declining to promulgate an EL. Since OSHA had employed the same rationale in declining to promulgate an EL for asbestos, it decided to undertake a separate rulemaking to address the issue. It also agreed to a remand in the challenge to the 1986 asbestos standard on this issue. On September 14, 1988, OSHA amended the asbestos standard to include an EL of 1 f/cc averaged over a period of 30 minutes. (53 FR 35610)

### *Responding to the D.C. Circuit’s Remand*

On February 22, 1988, the D.C. Circuit upheld the asbestos standard in most regards, but it remanded several issues to the agency. *Building and Construction Trades Department AFL-CIO v. Brock*, 838 F.2d 1258 (D.C. Cir. 1988). On December 20, 1989, the agency promulgated a rule addressing three of the remanded issues by “(1) removing the ban on the spraying of asbestos-containing materials; (2) changing the regulatory text to clarify when construction employers must resume periodic monitoring; and (3) explaining why OSHA is not amending the regulatory text at this time to clarify the limited exemption for “small-scale, short-duration operations” in the construction industry standard.” (54 FR 52024). On February 5, 1990, it addressed three remaining remands by “(1) expanding its ban on workplace smoking and adding training requirements covering the availability of smoking control programs; (2) explaining how and why OSHA’s respirator requirements will result in employee risk being reduced below that remaining at the PEL; and (3) adding a requirement that employers assure that employees working in or contiguous to regulated areas comprehend required warning signs, and requiring that training programs specifically instruct employees about the content and presence of signs and labels.”

## **General Thoughts**

One noteworthy aspect of the aftermath to the 1986 asbestos standard is that OSHA elected to reopen the record and conduct a “supplemental rulemaking,” rather than promulgate a new rule revising the standard. The

preamble did not explain why OSHA chose that procedural vehicle. The agency published a notice of proposed rulemaking for the suggested change and received comments and held a hearing, just as it would have had it initiated a new rulemaking. One possibility that comes to mind is that the agency may have been able to avoid OIRA review by reopening an old rulemaking, rather than initiating a new one. Another possible explanation is that the agency had barely completed the 1986 rulemaking when it apparently decided to rethink the inclusion of non-asbestiform tremolite, anthophyllite and actinolite in the standard, and it was just easier to dump all of the letters and petitions it had received and the associated scientific information into the existing record than to create a new record for addressing this one issue.

OSHA decided to reopen the record of the 1986 rulemaking because various interested stakeholders and NIOSH raised serious questions about the appropriateness of regulating the non-asbestiform versions of tremolite, anthophyllite and actinolite in the same way that it regulated the asbestiform versions of those minerals. The agency had received a great deal of information on this issue that was not reflected in the rulemaking record. Most of this information was from affected industries, but NIOSH had also weighed in on the issue. The issue of OSHA's inclusion of non-asbestiform versions of tremolite, anthophyllite and actinolite was aired in the comments and the testimony received during the 1986 rulemaking. OSHA specifically rejected the suggestion that it revise its definition of asbestos to exclude the non-asbestiform versions of those minerals because there was insufficient evidence that they were safe. It is possible that all of the information OSHA was receiving since the rule went final was unavailable in December 1985 when the rulemaking record closed, but that seems highly implausible. It is possible that OSHA was also receiving political pressure to exclude those substances.

The "technical correction" adding the phrase "other than a disposable respirator" appeared to be an attempt to clarify what the agency believed to be a clearly stated intention to prohibit disposable respirators in the preamble to the final rule. But it arguably changed the law in a way that made the standard more stringent. Before the technical correction, an employer might have read the table to allow disposable respirators. Indeed, that appears to be the reason for the technical amendment. The employer could not be expected to read the preamble to the final rule as it was choosing the proper respirator for its employees. One wonders whether OSHA could have successfully prosecuted an employer that used disposable respirators under the rule as written prior to the technical correction. If not, then the correction changed the law in a way that does not appear to be especially technical.

OSHA's promulgation of an EL for asbestos is a good example of dynamic rulemaking as policy adjustment. This time the adjustment was required by a D.C. Circuit opinion in a case involving another air contaminant that undermined the rationale that OSHA had employed in the asbestos rulemaking for declining to promulgate an EL. OSHA got feedback from the D.C. Circuit and acted accordingly.

