

**DEPARTMENT OF LABOR****Occupational Safety and Health Administration****29 CFR Parts 1910, 1915, and 1926**

[Docket No. S-778-A]

RIN 1218-AB 81

**Standards Improvement Project-Phase II****AGENCY:** Occupational Safety and Health Administration, Labor.**ACTION:** Final rule.

**SUMMARY:** The Occupational Safety and Health Administration (OSHA) through this final rule is continuing to remove and revise provisions of its standards that are outdated, duplicative, unnecessary, or inconsistent, or can be clarified or simplified by being written in plain language. The Agency completed Phase I of the Standards Improvement Project in June 1998. In this Phase II of the Standards Improvement Project, OSHA is again revising or removing a number of health provisions in its standards for general industry, shipyard employment, and construction. The Agency believes that the changes streamline and make more consistent the regulatory requirements in OSHA health and safety standards. In some cases, OSHA has made substantive revisions to requirements because they are outdated, duplicative, unnecessary, or inconsistent with more recently promulgated health standards. The Agency believes these revisions will reduce regulatory requirements for employers without reducing employee protection.

**DATES:** The final rule becomes effective March 7, 2005.**ADDRESSES:** In accordance with 28 U.S.C. 2112(a), the Agency designates the Associate Solicitor of Labor for Occupational Safety and Health, Office of the Solicitor of Labor, Room S-4004, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210, to receive petitions for review of the final rule.**FOR FURTHER INFORMATION CONTACT:** Michael Seymour, Director, Office of Physical Hazards (202) 693-1950. For additional copies of this **Federal Register** document: OSHA, Office of Publications, Room N-3101, U. S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210 (telephone: (202) 693-1888). Electronic copies of this **Federal Register** document, as well as news releases and other relevant documents, are availableat OSHA's homepage at <http://www.osha.gov>.

**SUPPLEMENTARY INFORMATION:** References to comments and testimony in the rulemaking record are found throughout the text of the preamble. Comments are identified by an assigned exhibit number as follows: "Ex. 5-1" means Exhibit 5-1 in Docket S-778-A. For quoted material in the preamble, the page number where the quote can be located is included if other than page one. The transcript of the public hearing is cited by the page number as follows: Tr. 59. A list of the exhibits, copies of the exhibits and transcripts of the hearing are available in the OSHA Docket Office under Docket S-778-A and at OSHA's homepage.

**I. Background**

OSHA has made a continuing effort to eliminate confusing, outdated, and duplicative standards and regulations. In 1978, 1984, and again in 1996, the Agency conducted revocation and revision projects that resulted in the elimination of hundreds of unnecessary provisions.

In 1996, OSHA proposed Phase I of the Standards Improvement Project which set forth changes to a number of provisions in regulations and standards that were outdated, duplicative, unnecessary, inconsistent, or could be clarified or simplified by being rewritten in plain language (61 FR 37849, July 22, 1996). In 1998, OSHA published the final rule, Phase I of the Standards Improvement Project (63 FR 33450, June 19, 1998). Substantive changes were made under section 6(b) generally and under 6(b)(7) of the Occupational Safety and Health Act of 1970 which provides that:

The Secretary, in consultation with the Secretary of Health, Education, and Welfare, may by rule promulgated pursuant to section 553 of title 5, United States Code, make appropriate modifications in the requirements relating to the use of labels or other forms of warning, monitoring or measuring, and medical examinations, as may be warranted by experience, information, or medical or technological developments acquired subsequent to the promulgation of the relevant standard.

The Agency believed that the revisions to its health and safety standards in that final rule reduce the regulatory burden of employers enhancing compliance while maintaining the safety and health protection afforded to employees.

In a related effort in 1996, OSHA published a proposal to revise Means of Egress, subpart E of part 1910 (61 FR 47712, September 10, 1996). OSHA proposed to rewrite the existing

requirements in plain language so that the requirements would be easier to understand by employers, employees and others who use them. The proposal did not intend to change the regulatory obligations of employers or the safety and health protection provided to employees, only to simplify the standard. The final rule was published on November 7, 2002 (67 FR 67949). OSHA believed it accomplished the goals of maintaining the safety and health protections provided to employees without increasing the regulatory burden on employers, creating a regulation that is easily understood, and stating employers' obligations in performance-oriented language to the extent possible. As a consequence of these changes, the Agency believes it has made subpart E more user-friendly to employees and employers. Compliance is generally improved when employers and employees fully understand a regulation.

As a result of the Phase I Standards Improvement Project rulemaking, the Agency identified itself or through public comment other regulatory provisions that could be removed or revised to reduce regulatory burdens without diminishing employee safety and health. Those included amending provisions addressing notification of use, frequency of exposure monitoring and medical surveillance, and others that it believed were outdated, duplicative, unnecessary, inconsistent or could be clarified or simplified by being rewritten into plain language.

On October 31, 2002, OSHA published the proposed Phase II of the Standards Improvement Project which would remove or revise a number of health and safety standard provisions (67 FR 66494). Also, OSHA requested comment from the public on any other similar provisions to those in the proposal that interested parties believed to be outdated, duplicative or unnecessary that could be included in a subsequent Phase III Standards Improvement Project.

The Agency made a preliminary finding in the Phase II proposal that the proposed revision to the health standards would reduce the regulatory burden of employers without reducing the health protections the standards currently provide to employees and that some revisions would simplify and clarify requirements. These revisions would facilitate employer compliance and improve employee protection. OSHA also expressed its belief that the removal or revision of standards would in some cases reduce unnecessary

collection of information burdens (e.g., paperwork burdens) on employers.

In addition to affecting part 1910 standards in general industry, the Phase II proposed rule also affected a number of standards included in parts 1915, shipyard employment, and 1926, construction. In accordance with Agency procedures and requirements, the Advisory Committee on Maritime Safety and Health and the Advisory Committee on Construction Safety and Health were advised of the revised standards that affected their industries prior to the publication of the proposed standard. This information was presented to the Advisory Committee on Construction on September 2, 2000, and the Advisory Committee on Maritime on December 6, 2000.

The comment period for the Phase II Standards Improvement Project proposal was to end on December 30, 2002. However, on January 6, 2003, in response to several requests the comment period was extended until January 30, 2003 (68 FR 1023). OSHA received 35 comments in response to the notice of proposed rulemaking. Also, in response to several requests to hold a public hearing to discuss the proposal, OSHA announced a public hearing on April 21, 2003 (68 FR 19472). OSHA held the public hearing on July 8 in Washington, D.C. OSHA staff testified and responded to questions and several members of the public testified. The administrative law judge scheduled the receipt of post hearing evidence on August 8, 2003, and post hearing briefs for September 10, 2003. The judge received the post hearing documents and closed the hearing record on February 26, 2004. The hearing resulted in 59 pages of testimony. No post-hearing comments or briefs were received. However, OSHA inserted some post-hearing material in response to questions asked at the hearing (Ex. 9).

## II. Summary and Explanation of the Final Rule

This section contains an analysis of the record evidence and policy decisions pertaining to the various provisions of the final rule.

In the proposed rule, changes to provisions included: Methods of communicating illness outbreaks in the temporary labor camps standard (29 CFR 1910.142); first aid kits for general industry in the medical services and first aid standard (29 CFR 1910.151) and the telecommunications standard (29 CFR 1910.268); laboratory licensing in the vinyl chloride standard (29 CFR 1910.1017); periodic exposure monitoring in the vinyl chloride (29

CFR 1910.1017), 1,2-dibromo-3-chloropropane (DBCP) (29 CFR 1910.1044), and acrylonitrile (29 CFR 1910.1045) standards; reporting the use of alternative control methods in the asbestos standards for shipyards (29 CFR 1915.1001) and construction (1926.1101); evaluating chest x-rays for inorganic arsenic (29 CFR 1910.1018) and coke oven emissions (29 CFR 1910.1029) standards; signing medical opinions in the asbestos standard for general industry (29 CFR 1910.1001) and the cadmium standards for general industry (29 CFR 1910.1027) and construction (1926.1127); and semiannual medical examinations in the vinyl chloride, inorganic arsenic, and coke oven emissions standards.

Also included were proposed changes to the requirements to notify OSHA of certain events (e.g., a substance specific release or emergency) in the standard for 13 carcinogens (29 CFR 1910.1003), the vinyl chloride, inorganic arsenic, DBCP, and acrylonitrile standards; semiannual updating of compliance plans in the standards for vinyl chloride, inorganic arsenic, lead for general industry (29 CFR 1910.1025) and construction (29 CFR 1926.62), DBCP, and acrylonitrile; and employee notification requirements in general industry standards for asbestos, vinyl chloride, inorganic arsenic, lead, cadmium, benzene (29 CFR 1910.1028), coke oven emissions, cotton dust (29 CFR 1910.1043), DBCP, acrylonitrile, ethylene oxide (29 CFR 1910.1047), formaldehyde (29 CFR 1910.1048), methylenedianiline (29 CFR 1910.1050), butadiene (29 CFR 1910.1051), and methylene chloride (29 CFR 1910.1052), and construction standards for methylenedianiline (29 CFR 1926.60), lead, asbestos, and cadmium.

Finally, although OSHA did not propose to delete the requirement to use social security numbers in a number of its exposure-monitoring and medical surveillance records, it requested comment on whether there was a need to continue to include an employee's social security number in these records.

In the proposal, OSHA emphasized that the scope of the rulemaking was limited to removing or revising provisions that were outdated, duplicative, unnecessary, or inconsistent with similar provisions in other standards. In regard to "inconsistent," the Agency specifically proposed to revise a number of OSHA's older standards (vinyl chloride, acrylonitrile, coke oven emissions, arsenic, and DBCP) to be consistent with the frequencies of exposure monitoring, medical surveillance, and compliance plan updates established in the majority

of more recently promulgated standards. Comment was solicited on whether it would be appropriate to revise these older standards to be consistent with the newer standards.

OSHA also noted that certain sections in part 1910 that were being addressed in the proposal are incorporated by reference in parts 1915, shipyard employment, and 1926, construction. Therefore, any changes to referenced sections in part 1910 would also apply to parts 1915 and 1926.

Many commenters expressed their views on the approach taken by OSHA in its Phase II Standards Improvement Project. Most commenters supported OSHA's approach and its efforts to remove or revise standards because they are outdated, duplicative, unnecessary, or inconsistent (Exs. 3-5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 22, 24, 25, 26, 28, 29; 4-11, 12). For example, Phelps Dodge Corporation (Ex. 3-7) remarked that "We support OSHA's continuing effort to remove or revise provisions of its standards that are outdated, duplicative, unnecessary, or inconsistent, and we welcome the opportunity to share our comments and suggestions." The National Institute for Occupational Safety and Health (NIOSH) (Ex. 3-9) noted its support for OSHA's efforts to "reduce regulatory requirements for employers while maintaining worker safety and health by removing or revising provisions of standards that may be outdated, duplicative, or unnecessary." Another commenter, Organization Resources Counselors (Ex. 3-22), stated in its discussion regarding OSHA's elimination of collection of information (in this case, paperwork) requirements that:

If OSHA no longer has need to collect the type of information required to be reported, or finds that the information provides no useful benefits for either enforcement of the standard or protection of employee health, the requirements should be deleted.

On the other hand, some commenters expressed their concern with the manner in which OSHA was streamlining standards and in some cases on the use of its resources for this type of project (Exs. 3-4, 16, 17, 18; 4-13; Tr. 38, 39, 46). The AFL-CIO (Tr. 29) observed that "Throughout this proposal, the Agency has consistently sought to streamline [standards] by reducing [them] to the lowest common denominator." The United Steelworkers of America (Ex. 3-16) stated that while "this may reduce some administrative burdens on OSHA and industry, it is hard to see how worker protection has been improved by any of the changes." The Union of Needletrades, Industrial

and Textile Employees (UNITE) (Ex. 3-18) remarked that it “strongly opposes expenditures of agency staff time and other resources on so-called ‘improvements’ to OSHA’s standards when urgent action on clear regulatory gaps remain unattended.”

However, based on the rulemaking record and experience from the Phase I Standards Improvement Project, OSHA continues to believe that the removal or revision of outdated, duplicative, unnecessary, or inconsistent requirements and rewriting requirements into plain language will simplify and clarify regulatory requirements, facilitate compliance, and will lead to improved safety and health. In finalizing the proposal, OSHA has been careful to ensure that the protections afforded employees are not weakened. With respect to these goals, the American Industrial Hygiene Association (AIHA) (Ex. 3-6) stated:

AIHA applauds OSHA’s latest decision to move forward with Phase II of the project through this proposed rulemaking. As was the case with the first phase of this process, completed in 1998, we are confident that the latest proposed health standard revisions will meet with success in terms of reducing the regulatory burden of employers without reducing the health protection that these standards currently provide to employees.

AIHA wishes to publicly go on record as supportive of OSHA’s efforts to modernize these standards using a common sense approach. Not only will the proposed revisions simplify and clarify the requirements of the current health standards, but they will also facilitate employer compliance, improved employee protection and reduced regulatory burden—a “win-win” situation for health and safety advocates, employers and employees.

Additionally, Dow Chemical Company (Ex. 3-13) observed:

Dow supports OSHA’s efforts to streamline its existing standards and to remove unnecessary or inconsistent provisions. Improvements in consistency and practicality not only assist the regulated community in its compliance efforts but also benefit OSHA and all employees as the rules are easier to enforce and because employers can better identify what they need to do to comply. Thus, Dow applauds OSHA’s continuing efforts to improve their standards. Dow believes that this same philosophy of improvement for consistency and practicality without compromising safety or health protections can also be made in other areas of standards addressed in the proposed rule.

OSHA appreciates the time and effort expended by commenters in this rulemaking. The following is a provision by provision discussion of the changes OSHA has made in Phase II of the Standards Improvement Project.

#### *A. Temporary Labor Camps, 29 CFR 1910.142*

Paragraph 1910.142(l)(2) of the temporary labor camp standard requires camp superintendents to report immediately to local health authorities “by telegram or telephone” the outbreak of specific illnesses and medical conditions among employees. With respect to this requirement, OSHA viewed the limitation to use a telegram or telephone to notify health authorities as too restrictive in this age of computers and the internet, and that other forms of communication should be permitted. In the notice of proposed rulemaking, OSHA proposed to delete the requirement to use a telegram or telephone for notification, but retain the requirement that camp superintendents immediately notify local health authorities of the outbreak any of the illnesses or medical conditions specified by the provision.

OSHA received six comments regarding this proposal. All of the commenters (Exs. 3-4, 16, 17, 22, 27; 4-11) agreed that telegrams and telephones unnecessarily limit the method of reporting. A few commenters (Exs. 3-17, 27) expressed concern, however, that if there was no specification of the means of communication, slower means of notification such as by mail might be used. For example, the United Automobile, Aerospace and Agricultural Implement Workers of America (UAW) (Ex. 3-17) opposed the removal for fear that employers would use fourth class mail for reporting. The AFL-CIO (Ex. 3-27) expressed a similar concern that the proposed change leaves the provision entirely too vague and that employers could even use mail.

In response to this concern, OSHA has decided rather than deleting the means of communication in the final rule, it would instead add additional language that would eliminate the possibility of using a slower means but permit equally fast means. OSHA concludes that any “fast method” is appropriate. The final rule now states “by telegram, telephone, electronic mail or any method that is equally fast.”

#### *B. Reference to First Aid Supplies in Appendix A to the Standard on Medical Services and First Aid, 29 CFR 1910.151*

In the 1998 Phase I of the Standards Improvement Project (63 FR 33450), OSHA revised paragraph 1910.151(b) of OSHA’s standard for medical services and first aid to require that adequate first aid supplies be readily available at the workplace. To assist employers in meeting this requirement for what

would be adequate first aid supplies, OSHA added a nonmandatory Appendix A to 29 CFR 1910.151, entitled First Aid Kits, that references a national consensus standard, the American National Standards Institute (ANSI) Z308.1-1978 standard, “Minimum Requirements for Industrial Unit-Type First-aid Kits.” The Agency believed that the information and reference to the ANSI standard in Appendix A to 29 CFR 1910.151 would provide employers with helpful information in selecting first aid supplies and containers appropriate to the medical emergencies and environmental conditions encountered in their workplaces.

OSHA pointed out in the Phase I Standards Improvement Project preamble that ANSI was developing a revision of the Z308.1-1978 consensus standard (63 FR 33461) and that OSHA planned to propose to revise Appendix A in Phase II to include the 1998 edition as long as the revision was as effective in protecting employees. In Phase II of the Standards Improvement Project, OSHA solicited comment and information on whether the revised ANSI Z308.1-1998, Minimum Requirements for Workplace First-aid Kits, consensus standard would provide equivalent or better protection to employees than the 1978 edition. OSHA also inquired whether there were any other consensus standards or guidelines available for first aid kits that might be included in Appendix A.

At the time of the Phase II of the Standards Improvement Project proposal, OSHA preliminarily found that the 1998 edition increased compliance flexibility by emphasizing performance-based requirements. OSHA also found that the 1998 edition provided employers with the information they needed to select first aid containers and fill items appropriate to the unique hazards in particular workplaces. OSHA believed that the ANSI 308.1-1998 edition would protect employees at least as well as the requirements of the 1978 edition.

OSHA received 13 comments regarding this proposed change (Exs. 3-3, 16, 17, 22, 24, 26, 27, 29; 4-6, 7, 8, 11, 13). Most commenters supported the Agency’s updating of the ANSI 308.1-1978 edition to the 1998 edition in the nonmandatory Appendix A. For example, Verizon Communications, Inc. (Ex. 3-24) supported the revision to the 1998 edition because employers would have more flexibility and, therefore, would improve protection to employees. The Pinnacle West Capital Corp. (Ex. 4-7) observed that there have been changes in the medical profession since

1978, and agreed that the 1998 edition provides equivalent to better protection to employees. One commenter, the AFL-CIO (Ex. 3-27), even suggested that OSHA update the reference but make Appendix A mandatory or enforce the ANSI standard under the general duty clause.

In the final rule, the Agency has changed nonmandatory Appendix A to reference the ANSI 308.1-1998 standard. After reviewing the record evidence and based on OSHA's review of both the 1978 and 1998 editions, the Agency feels that the update to the 1998 edition will provide more compliance flexibility to employers while being as effective, or more effective, in the protection of employees. In its review of the 1998 edition, the Agency found that:

- Regarding container requirements, the 1998 edition permits more compliance flexibility than the 1978 edition. For example, the 1998 edition identifies three types of first-aid containers, types I, II, and III, designed for stationary indoor use, mobile indoor use, and mobile outdoor use, respectively, while the 1978 edition includes only two types of containers, (standard and special purpose, with special-purpose containers designed for use under extreme conditions such as example, corrosive, nonsparking, nonmagnetic, or dielectric conditions.

- Requirements for the three types of containers identified in the 1998 edition are performance based, while the 1978 edition provides extensive specifications for each type of container.

- Unlike the 1978 edition, the conditioning and drop-test procedures described in the 1998 edition for types II and III containers, and the procedures for testing type III containers for corrosion and moisture resistance, specify the minimum number of containers required for testing.

- The 1998 edition specifies that each type III container subjected to drop testing must also undergo corrosion and moisture-resistance testing to ensure the structural integrity of the container under severe moisture conditions. The 1978 edition appears to allow testing of different special-purpose containers under the drop- and moisture-testing conditions.

- Corrosion and moisture-resistance testing of type III containers under the 1998 edition requires exposure of the containers to simulated salt spray for 20 days in accordance with the provisions of American Society for Testing and Materials (ASTM) consensus standard B117 ("Operating salt spray (fog) operations"). The 1978 edition only requires exposure of a special-purpose container to fresh water for 15 minutes.

- Regarding the content (fill items) of the containers, the 1998 edition provides a short list of basic items needed to disinfect and cover wounds, including special items for treating burns. However, the 1998 edition lists optional fill items for use if an employer identifies workplace hazards that may inflict injuries not covered by the basic fill items. The 1978 edition has a single list of fill items, some of which are unnecessary for many emergencies (for example, forceps, metal splints, tourniquets). Additionally, the 1978 edition is missing several important fill items (for example, medical-examination gloves, cold packs).

- The 1998 edition requires color coding of unit packages that contain specific types of fill items (for example, yellow for bandages, blue for antiseptics), while the 1978 edition has no such requirement.

- The 1998 edition, more often than the 1978 edition, identifies fill items according to standardized testing and quality-control methods. For example, the 1998 edition requires that absorbent compresses meet the water-absorbency criteria of ASTM consensus standard D117 ("Nonwoven fabrics"), and that antiseptics conform to the requirements specified by the Food and Drug Administration in 21 CFR 333 ("Topical antimicrobial drug products for over-the-counter human use"). The 1978 edition provides no absorbency criteria for absorbent gauze compresses, while the antiseptic solution used for antiseptic swabs is required only to be "acceptable to the consulting physician."

The Agency's review of the two editions demonstrated that, compared with the 1978 edition, the 1998 edition: Increases compliance flexibility by emphasizing performance-based requirements, including a choice of three containers and a list of basic and optional fill items; improves the procedures for conditioning and testing first-aid containers; and ensures the reliability and efficacy of the fill items by basing the selection of these items on standardized testing and quality-control methods. Based on this review, OSHA preliminarily found that the provisions of the 1998 edition would provide employers with the information they needed to select first-aid containers and fill items appropriate to the hazards in their workplaces that could injure employees. Consequently, the 1998 edition would protect employees at least as well as the requirements of the 1978 edition.

The Agency believes that the 1998 edition of the ANSI standard is as protective to employees but increases

compliance flexibility and, accordingly, has replaced the reference to the 1978 edition in Appendix A of § 1910.151 with a reference to the 1998 edition. OSHA believes that appropriate guidance is contained in the 1998 edition for a variety of workplaces with different needs.

Finally, although OSHA solicited information about other available consensus standards, no suggestions were received.

### *C. First Aid Supplies in the Telecommunications Standard, 29 CFR 1910.268*

Paragraph 1910.268(b)(3) of OSHA's telecommunication standard requires an employer to: Provide first aid supplies (fill items) recommended by a consulting physician; ensure that the fill items are readily accessible and housed in weatherproof containers if used outdoors; and inspect the fill items at least once a month and replace expended items. In the proposal, OSHA proposed to revise paragraph 1910.268(b)(3) to read, "Employers must provide employees with readily accessible, and appropriate first aid supplies. An example of appropriate supplies is listed in non-mandatory Appendix A to § 1910.151."

In Phase I of the Standards Improvement Project, OSHA removed from paragraph 1910.151(b) of the medical services and first aid standard, the requirement that a consulting physician approve first aid supplies because it determined that commercial first aid kits are readily available and would meet the needs of most employers (61 FR 37850). OSHA noted that employers may have to enhance their first aid kits if unique or changing first aid needs exist in their workplaces. OSHA advised employers in Appendix A that if they had unique needs to consult with the local fire/rescue departments, appropriate medical professionals, or a local emergency room for help. Also, OSHA advised employers that they should assess the specific needs of their worksite periodically and augment the first aid kit accordingly.

In this proposal, the Agency preliminarily concluded that revising the telecommunication standard to reflect the general industry first aid requirements would be appropriate. The Agency received ten comments (Exs. 3-4, 16, 17, 22, 24, 27, 29; 4-6, 8, 11) concerning this proposed revision to the telecommunications standard. A few commenters (Exs. 3-4, 16, 17, 27) indicated that they believed the revision would reduce employee protection. For example, commenters believed that

deleting the requirement to inspect kits monthly to replace used items would increase the likelihood of deficient kits. Another commenter was concerned that there would no longer be a requirement for weatherproof kits.

However, other commenters supported the proposed changes (Exs. 3–22, 24, 29; 4–6, 8, 11). For example, the American Chemistry Council (Ex. 3–29) indicated that it supported the change to reflect present-day realities in the first aid supplies market and also supported the removal of the requirement for a physician's approval for supplies.

The Agency has concluded that substituting the guidance of nonmandatory Appendix A to 29 CFR 1910.151 for the requirements specified in paragraph 1910.268(b)(3) will reduce the regulatory burden on employers in the telecommunication industry by increasing their flexibility in meeting OSHA's requirements for first aid kits, allow employers to purchase off-the-shelf first aid kits, and will facilitate compliance by making the requirements to provide first aid kits consistent across the general industry standards. The Agency believes that the revision affords telecommunication employees at least the same level of protection they currently receive because Appendix A to 29 CFR 1910.151 provides more extensive guidelines for selecting appropriate medical first aid supplies than paragraph 1910.268(b)(3) and further, provides the recommendation that these supplies include personal protective equipment to prevent employee exposure to bloodborne pathogens. Finally, OSHA believes that deleting the requirement for a monthly inspection and weatherproof first aid kits does not reduce employee protection. First aid kits must be complete and contain the supplies necessary for the worksite. If upon inspection by an OSHA compliance officer, a first aid kit was found to be deficient because the supplies were depleted or water damaged, a citation could be issued because the first aid supplies would not be considered adequate or "appropriate." OSHA has concluded that the mandatory requirement to have appropriate and accessible first aid kits maintains employee protection.

#### *D. 13 Carcinogens, 29 CFR 1910.1003*

In the 13 Carcinogens standard, paragraph 1910.1003(f)(2) requires employers to provide the nearest OSHA Area Director with two separate reports on the occurrence of any incident that results in a release of any of the 13 carcinogens into any area where

employees may be potentially exposed. The reports consist of (1) an abbreviated preliminary report submitted within 24 hours of the carcinogen release and (2) a detailed report submitted within 15 calendar days of the incident. In the proposal, OSHA expressed its belief that these reports were of little or no value to OSHA and were therefore creating an unnecessary burden on employers. More recent substance-specific standards including carcinogenic chemicals such as methylene chloride developed by the Agency do not contain any such reporting requirements. Because of these reasons, OSHA proposed to delete the requirement from the standard to reduce reporting requirements because the reports were unnecessary. OSHA requested comment on the extent to which the revision would reduce the reporting burden on employers and the effect the deletion would have on employee health.

OSHA received nine comments in response to the proposal to eliminate the carcinogen standard reporting requirements (Exs. 3–4, 16, 17, 18, 22, 27, 29; 4–11, 13). Three commenters agreed with the removal of the requirement (Exs. 3–22, 29; 4–11). The other commenters (Exs. 3–4, 16, 17, 18, 27; 4–13) objected to the removal of the reporting requirement. These commenters opposed the removal because: (1) The deletion would reduce worker protection because reporting gives useful information to OSHA by alerting it to workplace deficiencies; (2) the information helps management avoid future spills, and; (3) the information induces managers to take spills more seriously.

At the hearing OSHA was asked by a representative from the AFL–CIO (Tr. 16) about how many reports on spills OSHA had received under the current regulations. Responses from the OSHA regional offices indicated that few reports are received and those that are received are not used for inspection purposes (Ex. 9). Although a few OSHA staff believed that incidence reports might be useful, that has not been the case. Further, OSHA has a general requirement to report incidents that cause death or serious injury (29 CFR 1904.39). That provision is used by employers and OSHA and it does trigger compliance inspections.

The purpose for collecting these reports was to assist OSHA in identifying workplaces for inspection. OSHA has not used these reports over the years for this purpose and relies on other means to identify establishments to inspect. Further, the commenters provided no evidence that the reporting requirements serve to help management

avoid future spills or to entice managers to take spills more seriously. In addition, the substances covered by this requirement are primarily chronic toxins and a single spill does not necessarily indicate a severe hazard requiring notification. Therefore, OSHA continues to believe that the reports have not proven to be useful and are an unnecessary employer burden since OSHA does not use them for identifying workplaces for inspection. In addition, under the Paperwork Reduction Act, agencies need to review their requirements to identify those that serve no purpose and if they do not serve any purpose, then consider removing them. Therefore, OSHA has eliminated the reporting requirements. OSHA is not aware of any reason that the elimination of the reports will reduce employee safety since OSHA does not use the reports.

#### *E. Vinyl Chloride, 29 CFR 1910.1017*

Paragraph 1910.1017(k)(6) of the vinyl chloride standard specifies that clinical laboratories licensed by the U.S. Public Health Service under 42 CFR part 74, must analyze biological samples collected during medical examinations. However, 42 CFR part 74 is outdated, and the Public Health Service now addresses laboratory-licensing requirements under 42 CFR part 493, laboratory requirements. Therefore, the Agency proposed to delete the reference to 42 CFR part 74 from the vinyl chloride standard. In the proposal, OSHA asked for comment on: (1) The need to specify a licensing or quality-control requirement; (2) the extent to which the requirements specified by 42 CFR part 493 would be a substitute for the outdated requirements; and (3) whether any other reference or criteria were available that could serve this purpose.

OSHA received eight comments on the proposed deletion of the requirement for a Public Health Service licensed laboratory to analyze biological samples collected during medical exams relative to vinyl chloride exposure (Exs. 3–4, 8, 16, 17, 27, 29; 4–11, 13). The Vinyl Institute (Ex. 3–8) supported the deletion of the provision entirely because they saw no current need for specifying licensing or quality-control of laboratories. The other seven commenters expressed their belief that paragraph 1910.1017(k)(6) should not be changed without either adding language offering equal or greater protection to workers or updating the reference to the new Public Health Service laboratory requirements (Exs. 3–4, 16, 17, 27, 29; 4–11, 13).

One commenter (Ex. 3-16) observed that this type of requirement, laboratory licensing, was an example of the kind of requirement that would be best dealt with by a generic medical monitoring standard which could address laboratory certification for all standards.

Based on the comments OSHA does not believe in this case that it is appropriate to reference outdated regulations, or that it would be appropriate to reference the new PHS standards. However, it is appropriate for OSHA to require employers use qualified laboratories for required medical tests. Other OSHA health standards have assured that qualified laboratories are used by requiring that employers use accredited laboratories. For example, the Bloodborne Pathogens standard [1910.1030(f)(iii)], the Benzene standard [1910.1028(i)(1)(ii)], the Cadmium standard [1910.1027(l)(1)(iv)] and the Lead standard for General Industry [1910.1025(j)(2)(iii)] require that medical tests be performed by accredited laboratories. There are several organizations that accredit laboratories. Each requires that laboratories implement quality control procedures to maintain accreditation. Therefore, OSHA has changed paragraph 1910.1017(k)(6) of the vinyl chloride standard to require the use of accredited laboratories for the medical tests required in paragraph (k)(1) of the standard.

#### *F. Monthly and Quarterly Exposure Monitoring*

Several of the Agency's older standards have provisions that require employers to monitor employee exposures either monthly or quarterly, depending on the level of a toxic substance found in the workplace.

Paragraphs 1910.1017(d)(2)(i) and (d)(2)(ii) of the vinyl chloride standard require employers to conduct exposure monitoring at least monthly if employee exposures are in excess of the permissible exposure limit (PEL) and not less than quarterly if employee exposures are above the action level (AL).

Paragraphs 1910.1044(f)(3)(i) and (f)(3)(ii) of the DBCP standard specify that employers perform exposure monitoring at least quarterly if employee exposures are below the PEL and no less than monthly if employee exposures exceed the PEL.

Paragraphs 1910.1045(e)(3)(ii) and (e)(3)(iii) of the acrylonitrile standard requires employers to conduct exposure monitoring at least quarterly for employees exposed at or above the AL, but below the PEL, and at least monthly

for employees having exposures above the PEL.

The preambles to these older standards do not clearly explain the basis for adopting these monitoring frequencies. This absence of clear explanation suggests that OSHA likely relied on prevailing practice at the time for these older standards in establishing the frequencies. In substance-specific standards promulgated after these standards, exposure monitoring is required: (1) No more often than semiannually if employee exposures are at or above the AL and (2) no more than quarterly if employee exposures are above the PEL.

OSHA proposed to amend the exposure monitoring requirements specified in the vinyl chloride, acrylonitrile, and DBCP standards because they are inconsistent with the exposure monitoring protocols established by OSHA in its later substance-specific standards. OSHA believes that consistency among standards would increase compliance and because the Paperwork Reduction Act directs agencies to reduce paperwork burdens, OSHA therefore proposed to revise these paragraphs to make them consistent with the similar requirements pertaining to exposure monitoring in more recently promulgated health standards. That exposure monitoring is: (1) At least quarterly if the results of initial exposure monitoring show that employee exposures are above the PEL; and (2) no less than semiannually if the results indicate exposures that are at or above the AL. OSHA asked for comment on the extent, if any, to which the revision would reduce the protection afforded by the existing standards to employees exposed to vinyl chloride, acrylonitrile, and DBCP. OSHA also requested comment on the extent to which the proposed revisions would reduce employer burdens, including cost and collection of information (i.e., paperwork) reductions.

OSHA received 14 comments on modifying the exposure monitoring requirements (Exs. 3-4, 8, 10, 12, 13, 14, 16, 17, 18, 27, 29; 4-11, 12, 13). Seven commenters supported consistency in exposure monitoring for one or all of the substances (Exs. 3-8, 10, 13, 14, 29; 4-11, 12). Dow Chemical Company (Ex. 3-13) observed that "Consistency in monitoring requirements reduces employer burdens and enhances compliance while maintaining employee health protections." The American Chemical Council (Ex. 3-29) stated:

ACC concurs that exposure monitoring should be consistent among the Agency's standards. The proposed revisions to § 1910.1044 and § 1910.1045 will help to unify the requirements for exposure monitoring. Further unification of the exposure monitoring requirements will enable employers to have one monitoring strategy that can be applied for all substances, rather than keeping track of the differences between the varying standards.

The American Society of Safety Engineers (Ex. 4-11) remarked that the "revision will assist companies in implementing more uniform industry hygiene programs. Also, there is no demonstrated need for more frequent exposure monitoring these substances."

The American Foundry Society (Ex. 3-12) expressed its view that the exposure monitoring change does not go far enough. The commenter stated:

The proposed revision \* \* \* to go from monthly to quarterly and from quarterly to semiannual does not go far enough. While monitoring of potential employee exposure is essential to maintain employee health and exposure monitoring as part of an engineering study may be necessary to determine the source and magnitude of exposure, periodic monitoring for its own sake imposes an unnecessary and possibly punitive burden on employers and employees unless there is some benefit to employee safety and health.

Once it has been determined that employees are exposed above an Action Level or Permissible Exposure Level, additional monitoring provides no additional useful information, unless it is part of an engineering study. Simply conducting exposure monitoring for its own sake wastes valuable health and safety resources and builds resentment among employees who must wear sampling equipment without justification.

We strongly urge OSHA to modify the requirement in all health standards, now and in the future, to base the frequency of exposure monitoring on the need to establish employee exposure levels or to achieve some other useful safety and health objective. Of course, additional exposure monitoring should be conducted when work processes or practices change or there are good industrial hygiene or engineering reasons to conduct such monitoring.

Six commenters disagreed with the proposed changes (Exs. 3-4, 16, 17, 18, 27; 4-13). For example, the Paper Allied-Industrial, Chemical and Energy Workers Union (PACE) (Ex. 3-4) stated:

\* \* \* For these selected agents which have well-established toxicity, it is wholly inappropriate to ask employees whose exposure monitoring shows that they are exposed at levels above the permissible exposure limit to wait an addition 3 months to find out whether these exposures have been reduced. Likewise for employees whose exposures are above the action level, they should not have to wait six months to learn

whether their exposures have been reduced below that level.

The United Steel Workers of America (Ex. 3-16) remarked:

When the three standards in question were written, it was assumed that most employers would come into compliance in a reasonable amount of time. Indeed, most have—by better controls in the case of vinyl chloride and acrylonitrile, by a phase-out of the chemical in the case of DBCP. Now OSHA proposes to reward those employers who have not achieved compliance. These changes will impair worker protection, and are not supported by evidence in the record.

Also, the International Chemical Workers Union (Ex. 4-13) observed:

We do not believe that a change to these standards is justified. Each rule and requirement went through the rulemaking process at the time, weighing all available evidence. Again, just because later rules, for different chemicals with different hazards, controls and/or toxicities have different requirements, do not provide adequate justification for a change in monitoring frequencies. OSHA needs to provide additional information which gives a valid justification for change before proposing such changes.

The standards for vinyl chloride, acrylonitrile, and DBCB are among the oldest of OSHA health standards. As the United Steel Workers of America noted, most employers have come into compliance. Those employers who have not been able to achieve compliance through feasible engineering controls are required to protect their employees by using personal protective equipment. Those employers who have not been able to reduce worker exposures have collected hundreds of samples since the effective dates of these standards. Very high monitoring frequencies will not add appreciably to the statistical confidence an employer will have in the conclusion that employees' exposures exceed a permissible exposure limit or action level. Monitoring quarterly and semiannually will protect employees by allowing time to improve the workplace, while still producing suitably current information to employers and employees. When employers are over the action level or exposure limit, periodic monitoring is required to assure that proper respirators and personal protective equipment are worn.

Moreover, OSHA concludes, after reviewing the comments, that uniformity of monitoring frequency is beneficial for employers and employees (unless there are specific reasons for different frequency) because uniformity permits an employer to develop a more efficient and thus, better, industrial hygiene program and to increase compliance by improving

understanding of health standards. In addition the Paperwork Reduction Act requires OSHA to consider reduction in paperwork burden when that will not interfere with worker protection.

OSHA notes that two of its standards, 29 CFR 1910.1028 and 1910.1051, benzene and 1,3-butadiene respectively, provide for exposure monitoring frequencies different from the quarterly and semiannual monitoring contained in other standards. The Agency is not revising benzene or 1,3-butadiene with respect to monitoring frequencies because the exposure monitoring provisions in those standards have specific bases in their rulemaking records that preclude changing them for consistency under this standards improvement action. (See e.g. 52 FR 34533-41, September 11, 1987.)

#### *G. Alternative Control Methods for Class I Asbestos Removal*

Provisions in OSHA's asbestos standards for shipyard employment and construction, paragraphs 1915.1001(g)(6)(iii) and 1926.1101(g)(6)(iii), respectively, address alternative control methods used to perform Class I asbestos work. Specifically, the paragraphs require an employer to send an evaluation and certification of alternative control methods to OSHA's Directorate of Technical Support before removing more than 25 linear feet or 10 square feet of thermal-system insulation or surfacing material respectively.

The purpose of this collection of information was for OSHA to develop a database of alternative control methods for use in future rulemaking. However, OSHA has not developed a database of alternative control methods nor does OSHA plan a future rulemaking to do so. Therefore, OSHA in the proposal said that these requirements are not useful and are not in keeping with the Paperwork Reduction Act. Current OSHA regulatory policy requires that paperwork provisions, such as this, be a benefit to employee health or serve some other useful regulatory purpose. Since certification of alternative control methods does not meet this requirement, the Agency proposed to delete it from the shipyard and construction asbestos standards. OSHA invited comment on any regulatory benefit or purpose that removal of this requirement would jeopardize.

Eight commenters addressed the removal of these paragraphs (Exs. 3-4, 16, 17, 24, 25, 27; 4-7, 11). Some commenters (Exs. 3-24; 4-7, 11) agreed with their deletion because OSHA has never used the information to develop a database. Other commenters (Exs. 3-4,

16, 17, 27) suggested rather than simply deleting the requirements, OSHA should enforce the requirement and start a database of alternative control methods which could be useful in rulemaking and to employers and employees seeking methods of abatement. Finally, the Associated General Contractors of America (Ex. 3-25) expressed concern that the change would eliminate contractors' abatement options and lead to increased delays to contractors and building owners because no simple substitution process would be available to submit alternatives. In response to this concern, OSHA would like to make it clear that the removal of these requirements does not disallow the use of alternative control methods since the submission of alternative control methods to OSHA did not constitute approval of the methods.

As stated, the intent of this collection of information was for OSHA to develop a database of alternative control methods, but no such database was developed. Further, OSHA has no future plans to expend its limited resources on developing a database. As to development or availability of alternative control methodologies, there are many competent asbestos abatement contractors and consultants available to employers so it is not necessary for OSHA to research these issues or collect information on them. Therefore, OSHA has deleted the requirement in the shipyard employment and construction standards, because it is an unnecessary and burdensome collection of information.

#### *H. Evaluating Chest X-rays Using the ILO U/C Rating*

OSHA proposed to amend paragraph 1910.1018(n)(2)(ii)(A) of the inorganic arsenic standard and paragraph 1910.1029(j)(2)(ii) of the coke oven emissions standard that require employees' chest x-rays receive an International Labor Office UICC/Cincinnati (ILO U/C) rating. Subsequent to the promulgation of these provisions, the Agency received information from two physicians that the ILO U/C rating is not suitable to evaluate chest x-rays for lung cancer, the possible outcome of exposure to these chemicals. Regarding the use of the ILO U/C ratings specified by the inorganic arsenic standard, Stephen Wood, MD, MSPH, Corporate Medical Director for the Kennecott Corporation, states in a letter to OSHA (Ex. 1-1):

This method of x-ray interpretation was designed specifically for use in pneumoconiosis or dust related disease. Arsenic does not cause pneumoconiosis. This



classification system is unnecessary for cancer surveillance and represents a substantial cost and logistical burden to industry.

Later, Steven R. Smith, MD, Director of Occupational Health and Occupational Medicine, Community Hospitals Indianapolis, wrote to the Agency (Ex. 1–2) addressing the ILO U/C rating required by the coke oven emissions standard:

I am sure you know that the main pulmonary problem with coke oven emission exposure is carcinoma of the lung and not pneumoconiosis. The main merit of the ILO U/C rating system is that it standardizes the reading of films where there are parenchymal opacities either round nodules or linear densities. For the problem of carcinoma of the lung this system really has little to add over the proper interpretation of films by skilled radiologists. I think it is of much more importance that the chest films done as part of the coke oven emissions exposure surveillance be interpreted by expert radiologists who are aware of the fact the films are being done primarily for pulmonary carcinoma. To require that an ILO U/C rating system be employed as well seems to me as though it is going to necessitate an additional expense as well as to greatly limit the number of radiologists who are able to interpret such films.

Based on these letters and on the opinion of OSHA's Office of Occupational Medicine, the Agency believed that the ILO U/C rating is not a suitable method to use in evaluating chest x-rays for lung cancer. Therefore, the Agency proposed to remove the ILO U/C rating requirements specified in the inorganic arsenic and coke oven emissions standards, thereby permitting the examining physician to determine the most effective procedure for evaluating the chest x-rays. This approach is similar to that taken in recent Agency standards that require the evaluation of chest x-rays for cancer (e.g., paragraph 1910.1027(l)(4)(ii)(C) of the cadmium standard). As part of the cadmium rulemaking, OSHA solicited comment and other information regarding the suitability of the ILO U/C ratings for evaluating chest x-rays for cancer, the identity of any other available method or procedure that could effectively substitute for ILO U/C ratings, and the safety and efficacy of the proposed elimination of the requirement.

OSHA received nine comments in response to this proposed change (Exs. 3–7, 9, 16, 17, 27, 28, 29; 4–7, 11). Some commenters agreed (Exs. 3–7, 28, 29; 4–7, 11) that the rating requirement should be deleted because the method was not appropriate to evaluating chest x-rays for lung cancer. The American Coke and

Coal Chemical Institute (Ex. 3–28) stated:

ACCCI concurs with the Agency's research and rationale that the ILO–U/C rating is not suitable for proper evaluation of standard posterior-anterior chest x-rays, as this designation does not promote proper lung cancer surveillance. In addition to the additional cost burden it imposes on employers, the requirement also delays the reading response time, due to the extremely limited number of radiologists qualified to render such an interpretation.

Pinnacle West Capital Corp (Ex. 4–7) indicated that its medical consultant saw no detriment to employee protection if the requirement was deleted.

Some commenters (Exs. 3–9, 16, 17, 27) whether they agreed with or opposed the removal of the rating, believed substitute language should be added and suggested what that language might be. For example, the United Steel Workers of America (Ex. 3–16) agreed that the rating is of little use for carcinogens but suggested that OSHA substitute the rating requirement with one that the radiologist be certified by the American Board of Radiologists to ensure qualified radiologists are used. The AFL–CIO (Ex. 3–27) observed that the use of the rating provided some quality control. To remedy the problem, the AFL–CIO suggested that x-rays be read by NIOSH certified B readers.

OSHA has decided to eliminate the part of the provisions in arsenic and coke oven emissions requiring the ILO U/C rating because the rating is appropriate only for pneumoconiosis and is not useful for lung cancer. OSHA agrees with commenters who noted that the rating method is not appropriate for diagnosing cancer, its intended purpose. First, it is clear that the specified rating method is inappropriate because it addresses dust inhalation and resulting pneumoconiosis, a problem unrelated to arsenic and coke oven emissions. The rating is not appropriate for identifying cancer, the primary concern with respect to these substances. Second, OSHA has no reason to believe that the elimination of an inappropriate rating method will result in the use of unqualified radiologists under the medical surveillance programs of employers and does not believe it is necessary to add any other language to the provision. OSHA has decided based on the rulemaking record, to delete the requirement and does not believe that the deletion will decrease employee health since the method is not even appropriate to diagnosing the substances' likely disease outcome, cancer.

### *I. Signed Medical Opinions*

OSHA proposed to remove several requirements for medical opinions to be signed. (The requirement that a medical opinion be obtained by the employer was not affected by the proposed revision concerning a signature.) Paragraph 1910.1001(l)(7)(i) of the asbestos standard, and paragraphs 1910.1027(l)(10)(i) of the general industry cadmium standard and 1926.1127(l)(10)(i) of the construction industry cadmium standard, require that the examining physician sign the written medical opinion provided as part of the medical-surveillance requirements of these standards. The preamble to the cadmium standards states that the purpose of requiring the physician to sign the opinion is to ensure that the information that is given to the employer has been seen and read by the physician and that the physician has personally determined whether the employee may continue to work in cadmium-exposed jobs (57 FR 42366). No other substance-specific standards promulgated by OSHA requires that the physician sign the medical opinion.

The Agency expressed its belief in the proposal that the requirement for a physician to sign a medical opinion is unnecessary, precludes electronic transmission of the opinion from the physician to the employer, and provides no additional benefit to employees. Accordingly, OSHA proposed to remove the requirement from these standards. The Agency requested comment on whether a signed medical opinion is necessary to ensure that the examining physician has reviewed it prior to submitting it to the employer.

OSHA received 11 comments concerning the elimination of the requirement for a physician's signature on a medical opinion (Exs. 3–3, 4, 7, 16, 17, 22, 24, 26, 27; 4–7, 11). Seven commenters saw no need or reason for the signature (Exs. 3–3, 7, 22, 24, 26; 4–7, 11). For example, Phelps Dodge Corp. (Ex. 3–7) agreed that the requirements provide no added benefit and given current communication techniques, requiring signed medical opinions actually slows the process of completing the medical evaluation. The American Society of Safety Engineers (Ex. 4–11) stated that it "supports this change because it permits the use of new technology, which is generally accepted in the business and medical field, and will minimize paperwork burdens and reduce delays receiving such reports, thereby enhancing safety and health."

Four commenters objected to deleting the requirement for a physician's signature on the medical opinion (Exs.



3–4, 16, 17, 27). The views expressed by these commenters include: (1) Physicians should take responsibility for their opinions; (2) employees place greater weight on opinions signed by physicians; and (3) providing signed opinions requires minimal effort. These commenters generally agreed that if OSHA wanted to allow for electronic transmission, then the provision should be revised to allow electronic signatures.

OSHA does not believe that requiring a physician's signature on the required comprehensive medical opinion has any impact on the validity of the medical opinion. With or without a signature, the opinion is given by a physician through the physician's office leaving no doubt about responsibility for the opinion. Employees receiving the physician's opinions will see that the physician's name on his or her stationery sets forth the legitimacy of the report and the identify of the responsible physician. Further, OSHA believes that an actual physician's signature or a physician's electronic signature does not guarantee that the physician has read the opinion, making these signature requirements ineffective. The important part of the requirement is that a medical opinion is given. OSHA does not believe a signature establishes any greater validity to the medical opinion whether it is signed personally or electronically and has concluded that deleting the signature will not decrease employees' health protections.

#### *J. Providing Semiannual Medical Examinations to Employees Experiencing Long-Term Toxic Exposures*

Three of the Agency's oldest health standards specify that employers provide semiannual medical examinations to employees having long-term exposures to the toxic substances regulated by these standards. However, these standards, which regulate employee exposures to vinyl chloride, inorganic arsenic, and coke oven emissions (29 CFR 1910.1017, 1910.1019, and 1910.1029, respectively), require employees, exposed for lesser periods, be given annual medical examinations.

Under paragraph 1910.1017(k) of the vinyl chloride standard employers must institute a medical surveillance program including a physical examination for employees exposed in excess of the action level. For employees exposed above the action level and who have been employed in vinyl chloride or polyvinyl chloride manufacturing for 10 years or longer, employers must provide a semiannual medical examination

(paragraph 1910.1017(k)(2)(i)). The preamble to this standard provides no rationale for this requirement.

Paragraph 1910.1018(n)(3)(i) of the inorganic arsenic standard requires that employers offer semiannual medical examinations to employees who are 45 years or older who have been exposed above the action level for 30 days per year or who have been exposed above the action level to inorganic arsenic for at least 10 years. In justifying this requirement, the Agency indicated in the preamble to this standard that:

Long-term employees who have exposures now or in the near future below the action level, but have had exposure above the action level now or in the recent past, are quite likely to have had substantially greater exposures in the more distant past. The epidemiological studies indicate that risk increases with both degree and duration of exposure (43 FR 19620).

OSHA notes that this statement addressed high exposures that occurred prior to the 1970's.

Paragraphs 1910.1029(j)(3)(ii) and (j)(3)(iii) of the coke oven emissions standard require employers to provide semiannual medical examinations for employees who are at least 45 years of age, or have five or more years of employment in a regulated area, and for an employee in this age/experience group who transfers or is transferred from employment in a regulated area, for as long as that employee is employed by the same employer or a successor employer. In the preamble to this standard, the Agency explains this requirement by stating that the high risk population requires more frequent and more comprehensive testing than the remainder of the population (41 FR 46779, October 22, 1976).

OSHA believes that the available evidence does not support the requirements for semiannual medical examinations offered to employees with long-term exposures to vinyl chloride, inorganic arsenic, or coke oven emissions. Based on a review of the existing medical research literature in Phase I of the Standards Improvement Project, the Agency amended the inorganic arsenic and coke oven emissions standards by reducing the frequency of chest x-rays from semiannual to annual and by removing the requirement for sputum cytology entirely from these standards (63 FR 33450). This review indicated that semiannual chest x-rays and sputum cytology did not provide additional protection to employee health over and above that provided by an annual chest x-ray. Semi-annual medical exams provide little if any benefits when x-rays are only justified on an annual basis.

Further, other health standards promulgated by OSHA, e.g., the 13 Carcinogens, benzene, ethylene oxide, etc., only require annual medical examinations.

Based on the available evidence, at the time of the proposal, the Agency believed that semiannual medical examinations for these three substances were unnecessary, and that annual medical examinations would be sufficient to detect cancer and other medical impairments caused by exposure to vinyl chloride, inorganic arsenic, or coke oven emissions. Also, aside from these three standards, no other substance-specific OSHA standard requires semiannual medical examinations. OSHA also believed that current medical practice with regard to employees occupationally exposed to toxic substances is to screen them annually. Therefore, the Agency proposed to revise these three standards to be consistent with its other substance-specific standards that require employers to provide annual medical examinations for covered employees regardless of the duration of their exposures. OSHA requested comment and other information on the effectiveness of annual versus semiannual medical examinations in detecting cancer and other medical impairments caused by exposure to vinyl chloride, inorganic arsenic, or coke oven emissions.

OSHA received 13 comments concerning semiannual versus annual medical examinations (Exs. 3–4, 7, 8, 10, 13, 14, 16, 17, 27, 28, 29; 4–7, 11). Most of these commenters supported the change from semiannual to annual medical examinations (Ex. 3–4, 7, 8, 10, 13, 14, 28, 29; 4–7, 11). OxyChem (Ex. 3–10) supported OSHA's rationale that semiannual medical examinations do not offer any more or better disease identification than annual examinations. Further, OxyChem noted that annual examination is the medical profession's standard, and is consistent with all recent OSHA medical examination requirements. The Vinyl Chloride Health Committee of the American Chemistry Council (Ex. 3–14) stated:

OSHA recognizes in the preamble that semiannual examinations are not necessary, because annual medical examinations are sufficient to detect any material adverse health effect caused by vinyl chloride exposure. The Health Committee supports the proposal and notes that, more than any other proposed change, this will reduce significantly employer cost burdens without affecting worker health adversely.

Further, Pinnacle West Capital Corporation (Ex. 4–7) remarked:

These standards promulgated in the 70s took a very conservative view in regard to medical monitoring requirements. In view of today's knowledge and OSHA's mediating this ultra conservative stance, we agree that annual exams are adequate to protect employee health. We believe it will enhance compliance with OSHA standards by making these rules consistent in requiring annual exams for all substance specific standards.

Two commenters did not support eliminating the semiannual medical examinations (Ex. 3-17, 27). The UAW (Ex. 3-17) noted that increasing the frequency of examinations with increasing latency from first exposure to carcinogens is logical and based on science. The AFL-CIO (Ex. 3-27) expressed a similar opinion:

In the view of the AFL-CIO, the current language requiring semiannual exams should be retained. Workers with long term exposures to any of these three substances are likely to be at increased risk of developing lung and liver cancer. The time since first exposure is also increased among this subset of exposed workers. More frequent screenings will assist these workers in identifying or diagnosing their cancers earlier than with an annual examination frequency.

OSHA continues to believe based on available evidence resulting from its Phase I Standards Improvement Project, discussed above (that semiannual x-rays and sputum cytology do not improve survival rates), that annual medical examinations are sufficient to detect cancer and other medical impairments caused by exposure to vinyl chloride, inorganic arsenic, or coke oven emissions. The majority of commenters also believed that requiring annual medical examinations would be as effective as semiannual. OSHA finds that current medical practice to screen annually, makes it administratively advantageous especially when the medical examination may cover potential adverse health effects from other chemicals. Finally, OSHA's experience with other substance specific standards requiring annual medical examinations, persuades OSHA that the three standards can be changed without a decrease in employee health.

A second issue was raised in the proposal addressing the medical examination in the coke oven emissions standard. OSHA sought comment on whether the urinary cytology examination was a useful test. OSHA indicated it might include its removal in the final rule if warranted, based on comments. The coke oven emissions standard requires, in paragraph 1910.1029(j)(2)(vii), that employers provide urinary cytology examinations as part of the medical examination to exposed employees. OSHA had adopted

this requirement based on its belief that the urinary cytology examination would serve as a useful tool in screening for bladder cancer for those exposed to coke oven emissions.

However, at the time of this proposal, the Agency believed that the use of urinary cytology in the coke oven emissions standard as a screening tool for cancer should be reexamined based on more recent scientific literature. OSHA's Office of Occupational Medicine (OOM) reviewed data pertaining to the benefits of urinary cytology in the detection of bladder cancer (Ex. 1-3). The literature indicates that the sensitivity of urine cytology, that is, its ability to detect bladder cancer, is not very powerful and, thus, not a particularly effective screening test for this disease. OOM recommends that urinary cytology testing be eliminated from the coke oven emissions standard. However, OOM does recommend retaining dipstick urinalysis as an inexpensive means of maintaining the urologic screening program until more effective technology is developed, despite its low sensitivity for detecting cancer. Comment was requested on the issue and on the OOM recommendation of retaining dipstick urinalysis.

OSHA received five comments on the urinary cytology examination in the coke oven emissions standard (Exs. 3-4, 16, 17, 27). None of the commenters believe that OSHA should eliminate the urinary cytology examination at this time. For example, the United Steel Workers of America (Ex. 3-16) remarked:

We agree with OSHA that urinary cytology should be thoroughly examined. While we have respect for OSHA's Office of Occupational Medicine, the evaluation should be based on more than their opinion. In addition, the Agency should consider newer methods for detecting overexposures, such as 2-hydroxypyrenol. Until that analysis is complete, the requirement for urinary cytology should be retained.

The AFL-CIO (Ex. 3-27) stated:

While we have no objection to OSHA reexamining the utility of using urinary cytology as a screen for cancer, we are opposed to removing it merely because the sensitivity of the screening tool "is not very powerful". If another screening method can be shown, with scientific substantiation, to be more powerful then it may be appropriate for the agency to require a different method to be used. Until such time as this analysis has been completed and a more powerful method identified, the AFL-CIO believes the requirement for urinary cytology should be retained. To eliminate the screening test altogether would weaken worker protection.

Based on comments, OSHA has been persuaded to retain the requirement to conduct urinary cytology testing as part

of the medical examination required by the coke oven emissions standard until such time that the Agency more fully examines alternatives to the test. However, also based on the information in the record and comments, OSHA is requiring the test be conducted on an annual basis as part of the annual medical examination, the same time the other tests are required (urinalysis), rather than every 6 months. OSHA has found no compelling reason that the cytology test should be conducted more frequently than the other tests required as part of the medical examination and it is important to be consistent with the annual frequency of other required medical examinations and tests so that it can be reviewed by the physician.

#### *K. Notifying OSHA Regarding the Use of DBCP or the Establishment of Regulated Areas for Certain Substances*

The Agency proposed to delete paragraph 1910.1044(d) of the 1,2-dibromo-3-chloropropane (DBCP) standard. This standard is the only OSHA substance standard that requires employers to submit a report to the nearest OSHA Area Office that describes the employer's use of the chemical within 10 days of introducing the substance into the workplace. The preamble to the DBCP standard does not provide a rationale for the requirement. Further, OSHA has not found this requirement useful either for research or to assist in compliance activities.

OSHA believed that the provision had little use in practice and thus, it might be appropriate to remove this provision consistent with the Paperwork Reduction Act mandates. OSHA requested comment on the proposed deletion of paragraph 1910.1044(d) of the DBCP standard.

One commenter specifically disagreed with the deletion of paragraph (d) of the DBCP standard. The commenter, the United Steel Workers of America (Ex. 3-16) stated:

The DBCP standard requires employers to notify OSHA if they introduce the substance into the workplace. No known employers currently use or produce DBCP. If any do so in the future, it would be useful for the Agency to know it. Therefore, there is no reason to delete this provision. The deletion would not even reduce any current paperwork burdens.

At the request of the public, OSHA queried its regions on the notification of use and establishment of regulated area provisions. The regions said that very few notifications have been received with regard to any chemicals (e.g., arsenic) and that the reports are not used for targeting inspections (Ex. 9-1-1). (For example, one region stated it has

received 2 to 3 reports over 28 years regarding reporting for vinyl chloride.) In any case, OSHA has other provisions for targeting inspections.

OSHA has decided to delete this requirement. It has not been used by OSHA and no other OSHA health standards have such provisions. At the time of this proposal, OSHA was aware that DBCP is no longer produced or used, and therefore no reduction in burden hours was projected for the deletion. Nonetheless, if DBCP was used again, OSHA still considers the provision an unnecessary burden under the Paper Work Reduction Act and unnecessary for purposes of targeting inspections. Moreover, if DBCP were to be used again, the standard would protect employees.

A number of other OSHA standards dating from the 1970s require employers to notify the nearest OSHA Area Director/Office if they are required to establish regulated areas in their workplaces. The following standards have such a requirement: Paragraph 1910.1003(f)(1) of the 13 carcinogens standard; paragraph 1910.1017(n)(1) of the vinyl chloride standard; paragraph 1910.1018(d)(1) of the inorganic arsenic standard; and, paragraph 1910.1045(d)(1) of the acrylonitrile standard.

The preamble to the vinyl chloride standard explains that the purpose of this notification requirement is to enable OSHA to obtain information on control technology (39 FR 35896, October 4, 1974). The preamble to the acrylonitrile standard notes that the requirement is designed to enable OSHA to be aware of facilities where substantial exposure exists (43 FR 45762).

In the years since these standards were promulgated, OSHA has not found the notification provision useful for the purposes described in the two preambles nor have these requirements been useful for compliance inspection targeting purposes. No other substance-specific standards promulgated by OSHA require such notification. The Agency proposed to delete the notification requirement from the standards to reduce unnecessary collections of information (paperwork burdens) required by OSHA but not used by OSHA. OSHA invited comment on the effect this deletion would have in general, and specifically on employee protection, employer burden, and paperwork reduction.

OSHA received 14 comments on the OSHA notification provision concerning regulated areas (Exs. 3–8, 10, 13, 14, 16, 17, 18, 22, 27, 29; 4–7, 11, 12, 13). Nine commenters supported deleting

notifying OSHA of regulated areas (Exs. 3–8, 10, 13, 14, 22, 29; 4–7, 11, 12). Dow Chemical (Ex. 3–13) observed:

Dow agrees with OSHA that it is appropriate to revise the requirement that an employer notify the Agency when it has established a “regulated area.” OSHA does not find the information useful and we believe that the information serves no purpose and should be eliminated. The requirement to notify places a burden on the employer that does not appear to be necessary. Conditions in an area that might require reporting can change quickly. While these changes are being monitored, it does not appear to be a useful exercise to determine how many days the employer has to postmark a letter detailing the information to OSHA, particularly when OSHA does not utilize the information anyway. Further, there are many tasks that potentially might trigger establishing a regulated area, where other tasks involving the same chemical do not. Thus, it does not seem particularly helpful or necessary to notify OSHA when establishing a regulated area which only exists when certain tasks, done at a variety of different frequencies (rather than a permanent arrangement), exists. Dow supports OSHA’s efforts to eliminate this unnecessary regulatory burden.

Organization Resources Counselors (Ex. 3–22) indicated it agreed with the elimination of the provisions on the principle that if OSHA no longer has a need to collect information or finds that the information provides no useful benefits for enforcement or protection, then the requirements should be deleted.

Five commenters did not agree that the regulated area notification provisions were unnecessary or should be deleted (Exs. 3–16, 17, 18, 27; 4–13). The UAW (Ex. 3–17) observed that the stronger argument would be to extend the requirement to other standards. This would enable OSHA to target health inspections more efficiently. The AFL–CIO (Ex. 3–27) stated:

We are also opposed to removing the requirement to notify OSHA whenever regulated areas are established for the 16 carcinogens. This information can be extremely helpful in protecting worker health by identifying effective methods to control exposure and targeting OSHA inspections. Instead of eliminating this requirement, the agency should improve all its health standards by incorporating this provision into all of its health standards.

Also, the ICWU (Ex. 4–13) believes the rule at least encourages employers to investigate and institute corrective actions.

OSHA concludes that the notification requirements are not adding to worker protection and eliminating them will reduce the collection of information (paperwork) burden and overall improve compliance with OSHA health

standards by making them more consistent. OSHA has not been using these reports for enforcement purposes. (See Ex. 9.) These are older standards with a high degree of compliance and where technology was long ago developed to achieve compliance. OSHA has other methods for targeting inspections. OSHA therefore has decided to eliminate these reporting requirements.

#### *L. Reporting Emergencies to OSHA*

Paragraph 1910.1017(n)(2) of the vinyl chloride standard and paragraph 1910.1045(d)(2) of the acrylonitrile standard require employers to report the occurrence of emergencies involving these substances to the nearest OSHA Area Director/Office. The preambles to these standards are silent on the reason for this reporting requirement and OSHA has not found such reporting, which has occurred only rarely, useful. In addition, other Agency substance-specific standards do not have such a requirement. Accordingly, OSHA proposed to delete these reporting provisions as unnecessary and a way to reduce unnecessary collections of information (paperwork burdens). OSHA asked for comment on the proposed deletions and for information on any impact such an action might have.

Thirteen commenters addressed the deletion of the provisions requiring notifying the OSHA Area Director/Office of an emergency (Exs. 3–4, 8, 10, 13, 14, 16, 17, 18, 22, 27, 29; 4–11, 13). Of those, seven commenters supported the modification (Exs. 3–8, 10, 13, 14, 22, 29; 4–11) and six commenters did not (Exs. 3–4, 16, 17, 18, 27; 4–13). Generally, commenters that supported the modification believed that if OSHA does not use the information, then it should not be collected.

The commenters who did not agree with the modification indicated that the information could be very useful to OSHA and employers if it was collected and evaluated properly. The AFL–CIO (Ex. 3–27) argued:

The AFL–CIO is opposed to the deletion of this requirement because it will weaken worker protection. Information from emergencies can be used to identify hazards and inform other employers using these substances about control procedures that can eliminate similar emergencies from occurring in the future. The fact that such reporting has been rare is irrelevant and not sufficient justification to delete it from these two standards. Furthermore, it is our position that this emergency reporting requirement should be extended to all of OSHA’s health standards. To do so, in our opinion, would genuinely result in the improvement of the

agency's standards and increase worker protection.

OSHA remains unconvinced by these arguments that it should retain the requirement to report emergencies for these two substances. OSHA regions have not been utilizing the few reports which have been filed, though several regional staff felt they conceivably could be useful. However, that the plans could be useful is not very persuasive when they have not been used. OSHA has other regulations for reporting deaths and serious injuries (see 29 CFR 1904.39).

Speculation that employees may be protected by these emergency reporting requirements does not outweigh the fact that emergency reports required by these standards are rare and OSHA has found them not to be useful. Finally, no evidence in the rulemaking records for OSHA's more recent health standards compelled the Agency to include emergency reporting requirements. Thus, OSHA had concluded that the requirements are unnecessary and create a needless paperwork burden. Therefore, the requirement to report emergencies to OSHA contained in these two standards is being deleted in this final rule.

#### *M. Semiannual Updating of Compliance Plans*

The Agency's substance-specific standards typically require employers to develop compliance plans to meet the exposure-control objectives of the standard. Most of these standards specify that employers must update these plans at least annually because OSHA believed that annual updating was sufficient to ensure the continued effectiveness of the plans. However, a few of the substance-specific standards promulgated by the Agency require semiannual updating. These standards include: the standard for vinyl chloride, paragraph 1910.1017(f)(3); the inorganic arsenic standard, paragraph 1910.1018(g)(2)(iv); the lead standard, paragraph 1910.1025(e)(3)(iv); the coke oven emissions standard, paragraph 1910.1029(f)(6)(iv); the DBCP standard, paragraph 1910.1044(g)(2)(ii); the acrylonitrile standard, paragraph 1910.1045(g)(2)(v); and, the lead in construction standard, paragraph 1926.62(e)(2)(v).

The preambles to these standards, vinyl chloride, inorganic arsenic, lead, coke oven emissions, DBCP, acrylonitrile and lead in construction, contained no evidence pointing to the need for a semiannual update of compliance plans in facilities handling these substances. Further, OSHA believed that current industry practice

with respect to health issues is annual updating, which is consistent with other OSHA health standards. Based on these reasons, the Agency proposed to revise those substance-specific standards that contain semiannual updating to annual updating. The revision would make the compliance plan update requirements consistent across health standards without diminishing employee protection and would also reduce unnecessary paperwork. The Agency solicited comment on any impact, particularly on employee health, that the proposed revision might have.

Many commenters addressed the proposed change to an annual update of compliance plans (Exs. 3-4, 7, 8, 10, 13, 14, 15, 16, 17, 18, 22, 27, 28, 29; 4-7, 11, 12, 13). Most of these commenters supported the revision as well as OSHA's reasons (Exs. 3-7, 8, 10, 13, 14, 15, 22, 28, 29; 4-7, 11, 12). However, some commenters disagreed with the proposed change (Exs. 3-4, 16, 17, 18, 27; 4-13).

Of those commenters that endorsed the change, OxyChem (Ex. 3-10) stated:

The VCM standard requires a written compliance plan whenever employees' exposures exceed the Permissible Exposure Limit ("PEL"). The compliance plan is intended to help reduce employee exposures to or below the PEL through use of engineering and work practice controls. The written plan is required to be updated semi-annually. Like several other proposed revisions affecting the VCM standard, OSHA proposes to revise this regulation to require an annual update of the written plan. This will make these rules consistent with recent occupational health standards. While semi-annual plan updating may have been important when the VCM standard was published, it is no longer needed due to the reduced potential for exposure to VCM in the manufacturing and user industries. OxyChem supports this proposal.

Additionally, the American Coke and Coal Chemicals Institute (Ex. 3-28) noted:

ACCCI supports this revision, as it would have no diminishing effect on employee safety and health. Engineering controls are well established and maintained throughout the industry, and work practice controls remain regimented within individual coke making facilities. Furthermore, employee protection is ensured through related compliance with other applicable standards such as Respiratory Protection (1910.134) and Personal Protective Equipment (1910.132).

Finally, the American Society of Safety Engineers (Ex. 4-11) recommended "this change to encourage uniformity in industrial health recordkeeping."

In contrast, the AFL-CIO (Ex. 3-27) remarked:

The AFL-CIO is opposed to OSHA's proposed change. The semiannual requirement applies to a significant number of chemicals and is an important provision, particularly in circumstances where changes in the workplace occur that may increase the potential for worker exposures. Furthermore, in the interest of increasing worker protection, we believe this requirement needs to be added to all of the agency's health standards.

After reviewing the comments, OSHA concludes that annual updates are sufficient. Uniformity among standards is advantageous for improving compliance. Semi-annual updating of compliance plans was most useful in the years immediately following the promulgation of these standards. In those years, employers were installing engineering controls, evaluating their effectiveness and making modifications to increase their effectiveness. Now that many years have passed and engineering control strategies have been well established, the need to evaluate twice each year is diminished and does not outweigh the benefits of consistency among OSHA's health standards. Employees continue to be fully protected by the substantive provisions of these standards. Consequently the revisions will make compliance plan updates more consistent without diminishing employee protection. The revisions will also reduce employers' collection of information burdens (paperwork) which the Paperwork Reduction Act requires OSHA to consider. Therefore, OSHA is revising these standards to allow for an annual compliance program review.

#### *N. Notifying Employees of Their Exposure Monitoring Results*

Many of OSHA's substance-specific standards require employers to notify employees of their exposure monitoring results. The manner of notification varies. (See Table 1) Some standards require the employer to provide written notification to each employee in a monitoring program and also post the monitoring results. Other standards require the employer to only notify the individual of exposure monitoring results. Still other standards require that monitoring results be posted.

Obviously, the reason for employee notification of monitoring results is for employees to be aware of their exposures to regulated substances. However, the preambles to these standards do not identify the reasons for the differences in the manner in which employees are informed of their exposure results. Also, there was no evidence to suggest that the timing differences were based on effects on

employee health. Therefore, OSHA believed that making the notification and timing requirements consistent across standards would reduce regulatory confusion and facilitate compliance without diminishing employee protection.

The Agency proposed to allow employers to provide employees with their exposure monitoring results either individually in writing, or by posting the results in a readily accessible location, or by both. There were a

number of considerations identified by OSHA with regard to the manner in which employees are notified. For example, individual notification gives employees a permanent record and they may take individual notification more seriously. Individual notification also avoids possible privacy concerns that may be associated with posting results. However, individual notification increases the paperwork burden on employers. On the other hand, posting monitoring has advantages. When

monitoring results are posted, all employees, not just those monitored, will have knowledge of overall exposure related trends in their workplace. Posting monitoring results, however, might pose privacy issues that will be discussed under section O, Additional Issues for Comment. OSHA requested information on the impact the proposed revision might have on employee protection.

TABLE 1.—METHOD OF NOTIFICATION AND TIME PERIOD FOR NOTIFICATION OF EXPOSURE RESULTS

Standard	Method of notification	Maximum period for notification
<b>Part 1910—General Industry</b>		
Asbestos: Paragraph 1910.1001(d)(7)(i) .....	Individually in writing <i>or</i> posting .....	15 working days.
Vinyl Chloride: Paragraph 1910.1017(n)(3) .....	Individually in writing only .....	10 working days.
Inorganic Arsenic: Paragraph 1910.1018(e)(5)(i) .....	Individually in writing only .....	5 working days.
Lead: Paragraph 1910.1025(d)(8)(i) .....	Individually in writing only .....	5 working days.
Cadmium: Paragraph 1910.1027(d)(5)(i) .....	Individually in writing <i>and</i> posting .....	15 working days.
Benzene: Paragraph 1910.1028(e)(7)(i) .....	Individually in writing only .....	15 working days.
Coke Oven Emissions: Paragraph 1910.1029(e)(3)(i) .....	Individually in writing only .....	5 working days.
Cotton Dust: Paragraph 1910.1043(d)(4)(i) .....	Individually in writing only .....	20 working days.
1,2-Dibromo-3-Chloropropane: Paragraph 1910.1044(f)(5)(i) .....	Individually in writing only .....	5 working days.
Acrylonitrile: Paragraph 1910.1045(e)(5)(i) .....	Individually in writing only .....	5 working days.
Ethylene Oxide: Paragraph 1910.1047(d)(7)(i) .....	Individually in writing <i>or</i> posting .....	15 working days.
Formaldehyde: Paragraph 1910.1048(d)(6) .....	Individually in writing <i>or</i> posting .....	15 working days.
Methylenedianiline: Paragraph 1910.1050(e)(7)(i) .....	Individually in writing <i>or</i> posting .....	15 working days.
Butadiene: Paragraph 1910.1051(d)(7)(i) .....	Individually in writing <i>or</i> posting .....	5 working days.
Methylene Chloride: Paragraph 1910.1052(d)(5)(i) .....	Individually in writing <i>or</i> posting .....	15 working days.
<b>Part 1915—Shipyard Employment</b>		
Asbestos: Paragraphs 1915.1001(f)(5)(i) and (f)(5)(ii) .....	Individually in writing <i>or</i> posting .....	As soon as possible.
<b>Part 1926—Construction</b>		
Methylenedianiline: Paragraph 1926.60(f)(7)(i) .....	Individually in writing <i>or</i> posting .....	15 working days.
Lead: Paragraph 1926.62(d)(8)(i) .....	Individually in writing only .....	5 working days.
Asbestos: Paragraphs 1926.1101(f)(5)(i) and (f)(5)(ii) .....	Individually in writing <i>or</i> posting .....	As soon as possible.
Cadmium: Paragraph 1926.1127(d)(5)(i) .....	Individually in writing <i>and</i> posting .....	5 working days.

In addition to the notification requirements, these standards contain a variety of different time limits between receipt of employees' exposure monitoring results and notification of employees. Employee notification time for exposure results range from "as soon as possible," to 5, 10, 15 or 20 working days after the employer receives the monitoring results. See Table 1 for the amount of time permitted by 15 substance-specific standards for general industry, one for shipyard employment, and four for construction.

OSHA proposed to require employers regulated by the 15 substance-specific standards for general industry to notify employees of their exposure monitoring results within 15 working days of receiving the results. OSHA believed a consistent time-period would simplify employer compliance and found no reason to believe that 15 days is an

unreasonable time frame or would in any way compromise employee protection.

For construction employers covered by the methylenedianiline, lead, asbestos, or cadmium standards, and shipyard employers covered by the asbestos standard, OSHA proposed to require notification as soon as possible but no later than five working days after the employer receives the results of exposure monitoring.

The asbestos and cadmium standards established different time periods for notification based on the industries affected. Although the general industry asbestos standard requires employee notification within 15 working days, both the construction and shipyard employment asbestos standards require notification "as soon as possible." Construction and shipyard employers were believed to have employees that

were involved in more short-term and intermittent activities. Also, the general industry cadmium standard requires employee notification within 15 working days while the construction cadmium standard requires notification within five working days. Again, the preamble to the construction cadmium standard states that the five working-day notification period is appropriate because of the short term nature of many construction jobs (57 FR 42383).

OSHA requested comment on the appropriateness of the different notification time periods. The Agency believed that factors such as short-term or intermittent projects might justify retaining the shorter notification periods for construction and shipyard employment activities, although some health standards allow 15 working day time periods standards for these industries.

OSHA invited comment and information on the proposed revisions to the notification requirements in OSHA health standards, particularly on the differences proposed for employers in different industries and any reduction in employee protection that may result from the proposed revisions.

OSHA received 24 comments on the means of employee notification and the time period to inform employees the results of exposure monitoring (Exs. 3-1, 3, 4, 5, 7, 8, 10, 13, 14, 15, 16, 17, 18, 22, 23, 24, 26, 27, 28, 29; 4-7, 11, 12, 13). Of these comments, the majority addressed OSHA's proposal to allow informing employees of their exposure individually in writing, by posting the results, or by both (Exs. 3-1, 4, 7, 8, 10, 15, 16, 17, 22, 23, 26, 27, 28, 29; 4-12, 13) and most supported the proposal (Exs. 3-1, 7, 8, 10, 15, 16, 22, 23, 28, 29; 4-12, 13).

For example, Phelps Dodge Corporation (Ex. 3-7) remarked:

We support OSHA's proposal to allow employers to provide employees with their exposure monitoring results either individually in writing or by posting the employees' results in a readily accessible location. We agree with OSHA's preliminary finding that the goal of ensuring that employees are aware of their exposures can effectively be met either by individual written notification or by posting results in a location that is readily accessible to all employees whose results are being posted. Posting results for general observation is efficient and provides a large number of people access to the exposure monitoring results. However, in some cases, individual written notification may be the preferred method of communication if the notification involves sensitive information. We ask OSHA to provide employers with the flexibility to choose the best method to notify employees and make this notification an effective communication tool.

The United Steelworkers of America (Ex. 3-16) stated that "We agree that these standards should be harmonized, and we agree that exposure results could be provided individually or by posting."

One commenter that supported employer choice of individual notification or posting, expressed concern about employee privacy with respect to posting monitoring results. OxyChem (Ex. 3-10) observed that "employers should not be forced to utilize employee identifiers that invoke privacy concerns when performing the notification of monitoring" such as social security numbers. OSHA absolutely agrees that employers should not use employee identifiers when posting monitoring results and does not require such identification and

emphatically recommends that employers not use such identifiers.

Several commenters did not support allowing employers the latitude in choosing the method of informing employees about their exposures (Exs. 3-4, 17, 26, 27). The Paper, Allied-Industrial, Chemical & Energy Workers International Union (PACE) (Ex. 3-4) remarked:

PACE sees no need or rationale for OSHA to change the requirement that employees receive their own test results on an individual basis. The proposed change is highly objectionable. In fact, OSHA should require that employers provide written notification of such results to individuals and, in addition, should require employers to post such results on an anonymous basis in a conspicuous place in the workplace. Many workers do not pay much attention to bulletin boards in the workplace and, therefore, use of such a communication method would likely not be effective. Also by being provided a written copy of exposure monitoring results, the employee has a record of exposures to toxic substances in a form that they can take with them, should they change employers.

OSHA concludes that its proposal to permit employers to either post or individually provide monitoring data to employees is justified. There is a substantial health benefit to employees to posting. They will be able to know exposures in all parts of the workplace, to know whether the employer is keeping exposures below the PEL, where in the workplace they need to wear a respirator and overall exposure trends. Individual notification may have some privacy benefits and employees may take the notification more seriously. Balancing these factors, and the reduced collection of information (paperwork) burden and increased flexibility at giving the employer the option, OSHA concludes that the proposal is justified. If an employee wants a copy of the record, then the employee can request the record under the 29 CFR 1910.1020, Access to Employee Exposure and Medical Records standard.

Of the 24 comments that addressed employee notification and the time limits for informing employees of exposure results, 21 commented on the number of days employers should have before notifying employees of exposure (Ex. 3-1, 3, 4, 5, 7, 8, 10, 13, 14, 15, 16, 23, 24, 26, 27, 28, 29; 4-1, 7, 11, 13). Although commenters generally agreed that it would be beneficial to have a consistent timeframe across standards, some commenters believed that 5 days should be the reporting time for general industry rather than the proposed 15 days (Exs. 3-4, 16, 26, 27; 4-13). For example, PACE (Ex. 3-4) remarked:

OSHA's proposal to standardize the reporting period for employee monitoring results is fine, but the period should be a maximum of five days. There is really no need for a longer period of time. Providing for a longer period of time for notification communicates the lack of importance of such monitoring. In addition, use of a one week period will allow workers to remember what kinds of activities they were engaged in on the day of monitoring, which, in turn, may have lead to excessive exposure. Hence, the utility of exposure monitoring would be enhanced with a short notification period.

The United Steelworkers of America (Ex. 3-16) observed:

We agree that these standards should be harmonized, and we agree that exposure results could be provided individually or by posting. But there is no reason for an employer to hold monitoring results for up to three weeks before passing them on to the employee, especially when the employer can do so by posting. These standards should be harmonized upwards, to a maximum notification period of five working days.

Finally, the AFL-CIO (Ex. 3-27) stated that:

The AFL-CIO fully agrees that it is reasonable to establish consistency in the notification period. However, it is our position that, in order to be genuinely consistent in protecting workers from exposures to all of these substances, a 5 day notification period should be applicable across all industries and not just construction and shipyard industries. Again, OSHA's proposed 15 day period for general industry is the lowest common denominator. Reducing, uniformly, the notification period to 5 days increases worker protection by reducing the period of time between notification of the results and the subsequent implementation of responses to reduce worker exposure where overexposures have been identified.

On the other hand, the majority of commenters agreed with the 15 day uniform reporting proposal for general industry (Exs. 3-1, 3, 7, 8, 10, 13, 14, 15, 22, 28, 29; 4-1, 7, 11). A commenter from Phelps Dodge Corporation (Ex. 3-7) observed:

We support OSHA's proposal to make the requirements for notifying employees of exposure monitoring results in the 15 general industry standards consistent at 15 working days. This time interval ensures timely communication of results to employees, while giving employers sufficient time to adequately evaluate and communicate exposure-monitoring results. In addition, many standards require that the employer communicate a corrective action plan to the employee when exposures exceed the Permissible Exposures Limit. It is often impossible to develop an effective and realistic plan in less than 15 working days.

Dow Chemical Company (Ex. 13) remarked:

Having consistency in this area will greatly reduce administrative burden as well as

regulatory confusion. This, in turn, will facilitate better compliance without diminishing employee protection.

The American Coke and Coal Chemicals Institute (ACCCI) (Ex. 3–28) also supported the proposal by stating:

ACCCI is in agreement with the proposal revisions, as they would facilitate regulatory compliance without adversely affecting employee health. By increasing the notification period to 15 days, it not only provides consistency with other standards but also provides employers with the leeway to work through periods when employees may be away from work and to coordinate any remedial testing that may be warranted by the initial results.

Finally, the American Chemistry Council (Ex. 3–29) noted:

The wide variety of existing requirements creates confusion and an unnecessary burden on employers to keep detailed records on individual employees' different potential exposures. ACC recommends OSHA establish a uniform reporting timeframe (e.g. fifteen days).

A few commenters urged OSHA not to limit the maritime shipyard proposal (Ex. 3–1) or the construction proposals (Exs. 3–5, 7, 13, 24; 4–7) to a 5-day notification rather than a 15 day notification. Northrop Grumman Newport News (Ex. 3–1) indicated that it:

Does not agree with the proposal to require notification "as soon as possible but no later than five working days" after shipyard employers receive exposure-monitoring results. The shipyard employee population is as non-transitory as general industry in spite of short-term and intermittent projects and that those employees will receive exposure notification as effectively as in general industry.

With respect to the construction industry, Phelps Dodge Corporation (Ex. 3–7) stated:

We believe that the construction industry should also be allowed 15 working days to communicate the results of exposure monitoring. While some employees in these fields are employed for only short periods of time, the employer would still be able to reach them to communicate their results in the vast majority of cases. Interaction between employers and transient employees continues to take place when paychecks or tax documents are mailed. We believe that the proposed five-day time limit in the construction standard effectively prohibits any meaningful employee involvement in developing action plans.

Dow Chemical Company (Ex. 3–13) remarked:

While we understand the premise for the difference in report times (namely, that the transient nature of construction work and the construction workers may lead to difficulty in communicating results), this has not been our experience. Construction workers must

still provide addresses to their employer and this information can still be channeled to the individuals accordingly. Moreover, employees in general industry as well as construction are advised of their rights to access this information. To have inconsistent notification requirements will be confusing for General Industry employers that may have extensive construction work on their sites, as they may have to comply with both standards. Dow believes that both the General Industry and Construction Standards should follow the proposed 15 working day requirement for employee notification.

Finally, Pinnacle West Capital Corporation (Ex. 4–7) observed:

We see no reason to have a shorter period for construction workers. Our experience is that when we monitor a contractor's employee, we provide notice to the construction company, who is then required to provide it to their employee. The 15 working day period would allow enough time to complete the notification. Even when the worker has left the construction company's employment, they usually have either his/her home address or know for which union he/she works. This notification can be made to either place. Less than 15 working days almost make this almost impossible.

OSHA has concluded that a uniform time limit for notifying employees in general industry has substantial benefits. It will improve employer understanding of standards and improve compliance. As a practical matter it will reduce employers paperwork burdens because their compliance program will be simpler and uniform. There will be no reduction in employee protection and probably improvement because of improved compliance. The 15 working day period is a reasonable time for notification in general industry with its more stable workforce and is the time frame OSHA adopted in most of its health standards for general industry.

Employment at a particular location is often brief in construction and sometimes brief in shipyards. Therefore OSHA is finalizing the proposal "as soon as possible but not more than 5 working days" requirement for asbestos in shipyards and MDA, lead, asbestos, and cadmium in construction.

#### *O. Additional Issue for Comment*

##### Social Security Numbers

OSHA's substance-specific standards require that exposure monitoring and medical-surveillance records that the employer is required to retain, include the employee's social security number (SSN). In the preamble to the final methylene chloride standard (62 FR 1598, January 10, 1997), OSHA justified the requirement for employers to document social security numbers by observing that the numbers are

correlated to employee identity in other types of records and that they are a more useful differentiation among employees since each number is unique to an individual for a lifetime and does not change as an employee changes employers. In a letter of interpretation regarding the use of social security numbers in the asbestos standard for construction (April 16, 1999), the Agency provided the following response. Many employees have identical or similar names and that identifying employees solely by name makes it difficult to determine to which employee a particular record pertains. The use of SSNs avoids this problem because they are unique to an individual.

In addition, epidemiologic studies of employee health from workplace exposures to toxic substances require that social security numbers be attached to employee medical and monitoring records. Only in that way can employee health end points be compared to employee exposures over many years, over changes in employers and ultimately be compared to death certificates.

However, OSHA has examined alternatives to requiring SSNs in its requirements for employee identification due to growing concerns about individual privacy. In Phase II of the Standards Improvement Project, OSHA requested public comments on: the necessity, usefulness, and effectiveness of SSNs as a means of identifying employee records in exposure monitoring and medical-surveillance records. Further, OSHA asked whether there were privacy concerns or issues raised by this requirement. Finally, the Agency inquired about the existence of other equally effective methods of uniquely identifying employees for OSHA exposure and medical-surveillance records.

The Agency received 14 comments with respect to OSHA's requirements to use employee SSNs in records (Exs. 3–1, 7, 9, 16, 17, 24, 26, 27, 28, 29; 4–6, 7, 11, 13). Seven commenters believed that SSNs needed to be retained in OSHA standards (Exs. 3–9, 16, 17, 24, 27; 4–6, 13). NIOSH (Ex. 9) strongly believes in the use of SSNs. NIOSH stated:

In NIOSH's experience, the SSN is the most practical identifier when studying large workplace populations. Any other unique and unchanging individual identifier that would accompany a worker throughout his or her life would essentially serve as an SSN surrogate. This alternative identifier would also have to be a unique personal identifier



and would thus share any privacy concerns associated with the use of SSNs.

NIOSH listed a number of shortcomings concerning the use of employer-generated identifiers. They include:

1. Use of non-unique identification numbers or codes across employers;
2. Re-issuance of previously used identification codes to different individuals;
3. Periodic changes in identification codes with changes in company ownership or organization;
4. Introduction of new or revised data management systems;
5. Changes in product lines;
6. Elimination of functions or activities;
7. Implementation of new payroll or other administrative systems;
8. Revision of job titles;
9. Abbreviations following personal names (*e.g.*, Jr., Sr., Esq.)
10. Variations in spelling of names or name changes (for example, through marriage).

The United Steel Workers of America (Ex. 3–16) remarked:

Employers currently use social security numbers on virtually all employee records. Almost all health care institutions and insurance companies identify individuals by social security number. We understand OMB's privacy concerns, but employee exposure records are an insignificant part of the problem of workplace privacy. Deleting requirements for social security numbers would complicate record handling. It would also complicate epidemiological studies, which depend on social security numbers to ascertain vital status.

Also, Verizon Communications, Inc. (Ex. 3–24) offered its opinion on why SSNs should be retained in OSHA health standards:

Anytime a SSN is used as an identifier on paperwork, one might raise the issue of privacy. However, one should try to balance these privacy issues against the need to have a unique identifier that can be used to track individuals. Certainly, a SSN is unique and follows the person for a lifetime. There is no ambiguity when such an exclusive number is used. In work-related exposure situations, it is desirable to track individuals for the short term and the long term. There is a strong emphasis within the public health arena to follow and protect workers, especially over a working lifetime with multiple employers. Verizon believes that this need outweighs the potential privacy issues involved in using a SSN for tracking purposes. Verizon is not aware of anything comparable to a SSN that could serve a similar purpose. Even if there were, privacy issues might also be raised with its use. In summary, it is Verizon's opinion that if one balances the uniqueness of SSN and the strong public health policy to follow and protect these individuals employees against the public's interest in maintaining adequate privacy, the scales are

tipped in favor of retaining the current system.

Four commenters disagreed with continuing the use of SSNs (Exs. 3–1, 7, 28; 4–7) and suggested that some other identification system should be developed to identify employees for the purposes of exposure monitoring or medical-surveillance. Northrup Grumman Newport News (Ex. 3–1) expressed:

OSHA should not continue to require that social security numbers be used as identifiers in employee exposure records. Widespread personal security concern associated with using them to identify individuals and records makes this practice unpopular and unnecessary in today's environment.

Many companies, including Northrup Grumman Newport News, have already implemented alternative employee identification systems to allay employee security concerns and are in the process of phasing-out routine use of social security numbers as identifiers. If OSHA were to continue to require the use of social security numbers, employers using alternative numbering systems would be forced to maintain redundant and more secure social security number systems. This would be unnecessarily cumbersome, would not provide added benefit to OSHA, employers or employees and would be a continued concern to employees worried about personal security issues.

Another commenter, Pinnacle West Capital Corporation (Ex. 4–7), stated:

We see no value in requiring monitoring records to include the social security number (SSN). Most employees, either ours or contractors are reluctant to give their SSN for privacy reasons. The only reason we were ever told that SSNs were necessary was for use in future epidemiological studies. We use our unique employee numbers for our workers. If needed for an epidemiological study, we could cross-reference the SSN from our employee numbers. That should be adequate to meet this need.

Finally, a few commenters recognized the need to identify employees for exposure monitoring and medical-surveillance but suggested that some other identification system might be developed in the future (Ex. 3–26, 29; 4–13). The American Chemistry Council (Ex. 3–29) indicated that it believed SSNs are the most effective means of tracking lifetime exposures to employees. "However, we also recognize potential privacy concerns within individual companies that may warrant further discussion and consideration. ACC would be interested in discussing alternatives with other stakeholders should OSHA convene such a group." The International Chemical Workers Union (Ex. 4–13) indicated that it is concerned about identity theft and that a means must be

found to both protect employees privacy and ensure continuity of records across time and across employers.

Finally, the American Society of Safety Engineers (Ex. 4–11) remarked that employers should have the flexibility to use any system that enables accurate identification and tracking of employees for medical purposes.

OSHA health standards require employers to keep social security numbers with monitoring and medical records which employers are required to retain. All employers have access to employee social security numbers for tax purposes. OSHA's Access to Employee Exposure and Medical Records standard, 29 CFR 1910.1020, grants access to employee medical records only to the employee, those who the employee authorizes in writing to have access and to OSHA in circumstances requiring OSHA to rigorously protect the employee's privacy. So there is no additional privacy concern created by having social security numbers included in the medical records beyond that already existing in the employers use of the social security numbers for payroll and tax purposes.

Access to employee exposure records is similar except that a collective bargaining agent for an employee does have access to the monitoring data for employees. That assists collective bargaining agents to negotiate on employee health protection issues.

However, there is no requirement and no need for an employer to attach social security numbers to employee exposure records it intends to post or provide to anyone other than the employee whose record it is.

OSHA is not taking action in this final rule concerning the use of SSNs in the various health standards. OSHA believes that all commenters have raised significant concerns and that it will need to investigate this issue in greater detail.

#### First Aid

One commenter (Ex. 3–20), the American Heart Association, responded to the proposal with a request to eliminate or revise the OSHA Directive CPL–2–2.53, Guidelines for First Aid Training Programs. The request to revise the OSHA Directive is not a part of rulemaking and therefore has not been considered in this final rule.

### III. Legal Considerations

The Agency concludes that the final rule does not reduce the employee protections put into place by the rules being revised. There is no change in exposure limits or action levels. There

are no reductions in respiratory protection, personal protective equipment or industrial hygiene provisions. There is therefore no change in risk and no need to determine significant risk, or the extent to which the proposed rule would reduce or increase that risk, as would be required by *Industrial Union Department, AFL-CIO v. American Petroleum Institute*, 448 U.S. 607 (1980), the Supreme Court ruling applying to standards addressing new hazards, setting more stringent standards, or reducing employee protection. Accordingly, no further analysis of significant risk is necessary as that has already been determined when OSHA issued the underlying standards.

A number of the amendments made by this rule change medical and monitoring provisions. These changes are covered by Sect. 6(b)(7) of the OSH Act.

#### IV. Final Economic Analysis

OSHA has determined that this final rule is not an economically significant regulatory action under Executive Order (E.O.) 12866. E.O. 12866 requires regulatory agencies to conduct an economic analysis for rules that meet certain criteria. The most frequently used criterion under E.O. 12866 is that the rule will impose annual costs on the economy of \$100 million or more. Neither the benefits nor the costs of this rule exceed \$100 million. OSHA has provided OMB's Office of Information and Regulatory Affairs with this assessment of the costs, benefits and alternatives, as required by section 6(a)(3)(C) of E.O. 12866.

OSHA has also determined that the final rule is not a major rule under the Congressional Review provisions of the Small Business Regulatory Enforcement Fairness Act. The Regulatory Flexibility Act of 1980 (RFA), as amended in 1996, requires OSHA to determine whether the Agency's regulatory actions will have a significant impact on a substantial number of small entities. OSHA's analysis, based on the analysis in this section of the preamble as well as the later section "OMB Review Under the Paperwork Reduction Act" below, indicates that the final rule will not have significant impacts on a substantial number of small entities. Indeed, the final standard reduces the costs and paperwork on all affected entities, including small businesses. The rule benefits small entities by reducing costs and paperwork.

The final standard deletes or revises a number of provisions in existing OSHA standards. The reasons for these changes are presented and discussed in

subsections A through N in the Summary and Explanation of this preamble above. Most of the provisions delete requirements that the Agency has concluded are unnecessary to protect employee health. Some of the provisions provide greater flexibility in complying with requirements or reduce reporting requirements that have proved to have little if any value in protecting worker health. One provision updates a reference to a current consensus standard (for first aid kits) and another corrects a technical error in requirements for evaluating x-rays for lung cancer.

The final rule is technologically feasible because it reduces or eliminates current requirements on employers. The Agency considered regulatory and non-regulatory alternatives to the final rule. Because every final provision reduces requirements or provides flexibility to employers by revising current standards, non-regulatory alternatives are not an appropriate remedy to affect those changes. As discussed in the Summary and Explanation section above, the Agency considered alternatives to amending the several ancillary provisions. In most cases, the Agency chose to revise older ancillary provisions to make them consistent with standards more recently promulgated by the Agency. In some cases, the final standard provided more flexibility in the way information is communicated to employees or the Agency. All of the final provisions were intended to reduce burden on employers—or provide flexibility—while maintaining necessary protections for employee health.

This Final Economic Analysis provides estimates of the cost savings resulting from the final standard. All of the changes OSHA is making are expected to reduce employers' costs of compliance. The revised standard eliminates or reduces requirements for many "ancillary" provisions, provides greater flexibility for compliance for others, or reduces paperwork/reporting requirements. For most of these changes, economic benefits can be quantified. Where revisions have only provided greater flexibility for compliance, the Agency has not calculated any cost savings.

The Agency received several comments in response to the proposal that asserted that the proposed standards would weaken employee protection (e.g., AFL-CIO, Ex. 3-27). However, as discussed above in the Summary and Explanation section, the Agency has concluded that the final standards do not reduce protection for employees. Amending the ancillary provisions of older standards will make

them consistent with the industrial hygiene and surveillance practices of more recent standards.

The Agency received only a few comments on the estimates of cost savings from the proposed standards. A comment from the International Chemical Workers Union (Ex. 4-13) asserted that some cost savings were "minimal" or that some of the provisions were only a "minimal burden on employers," but did not offer any corrections to the Agency's estimates or provide new estimates.

The AN [Acrylonitrile] Group said that the Agency had "grossly underestimated the time and cost-burden [savings]" resulting from the final standard. As an example, the AN Group cites the costs of reporting an emergency to OSHA [29 CFR 1910.1045(d)(2)]. OSHA estimates the cost that will be saved by the final standard as an hour's time each for a manager and a secretary to prepare the notification of an emergency. But the AN Group suggests that actual paperwork costs should include assessing whether an event qualifies as an emergency, including time for groups of professionals to meet. The Agency has concluded that its existing regulation does not require such a complex determination. Although that saving may be real for some employers, it is not required or necessarily implied by the standard and the Agency is not revising the cost saving estimate for that provision in the final standard.

Dow Chemical (Ex. 3-13) stated that the Agency's estimates of cost savings for reduced sampling frequencies was underestimated. According to Dow, the Agency should include the cost of "pre-work time" it takes for exposure monitoring. Pre-work time would include: identifying employees at work that day; setting up times for monitoring; determining the number of samples to be taken; ordering badges (for vinyl chloride, in this instance); internal analysis of the sampling results; and written reports. Accordingly, the Agency has revised the model in "Provision F" below, which estimates the cost [savings] for exposure monitoring for vinyl chloride and acrylonitrile.

The Agency estimates that the final standard will result in total annual cost savings of \$6.8 million (see table below). (The estimates in this Final Economic Analysis may differ slightly from the estimates in the Paperwork Reduction Analysis below because of rounding.) Because this rule provides only cost savings, and no new costs on employers, it is economically feasible.

The following paragraphs discuss the methodology of the analysis and the estimates of cost (saving) for specific provisions.

## ESTIMATED ANNUAL COST SAVINGS DUE TO THE STANDARDS IMPROVEMENT PROJECT—PHASE 2

Provisions A through N (as set out in the Summary and Explanation)	Annual cost savings (\$)
A § 1910.42, Temporary Labor Camps .....	0
B § 1910.151(b), Reference to First Aid Supplies in Appendix A .....	0
C § 1910.268, First Aid Supplies Telecom .....	5,618
D § 1910.1003(f)(2) Incident Reports, 13 Carcinogens .....	27,286
E § 1910.1017(k)(6), Vinyl Chloride .....	0
F:	
§ 1910.1017(d)(2)(i), Exposure Monitoring, Vinyl Chloride .....	66,024
§ 1910.1017(d)(2)(ii), Exposure Monitoring, Vinyl Chloride .....	17,554
§ 1910.1044(f)(3)(i) & f(3)(ii), Exposure Monitoring, 1,2-DBCP .....	0
§ 1910.1045(e)(3)(ii), Exposure Monitoring, Acrylonitrile .....	160,455
F Subtotal .....	244,033
G:	
§ 1915.1001(g)(6)(iii), Alt. Control Methods, Asbestos Removal .....	39
§ 1926.1101(g)(6)(iii), Alt. Control Methods, Asbestos Removal .....	39
G Subtotal .....	78
H:	
§ 1910.1018(n)(2)(ii)(A), ILO/UC Rating, Inorganic Arsenic .....	0
§ 1910.1029(j)(2)(ii), ILO/UC Rating, Coke Oven Emissions .....	0
I:	
§ 1910.1001(1)(7)(i), Signed Opinion, Asbestos. ....	0
§ 1910.1027(1)(10)(i), Signed Opinion, Cadmium Gen. Industry .....	0
§ 1926.1127(1)(10)(i), Signed Opinion, Cadmium Con. Industry .....	0
J:	
§ 1910.1017(k)(2)(i), Semiannual Medical Exams, Vinyl Chloride .....	31,064
§ 1910.1018(n)(3)(ii), Semiannual Medical Exams, Inorganic Arsenic .....	157,005
§ 1910.1029(j)(3)(ii-iii), Semiannual Medical Exams, Coke Oven emissions .....	621,053
J Subtotal .....	809,122
K:	
§ 1910.1044(d), Notifying OSHA Regarding Regulated Areas, 1,2-DBCP .....	0
§ 1910.1003(f)(1) Notifying OSHA Regarding Regulated Areas, 13 Carcinogens .....	5,457
§ 1910.1017(n)(1) Notifying OSHA Regarding Regulated Areas, Vinyl Chloride .....	671
§ 1910.1018(d)(1) Notifying OSHA Regarding Regulated Areas, Inorganic Arsenic .....	117
§ 1910.1045(d)(1) Notifying OSHA Regarding Regulated Areas, Acrylonitrile .....	647
K Subtotal .....	6,892
L:	
§ 1910.1017(n)(2) Reporting Emergencies, Vinyl Chloride .....	22,504
§ 1910.1045(d)(2) Reporting Emergencies, Acrylonitrile .....	2,588
L Subtotal .....	25,091
M:	
§ 1910.1017(f)(3) Semiannual Updating Compliance Plans, Vinyl Chloride .....	7,614
§ 1910.1018(g)(2)(iv), Semiannual Updating Compliance Plans, Inorganic Arsenic .....	2,284
§ 1910.1029(f)(6)(iv), Semiannual Updating Compliance Plans, Coke Oven Emissions .....	1,332
§ 1910.1044(e)(3)(iv), Semiannual Updating Compliance Plans, 1,2-DCBP .....	0
§ 1910.1045(g)(2)(ii), Semiannual Updating Compliance Plans, Acrylonitrile .....	448
§ 1926.1025(e)(2)(v), Semiannual Updating Compliance Plans, Lead, Con .....	4,210,054
M Subtotal .....	4,221,732
N:	
§ 1910.1017(n)(3) Notify Employees of Expos. Monitoring Results, Vinyl Chloride .....	2,741
§ 1910.1018(e)(5)(i) Notify Employees of Expos. Monitoring Results, Inorganic Arsenic .....	9,393
§ 1910.1025(d)(8)(i) Notify Employees of Expos. Monitoring Results, Lead, Gen Ind .....	891,293
§ 1910.1027(d)(5)(i) Notify Employees of Expos. Monitoring Results, Cadmium, Gen Ind .....	50,341
§ 1910.1029(e)(3)(i) Notify Employees of Expos. Monitoring Results, Coke Oven .....	25,765
§ 1910.1043(d)(4)(i) Notify Employees of Expos. Monitoring Results, Cotton Dust .....	68,102
§ 1910.1044(f)(5)(i) Notify Employees of Expos. Monitoring Results, 1,2-DBCP .....	0
§ 1910.1045(e)(5)(i) Notify Employees of Expos. Monitoring Results, Acrylonitrile .....	8,255
§ 1926.62(d)(8)(i) Notify Employees of Expos. Monitoring Results, Lead Construction .....	494,063
§ 1926.1127(d)(5)(i) Notify Employees of Expos. Monitoring Results, Cadmium, Con .....	27,189
N Subtotal .....	1,454,431
Total .....	6,794,283

## Methodology

This section describes OSHA's development of the annual cost (savings) for the provisions of the final standard. For the purposes of this Final Economic Analysis, one-time or intermittent costs have been annualized using a discount rate of 7 percent, as required by the U.S. Office of Management and Budget (OMB) [Reference 1], over a specified period of time using the formula:

$$a = (i \times (1 + i)^n) / ((1 + i)^n - 1),$$

[" $n$ " in the formula means raised to the  $n$ th power], where  
 $a$  = annualization factor,  
 $i$  = discount rate, and  
 $n$  = economic life of the one-time or intermittent investment

OSHA uses average hourly earnings, including benefits, to represent the cost of employee time. For the relevant occupational categories, mean hourly earnings from the Year 2000 National Compensation Survey by the Bureau of Labor Statistics have been adjusted to reflect the fact that fringe benefits comprise about 27.1 percent of total employee compensation in the private sector (Reference 2). (Straight-line hourly wages and salaries were estimated to be 72.9 percent of total compensation in 2000. Total compensation including benefits for workers with hourly wages of \$13.41 would be  $\$13.41 / .729 = \$18.40$ ). The costs of labor used in this analysis are therefore estimates of total hourly compensation. These average hourly costs are: \$38.92 for managers; \$27.39 for production supervisors; \$24.68 for chemical technicians; \$18.40 for production workers; and \$17.34 for clerical workers.

Estimates of the number of establishments and the number of employees affected by the final standard are from a statement in support of information collection requirements (ICR) or from an economic analysis. The number of employees affected and their hourly total wages are used to calculate costs. The changes in existing standards made by the final Standards Improvement Project-Phase II pertain to approval of equipment, reporting incidents, exposure monitoring, laboratory analysis, medical examinations, and employee notification requirements.

Most of the provisions in the final standard reduce costs related to a percentage of affected employees in the industry and the number of labor hours required to monitor a specific activity. Usually, the frequency of an activity, the number of employees requiring the activity, and the cost of the activity per

employee were used to arrive at the estimated costs. In some instances, the costs of the activity were calculated according to the number of affected establishments.

### A. Temporary Labor Camps

Paragraph 1910.142(l)(2) requires that the camp superintendent immediately report the outbreak of certain diseases to the local health authority "by telegram or telephone." OSHA believes that because other forms of communication are readily available, the requirement for notification via "telegram or telephone" is unnecessarily restrictive. Thus, the Agency proposed deleting the requirements specifying notification by telegram or telephone. The final standard does not delete the language as proposed, but allows other means, thus permitting more flexibility in reporting. The Agency has not calculated the value of such savings.

### B. Reference to First Aid Supplies in Appendix A to the Standard on Medical Services and First Aid

Paragraph 1910.151(b) in the Agency's standard regulating medical services and first aid supplies, requires employers to ensure that adequate first aid supplies be readily available in the workplace. OSHA added a non-mandatory appendix to this standard in a recent rulemaking (63 FR 33460) to help employers meet this requirement. OSHA proposed to update this appendix. OSHA has updated the appendix in the final rule. This revision would not impose any additional cost on employers because Appendix A is non-mandatory.

### C. First Aid Supplies in the Telecommunications Standard

The final rule revises paragraph 1910.268(b)(3) of OSHA's telecommunications standard that requires an employer to: provide first aid supplies recommended by a consulting physician; ensure that the items are readily accessible and housed in weatherproof containers if used outdoors; and inspect the items at least once a month and replace expended items. The Agency is revising the paragraph to read, "Employers must provide employees with readily accessible, adequate, and appropriate first aid supplies. A non-mandatory example of appropriate supplies is listed in Appendix A to 29 CFR 1910.151."

The final rule eliminates the existing requirements in paragraph 1910.268(b)(3) that employers must have certain first aid supplies approved by a consulting physician before they

are used. This requirement applied only in cases where no infirmary, clinic, or hospital was in close proximity to the worksite and the employer intended to treat first-aid injuries at the site. OSHA's analysis here relies on the assumptions in the Final Economic Analysis in an earlier rulemaking (63 FR 33461). Based on the ICR to that rulemaking, the Agency estimates that 10 percent of the establishments would meet these criteria. OSHA also estimates that 5 minutes of a physician's time, valued at \$100/hr (\$8.33 for five minutes), would be required to approve the contents of the first aid kit at these establishments. The opportunity cost is estimated by the market price for occupational physical exams; i.e. at the rate of about \$100 per hour.

OSHA assumes that the physician would need to approve the first aid supplies once every 10 years, considering the possibility of the development of new kinds of medical supplies and of new hazards at the worksite. The cost of 5 minutes of a physician's time annualized over a 10-year period at 7 percent interest is \$1.19 per year ( $5/60 \times \$100 \times$  annualization factor of 0.1424). The Agency estimates that there were approximately 47,217 employers in the telecommunications industry in 1998 [County Business Patterns, 1998]. The major sector in the telecommunications industry is telephone communications, which consists of establishments that operate both wireline and wireless networks. The wireline networks use wires and cables to connect customers' premises to central offices maintained by the telecommunications companies. The wireless networks on the other hand operate through the transmission of signals over networks of radio towers and communications satellites [Career Guide to Industries 2000-01 Edition, Telecommunications (SIC's 481, 482, 489)]. Since first aid supplies have to be approved once every 10 years, each year approximately 10 percent of the establishments incur costs to comply with the current requirement. Thus, current annualized cost is approximately \$5,618 ( $(47,217 \times 10$  percent)  $\times$  \$1.19). Eliminating the requirement for a physician's approval of an establishment's first aid kit would eliminate this annual burden of \$5,603.

### D. 13 Carcinogens

The final rule deletes paragraph 1910.1003(f)(2) that requires reporting of releases of a regulated carcinogen to the nearest OSHA Area Director. Deleting this provision results in a savings in burden hours and associated costs.

Based on the ICR, the Agency estimates that reportable incidents occur once per year at each facility and that about 97 employers fall under OSHA jurisdiction and will be affected by the rule. A manager and a clerical worker will each take 5 hours to collect information and to report a release of a regulated carcinogen to the nearest OSHA Area Director, for a total of 10 hours per employer. Thus, 970 burden hours are attributed to this provision (485 burden hours each by a manager and a clerk), at an annual cost of \$27,286. Annual cost savings are obtained by multiplying 485 burden hours by each wage rate and adding the products [485 hours  $\times$  (\$38.92 + \$17.34 per hour)]. By eliminating the requirement to report releases of a regulated carcinogen to the nearest OSHA Area Director, OSHA will eliminate annual cost burdens to employers of \$27,286.

#### *E. Vinyl Chloride*

Paragraph 1910.1017(k)(6) of the vinyl chloride standard specifies that laboratories licensed by the U.S. Public Health Service (PHS) under 42 CFR part 74 ("Clinical laboratories") must analyze biological samples collected during medical examinations. However, 42 CFR part 74 is outdated, and the PHS now addresses laboratory licensing requirements under 42 CFR part 493 ("Laboratory requirements"). The Agency proposed to delete the reference to 42 CFR part 74 from paragraph (k)(6) of this standard. However, the Agency is replacing this outdated requirement with a requirement that employers use accredited laboratories for the medical tests required under the vinyl chloride standard. This change should provide employers with greater choice in laboratories while ensuring that qualified laboratories are used for required medical tests. The Agency had made no estimates of cost savings for this revision in the existing standards.

#### *F. Monthly and Quarterly Exposure Monitoring*

Several of the Agency's older standards retain provisions that require employers to monitor employee exposures either monthly or quarterly, depending on the concentration of the toxic substance found in the workplace. These include: paragraphs 1910.1017(d)(2)(i) and (d)(2)(ii) of the vinyl chloride standard, requiring employers to conduct exposure monitoring each month if employees' exposure are above the permissible exposure limit (PEL), and quarterly if employee exposures are above the action level (AL); paragraphs

1910.1044(f)(3)(i) and (f)(3)(ii) of the 1,2-dibromo-3-chloropropane (DBCP) standard, requiring exposure monitoring quarterly if employee exposures are below the PEL, and monthly if employee exposures exceed the PEL; and paragraphs 1910.1045(e)(3)(ii) and (e)(3)(iii) of the acrylonitrile standard, requiring quarterly monitoring for employees exposed at or above the AL, but below the PEL, and each month for employees exposed above the PEL.

For substance-specific standards published more recently by the Agency subsequent to these three standards, the most frequent exposure monitoring requirement is semiannually if employee exposures are at or above the AL, and quarterly if they are above the PEL. OSHA is amending the exposure monitoring requirements in the older standards because they are inconsistent with the exposure monitoring protocols established by OSHA in its later substance-specific standards. OSHA believes consistency among standards will improve compliance levels thereby improving worker protection. OSHA is requiring that employers conduct exposure monitoring quarterly if the results of initial exposure monitoring show that the employee exposures are above the PEL, and semiannually if these results are at or above the AL.

OSHA has concluded that revision of paragraphs 1910.1044(f)(3)(i) and (f)(3)(ii) of the standard regulating DBCP, would have no effect on cost or burden hours since no U.S. employers currently produce DBCP-based end products.

For purposes of the below analysis, the Agency assumes that exposure monitoring is done with an active sampling method; that is, with typical industrial hygiene sampling pumps and collection tubes. Passive vapor badges are available for the two substances in question, and the PEA referred to sampling with them, but the Agency has not been able to ascertain that passive monitoring meets the standards' requirements for accuracy for single samples. To be conservative—to not underestimate the potential burden—the Agency assumes sampling with a method whose accuracy is known. This economic analysis relies on the following assumptions of employee exposure to vinyl chloride and acrylonitrile: the Agency estimates, based on OSHA sampling data in its IMIS database, that 1 percent of all employees are exposed between the AL and the permissible exposure level (PEL), and another 1 percent are exposed above the PEL; sampling of employee exposures is conducted with active sampling methods, i.e. personal

air pumps and cassettes with appropriate collection media for the substance; and laboratory analysis of collected samples is performed by a commercial laboratory.

In its Preliminary Economic Analysis (PEA), the Agency estimated that a supervisor, who earns \$27.39 per hour, will spend 5 minutes to administer, and 5 minutes to collect, each vapor badge, for a total of 0.17 hour; and a clerical worker, earning \$17.34 per hour, will spend 5 minutes (.08 hour) to maintain each record of a monitoring event. In a written comment on this rulemaking, Dow Chemical (Ex. 3–13) pointed out that there are significant other activities needed to perform exposure monitoring besides these identified by the Agency. In addition, the Agency, in concurrence with the Office of Management and Budget, currently includes all costs of exposure monitoring as paperwork costs, viewing the entire activity as a "collection of information"—not just the function of recordkeeping. The existing paperwork burden is based only on gathering the information to form a permanent record, as noted at the beginning of this paragraph. In contrast, the new estimate here includes an average of 1 hour for a technician to collect, process, and record sampling data.

The final rule revises paragraph 1910.1017(d)(2)(i) of the vinyl chloride standard to require quarterly rather than monthly exposure monitoring if past employee exposures have been above the PEL. In the PEA, the Agency estimated that there are 131 employees who are currently monitored monthly who will now be monitored quarterly. The Agency estimates that a technician spends, on average, 60 minutes for each employee sampled, which includes planning activities, affixing pumps, gathering sample cassettes, sending tubes or cassettes for laboratory analysis, and recording the results into a permanent record. The Agency doesn't believe there is any significant loss of employee time from production activities. Thus, for each employee sampled, the cost of the collection media and analysis and technician's time is about \$67 (\$43 for the collection media and lab analysis, about \$24 in technician's time). When an estimated 131 employees are sampled monthly the annual cost is \$105,324. When sampled quarterly the estimated annual cost is \$39,300. The final standard will reduce annual employer costs by \$66,024.

The final rule also revises paragraph 1910.1017(d)(2)(ii) of the vinyl chloride standard to require semiannual rather than quarterly exposure monitoring if exposure is at or above the AL. In the

PEA the Agency estimated that there are 131 employees who must be monitored twice a year rather than 4 times. Under the existing standard, using the same unit cost and time estimates from the paragraph above, employers currently expend an estimated \$31,618 on quarterly exposure monitoring that would be reduced by one-half to \$17,554 under the final standard. Cost savings would also be \$17,554.

The final paragraphs 1910.1045(e)(3)(ii) and (e)(3)(iii) of the acrylonitrile standard parallel the changes in exposure monitoring requirements to vinyl chloride, above. The final standard requires semiannual monitoring if employee exposures were at or above the AL, and quarterly monitoring if these exposures were above the PEL. The existing standard requires monthly monitoring if above the PEL and quarterly monitoring if above the AL. In the PEA, the Agency estimated that there are 314 employees who require monitoring and that each exposure monitoring sample represents the exposures of 2 employees (i.e. on average, there are 2 employees involved in the same or similar tasks). These estimates are based on the Supporting Statement for the Information Collection Requirements of the Acrylonitrile (AN) Standard (29 CFR 1910.1045), OMB #1218-0126 (2000), p. 16. The Agency estimates that a technician (wage \$24.68) spends, on average, 60 minutes for each employee sampled, which includes planning activities, affixing pumps and cassettes, gathering and sending cassettes for analysis, and recording the results into a permanent record. The Agency doesn't believe there is any significant loss of employee time from production activities. Tubes or cassettes and laboratory analysis cost \$64 each. (The Agency neglected to include the costs of collection media and laboratory analysis for acrylonitrile in the PEA.) Thus, for each employee sampled, the cost is estimated to be about \$88 (tube and laboratory analysis \$64 and technician's wage \$24.68). When one-half of the estimated 314 employees are sampled monthly, the cost is \$165,792; when sampled quarterly the estimated cost is \$55,264. The final standard will thus reduce employer costs by \$110,528 by requiring quarterly rather than monthly sampling where employee exposures are over the PEL.

Where the final standard reduces exposure monitoring from quarterly to semi-annually for employees above the AL but below the PEL, the Agency estimates that the current burden for 563 employees to be sampled is \$99,854 and will be reduced to \$49,927, thereby

reducing the current burden by \$49,927. The total reduction in burden due to the final acrylonitrile standard is \$160,455.

#### *G. Alternative Control Methods for Class I Asbestos Removal*

OSHA is deleting provisions in OSHA's asbestos standards for shipyard employment and for construction (paragraphs 1915.1001(g)(6)(iii) and 1926.1101(g)(6)(iii), respectively) that require that employers submit, to the Directorate of Technical Support, alternative control methods used to perform Class I asbestos work. OSHA has concluded that this requirement is unnecessary because it has not been used and that both the private sector and OSHA have substantial expertise in this area. Current OSHA regulatory policy requires that paperwork provisions such as this requirement, demonstrate a benefit to employees or serve some other useful regulatory purpose.

To submit alternative control methods to the Directorate of Technical Support, OSHA estimates would require 1 hour and cost \$39. These estimates are based on the assumption that OSHA would receive 7 notifications from employers who choose new or modified control technology to reduce exposure in Class I asbestos for shipyards. A manager, earning \$38.92 per hour, would spend on average 10 minutes to develop and transmit the information to the Agency for each employer. Thus removing this requirement would result in annual cost savings of \$39.

For the construction asbestos standard, OSHA again assumes the Agency would receive 7 notifications from employers who choose new or modified control technology to reduce exposures in Class I asbestos work. OSHA estimates a manager, earning \$38.92 an hour, would need 10 minutes to develop and transmit the information to OSHA. Thus, 1 burden hour would be spent, at a cost of \$39, to submit alternative method information to OSHA.

#### *H. Evaluating Chest X-rays Using the ILO U/C Rating*

OSHA is amending paragraph 1910.1018(n)(2)(ii)(A) of the inorganic arsenic standard and paragraph 1910.1029(j)(2)(ii) of the coke oven emissions standard. These provisions require that employees' chest x-rays receive an International Labor Office UICC/Cincinnati (ILO U/C) rating. Subsequent to the promulgation of these provisions, the Agency received information from two physicians that the ILO U/C rating is not the most appropriate standard for evaluating

chest x-rays for lung cancer (discussed above). Based on this information, OSHA believes that the ILO U/C rating is not a suitable method to use in evaluating chest x-rays for lung cancer. Therefore, the Agency is removing the ILO U/C rating requirements specified in the inorganic arsenic and coke oven emissions standards, thereby permitting the examining physician to determine the most effective procedure for evaluating these chest x-rays. Deleting the ILO/UC rating would provide cost savings since it allows the examining physician to determine the most effective procedure for evaluating chest x-rays. However, the Agency has not calculated the value of such savings.

#### *I. Signed Medical Opinions*

Paragraph 1910.1001(l)(7)(i) of the asbestos standard and paragraphs (l)(10)(i) of the cadmium standard for general industry, 29 CFR 1910.1027, and for construction, 29 CFR 1926.1127, require that the examining physician sign the written medical opinion provided as part of the medical surveillance requirements of these standards. The preamble to the cadmium standards states that "the requirement that the physician sign the opinion is to ensure that the information that is given to the employer has been seen and read by the physician and that the physician has personally determined whether the employee may continue to work in cadmium-exposed jobs" (57 FR 42366). No other substance-specific standard promulgated by OSHA requires a signed medical opinion.

The Agency believes that the requirement to sign a medical opinion written by a physician is unnecessary, precludes electronic transmission of the opinion from the physician to the employer, and provides no benefit to employees. Accordingly, OSHA is removing this requirement from these paragraphs.

Removal of the requirement that a physician sign the written medical opinion provided as part of the medical surveillance requirement of these standards provides more flexibility. OSHA has not estimated the cost savings.

#### *J. Semiannual Medical Examinations*

The Agency's final standard replaces a requirement for semiannual medical exams in three standards (vinyl chloride, arsenic, and coke ovens) with a requirement for an annual medical examination. This analysis presents the burden hours and costs associated with the current provisions and the estimates of cost savings of the final standard.

The final standard's revision of a semiannual requirement for medical examinations to annual one would generate annual cost savings from several sources: less employee time; fewer medical examinations; and less clerical time providing the physicians' opinions to the affected employees and maintaining medical records.

Based on estimates in the vinyl chloride ICR of the number of facilities, the number of employees per facility, and the distribution of employee exposures, OSHA estimates that 890 burden hours are incurred for medical surveillance under the semiannual examination requirement, with 183 employees monitored twice a year for 2 hours and 79 employees once a year for 2 hours at a cost of \$16,376 (890 hours  $\times$  \$18.40, the wage rate of a production worker). With annual examinations, OSHA estimates that 324 burden hours would be required, as 262 employees would be monitored only once a year, taking 2 hours. The cost would be \$9,642 (524 hours  $\times$  \$18.40). Annual savings of \$6,734 would result.

The revision from semiannual to annual medical examinations would result in annual savings of \$23,790 in the cost of the medical examinations themselves, at \$130 per examination, as 183 employees would have only one, as opposed to two, medical examinations per year. The change in frequency from semiannual to annual medical examinations also reduces the number of hours of clerical time required from 76 to 45, resulting in annual savings of \$539.

When annual savings are summed for the cost of employees' time (\$6,734), medical examinations (\$23,790), and clerical costs of medical records (\$539), the revision of the vinyl chloride standard generates annual savings of \$31,064.

The final rule revises the semiannual medical examination to an annual requirement in the arsenic standard, paragraph 1910.1018(n)(3)(ii), for employees who are 45 years old or older with 10 or more years of exposure to inorganic arsenic above the AL. OSHA assumes each examination would take one hour and forty minutes and that 50 percent of the 1,900 employees who now would require two examinations per year would undergo only one. Requiring only one annual medical examination would save about 1,587 hours in employee time away from the job. Thus, replacing semiannual medical examinations with annual medical examinations would result in annual savings of about 1,662 burden hours and \$29,192 (about 1,587 burden hours at \$18.40/per hour).

The change in frequency from semiannual to annual contributes \$123,500 in annual cost savings for the medical examinations themselves, at \$130 per exam. Semiannual medical examinations cost \$413,920 while annual medical examinations would cost an estimated \$284,570. In addition, the clerical costs of medical records would drop by \$4,313 (from \$13,803 to \$9,489). Total annual savings resulting from revision of the inorganic arsenic standard would be \$157,005 (\$123,500 + \$29,192 + \$4,313) and would consist of savings in costs of employees' time, medical examinations, and clerical time for medical records.

The final rule revises the semiannual medical examinations requirement to the coke oven standard, paragraph 1910.1029(j)(3)(i), for employees who are 45 years of age or older with five or more years of exposure in regulated areas. Employees will receive annual urinary cytology examinations as part of the annual examination. The final standard would generate annual cost savings in employees' time, medical examinations, and physicians' medical opinions. Based on the ICR, medical examinations currently require 14,903 burden hours as 84 percent of the 4,600 employees who work in regulated areas require semiannual medical examinations, 16 percent require an annual medical examination, and 10 percent require an additional medical examination per year. Each examination requires an employee to be away from his or her job for 1 hour and 40 minutes, at \$18.40 per hour, for a total annual cost of \$274,217. Under the final standard, annual medical examinations would require 8,450 burden hours at a cost of \$155,484. Cost savings in employees' time would thus be \$118,733.

At a cost of \$130 per medical examination and \$50 for urinary cytology examinations per employee, replacing semiannual medical examinations (estimated cost of \$1,425,384) with annual medical examinations (estimated cost of \$933,064) would result in annual cost savings of \$502,320. There would be no savings in clerical costs of medical records. OSHA estimates that revision of the coke oven standard would result in annual cost savings of \$621,053.

#### *K. Notification of Regulated Areas*

The final rule deletes the "13 carcinogens" provision, paragraph 1910.1003(f)(1), that requires employers to notify the nearest OSHA Area Director of newly established regulated areas. Deleting this provision results in

savings in burden hours and associated costs. As in the ICR, OSHA assumes that changes in operations requiring a report to the nearest OSHA Area Director currently occur once a year per facility and require 1 hour each of managerial and clerical time, a total of 2 hours per employer, to report the necessary information. OSHA estimates that 97 employers would be affected. Burden hours are thus estimated to total 194 hours to report the information. The cost is estimated to be \$5,457 (97 employers  $\times$  (\$38.92  $\times$  1 hour + \$17.34  $\times$  1 hour)), where \$38.92 is the wage rate of a manager and \$17.34 is the wage rate of a clerical worker. Thus, savings due to deleting this provision are estimated to be 194 burden hours and \$5,457.

The final rule would eliminate the vinyl chloride provision, paragraph 1910.1017(n)(1), that requires employers to notify the nearest OSHA Area Director of the establishment of regulated areas. Based on the ICR, the Agency estimates that 13 new regulated areas are established each year and that a manager, at an hourly rate of \$38.92, takes 15 minutes (0.25 hour) to notify the Area Director of the address of the establishment and the number of employees in a new regulated area. Thus, for new regulated areas, OSHA estimates a current burden of 3.25 hours at a cost of \$126.

For existing facilities, OSHA assumes that each employer experiences one change in a regulated area each year, and that a supervisor requires 10 minutes (0.17 hour) to inform the Area Director of this change. OSHA estimates that there are 80 affected facilities, resulting in 14 burden hours and a cost of \$545 (14 burden hours  $\times$  \$38.92). Total burden of the current rules, for new and existing facilities, is 17 hours, costing \$671.

The final rule deletes the requirement in the inorganic arsenic standard, paragraph 1910.1018(d)(1), that employers notify the nearest OSHA Area Director of the establishment of regulated areas. An OSHA report titled "Sampling Activity by Substance" determined that 14.1 percent of establishments had inorganic arsenic exposures that exceeded the PEL. Based on the Agency's estimate that 42 facilities are covered by the standard, six facilities would have employees with inorganic arsenic exposures that exceed the PEL (14.1%  $\times$  42 = 6). OSHA assumes that these six employers have already notified the Agency about establishing regulated areas; therefore, only significant changes to existing regulated areas or establishments of new regulated areas must be reported to OSHA. The Agency assumes that one



significant change occurs in, or a new regulated area is added to, each of these facilities annually, and that a manager, earning \$38.92 an hour, will take 30 minutes (0.5 hours) to notify the Agency of the significant change or addition. Thus, OSHA estimates it would require three burden hours for six employers to notify the Area Director about establishment of regulated areas. Estimated cost would be \$117 (three burden hours  $\times$  \$38.92 an hour). By deleting this provision, savings of three burden hours and \$117 would be realized.

The final rule deletes the provision in the acrylonitrile standard, paragraph 1910.1045(d)(1), that requires employers to notify the nearest OSHA Area Director of the establishment of regulated areas. Since there are no new establishments, OSHA assumes that employers will not establish new regulated areas during this clearance period, and estimates that each of the 23 facilities will make 1 significant change annually in a regulated area. The Agency estimates that reporting a significant change to the nearest OSHA Area Office currently takes a manager 0.5 hour and a clerical worker 0.5 hour each, for a total of 1 hour for each of the 23 facilities. Thus, it costs \$647 for the 23 facilities to report a significant change, at \$38.92 an hour for a manager and \$17.34 an hour for a clerical. Savings due to deleting this provision would thus be 23 burden hours and \$647.

#### L. Reporting Emergencies and Incidents

The final rule deletes the provision in the vinyl chloride standard, paragraph 1910.1017(n)(2), that requires employers to report emergencies and available facts regarding each emergency to the nearest OSHA Area Director. On request of the Area Director, the employer must submit additional information in writing describing the nature and extent of employee exposures and measures taken to prevent similar emergencies in the future. OSHA estimates that each employer experiences one reportable emergency per year and that a manager and a secretary will each spend five hours, for a total of 10 hours, reporting the emergency. OSHA assumes there are 80 affected employers; a manager and a secretary would each spend 5 hours to report an emergency for a total of 800 burden hours. The cost to the employers would be \$22,504 (80 employees  $\times$  (\$38.92  $\times$  5 hours + \$17.34  $\times$  5 hours)), since a manager earns \$38.92 an hour and a secretary earns \$17.34 an hour. Hence, there would be savings of 800 burden hours and \$22,504 by deleting this provision.

The final rule deletes the provision in the acrylonitrile standard, paragraph 1910.1045(d)(2), that requires employers to report an emergency to OSHA within 72 hours and to provide additional information in writing to the nearest OSHA Area Office if requested to do so. OSHA estimates that 2 emergencies will occur in each facility annually, and that a professional and a secretary each require 1 hour for a total of 2 hours to compile and report the necessary information for each emergency. OSHA estimates 92 burden hours would be attributed to this provision because 23 facilities would report two emergencies per year and a manager and a secretary would each spend 1 hour to compile and report the necessary information. The cost of this provision would be \$2,588, since a manager earns \$38.92 per hour and a secretary earns \$17.34 an hour. Savings due to deleting this requirement would be 92 burden hours, worth \$2,588.

#### M. Semiannual Updating of Compliance Plans

The Agency's substance-specific standards typically require employers to develop compliance plans to meet the exposure-control objectives of the standard. Most of these standards specify that employers must update these plans at least annually, and OSHA believes that annual updating is sufficient to ensure the continued effectiveness of the plans. However, several older substance-specific standards promulgated by the Agency require semiannual updating, including: vinyl chloride, paragraph 1910.1017(f)(3); inorganic arsenic, paragraph 1910.1018(g)(2)(iv); lead, paragraph 1910.1025(e)(3)(iv); coke oven emissions, paragraph 1910.1029(f)(6)(iv); 1,2-dibromo-3-chloropropane (DBCP), paragraph 1910.1044(g)(2)(ii); acrylonitrile, paragraph 1910.1045(g)(2)(v); and lead in the construction industry, paragraph 1926.62(e)(2)(v).

OSHA has concluded that for those older standards with a high degree of compliance, updating compliance plans semi-annually does not increase worker protection. Therefore, the Agency is revising its older substance-specific standards to require annual, instead of semiannual, updating of compliance plans. OSHA believes that making this requirement consistent across its standards, will further improve employer compliance. Accordingly, the final standard eliminates a significant paperwork requirement without reducing employee protection. The following discussion estimates the cost savings of this amendment.

The final rule revises the vinyl chloride standard to require that employers update compliance plans at least annually, instead of semiannually. As in the ICR, the Agency estimates that semiannual updates require 480 burden hours (20 facilities, each needing eight hours from a manager and four hours from a secretary) to update the compliance plans, at a cost of \$15,229. On average, a manager earns \$38.92 an hour while a secretary earns \$17.34 an hour. Annual updates on the other hand, would require 240 burden hours at a cost of \$7,614. Thus, revising the standard to allow for annual updates of compliance plans instead of semiannual updates would result in savings of \$7,614.

Modifying the inorganic arsenic standard, 29 CFR 1910.1018, to require that employers update compliance plans at least annually likewise would reduce burden hours and cost. OSHA estimates there are six employers affected by this standard and that a manager and a secretary need 8 hours and 4 hours, respectively, to update the compliance plans. With semiannual updates, the standard would require 144 burden hours at a cost of \$4,569. Revising the standard to require annual compliance updates would entail 72 burden hours at a cost of \$2,284, thereby resulting in savings of \$2,284.

The final revision of the lead standard for general industry, paragraph 1910.1025(e)(3)(iv), would reduce the frequency for updating the compliance plan from semiannually to annually for areas with exposures over the PEL. OSHA's information on areas over the PEL in general industry is relatively old and the standard is almost 25 years old. Therefore, a substantial amount of time has gone by to achieve exposures below the PEL. Accordingly, OSHA has not assigned a cost saving for this provision at this time. Instead, OSHA requested comments on the approximate number of general industry lead facilities that still have areas over the PEL, but received none in the record. OSHA's estimate of the cost savings from this provision remains unchanged from the PEA.

Revision of the coke oven standard, paragraph 1910.1029(f)(6)(iv), would allow employers to update their compliance plans annually instead of semiannually. OSHA estimates that each of the 14 plants takes 3 hours to review and update its compliance plan semiannually for a total of 84 burden hours. OSHA estimates that a manager earning \$32.92 takes 2 hours to update the compliance semiannually; and that a clerk earning \$17.34 will take 1 hour semiannually to update the plans.

Therefore the cost for the 14 plants to update their compliance plans semiannually is \$2,665. Revising semiannual updating to annual the 14 plants would take 42 hours annually costing a total of \$1,333. The burden hour savings would be 42 hours and cost saving would be \$1,332.

The final revision of the 1,2-dibromo-3-chloropropane (DBCP) standard, 29 CFR 1910.1044, would have no cost or burden hours to employers since no U.S. employers currently produce DBCP-based end products.

Revision of the acrylonitrile standard, paragraph 1910.1045(g)(2)(v), would require that employers update compliance plans annually instead of semiannually. OSHA assumes that a manager earning \$38.92 an hour would devote 0.5 hour to update a compliance plan at each facility. With semiannual updating of compliance plans, employers would require 23 burden hours at a cost of \$895 (23 hours  $\times$  \$38.92). Revision of the standard to require annual updates would lower this to 11.5 burden hours at a cost of \$448 (11.5  $\times$  \$38.92). Savings due to this revision would thus be \$448.

The revision of the lead in construction standard, paragraph 1926.62(e)(2)(v), requires employers to update compliance plans annually instead of semiannually. Based on the Lead in Construction Paperwork Package, which in turn drew upon the Economic Analysis for that standard, OSHA estimates the standard now requires 216,344 employer burden hours at a cost of \$8,420,108 (216,344 hours  $\times$  \$38.92) to update compliance plans semiannually. The Agency estimates that the revision of the standard to require annual updates would simply cut the burden in half, to 108,172 hours at a cost of \$4,210,054 (108,172 hours  $\times$  \$38.92). Thus, the savings due to changing from semiannual to annual compliance updates would be \$4,209,657. Although the burden reduction from this revised standard is the largest among the standards being revised in this rulemaking, the Agency has consistently applied simple adjustments to its current paperwork model of burden on employers for each of its calculations. The Agency did not receive any comment about either the number of affected employers or unit costs for estimating the burden. The Agency's final estimate of the reduction in paperwork burden for this standard is thus unchanged from the proposal.

#### *N. Notifying Employees of Their Exposure Monitoring Results*

Many of OSHA's substance-specific standards require employers to notify

employees of their exposure monitoring results. However, the standards specify several different methods for providing this notice. The standards state that an employer must provide such notification to employees individually in writing or by posting the results in a readily accessible location, or both. In addition, the maximum period for notifying employees of their exposure monitoring results after the employer receives them varies across the standards. These periods range from "as soon as possible" to 20 working days after receipt of the monitoring results.

A review of the preambles to each of the above standards indicates that the final choice of notification method and maximum period for notification was a matter of convenience; none of the preambles provided objective evidence that the final requirements were the only effective or even most effective in protecting employees. The record developed during this rulemaking supports this view. OSHA has concluded that making the requirements consistent among the standards would reduce confusion and facilitate compliance without diminishing employee protection. As a result, the Agency is revising the standards by requiring employers to provide employees with their exposure monitoring results individually in writing or by posting the employees' results in a readily accessible location. Although the posting option would reduce employers' paperwork burden to some extent, they must still maintain individual exposure monitoring records for employees under §§ 1910.1020, 1915.1020, and 1926.33—OSHA's records-access standards for general industry, shipyard employment, and construction, respectively. Thus, employees could still get subsequent access to their exposure monitoring results.

OSHA proposed to standardize the period of time for notifying employees of their exposure monitoring results after the employer receives them across 20 pertinent standards. Currently, the notification period ranges from "as soon as possible" to 20 working days after receipt of the monitoring results. The Agency proposed to standardize the notification period to 15 days for general industry and 5 days for one shipyard and several construction standards on which OSHA made specific findings. Making these requirements consistent will reduce confusion and facilitate compliance with the provisions. However, it will not result in any significant cost savings.

OSHA assumes that the employers will choose to post the employees' results in a readily accessible location for all the standards that give the option of providing the results individually in writing or by posting. This would generate savings in burden hours and costs.

The final rule would revise the vinyl chloride standard, paragraph 1910.1017(n)(3), to require employers to provide employees with their exposure monitoring results individually in writing or by posting the employees' results in a readily accessible location. Based on the ICR, under the present standard for exposure above the AL, but below the PEL, 42 burden hours are required at a cost of \$727 as 131 employees would be notified quarterly by a secretary earning \$17.34 an hour who would spend 5 minutes per notification. For exposures above the PEL, 126 burden hours at a cost of \$2,181 are required, as the same number of employees would be notified monthly by the secretary. Additional monitoring involves another 6 burden hours, at a cost of \$111. Thus, the present vinyl chloride standard requires a total of 174 burden hours and a cost of \$3,019.

With the revised standard, for exposure above the AL but below the PEL, 3 burden hours at a cost of \$55 would be incurred as a secretary of each of 20 employers would post monitoring results semiannually at a readily accessible location. For exposure above the PEL, a secretary would quarterly post monitoring results at 20 facilities in a readily accessible location, requiring 6 burden hours at a cost of \$111. Additional monitoring would require 6 burden hours at a cost of \$111. Thus, the revised standard would require 15 burden hours at a cost of \$277. Cost savings would amount to \$2,741.

The final rule revises the inorganic arsenic standard, paragraph 1910.1018(e)(5)(i), to require employers to provide employees with their exposure monitoring results individually in writing or by posting the employees' results in a readily accessible location. OSHA assumes the employers would prefer to post the employees' results in a readily accessible location as that would be less costly.

The present inorganic arsenic standard requires employers to notify employees individually in writing of their exposure monitoring results. As in the Inorganic Arsenic Paperwork Package, OSHA estimates that 7,400 employees are exposed to inorganic arsenic, 14.1 percent or 1,043 of these are exposed above the PEL and will be monitored quarterly, 12.8 percent or 947

of these employees are exposed above the AL but below the PEL and will receive semiannual monitoring, while the employers must provide 10 percent or 740 of these employees with the results obtained to meet the additional monitoring requirement. OSHA estimates that a secretary, earning \$17.34 per hour, will take 5 minutes (.08 hour) to prepare each notification. Thus, 545 burden hours estimated to cost \$9,444 are attributed to the present inorganic arsenic standard.

With the revised standard, employers would be allowed to post monitoring results in a readily accessible location, which is cheaper than writing to employees individually. For estimating the burden, the assumptions would remain the same as under the present standard except employers or facilities would post monitoring results. OSHA estimates there are 42 facilities: 14.1 percent or 6 of these have employees exposed above the PEL and will be monitored quarterly; 12.8 percent or 5 of these have employees that are exposed above the AL but below the PEL and will be monitored semiannually, and an additional 10 percent or 4 facilities will be monitored yearly. Thus, the revised standard would require 3 burden hours at a cost of \$51. Cost savings due to changing from writing employees individually to employers posting monitoring results in a readily accessible location would amount to \$9,393.

The final rule revises the lead standard for general industry, paragraph 1910.1025(d)(8)(i), to require employers to provide employees with their exposure monitoring results individually in writing or by posting the employees' results in a readily accessible location. OSHA assumes the employers would post the employees' results in a readily accessible location.

Currently, monitoring is required initially to determine if any employees are exposed to lead at or above the action level, and every 6 months if employees are exposed above the AL but below the PEL and quarterly if employees are exposed to lead above the PEL. OSHA assumes zero burden hours for quarterly monitoring based on the assumption in the paperwork burden analysis that no industry sectors have working conditions in which employees are being exposed above the PEL. The Agency has estimated that about 11,508 employees would receive initial monitoring and 377,859 employees may be exposed to lead at levels between the AL and the PEL, which would require periodic monitoring at 6-month intervals. OSHA estimates that a secretary earning \$17.34 an hour will

require 5 minutes (.08 hour) to prepare each of 767,226 employee notifications (11,508 initial notifications and 377,859 employees  $\times$  2 semiannual notifications).

The paperwork burden for employee notification of monitoring results under the existing standard is as follows: 11,508 employees are notified once annually of initial monitoring results and 377,589 employees receive results twice a year. Notifying employees of 767,226 sampling results requires 0.08 hours each for a total of 61,378 hours, which, at an hourly secretarial wage of \$17.34, costs \$1,064,296. Employee notification under the revised standard will reduce the paperwork burden considerably: 62,357 employers will post sampling results twice a year, taking 0.08 hours for each, or 9,977 burden hours, which will cost \$173,001 at the same secretarial wage. Cost savings would amount to 51,401 burden hours, or \$891,293.

The final rule revises the cadmium standard for general industry, paragraph 1910.1027(d)(5)(i), to require employers to provide employees with their exposure monitoring results individually in writing or by posting the employees' results in a readily accessible location. As posting the monitoring results is cheaper than individually writing employees, OSHA assumes the employers would prefer to post the monitoring results.

The present standard requires employers to notify employees individually in writing and to post in a centralized location their exposure monitoring results. As in the Cadmium General Industry Paperwork Package, the Agency estimates that 71,306 employees may need periodic monitoring when exposed to cadmium above the AL. Under the existing standard, OSHA estimates that a secretary, earning \$17.34 per hour, will take 5 minutes (.08 hour) semiannually to individually inform the employees in writing of exposure monitoring results and to also post a copy of the results in a centralized location. The Agency also estimates that 143 additional samples will be taken in 143 plants when raw materials, process, personnel, or work practices change. Thus, under the existing standard, 11,420 burden hours would be required at a cost of \$198,030 as 71,306 employees are notified individually in writing and 143 plants post notices of the employees' exposure monitoring results in centralized locations.

Under the final standard, 8,517 burden hours at a cost of \$147,685 would be required (secretaries at each of the 53,161 employers, and for posting

143 additional samples spending five minutes, at \$17.34 per hour, to post monitoring results). Cost savings due to changing from individually writing employees and posting notices in centralized location to employers posting notices in a readily accessible location would amount to \$50,341.

The final rule revises the coke oven emissions standard, paragraph 1910.1029(e)(3)(i), to require employers to provide employees with their monitoring results individually in writing or by posting the employees' results in a readily accessible location. OSHA assumes the employees would prefer to post the employees' results in a readily accessible location.

The present standard requires employers to notify employees individually in writing of their exposure monitoring results. As in the ICR, the Agency estimates that 4,600 employees receive exposure measurements (*i.e.*, are "covered employees" because they work in regulated areas). These measurements include 18,400 quarterly measurements (4,600 employees  $\times$  4 measurements) and 230 resamplings (5% of 4,600 employees), for a total of 18,630 samples. The Agency also assumes that a secretary, at a wage rate of \$17.34 per hour, will take 5 minutes (.08 hour) to notify each employee of his or her sampling results. Thus, 1,490 burden hours would be required at a cost of \$25,844 as 4,830 employees would be notified individually in writing of their exposure monitoring results.

With the final standard, 5 burden hours at a cost of \$79 would be attributed to secretaries, who earn \$17.34 per hour, at each of the 14 employers and would spend 5 minutes each to post monitoring results at a readily accessible location. Cost savings would amount to \$25,765.

The final rule revises the cotton dust standard, paragraph 1910.1043(d)(4)(i), to require employers to provide employees with their exposure monitoring results individually in writing or by posting the employees' results in a readily accessible location. OSHA assumes the employers would prefer to post the employees' results in a readily accessible location.

OSHA estimated the numbers of exposed employees and the number of facilities in the industry by utilizing data from Employment and Earnings and County Business Patterns. The Agency estimates that 49,628 employees would be notified in writing of their exposure monitoring results. OSHA estimates that a secretary, earning \$17.34 per hour, will take 5 minutes (.08 hour) to prepare each notification. Thus, 3,970 burden hours are required at a

cost of \$68,844 as 53,938 employees are notified individually in writing of their exposure monitoring results.

Under the final standard, 43 burden hours at a cost of \$742 would be required (a secretary at each of the 535 plants, earning \$17.34 per hour, would spend 5 minutes (.08 hour) to post monitoring results). Cost savings would amount to \$68,102.

The final rule would revise the 1,2-dibromo-3-chloropropane, paragraph 1910.1044(f)(5)(i), to require employers to provide employees with their exposure monitoring results individually in writing or by posting the employees' results in a readily accessible location. No cost or burden hours accrue to employers under this standard since OSHA has determined that no U.S. employers currently produce DBCP or DBCP-based end-use products.

The final rule would revise the acrylonitrile standard, paragraph 1910.1045(e)(5)(i), to require employers to provide employees with their exposure monitoring results individually in writing or by posting the employees' results in a readily accessible location. OSHA assumes the employers would prefer to post the employees' results in a readily accessible location.

The Agency estimates that under the present standard, 923 employees must be informed of sampling results in writing. OSHA estimates that a secretary, earning \$17.34 per hour, will take 5 minutes (.08 hour) to prepare each notification. Thus, 485 burden hours are required at a cost of \$8,415.

Under the revision, 9 burden hours at a cost of \$160 would be attributed to secretaries at each of the 23 plants, earning \$17.34 per hour, spending 5 minutes (.08 hour) each to post quarterly monitoring results and one additional monitoring result. Cost savings would amount to \$8,255.

The final rule would revise the lead standard for the construction industry, paragraph 1926.62(d)(8)(i), to require employers to provide employees with their exposure monitoring results individually in writing or by posting the employees' results in a readily accessible location. OSHA assumes the employers would prefer to post the employees' results in a readily accessible location.

As in the Lead in Construction Paperwork Package, the Agency estimates that under the present standard, 177,194 employees are notified two times a year in writing of their exposure monitoring results. OSHA estimates that a secretary, earning \$17.34 per hour, will take six

minutes (.10 hour) to prepare each notification. Thus, 38,678 burden hours are required at a cost of \$670,671.

The revised standard would require that employers post monitoring results at readily accessible locations at each facility. Thus, 10,185 burden hours at a cost of \$176,608 would be required in the lead standard for construction as secretaries of each of 147,073 firms, earning \$17.34 per hour, would spend six minutes (.10 hour) to post monitoring results two times a year. Cost savings would amount to \$494,063.

The final rule revises the cadmium standard for the construction industry, paragraph 1926.1127(d)(5)(i), to require employers to provide employees with their exposure monitoring results individually in writing or by posting the employees' results in a readily accessible location. OSHA assumes the employers would prefer to post the employees' results in a readily accessible location.

The Agency estimates that under the present standard 7,500 employees need monitoring when exposed to cadmium above the AL three times per year. OSHA estimates that a secretary, earning \$17.34 per hour, will take 5 minutes (.08 hour) to individually inform the employees in writing of exposure monitoring results and to also post a copy of the results in a centralized location. The Agency assumes that the time associated with posting a copy of the result is minimal after already completing the individual notification; thus no additional time is assumed. Included in this 5 minutes is the time to maintain the record as required in paragraph (n)(1). The present standard requires 1,720 burden hours at a cost of \$32,044.

With the final standard, 280 burden hours at a cost of \$4,855 would be required (secretaries at 1,000 employers, earning \$17.34 per hour, would spend 5 minutes each to post monitoring results). The revision would result in cost savings of \$27,189.

#### References

1. Office of Management and Budget, "Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs," Circular No. A-94 Revised (Transmittal Memo No. 64). October 29, 1992.

2. U.S. Dept. of Labor, Bureau of Labor Statistics, "Employer Costs for Employees."

#### V. Regulatory Flexibility Certification

In accordance with the Regulatory Flexibility Act, 5 U.S.C. 601 *et seq.* (as amended), OSHA examined the regulatory requirements of the proposed

rule to determine if they would have a significant economic impact on a substantial number of small entities. As indicated in section IV ("Economic Analysis") of this preamble, the proposed rule is expected to reduce compliance costs and regulatory burden for all employers, large and small. The reduction in compliance costs is under \$100 million. Accordingly, the Agency certifies that the proposed rule would not have a significant economic impact on a substantial number of small entities.

#### VI. Environmental Impact Assessment

OSHA has reviewed the proposed rule in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 *et seq.*), the regulations of the Council on Environmental Quality (40 U.S.C. 1500), and the Department of Labor's NEPA procedures (29 CFR part 11). The Agency finds that the revisions included in the final rule do not directly involve the control of hazardous materials. Therefore, the final rule would have no additional impact on the environment, including no impact on the release of materials that contaminate natural resources or the environment, beyond the impact imposed by the existing requirements these proposed revisions would amend.

#### VII. OMB Review Under the Paperwork Reduction Act

Under the Paperwork Reduction Act (PRA) of 1995, agencies are required to seek the Office of Management and Budget (OMB) approval for all collections of information (paperwork). As a part of the approval process, agencies are required to solicit comment from affected parties with regard to the collection of information, including the financial and time burdens estimated by the agencies for the collection of information. The paperwork burden-hour estimate and cost analysis that an Agency submits to OMB is termed an "Information Collection Request" (ICR).

In the October 31, 2002, proposed rule, OSHA requested the public to comment on the 13 ICRs that the Agency submitted to OMB. These ICRs requested OMB to approve revisions to the current collections of information. In December 2002, OMB approved the proposed burden hour and cost reduction contained in the 13 ICRs. OMB stated on the approvals: "DOL will resubmit this package as a revision if changes are made based on comments to the Standards Improvement Project Proposed Rule."

The final rule does not change any of the proposed revisions to the collections

of information contained in the 13 ICRs. Table 4 lists the 13 ICRs, their OMB control number, expiration date, and changes to the collections of information contained in the ICRs. However, based on public comment (Ex. 4-13), the Agency did increase the

amount of time employers take to conduct exposure monitoring from 10 minutes to 1 hour. OSHA has submitted documentation to OMB, PRA Change Worksheet (OMB 83-C form), for Vinyl Chloride (OMB Control number 1218-0010 ) and Acrylonitrile (OMB Control

number 1218-0126) to reflect the increased time employers take to conduct exposure monitoring, and the larger burden hour reduction from reducing the frequency of exposure-monitoring.

INFORMATION COLLECTION REQUESTS EXPIRATION DATES & FINAL REVISIONS

OMB Control Number; expiration date	ICR provision	Final changes to ICR	Burden hour changes
1218-0010 ..... Exp. Date: 9/30/2005	Vinyl Chloride (§ 1910.1017(d)(2)(i)).	Reduced the frequency employers must conduct periodic exposure-monitoring from monthly to quarterly monitoring.	- 1,048
	Vinyl Chloride (§ 1910.1017(d)(2)(ii)).	Reduced the frequency employers must conduct periodic exposure-monitoring from quarterly to semi-annual monitoring.	- 262
	Vinyl Chloride (§ 1910.1017(d)(2)(iii)).	Increased the time to conduct additional exposure monitoring.	66
	Vinyl Chloride (§ 1910.1017(f) (3)).	Reduced the frequency employers must update their compliance plans from every six months to annually.	- 240
	Vinyl Chloride (§ 1910.1017(k)(2)(i)&(ii)).	Reduced the number of medical examinations from semi-annually to annually.	- 366
	Vinyl Chloride (§ 1910.1017(k)(4)).	Reduced the number of physician's written opinions employers must provide to their employees.	- 15
	Vinyl Chloride (§ 1910.1017(m)(2)).	Reduced the number of exposure records employers must develop and maintain.	- 105
	Vinyl Chloride (§ 1910.1017(m)(2)).	Reduced the number of medical records employers must develop and maintain.	- 14
	Vinyl Chloride (§ 1910.1017(n)(1)).	Removed burden hours for employers to notify OSHA when establishing a regulated area.	- 17
	Vinyl Chloride (§ 1910.1017(n)(2)).	Removed burden hours for employers to report emergencies to OSHA area director.	- 800
Vinyl Chloride (§ 1910.1017(n)(3)).	Allows employers to post exposure monitoring results and increase time to inform employees of their exposure-monitoring results from 10 to 15 working days.	- 159	
Subtotal .....	.....	.....	- 2,960
1218-0061 ..... Exp. Date: 9/30/2005	Cotton Dust (§ 1910.1043 (d)(4)(i)).	Allow employers to post exposure monitoring results ..	- 3,927
	13 Carcinogens (§ 1910.1003(f)(2)).	Removed burden hours for employers to report spills to local OSHA area offices.	- 970
1218-0085 ..... Exp. Date: 11/30/2005	13 Carcinogens (§ 1910.1003(f)(1)).	Removed burden hours for employers to notify OSHA when establishing a regulated area.	- 194
Subtotal .....	.....	.....	- 1,164
1218-0092 ..... Exp. Date: 12/31/2005	Lead in General Industry (§ 1910.1025(d)(8)(i)).	Allow employers to post exposure-monitoring results ..	- 51,401
	Lead in General Industry (§ 1910.1025(e)(3) (iv)).	Revise required compliance plan update from every six months to annually. No information on areas over the PEL in general industry, and the standard is almost 25 years old.	0
Subtotal .....	.....	.....	- 51,401
1218-0101 ..... Exp. Date: 11/30/2005	1,2-Dibromo-3-chloropropane (DBCP) (§ 1910.1044 (d)(4)).	Removed burden hours for employers to report when DBCP is introduced into workplace to OSHA.	0
	DBCP (§ 1910.1044(f)(3)(i), (ii)) ...	Reduced the frequency employers must conduct periodic exposure monitoring.	0
	DBCP (§ 1910.1044(f) (5)) .....	Allow employers to post exposure monitoring results and increase time to inform employees of their exposure- monitoring results from 5 working days to 15 working days.	- 0
	DBCP (§ 1910.1044(g)(2)(ii)) .....	Reduced the frequency employers must update their compliance plans from every six months to annually.	0
Subtotal .....	.....	.....	0
1218-0104 ..... Exp. Date: 9/30/2005	Inorganic Arsenic (§ 1910.1018(d)(1)).	Removed burden hours for employers to notify OSHA when establishing a regulated area.	- 3

## INFORMATION COLLECTION REQUESTS EXPIRATION DATES &amp; FINAL REVISIONS—Continued

OMB Control Number; expiration date	ICR provision	Final changes to ICR	Burden hour changes
	Inorganic Arsenic (§ monitoring results 1910.1018(e)(5)(i)).	Allow employers to post exposure-monitoring results ..	- 541
	Inorganic Arsenic (§ 1910.1018(g)(2)(iv)).	Reduced the frequency employers must update their compliance plans from every six months to annually.	- 72
	Inorganic Arsenic (§ 1910.1018(n)(2)(ii)(A)).	Revise the x-ray rating procedure; no significant change.	0
	Inorganic Arsenic (§ 1910.1018(n)(3)(ii)).	Reduced the number of medical examinations from semi-annually to annually.	- 1,661
	Inorganic Arsenic (§ 1910.1018(n)(5)).	Reduced the frequency employers must provide information to the physician.	- 80
	Inorganic Arsenic (§ 1910.1018(n)(6)).	Reduced the frequency employers must provide the physician's written opinion to their employers.	- 80
	Inorganic Arsenic (§ 1910.1018(q)(6)).	Reduced the number of medical records employers must develop and maintain.	- 79
Subtotal .....	.....	.....	- 2,516
1218-0126 .....	Acrylonitrile (§ 1910.1045(d)(1)) ...	Removed burden hours for employers to notify OSHA when establishing a regulated area.	- 23
Exp. Date: 9/30/2005	Acrylonitrile (§ 1910.1045(d)(2)) ...	Removed burden hours for employers to report emergencies to OSHA area director.	- 92
	Acrylonitrile (§ conduct 1910.1045(e)(3)(ii)).	Reduced the frequency employers must periodic exposure monitoring from monthly to quarterly and from quarterly to semi-annually.	- 1,819
	Acrylonitrile (§ 1910.1045(e)(4)) ...	Increased the time to conduct additional monitoring ....	+ 11
	Acrylonitrile (§ 1910.1045(e)(5)) ...	Allow employers to post exposure-monitoring results ..	- 476
	Acrylonitrile (§ 1910.1045(g)(2)(ii)).	Reduced the frequency employers must update their compliance plans from every six months to annually.	- 11
	Acrylonitrile (§ 1910.1045 (q)(2))	Reduced the number of exposure monitoring records employers must develop and maintain.	- 291
Subtotal .....	.....	.....	- 2,701
1218-0128 .....	Coke Ovens 1910.1029(e)(3)(ii)) ..	Allows employers to post exposure-monitoring results	- 1,486
Exp. Date: 9/30/2005	Coke Ovens (§ 1910.1029(f)(6)(iv)).	Reduced the frequency employers must update their compliance plans from every six months to annually.	- 42
	Coke Ovens (§ 1910.1029(j)(2)(ii)).	Revise the x-ray rating procedure; no significant change.	0
	Coke Ovens (§ 1910.1029(j)(3)(iii)).	Reduced the number of medical examinations from semi-annually to annually.	- 2,898
Subtotal .....	.....	.....	- 4,426
1218-0134 .....	Asbestos (§ 1926.1101(f)(5)(i)) ...	Modified time to inform employees of their exposure-monitoring results from "as soon as possible" to no later than 5 days after receipt.	0
Exp. Date: 12/31/2005	Asbestos (§ 1926.1101(g)(6)(l)) .....	Remove burden hours for employers to submit alternative control methods to OSHA.	- 1
Subtotal .....	.....	.....	- 1
1218-0185 .....	Cadmium in General Industry (§ 1910.1027(d)(5)).	Allows employers to post exposure-monitoring results	- 2,903
Exp. Date: 12/31/2005	Cadmium in General Industry (§ 1910.1027(l)(10)(l)).	Removed the requirement that the physician's written opinion be signed.	0
Subtotal .....	.....	.....	- 2,903
1218-0186 .....	Cadmium Construction (§ 1926.1127(d)(5)(i)).	Allow employers to post exposure-monitoring results ..	- 1,440
Exp. Date: 12/31/2005	Cadmium Construction (§ 1926.1127(l)(10)(l)).	Remove the physician's written opinion .....	0
Subtotal .....	.....	.....	- 1,440
1218-0189 .....	Lead in Const. (§ 1926.62 9(d)(8)).	Allow employers to post exposure-monitoring results ..	- 28,493
Exp. Date: 12/31/2005	Lead in Const. (§ 1926.62(e)(2)(v)).	Reduce the frequency of updating written compliance programs.	- 108,172

INFORMATION COLLECTION REQUESTS EXPIRATION DATES & FINAL REVISIONS—Continued

OMB Control Number; expiration date	ICR provision	Final changes to ICR	Burden hour changes
Subtotal .....	.....	.....	- 136,665
1218-0195 .....	Asbestos (§ 1915.1001(f)(5)) .....	Modified time to inform employees of their exposure-monitoring results from “as soon as possible” to no later than 5 days after receipt.	0
Exp. Date: 12/31/2005	Asbestos (§ 1915.1001(g)(6)(iii)) ..	Remove burden hours for employers to submit alternative control methods to OSHA.	- 1
Subtotal .....	.....	.....	- 1
Total Burden Hour Reduction	.....	.....	- 210,105

**VIII. Unfunded Mandates**

OSHA has reviewed the final rule in accordance with the Unfunded Mandates Reform Act of 1995, 2 U.S.C. 1501 *et seq.*, and Executive Order 12875. As discussed above, OSHA has determined that the final rule is likely to reduce the regulatory burdens imposed on public and private employers by the existing requirements these final revisions would amend. The final rule would not expand existing regulatory requirements or increase the number of employers who are covered by the existing rules. Consequently, compliance with the final rule would require no additional expenditures by either public or private employers. In sum, the final rule does not mandate that state, local, and tribal governments adopt new, unfunded regulatory obligations.

**IX. Federalism**

The Agency has reviewed the final rule in accordance with the Executive Order on Federalism (Executive Order 13132, 64 FR 43255, August 10, 1999), which requires that Federal agencies, to the extent possible, refrain from limiting state policy options, consult with states before taking actions that restrict state policy options, and take such actions only when clear constitutional authority exists and the problem is of national scope. The Executive Order provides for preemption of state law only when Congress expresses an intent that a Federal agency do so. The Federal agency must limit any such preemption to the extent possible.

With respect to states that do not have occupational safety and health plans approved by OSHA under Section 18 of the Occupational Safety and Health Act of 1970 (the “Act”) (29 U.S.C. 667), the Agency finds that the final rule conforms to the preemption provisions of the Act. These provisions authorize OSHA to preempt state promulgation and enforcement of requirements

dealing with occupational safety and health issues covered by Agency standards, unless the state has a state occupational safety and health plan approved by the Agency. (See *Gade v. National Solid Wastes Management Association*, 112 S.Ct. 2374 (1992).) The provisions of 29 U.S.C. 667 prohibit states without such programs from issuing citations for violations of requirements covered by Agency standards. The final rule would not expand this limitation.

Regarding states that have OSHA-approved occupational safety and health plans (“State-plan states”), the Agency finds that the final rule complies with Executive Order 13132 because it addresses a problem (*i.e.*, health hazards) that is national in scope. Adoption of these final revisions, section 18(c)(2) of the Act (29 U.S.C. 667(c)(2)) would not preempt any alternative revisions made by State-plan states if these revisions are at least as effective as the final revisions.

**X. State-Plan States**

The 24 states and two territories with their own federally-approved occupational safety and health plans must develop revisions that are at least as effective as the final revisions adopted by the Agency within six months after publication of the final rule. These states and territories are: Alaska, Arizona, California, Connecticut (State and local government employees only), Hawaii, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, Nevada, New Jersey (State and local government employees only), New Mexico, New York (State and local government employees only), North Carolina, Oregon, Puerto Rico, South Carolina, Tennessee, Utah, Vermont, Virginia, Virgin Islands, Washington, and Wyoming.

**XI. Authority**

John L. Henshaw, Assistant Secretary of Labor for Occupational Safety and

Health, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210, directed the preparation of this document.

Signed in Washington, DC, on the 20th day of December 2004.

**John L. Henshaw,**  
*Assistant Secretary of Labor.*

**List of Subjects**

*29 CFR Part 1910*

Hazardous substances, Occupational safety and health, Reporting and recordkeeping requirements.

*29 CFR Part 1915*

Hazardous substances, Occupational safety and health, Reporting and recordkeeping requirements, Shipyard employment, Vessels.

*29 CFR Part 1926*

Construction industry, Hazardous substances, Occupational safety and health, Reporting and recordkeeping requirements.

■ In accordance with sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, and 657), section 41 of the Longshore and Harbor Workers’ Compensation Act (33 U.S.C. 941), section 107 of the Contract Work and Safety Standards Act (40 U.S.C. 333), section 4 of the Administrative Procedures Act (5 U.S.C. 553) and Secretary of Labor’s Order No. 3–2000 (65 FR 50017), the Agency is amending 29 CFR parts 1910, 1915, and 1926 as follows:

**PART 1910—OCCUPATIONAL SAFETY AND HEALTH STANDARDS**

**Subpart J—General Environmental Controls**

■ 1. The authority citation for subpart J is revised to read as follows:

**Authority:** Sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970, 29 U.S.C. 653, 655, and 657; Secretary of Labor’s Order No. 12–71 (36 FR 8754), 8–76



(41 FR 25059), 9–83 (48 FR 35736), 1–90 (55 FR 9033), 6–96 (62 FR 111), or 3–2000 (65 FR 50017), as applicable.

Sections 1910.141, 1910.142, 1910.145, 1910.146, and 1910.147 also issued under 29 CFR part 1911.

**§ 1910.142 [Amended]**

■ 2. In § 1910.142, remove the words “telegram or telephone” at the end of paragraph (l)(2) and add in their place, “telegram, telephone, electronic mail or any method that is equally fast.”

**Subpart K—Medical and First Aid**

■ 3. The authority citation for subpart K is revised to read as follows:

**Authority:** Sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970, 29 U.S.C. 653, 655, and 657; Secretary of Labor’s Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), 1–90 (55 FR 9033), 6–96 (62 FR 111), or 3–2000 (65 FR 50017), as applicable, and 29 CFR part 1911.

■ 4. In the first paragraph of Appendix A to § 1910.151, remove the words “American National Standard (ANSI) Z308.1–1978, “Minimum Requirements for Industrial Unit-Type First-aid Kits” and add, in their place, “American National Standard (ANSI) Z308.1–1998 “Minimum Requirements for Workplace First-aid Kits.”

**Subpart R—Special Industries**

■ 5. The authority citation for subpart R is revised to read as follows:

**Authority:** Sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970, 29 U.S.C. 653, 655, and 657; Secretary of Labor’s Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), 1–90 (55 FR 9033), 6–96 (62 FR 111), or 3–2000 (65 FR 50017), as applicable, and 29 CFR part 1911.

■ 6. In § 1910.268, revise paragraph (b)(3) to read as follows:

**§ 1910.268 Telecommunications.**

\* \* \* \* \*

(b) \* \* \*

(3) Employers must provide employees with readily accessible, adequate, and appropriate first aid supplies. A non-mandatory example of appropriate supplies is listed in Appendix A to 29 CFR 1910.151.

\* \* \* \* \*

**Subpart Z—Toxic and Hazardous Substances**

■ 7. The authority citation for subpart Z is revised to read as follows:

**Authority:** Sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970,

29 U.S.C. 653, 655, and 657; 5 U.S.C. 553; Secretary of Labor’s Orders No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), 1–90 (55 FR 9033), 6–96 (62 FR 111), and 3–2000 (65 FR 50017), as applicable, and 29 CFR part 1911.

All of subpart Z issued under section 6(b) of the Occupational Safety and Health Act of 1970, except those substances that have exposure limits in Tables Z–1, Z–2, and Z–3 of 29 CFR 1910.1000. The Agency issued 29 CFR 1910.1000 under section (6)(a) of the Act (29 U.S.C. 655(a)).

Section 1910.1000, Tables Z–1, Z–2, and Z–3 also issued under 5 U.S.C. 553, but not under 29 CFR part 1911, except for the inorganic arsenic, benzene, and cotton dust listings.

Section 1910.1001 also issued under section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333) and 5 U.S.C. 553.

Section 1910.1002 also issued under 5 U.S.C. 553, but not under 29 U.S.C. 655 or 29 CFR part 1911.

Sections 1910.1018, 1910.1029, and 1910.1200 also issued under 29 U.S.C. 653.

■ 8. In § 1910.1001, revise paragraph (d)(7)(i) to read as set forth below, and remove the word “signed” from the first sentence of the introductory text of paragraph (l)(7)(i).

**§ 1910.1001 Asbestos.**

\* \* \* \* \*

(d) \* \* \*

(7) *Employee notification of monitoring results.* (i) The employer must, within 15 working days after the receipt of the results of any monitoring performed under this sections, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to affected employees.

\* \* \* \* \*

**§ 1910.1003 [Amended]**

■ 9–10. Section 1910.1003 is amended by removing and reserving paragraph (f).

■ 11. Section 1910.1017 is amended by: ■ a. Revising paragraphs (d)(2)(i), (d)(2)(ii), the last sentence of paragraph (f)(3) and paragraphs (k)(2), (k)(6) and (n)(3);

■ b. Removing paragraphs (n)(1) and (n)(2) and redesignating paragraph (n)(3) as new paragraph (n) and revising it.

The revisions read as follows:

**§ 1910.1017 Vinyl chloride.**

\* \* \* \* \*

(d) \* \* \*

(2) \* \* \* (i) Must be repeated at least quarterly for any employee exposed, without regard to the use of respirators, in excess of the permissible exposure limit.

(ii) Must be repeated not less than every 6 months for any employee

exposed without regard to the use of respirators, at or above the action level.

\* \* \* \* \*

(f) \* \* \*

(3) \* \* \* Such plans must be updated at least annually.

\* \* \* \* \*

(k) \* \* \*

(2) Examinations must be provided in accordance with this paragraph at least annually.

\* \* \* \* \*

(6) Laboratory analyses for all biological specimens included in medical examination shall be performed by accredited laboratories.

\* \* \* \* \*

(n) *Employee notification of monitoring results.* The employer must, within 15 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results and the steps being taken to reduce exposures within the permissible exposure limit either individually in writing or by posting the results in an appropriate location that is accessible to affected employees.

\* \* \* \* \*

■ 12. Section 1910.1018 is amended by:

■ a. Removing and reserving paragraph (d);

■ b. Revising paragraphs (e)(5)(i), (g)(2)(iv), (n)(2)(ii)(A), (n)(3)(i);

■ c. Removing paragraph (n)(3)(ii) and redesignating paragraph (n)(3)(iii) as new (n)(3)(ii); and

■ d. Removing in Appendix C Section I, second paragraph, item (2), the words “and an International Labor Office UICC/Cincinnati (ILO U/C) rating.”

The revisions read as follows:

**§ 1910.1018 Inorganic arsenic.**

\* \* \* \* \*

(e) \* \* \*

(5) \* \* \* (i) The employer must, within 15 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to affected employees.

\* \* \* \* \*

(g) \* \* \*

(2) \* \* \*

(iv) The plans required by this paragraph must be revised and updated at least annually to reflect the current status of the program.

\* \* \* \* \*

(n) \* \* \*

(2) \* \* \*

(ii) \* \* \*

(A) A standard posterior-anterior chest x-ray;

(3) Examinations must be provided in accordance with this paragraph at least annually.

13. In § 1910.1025, revise paragraphs (d)(8)(i) and (e)(3)(iv) to read as follows:

§ 1910.1025 Lead.

(d)
(8)

(i) The employer must, within 15 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to affected employees.

(e)
(3)

(iv) Written programs must be revised and updated at least annually to reflect the current status of the program.

14. In § 1910.1027 revise paragraph (d)(5)(i) to read as set forth below and remove the word "signed" from the first sentence of the introductory text of paragraph (l)(10)(i).

§ 1910.1027 Cadmium.

(d)

(5) The employer must, within 15 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to employees.

15-16. In § 1910.1028 revise paragraph (e)(7)(i) to read as follows:

§ 1910.1028 Benzene.

(e)

(7) The employer must, within 15 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to employees.

17. Section § 1910.1029 is amended by:

- a. Revising paragraphs (e)(3)(i), (f)(6)(iv), (j)(2)(ii), (j)(3)(ii) and (j)(3)(iii);
b. Removing paragraph (j)(3)(iv);
c. Redesignating paragraph (j)(3)(v) as (j)(3)(iv); and

d. Removing the words "14" by 17" and the words "and a ILO/UC rating to assure some standard of x-ray reading" from the third sentence of Appendix B.II.A.

The revision read as follows:

§ 1910.1029 Coke oven emissions.

(e)

(3) The employer must, within 15 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to employees.

(f)

(6) Written plans for such programs shall be submitted, upon request, to the Secretary and the Director, and shall be available at the worksite for examination and copying by the Secretary, the Director, and the authorized employee representative. The plans required under paragraph (f)(6) of this section shall be revised and updated at least annually to reflect the current status of the program.

(j)

(2)

(ii) A standard posterior-anterior chest x-ray;

(3)

(ii) The employer must provide the examinations specified in paragraphs (j)(2)(i) through (j)(2)(vii) of this section at least annually for employees 45 years of age or older or with five (5) or more years employment in the regulated area.

(iii) Whenever an employee who is 45 years of age or older or with five (5) or more years employment in a regulated area transfers or is transferred from employment in a regulated area, the employer must continue to provide the examinations specified in paragraphs (j)(2)(i) through (j)(2)(vii) of this section at least annually as long as that employee is employed by the same employer or a successor employer.

18-19. In § 1910.1043, revise paragraph (d)(4)(i) to read as follows:

§ 1910.1043 Cotton dust.

(d)

(4) The employer must, within 15 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results

either individually in writing or by posting the results in an appropriate location that is accessible to employees.

20-21. In § 1910.1044 remove and reserve paragraph (d), and revise paragraphs (f)(3)(i), (f)(3)(ii), (f)(5)(i) and the last sentence of paragraph (g)(2)(ii) to read as follows:

§ 1910.1044 1,2-Dibromo-3-chloropropane.

(f)

(3) If the monitoring required by this section reveals employee exposures to be at or below the permissible exposure limit, the employer must repeat these measurements at least every 6 months.

(ii) If the monitoring required by this section reveals employee exposures to be in excess of the permissible exposure limit, the employer must repeat these measurements for each such employee at least quarterly. The employer must continue quarterly monitoring until at least two consecutive measurements, taken at least seven (7) days apart, are at or below the permissible exposure limit. Thereafter the employer must monitor at least every 6 months.

(5) The employer must, within 15 working days after the receipt of the results of any monitoring performed under this section, notify each employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to employees.

(g)

(2)

(ii) These plans must be revised at least annually to reflect the current status of the program.

22-23. In § 1910.1045 remove and reserve paragraph (d), and revise paragraphs (e)(3)(ii), (e)(3)(iii), (e)(5)(i) and (g)(2)(v) to read as follows:

§ 1910.1045 Acrylonitrile.

(e)

(3)

(ii) If the monitoring required by this section reveals employee exposure to be at or above the action level but at or below the permissible exposure limits, the employer must repeat such monitoring for each such employee at least every 6 months. The employer must continue these measurements every 6 months until at least two consecutive measurements taken at least seven (7) days a part, are below the action level, and thereafter the employer

may discontinue monitoring for that employee.

(iii) If the monitoring required by this section reveals employee exposure to be in excess of the permissible exposure limits, the employer must repeat these determinations for each such employee at least quarterly. The employer must continue these quarterly measurements until at least two consecutive measurements, taken at least seven (7) days apart, are at or below the permissible exposure limits, and thereafter the employer must monitor at least every 6 months.

\* \* \* \* \*

(5) \* \* \* (i) The employer must, within 15 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to employees.

\* \* \* \* \*

(g) \* \* \*

(2) \* \* \*

(v) The plans required by this paragraph must be revised and updated at least annually to reflect the current status of the program.

\* \* \* \* \*

■ 24. In § 1910.1047, revise (d)(7)(i) to read as follows:

**§ 1910.1047 Ethylene oxide.**

\* \* \* \* \*

(d) \* \* \*

(7) \* \* \* (i) The employer must, within 15 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to employees.

\* \* \* \* \*

■ 25. In § 1910.1048, revise (d)(6) to read as follows:

**§ 1910.1048 Formaldehyde.**

\* \* \* \* \*

(d) \* \* \*

(6) *Employee notification of monitoring results.* The employer must, within 15 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to employees. If employee exposure is above the PEL, affected employees shall be provided with a description of the corrective actions being taken by the employer to decrease exposure.

\* \* \* \* \*

■ 26. In § 1910.1051, revise paragraph (d)(7)(i) to read as follows:

**§ 1910.1051 1,3-Butadiene.**

\* \* \* \* \*

(d) \* \* \*

(7) \* \* \* (i) The employer must, within 15 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to employees.

\* \* \* \* \*

**PART 1915—OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR SHIPYARD EMPLOYMENT**

■ 27. The authority citation for Part 1915 is revised to read as follows:

**Authority:** Section 41, Longshore and Harbor Workers' Compensation Act (33 U.S.C. 941); sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 ("the Act"), 29 U.S.C. 653, 655, and 657; Secretary of Labor's Order No. 12-71 (36 FR 8754), 8-76 (41 FR 25059), 9-83 (48 FR 35736), 1-90 (55 FR 9033), 6-96 (62 FR 111), and 3-2000 (65 FR 50017), as applicable.

Sections 1915.120 and 1915.152 also issued under 29 CFR part 1911.

Section 1915.1001 also issued under 5 U.S.C. 553.

**Subpart Z—Toxic and Hazardous Substances**

■ 28. In § 1915.1001, revise paragraph (f)(5) to read as set forth below and remove paragraph (g)(6)(iii).

**§ 1915.1001 Asbestos.**

\* \* \* \* \*

(f) \* \* \*

(5) *Employee notification of monitoring results.* The employer must, as soon as possible but no later than 5 days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to employees.

\* \* \* \* \*

**PART 1926—SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION**

**Subpart D—Occupational Health and Environmental Controls**

■ 30. The authority citation for subpart D is revised to read as follows:

**Authority:** Section 107, Contract Work Hours and Safety Standards Act (40 U.S.C. 333); sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 ("the Act"), 29 U.S.C. 653, 655, and 657; 5 U.S.C. 553;

Secretary of Labor's Orders No. 12-71 (36 FR 8754), 8-76 (41 FR 25059), 9-83 (48 FR 35736), 1-90 (55 FR 9033), 6-96 (62 FR 111), and 3-2000 (65 FR 50017), as applicable; and 29 CFR part 1911.

■ 31. In § 1926.60, revise paragraph (f)(7)(i) to read as follows:

**§ 1926.60 Methyleneedianilene.**

\* \* \* \* \*

(f) \* \* \*

(7) \* \* \* (i) The employer must, as soon as possible but no later than 5 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to employees.

\* \* \* \* \*

■ 32. In § 1926.62, revise paragraphs (d)(8)(i) and (e)(2)(v) to read as follows:

**§ 1926.62 Lead.**

\* \* \* \* \*

(d) \* \* \*

(8) \* \* \*

(i) The employer must, as soon as possible but no later than 5 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to employees.

\* \* \* \* \*

(e) \* \* \*

(2) \* \* \*

(v) Written programs must be revised and updated at least annually to reflect the current status of the program.

\* \* \* \* \*

**Subpart Z—Toxic and Hazardous Substances**

■ 33. The authority citation for subpart Z is revised to read as follows:

**Authority:** Section 107, Contract Work Hours and Safety Standards Act (40 U.S.C. 333); sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 ("the Act"), 29 U.S.C. 653, 655, and 657; Secretary of Labor's Order No. 12-71 (36 FR 8754), 8-76 (41 FR 25059), 9-83 (48 FR 35736), 1-90 (55 FR 9033), 6-96 (62 FR 111), and 3-2000 (65 FR 50017), as applicable; and 29 CFR part 1911.

Sections 1926.1101 and 1926.1127 also issued under 5 U.S.C. 553.

Section 1926.1102 also issued under 5 U.S.C. 553, but not under 29 U.S.C. 655 or 29 CFR part 1911.

■ 34. In § 1926.1101, revise paragraph (f)(5) to read as set forth below and remove paragraph (g)(6)(iii).

**§ 1926.1101 Asbestos.**

\* \* \* \* \*

(f) \* \* \*

(5) *Employee notification of monitoring results.* The employer must, as soon as possible but no later than 5 working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to employees.

\* \* \* \* \*

■ 35–36. In § 1926.1127 revise paragraph (d)(5)(i) to read as set forth below and remove the word “signed” from the first sentence of the introductory text of paragraph (l)(10)(i).

**§ 1926.1127 Cadmium.**

\* \* \* \* \*

(d) \* \* \*

(5) \* \* \* (i) The employer must, as soon as possible but no later than 5

working days after the receipt of the results of any monitoring performed under this section, notify each affected employee of these results either individually in writing or by posting the results in an appropriate location that is accessible to employees.

\* \* \* \* \*

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