DEPARTMENT OF LABOR

Occupational Safety and Health Administration

29 CFR Part 1910

RIN 1218–AB82

Exit Routes, Emergency Action Plans, and Fire Prevention Plans

AGENCY: Occupational Safety and Health Administration (OSHA), Labor.

ACTION: Final rule.

SUMMARY: The Occupational Safety and Health Administration (OSHA) is revising its standards for means of egress. The purpose of this revision is to rewrite the existing requirements in clearer language so they will be easier to understand by employers, employees, and others who use them.

The revisions reorganize the text, remove inconsistencies among sections, and eliminate duplicative requirements. The rules are performance-oriented to the extent possible, and more concise than the original, with fewer subparagraphs, and fewer cross-references to other OSHA standards. Additionally, a table of contents has been added that is intended to make the standards easier to use.

Also, OSHA is changing the name of the subpart from ''Means of Egress'' to ''Exit Routes, Emergency Action Plans, and Fire Prevention Plans'' to better describe the contents.

Finally, OSHA has evaluated the National Fire Protection Association's Standard 101, Life Safety Code, 2000 Edition (NFPA 101–2000), and has concluded that the standard provides comparable safety to the Exit Routes Standard. Therefore, employers who wish to comply with the NFPA 101–2000 instead of the OSHA standards for Exit Routes may do so.

DATES: The final rule becomes effective December 9, 2002.

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: OSHA, Ms. Bonnie Friedman, Director, Office of Public Affairs, N–3647, Occupational Safety and Health Administration, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210; telephone: (202) 693–1999. For additional copies of this **Federal Register** document, contact: OSHA, Office of Publications, U.S. Department of Labor, Room N–3103, 200 Constitution Avenue, NW., Washington, DC 20210; telephone: (202) 693–1888.

For electronic copies of this **Federal Register** document, as well as news releases, fact sheets, and other relevant documents, visit OSHA's homepage at *http://www.osha.gov.*

SUPPLEMENTARY INFORMATION: References to comments and testimony in the rulemaking record (Docket S–052) are found throughout the text of the preamble. In the preamble comments are identified by an assigned exhibit number as follows: ''Ex. 5–1'' means Exhibit 5–1 in Docket S–052. 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. 37. A list of the exhibits, copies of the exhibits, and transcripts are available in the OSHA Docket Office.

I. Background

In 1971 and 1972, OSHA adopted hundreds of national consensus and established Federal standards under section 6(a) of the Occupational Safety and Health Act of 1970. Section 6(a) allowed the Agency to adopt these standards for a limited period of time without going through traditional rulemaking. Many of these ''start-up standards'' have been criticized for being overly wordy, difficult to understand, repetitive and internally inconsistent.

On September 10, 1996, OSHA published a proposed rule in the **Federal Register** (61 FR 47712) proposing to revise subpart E of part 1910. OSHA proposed to rewrite the existing requirements of subpart E 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 by the original standard.

OSHA proposed two versions of the revision of subpart E. The first version was organized in the traditional regulatory format characteristic of most OSHA standards. The second version was in a question and answer format. OSHA invited interested parties to comment on the content and effectiveness of the proposed changes and to indicate which version they preferred. Both versions left unchanged the regulatory obligations placed on employers and the safety and health protection provided to employees. Based on the majority of comments (*e.g.*, Exs. 5–13, 17, 24–26, 45–47, 58–60) OSHA has decided to use its traditional regulatory text format for this final rule. OSHA believes that the revised subpart E is more performance-oriented and more compliance options will be available to employers.

In the proposal, OSHA stated what it expected to achieve by revising subpart E: (1) To maintain the safety and health protection provided to employees without increasing the regulatory burden on employers; (2) to create a regulation that is easily understood and; (3) to state employers' obligations in performance-oriented language to the extent possible.

The proposal attempted to simplify, rather than to substantively revise, OSHA's means of egress standards. In finalizing this proposal, the Agency has been careful to ensure that the protections afforded employees were not weakened. Employers who are in compliance with the original subpart E will continue to be in compliance with the revised subpart E that is being promulgated in this rule.

In developing the proposal, OSHA reviewed relevant OSHA decisions of the Federal courts, the Occupational Safety and Health Review Commission, and Agency letters of interpretation (Ex. 2) to determine how each provision of subpart E has been interpreted. Also, OSHA reviewed comparable State regulations, training materials and current consensus standards including the National Fire Protection Association's Life Safety Code, NFPA 101 (at that time the 1994 Edition). This review enabled OSHA to reorganize subpart E, eliminate duplicative provisions, and have confidence that the revisions did not diminish the safety and health protection afforded by existing rules.

OSHA discovered during the review process that some provisions of subpart E were outdated and not consistent with contemporary fire safety options in then current NFPA 101, Life Safety Code, 1994 Edition. Where it was possible to expand permissible employer compliance options without lessening employee safety, the proposal included these expanded options. For example, OSHA incorporated NFPA 101, 1994 Edition, the Life Safety Code's option to exit to a refuge area rather than to the outside (proposed paragraph 1910.36(f)(3)). The proposal also permitted the use of self-luminous and electroluminescent exit signs (proposed paragraph 1910.37(c)(6)). (*E.g.*, Exs. 5–18, 40, 45, 54.) The proposal enabled employers to avail themselves of these

newer options or continue with current compliance methods. In this way OSHA increased compliance flexibility without reducing safety.

OSHA did not substitute performance-oriented language for current language where doing so would either eliminate a requirement that protects employee safety and health, or expand an employer's compliance obligation. For example, the proposal continued the existing requirement that a means of egress must be at least 28 inches wide (proposed paragraph 1910.37(j)). The Agency chose not to substitute performance-oriented criteria for this provision (such as ''means of egress be of adequate width to support building occupants'') because this change would eliminate the existing minimum width specification and might not provide adequate protection to employees leaving the workplace in an emergency. For this reason, OSHA decided not to revise the minimum clearance requirement.

OSHA noted in the proposal that for some employers, reliance on performance-oriented standards might create confusion as to the specific precautions necessary in a variety of situations. In the past, OSHA has used NFPA 101 as an aid in interpreting subpart E. OSHA intends to continue to rely on NFPA 101 as guidance in implementing performance-oriented provisions of revised subpart E.

In addition to organizing the requirements of the revised subpart E in a logical and understandable manner, OSHA has organized the requirements around three aspects of exit routes: (1) Design and construction requirements; (2) maintenance, safeguards, and operational requirements; and (3) requirements for warning employees of the need to escape. Reorganizing subpart E in this manner has enabled OSHA to eliminate many duplicative provisions. For example, in existing subpart E, both paragraph 1910.36(b)(8) and paragraph 1910.37(e) contain the design requirements that where workplaces are required to have two means of egress, these means of egress must be located as far away as practical (remote) from one another.

Other significant revisions to subpart E include: Removal of obligations that are not related to employee protection but pertain to the protection of the general public, and the deletion of any recommended as opposed to required actions (*i.e.*, provisions that use ''should'' or ''may'').

II. Regulatory Format

As noted above, OSHA proposed two versions of subpart E; a traditional regulatory text version and a question and answer version. The traditional regulatory text version was preceded by a descriptive section heading that told the reader what information could be found in that section. The question and answer version was written in a form by which an employer might ask a question about the rule, and this question was then followed by an answer that told the employer about the requirement.

Other efforts to make subpart E more user-friendly included: removal of unused terms and ordinary terms from the definitions; elimination of cross-references to other standards; removal of overly technical terms in favor of more common words; use of the active voice; and, the use of positive as opposed to negative sentences.

The Agency invited public comment and requests for a hearing on the proposed revision to subpart E. An informal public hearing was requested by the National Fire Protection Association (Ex. 5–18) and Hallmark Cards (Ex. 5–51).

On March 3, 1997, OSHA published a notice in the **Federal Register** (62 FR 9402) announcing an informal public hearing and a reopening of the written comment period. Written comments on the proposed standard were to be postmarked by April 19, 1997. The hearing was held in Washington, DC on April 29–30, 1997.

In the hearing notice, OSHA invited comment on ten issues that will be discussed below in more detail. In summary, OSHA asked: (1) How OSHA should use the Life Safety Code in the final rule; (2) how or if OSHA should use model building codes; (3) whether the use of performance language creates new enforcement problems; (4) how OSHA should address the issues of exit capacity and the number of required exits; (5) whether or not the exit sign provisions were too general; (6) whether or not the revised requirements for exit illumination were too general; (7) whether or not there were still provisions or terms in the proposed revision that were too technical or difficult to understand; (8) whether OSHA achieved in the proposed revision its goal of not changing employers obligations; (9) whether any of the proposed provisions provided greater protection than in the original subpart E; and (10) whether any of the requirements presented technological feasibility problems for affected employers.

The subpart E rulemaking record contains 23 exhibits, 69 comments, 170 pages of testimony and four post-hearing comments.

III. 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 revised subpart E.

As stated previously, OSHA's goals in revising subpart E were to maintain the safety and health protection provided to employees in subpart E without increasing the regulatory burden on employers, create a regulation that is easily understood, and, to the extent possible, express employers' obligations in performance-oriented language.

The majority of commenters supported OSHA's use of plain language. Owens Manufacturing, Inc. (Ex. 5–1) stated they were ''in favor of this change as it allows the production people in our manufacturing area to understand the scope and meaning of this regulation much easier.'' United Refining Company (Ex. 5–2) remarked ''For those individuals who occasionally reference a standard the Plain English version will be beneficial.'' The commenter from Medical Environment, Inc. (Ex. 5–7) stated ''I commend your actions in correcting the highly technical language into wording that is understandable to the average person. I have read your proposed changes, and find them to be significantly improved.'' The Institute for Interconnecting and Packaging Electronic Circuits (IPC) (Ex. 5–25) observed that:

> * * * Because IPC members are predominantly small companies, they have limited resources to track down, read, understand, and comply with the substantial volume of federal, state, and local regulations. In many firms, the company president, plant manager, or production supervisor is responsible for facility-wide health and safety compliance in addition to running production and perhaps running the company.
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> Given IPC members' commitment to advancing employee health and safety, IPC applauds OSHA's proposed Means of Egress rule. The proposed changes are designed to make the standard more understandable and, therefore promote industry compliance. ''Translating'' OSHA's current regulations into ''plain English'' is an outstanding activity that should be aggressively applied to ALL federal regulations—not just OSHA regulations, and IPC supports OSHA's actions to effect such change.

The International Brotherhood of Teamsters (Ex. 5–31) commended OSHA for undertaking the revision effort and stated that the International:

> [I]s pleased to see the Occupational Safety and Health Administration attempt to develop plain English standards. This International Union feels that this approach to safety and health standards will enable our members and other workers across the

country to better understand their OSHA rights and their employer's obligations.

The National Institute for Occupational Safety and Health (NIOSH, Ex. 5–42) also supported the effort observing that ''By revising the Means of Egress rule in easy to understand terms as part of a shorter, performance-oriented standard, the standard will be easier to use and provide more compliance options for employers.''

Schirmer Engineering Corporation (Ex. 5–57) stated:

> Review of the revisions introduced in the proposed rule indicates an effort to provide language which is more condensed and clear, with the removal of verbose wording. The sections that were deleted from the original version did not greatly affect the overall life safety concept as it pertains to egress from a building. In addition, the reorganization helps to clarify some of the requirements of the code which, in turn, facilitates overall compliance.

(*See also* Exs. 5–5, 12, 13, 15–17, 20–24, 26, 27, 29, 30, 34, 35, 37, 39, 43, 45, 47, 51, 52, 54–56, 58, 59, 60, 61, 70.)

On the other hand, some commenters did object to the revision of subpart E on the grounds either that it was not productive for OSHA to re-write these standards, or that the revised language actually changed the requirements. For example, James R. Hutton, a fire protection engineer (Ex. 5–9), believed the ''proposed revisions will complicate and cause more difficulties, not less, for smaller businesses who do not have the resources to undergo the time or expense required to develop ''custom solutions'' to ''plain English'' requirements.'' OSHA disagrees. The revised subpart E only makes compliance requirements clearer and it refers employers and employees to NFPA 101 for added details, when necessary.

It was also suggested by some commenters that instead of finalizing the proposed revision, OSHA should adopt NFPA 101, the Life Safety Code, or that OSHA should rely on building codes, instead of revising subpart E. (*See e.g.*, Exs. 5–10, 15, 18, 19, 26, 41, 46, 48, 61, 68; Tr. 14, 23; Ex. 10.)

The National Fire Protection Association (NFPA, Ex. 5–18) remarked:

> NFPA agrees with several of the goals as contained in the OSHA/NPRM but find serious flaws in the methodology being proposed to attain these goals. Specifically, NFPA applauds OSHA's goal ''to maintain the safety and health protection provided to employees by subpart E * * *'' and ''to create a regulation that is easily understood.'' We also applaud OSHA's desire ''to allow employers the flexibility of relying on more contemporary compliance approaches.''
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> However, we do not believe these goals can be achieved by either ''plain English'' alternative taken together or separately as being proposed by OSHA in the NPRM. Specifically, NFPA recommends OSHA abandon its attempt to rewrite a 25-year old standard as represented in the first alternative of the NPRM * * *.
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> Further, NFPA asserted that OSHA's rewrite would make enforcement more difficult especially when performance-oriented language is substituted for specifications; that the proposal drops all references to the NFPA Life Safety Code even though the proposal indicated OSHA would continue to rely on that Code; and, that the proposed rewrite did not specifically allow for contemporary compliance options as contemplated by OSHA and as set forth in the current edition of NFPA 101 (1994). NFPA recommended that:
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> [T]he first alternative be abandoned [traditional regulatory text] and that OSHA instead adopt by reference the 1994 edition of NFPA 101 * * * Further, NFPA believes the adoption of the 1994 edition of NFPA 101, together with a supplemental Q&A (question and answer) format as proposed in the second NPRM alternative, would be the best approach to achieve the desired goals as stated by OSHA in the NPRM.

At the time of the proposal, the latest version of NFPA 101 was the 1994 Edition. NFPA subsequently issued a 1997 edition and then a 2000 edition. OSHA has reviewed the NFPA 101–2000 edition carefully and found that compliance with its provisions would protect employees as well as the parallel provisions of subpart E. Adopting NFPA 101 as an OSHA standard would require OSHA to conduct a full rulemaking under section 6(b) of the OSH Act, scrutinizing each provision, accounting for each cost impact on employers, justifying why the new standard is reasonably necessary and appropriate, and showing that the adoption would reduce significant risk to employees. This would be inconsistent with the goal of this project which was to clarify employer obligations without increasing compliance burdens. However, OSHA has been convinced by commenters that consideration should be given to compliance with NFPA 101.

The 2000 Life Safety Code goes far beyond the requirements of OSHA's standard, both in details of compliance and flexibility for unique workplace conditions. If an employer complies with NFPA 101–2000, OSHA will deem such compliance to be compliance with the OSHA standard. OSHA believes that allowing employers to comply with NFPA 101 as an alternative to the revised Exit Routes standard will provide greater flexibility to employers who want to go beyond OSHA's basic provisions. Additionally, the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 3701 (1996)) directs Federal agencies to use voluntary consensus standards to the extent practicable. Under section 6(b)(8) of the OSH Act, the Agency must consider using national consensus standards as the basis for its safety and health standards wherever possible. By allowing employers to comply with the exit route provisions of NFPA 101–2000, OSHA has struck a balance that is consistent with its goals for this rulemaking as well as the spirit of the National Technology Transfer and Advancement Act.

OSHA has evaluated NFPA 101–2000 and has concluded that an employer who complies with the provisions of that code for means of egress will provide employees with safety that is comparable with compliance with OSHA's revised Exit Routes standard. OSHA is adding a new § 1910.35 to the final rule to recognize NFPA 101–2000 in this regard.

The South Carolina Department of Labor, Licensing & Regulation (Ex. 5–49, p.2) remarked that ''It is a shame to spend this amount of time to adjust the wording when the whole standard is in need of repair.''

Others criticized the proposal, feeling that it did not achieve its stated goal. For example, the American Health Care Association (Ex. 53) indicated that by ''Developing new terminology for traditional means of egress requirements, we firmly believe, is a step backward and counter to OSHA's stated goal of creating a regulation that is easily understood.'' The United Steelworkers of America (Ex. 5–69) objected ''to the very general performance language of this proposal. The language gives little, if any direction to employers and employees on how to comply with this proposed standard * * * Further, the proposed standard is somewhat confusing.'' (*See also* Exs. 5–33, 38, 40, 62, 66–68, 71).

OSHA does not agree with commenters who have concluded that OSHA has failed to meet its goals of (1) maintaining the safety and health protection provided to employees by subpart E without increasing the regulatory burden; (2) creating a regulation that is easily understood; and, (3) stating employers' obligations in performance-oriented language to the extent possible. Many commenters suggested improvements and language changes. Unfortunately in some cases the recommendations would have made substantive changes in the requirements of subpart E (*e.g.*, Exs. 5–4, 11, 18, 21,

24, 40, 47, 49, 63). OSHA has considered and incorporated many comments that improve the clarity of the text, without making substantive changes in the obligations and protections offered by existing subpart E. The final rule as revised and reorganized, incorporates many commenter suggestions. OSHA strongly believes the final rule fulfills its goal of providing employers and employees with much clearer standards in subpart E. In addition, as already discussed, employers may take advantage of a more recent version of NFPA 101 under § 1910.35 which recognizes compliance with the 2000 Edition of the Life Safety Code.

In response to comments, OSHA has changed the name of subpart E to better reflect the contents of the final rule. OSHA proposed to call the subpart ''Exit Routes,'' but several commenters (Exs. 5–24, 40, 45) noted that the subpart contains provisions not only for exit routes but also for emergency action plans, and fire prevention plans. OSHA agrees with these commenters and has therefore changed the name of subpart E to reflect its coverage of Exit Routes, Emergency Action Plans, and Fire Prevention Plans.

In the preamble to the proposal OSHA stated that it included a table of contents to make it easier to access the provisions. The table was inadvertently left out of the proposed regulatory language in the **Federal Register** notice. OSHA believes that a table of contents will be helpful to employers and employees in locating provisions in the subpart and therefore, is including a table of contents in § 1910.33.

As indicated in the Regulatory Format section above, the proposed rule offered two versions of a revised subpart E. The first version was written in the traditional format of OSHA standards. The second version was written in a question and answer format.

Commenters who addressed this issue indicated a preference for the traditional regulatory format as opposed to the question and answer format. For example, Medical Environment, Inc. (Ex. 5–7) supported the traditional ''regulatory format, because this is what everyone is used to seeing. The question/answer format seemed too ''loose'' to find an answer to a specific question.'' Similarly, the International Dairy Foods Association (IDFA) (Ex. 5–22) believed ''that the ''traditional'' plain English version is the preferred version. In contrast, we find that the question and answer format quickly becomes condescending, and to a degree, annoying.''

The American Petroleum Institute (API) (Ex. 5–29, p.2) supported the traditional format because of perceived pitfalls in the question and answer format.

> While the Q/A version has some appeal in terms of better first-impression, API believes that the traditional format makes it easier to understand the rule in total, and to locate specific requirements.
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> Another API concern is that of confusion. The Q/A format could be associated with OSHA's Field Directives, in which questions and answers are sometimes used to explain requirements. The questions and answers in Field Directives, however, do not hold the same weight as regulatory language. As a result, confusion could be caused by the use of questions and answers in both the OSHA standards and in Field Directives.
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> API is also concerned that the potential for inadvertent change of requirements is greater during a Q/A conversion. This is because more structural revision and reorganization is required to accommodate the Q/A approach, as demonstrated by comparison of the two approaches in this pilot conversion. It follows that the Q/A approach would face even greater conversion problems for other, more complicated safety and health regulations.

In addition, the International Brotherhood of Teamsters recommended that OSHA not adopt the question and answer format because the union believed that the format is neither well organized nor easy to read. (*See also* Exs. 5–2, 3, 12, 13, 14, 15, 16, 17, 20, 21, 24, 25, 26, 27, 30, 31, 34, 36, 37, 40, 41, 43, 45, 46, 47, 49.)

Several commenters stated that either version would be acceptable (Exs. 5–12, 17, 25). Other commenters supported the question and answer version (Exs. 5–16, 23, 32, 42, 48). Some suggested that the question and answer version be included in an appendix or some other OSHA publication (Exs. 5–20, 24, 26, 45, 54, 59). The Agency, after considering the comments, has decided to use the traditional format in the final rule. The Agency believes that including the question and answer version in an appendix might result in confusion. OSHA does use the question and answer format for other, non-regulatory documents, and will consider that format for future guidance in this area.

Additional comments ranged from remarks that OSHA should do nothing, revise subpart E and reference NFPA 101, or adopt NFPA 101 entirely (Exs. 5–10, 18, 28, 38, 41, 47, 53, 62, 66, 68, 71). The subject of how to address NFPA 101 in the plain language revision was also issue 1 in the hearing notice (at 62 FR 9403). Liberty Mutual Insurance Group (Ex. 5–19) recommended that OSHA ''include a provision that compliance with a national consensus standard such as NFPA 101, Life Safety Code * * *would be recognized as compliance with the OSHA standard.'' The Building Owners and Managers Association (BOMA) stated that it believed that ''it is essential for OSHA to add appendix language stating that compliance with the Life Safety Codes NFPA 101, constitutes compliance with subpart E. Current OSHA practices essentially recognize this now (Tr. 23).''

OSHA's intention in the proposed rule was to simplify subpart E, not to replace it. First, OSHA could not simply adopt ''NFPA 101'' as an OSHA standard, because it can only consider versions of that standard that are currently in existence. To do otherwise (*i.e.*, attempting to approve a future edition) would result in an illegal delegation of agency authority. Second, adoption of NFPA 101–2000 as the OSHA standard goes beyond the limited purpose of this rulemaking. Such action would involve substantive rulemaking, including detailed analysis of the differences between OSHA current rules and NFPA 101–2000, including costs to employers and benefits to employees.

As discussed earlier, OSHA has reviewed NFPA 101–2000 and has determined that compliance with that standard will provide comparable protection to subpart E. Although the Agency is not adopting NFPA 101–2000, an employer who demonstrates compliance with that standard will be deemed to be in compliance with §§ 1910.34, 1910.36, and 1910.37 of subpart E. Many commenters (*e.g.*, Exs. 5–10, 18, 19, 41, 46, 48, 61) supported language that would allow employers to comply with the NFPA 101 standard as an alternative to the OSHA standard for Exit Routes. OSHA has incorporated such language into § 1910.35 of the final rule.

Some commenters also asserted that OSHA should base its standard on the model building codes or allow compliance with the various national building codes (Exs. 5–19, 27, 47, 67; Tr. 23, 26, 32, 43). At the time of the rulemaking, there were three different national building codes in the United States: The Building Officials and Code Administrators' (BOCA) National Building Code, the International Conference of Building Officials' (ICBO) Uniform Building Code, and the Southern Building Code Congress International's (SBCCI) Standard Building Code.

OSHA emphasizes again that it did not propose to substantively revise subpart E, nor did it propose to allow the use of building codes to comply with subpart E. OSHA is not familiar enough with the detailed requirements

of the various building codes to determine unequivocally whether compliance with any or all of them could be considered to fulfill employer obligations imposed by subpart E. Moreover the contents of these building codes were not analyzed, evaluated or considered as part of this rulemaking. The BOCA, ICBO, and SBCCI Codes vary considerably in their requirements and coverage relating to areas covered by subpart E. This rulemaking was not designed to address these differences, nor was it intended to expand the coverage of subpart E. Accordingly, OSHA declines to extend recognition to building codes as a means of determining compliance with subpart E. This decision only involves the narrow issue of whether compliance with a given building code demonstrates compliance with subpart E. OSHA recognizes and acknowledges the importance and the value of building codes in assuring that buildings are constructed safely.

Final Rule

Section 1910.34, Coverage and Definitions

In the proposal, § 1910.35 was entitled ''Coverage.'' It noted that all general industry employers were covered by subpart E, and that ''exits'' and ''exit routes'' were covered. The section went on to define these unique terms in the proposal. OSHA has retitled this section as ''coverage and definitions,'' and has moved it to § 1910.34 of the final rule. The ''coverage'' paragraph, § 1910.34(a), specifies that the standard covers all workplaces in general industry except mobile workplaces. Paragraph (b) sets forth the ''coverage'' of the subpart: The minimum requirements for exit routes, emergency action plans, and fire prevention plans. Paragraph (c) of § 1910.34 includes the definitions pertinent to the subpart.

In the proposal, OSHA included definitions for ''Exit'' and ''Exit Route,'' eliminating all other definitions, believing they were unnecessary. However, commenters thought that OSHA went too far by not defining other terms or inappropriately failed to define other important terms (*e.g.*, Exs. 5–18, 21, 24, 28, 41, 45, 47, 49.) After due consideration, OSHA agrees with these commenters and in the final rule (now paragraph 1910.34(c)) has added and clarified definitions for words used in the proposal that commenters found unclear. OSHA has clarified the terms ''exit'' and ''exit route'' and has added definitions for electroluminescent, exit access, exit discharge, high hazard area, occupant load, refuge area, and self-luminous.

Section 1910.35, Compliance With NFPA 101–2000, Life Safety Code

As discussed previously in this preamble, this section provides that an employer who complies with corresponding provisions of NFPA 101–2000 is deemed to be in compliance with subpart E, sections 1910.34–1910.37.

Section 1910.36, Design and Construction Requirements for Exit Routes

Section 1910.36 contains requirements for the design and construction of exit routes. It includes a requirement that exit routes be permanent, addresses fire resistance-ratings of construction materials used in exit stairways (exits), describes openings into exits, defines the minimum number of exit routes in workplaces, addresses exit discharges, and discusses locked exit route doors, and exit route doors. It also addresses the capacity, height and width of exit routes, and finally, it sets forth requirements for exit routes that are outside a building.

Many of these requirements are identical or nearly the same as those proposed, but have been rearranged in a more logical order or reworded so that the requirements are clearer and easier to understand and follow.

Paragraph (a)(1) of 1910.36 (proposed paragraph 1910.36(a)), requires that exit routes be a permanent part of the workplace. This provision remains as proposed. OSHA believes that exit routes must be a permanent part of a structure and that employees must know the route to safety. Otherwise, during an emergency, employees may become confused and take the wrong path to safety.

Paragraph (a)(2) of 1910.36 (proposed paragraph 1901.36(d)), specifies the fire resistance-rating of construction materials used to separate exits from other parts of the workplace (*e.g.*, stairways). For example, where an exit stairway connects three or fewer stories, it must be constructed of materials having a 1-hour fire resistance-rating. If the exit stairway connects four or more stories, it must be constructed of materials having a 2-hour fire resistance-rating.

One commenter, IMC Global, Inc. (Ex. 5–54), suggested that OSHA include information in the standard or the appendix that would specify what construction materials or combination of materials would meet the fire resistance-ratings required by the standard. They explained that the information would be used by in-house personnel who make alterations or repairs to the building. OSHA believes that the reference to NFPA 101 in § 1910.35 will assist employers and employees in answering these questions.

IMC Global, Inc. also recommended that OSHA define the term ''story,'' suggesting that OSHA use the definition used in the NFPA 101, Life Safety Code, but did not provide any rationale or support to demonstrate that the failure to include a definition would have a negative impact on worker safety or health. OSHA notes that the NPFA 101–2000, defines the term ''story'' to mean ''That portion of a building between the upper surface of a floor and the upper surface of the floor or roof next above.'' OSHA believes this definition to be generally understood and has determined not to include a definition of ''story'' in the regulatory text of the final rule.

Another commenter, the American Trucking Association (Ex. 5–52), suggested that OSHA reword proposed paragraph 1910.36(d), to make it similar to the wording in the existing subpart E concerning fire resistant-materials (paragraphs 1910.37(b)(1) and (b)(2)). That wording requires that for exits protected by separation from other parts of the building, the separation shall meet certain construction requirements. The commenter noted that the proposed wording appears to require all exits to be separated by fire resistant-materials. OSHA agrees that the provision was not clearly worded and has revised the language of the final rule to specify the required fire resistance-rating of materials used to construct separations, *i.e.*, enclosed stairways. The revised language reflects the concerns raised by the commenter.

Paragraph (a)(3) of 1910.36 (proposed paragraph 1910.36(c)), restricts the number of openings into exits to those openings necessary to allow access to the exit from occupied areas of the workplace, or from the exit to the exit discharge. It also specifies that openings must be protected by a self-closing fire door that remains closed unless the fire door automatically closes in an emergency when the fire alarm or employee alarm system is sounded.

The final rule differs from the proposal in that it permits fire doors to remain open as long as they close automatically during an emergency. This change was made in response to comments from H. M. Bucci and the NFPA (Exs. 5–10, 18). Both pointed out that NFPA 101, Life Safety Code, permits the exception. OSHA notes that

the additional flexibility provided from this provision is in keeping with the Agency's intent in rewriting subpart E, *i.e.*, to add flexibility if it does not detract from employee safety or health and does not impose additional costs or compliance obligations.

A commenter, Dennis Kirson (Ex. 5–4), noted that the proposed provision did not provide guidance on the fire rating for fire doors opening into an exit. Such ratings are based on the purpose of the door. To be listed or approved as a fire door, the door would have to meet the fire rating set by a nationally recognized testing laboratory (see next paragraph).

Paragraph 1910.36(a)(3) (proposed paragraph 1910.36(c)), requires that each fire door, including its frame and hardware, be listed or approved by a nationally recognized testing laboratory. The International Dairy Foods Association (Ex. 5–22), suggested that OSHA include the definition of the terms ''listed,'' ''approved,'' and ''nationally recognized testing laboratory'' in the regulatory language of the final rule instead of giving a cross-reference to another section of the standards. Section 1910.7 contains what employers need to know about ''listed,'' ''approved,'' and ''nationally recognized testing laboratory.'' OSHA does not agree that adding additional definitions, which are duplicated elsewhere in part 1910, to the standard would be particularly helpful. Therefore, OSHA has retained in the final rule the cross-reference to the standard containing the terms.

Two commenters (Exs. 5–10, 11) commented on OSHA's failure to address other openings in exits made for electrical and mechanical systems. One commenter (Ex. 5–11) suggested that OSHA delete the provision because it precludes the use of protected openings when such openings are necessary for certain mechanical or electrical penetrations. The other commenter (Ex. 5–10) asked OSHA to address such openings by requiring that they be sealed with an approved fire barrier sealant or fire stop. The existing rule does not contain requirements addressing such openings and, as discussed above, the purpose of the revision is not to add new requirements that would impose new obligations on employers. If an employer has these openings, OSHA notes that such openings into exits are addressed in NFPA 101. The employer may use NFPA 101–2000 for guidance even though the final rule does not address this issue.

Paragraph 1910.36(b) of the final rule, the proposal, and issue 4 in the hearing notice (at 62 FR 9403), all address the general requirement that all workplaces have at least two exit routes, as far away as practical from each other, to ensure that all employees and other building occupants can promptly and safely evacuate the workplace during an emergency. Where two are insufficient, the employer must have additional exit routes (see NFPA 101–2000 for guidance). The number of exit routes can be reduced to one where the number of employees, the size of the building, its occupancy, or the arrangement of the workplace is such that all employees would be able to evacuate safely during an emergency.

Although OSHA does not have direct authority to regulate non-employee occupants of a building, in assuring the safe evacuation of employees, the impact of other occupants in a building must be taken into consideration to assure a safe evacuation of all employees. Thus, OSHA refers to ''other building occupants'' generally as it does in the existing subpart E.

''As far away as practical'' (''remote'' in the proposal) means that exit routes must be located far enough apart so that if one exit route is blocked by fire or smoke, employees can evacuate using the second exit route. The paragraph also provides a note that employers must consider the number of employees, the size of the building, its occupancy, and the arrangement of the workplace to determine the correct number of exit routes, recommending that employers consult the NFPA 101–2000 for the number of exit routes appropriate to their particular workplace.

The provision in the final rule differs from the proposed rule in that it has been reworded to state specifically that an employer must have at least two exits (final paragraph 1910.36(b)(1)), or a sufficient number of exit routes (final paragraph 1910.36(b)(2)) to ensure that all occupants can safely and promptly leave the workplace during an emergency. An exception to the two-exit route rule is provided in those circumstances where an employer can demonstrate that the number of employees, size of the building or arrangement of the workplace is such that one exit route alone is sufficient (final paragraph 1910.36(b)(3)).

There were a number of comments on the required number of exit routes provision in the proposal (*e.g.*, Exs. 5–4, 5, 8, 11, 18, 24, 26, 40, 41, 43, 45, 47, 49, 54, 63) with many commenters suggesting that the provision be rewritten to state clearly that two exit routes are required. Commenters also suggested that OSHA more fully explain how to determine when one exit route would be permitted or suggested that this exception be eliminated (Exs. 5–4, 5, 8, 26, 40, 41, 43, 45, 49, 54, 63).

OSHA agrees with some of the commenters in part, and has made it clear that employers must have at least two exit routes, except where one exit route would be sufficient to allow all employees to evacuate the workplace safely and promptly. OSHA has added a note to the provision stating that employers may consult NFPA 101–2000 for guidance on how to determine the appropriate number of exit routes.

Other commenters suggested that the expression in proposed paragraph 1910.36(b)(2), ''other means of escape * * * should be available,'' invited confusion, made the provision vague, and was unenforceable, and that OSHA should remove it in the final rule (Exs. 5–4, 11, 24, 40). OSHA agrees with the commenters and has eliminated the advisory wording in the final provision.

Paragraph 1910.36(c)(1) of the final rule (proposed paragraph 1910.36(f)) requires that each exit discharge lead directly outside or to a street, walkway, refuge area, public way, or open space with access to the outside. Paragraph 1910.36(c)(2) requires that the street, walkway, refuge area, public way, or open space to which an exit discharge leads must be large enough to accommodate the building occupants likely to use the exit.

Lastly, paragraph 1910.36(c)(3) (proposed paragraph 1910.36(f)(4)) requires that exit stairs that continue beyond the level on which the exit discharge is located must be interrupted at that level by doors, partitions, or other effective means to make clear the direction to go to the exit discharge. This paragraph differs from the proposed provision. It has been reworded to make it clear that where exit stairs continue beyond the level of the exit discharge, there must be some effective way to direct occupants to the exit discharge. This rewording responds to comments questioning the clarity of the provision as proposed (Exs. 5–22, 41).

A number of commenters indicated their support for allowing exit discharges to lead to a refuge area as proposed in paragraph 1910.36(f)(3) (Exs. 5–24, 29, 40, 45); they also suggested that the paragraph heading and the definition of exit route needed to be reworded to reflect the acceptability of refuge areas. The American Petroleum Institute remarked:

> Section 1910.35(b)(2) should be revised to clarify that an exit route does not necessarily lead to the outside but could lead to a refuge area * * *.

As currently written, section 1910.35(b)(2) incorrectly defines an 'exit route' as a means of travel to safety 'outside' and further states that one part of an 'exit route' is the way from the exit to the 'outside.' is incorrectly misleads users into thinking that the only endpoint for an exit route is outside.

Similarly, the heading of section 1910.36(f) incorrectly states that an exit must lead to the outside. This heading should be amended to include the endpoint of a refuge area. Organization Resources Counselors, Inc. (5–45, p. 3) stated that it ''agrees that the concept of refuge areas is one that should be adopted by OSHA.''

In response to the comments, OSHA has revised the definition of exit route (paragraph 1910.34(c) of the final rule) to reflect the acceptability of refuge areas. Also, the heading to paragraph 1910.36(f) of the proposal, ''An Exit Must Lead Outside,'' has been changed to ''Exit Discharge'' in final rule paragraph 1910.36(c).

Paragraphs 1910.36(d)(1), (2), and (3) of the final rule (proposed as paragraph 1910.36(g)), address locking exit route doors. Paragraph 1910.36(d)(1) specifies that employees must be able to open an exit route door from the inside at all times without keys, tools, or special knowledge. Devices that only lock from the outside at the exit discharge door, such as panic bars, are permitted. Paragraph 1910.36(d)(2) specifies that exit route doors must be free of any device or alarm that could restrict emergency use of the exit route if the device or alarm fails. Finally, paragraph 1910.36(d)(3) of the final rule states that in mental, penal or correctional facilities, an exit route door may be locked from the inside if supervisory personnel are continuously on duty and the employer has a plan to remove occupants from the facility during an emergency.

The final rule requirements on locking exit doors are essentially those in the proposal, except that the provisions are now located in paragraph 1910.36(d) in the final rule (instead of paragraph 1910.36(g) in the proposal). There were three comments on the proposal addressing locking exit doors. Commenter Dennis Kirson (Ex. 5–4) suggested that OSHA delete the sentence ''A device that locks from the outside such as a panic bar is permitted because,'' he said, ''it deals with ingress (to be locked out) rather than egress (to be locked in), it serves no purpose.'' Mr. Kirson further noted that this sentence did not modify the first sentence. OSHA has not made the suggested change because to avoid any misunderstandings it believes that the rule should include specific language to indicate what is acceptable. The Agency believes it is necessary in this context to state what is permitted along with what is not permitted, because of the widespread use of panic bars. The commenter also suggested OSHA delete the reference to mental, penal, or correctional institutions because they did not appear to fit the definition of general industry worksites. OSHA has not made the suggested change because such institutions are indeed ''general industry'' establishments and employees in these establishments are afforded the same protections as employees in other general industry workplaces. In recognition of the unique problems these institutions have with regard to the need to ensure occupants remain inside the facilities, OSHA is providing specific language to indicate clearly the performance to be achieved at these worksites.

Another commenter, the Department of Energy (Ex. 5–11), suggested that this last provision should also reflect national security at Federal locations and that OSHA should add ''or other facility requiring security from unauthorized access.'' While OSHA does not disagree with the commenter, it has not made the suggested change because the inclusion of this additional language is beyond the stated scope of this proceeding. However the Agency will consider adding the suggested language in the future when substantive revisions are made to this subpart.

Paragraph 1910.36(e) (proposed paragraph 1910.36(h)), sets out requirements for doors leading to an exit route. The paragraph requires that a side-hinged door must be used to connect any room to an exit route and that the door that connects any room to an exit route must swing out in the direction of exit travel if the room is designed to be occupied by more than 50 people or if the room is used as a high hazard area (*i.e.*, contains contents that are likely to burn with extreme rapidity or explode).

The final rule provision in paragraph 1910.36(e) is essentially the same as the proposed provision (paragraph 1910.36(h) in the proposal) with minor reorganizing to emphasize the requirements of the provisions. OSHA has divided the paragraph into two concise paragraphs in the final rule, paragraphs 1910.36(e)(1) and (2). Two commenters recommended changing the language of the proposed provision that required exit doors ''swing out.'' Mr. Dennis Kirson (Ex. 5–4) suggested adding an exception to the provision that doors swing out, to allow for containment of hazardous materials, because of the greater hazard (to the public) of loss of containment of such materials. Such a change is beyond the scope of this project but the Agency may consider such a change as part of a future rulemaking. Tenneco (Ex. 5–41) suggested the phrase be changed to ''swing with the exit travel'' for further clarity. OSHA has revised the provision to incorporate the recommended change.

Eastman Kodak Company (Ex. 5–21) asked if security pass-through gates/turnstiles that free wheel when an alarm goes off would be considered an exit. Another commenter (Ex. 5–18) suggested that sliding doors be acceptable to OSHA if their operation is maintained to NFPA 101 specifications. The commenter noted that the current code (at that time NFPA 101–1994) allows vertical and sliding doors. OSHA has not modified the provision to address sliding doors or turnstiles because it would be a substantive change to the Exit Routes standard. However, these configurations are addressed in NFPA 101–2000. Employers who comply with that standard for the requirements concerning gates, turnstiles, and vertical or sliding doors, will be deemed to comply with this provision of subpart E.

Final rule paragraph 1910.36(f) (proposed paragraph 1910.36(i)) and issue 4 in the hearing notice (at 62 FR 9403)), address the required capacity for exit routes. The paragraph requires that exit routes be able to support the maximum permitted occupant load for each floor served by the exit routes, and that the capacity of exit routes may not decrease in the direction of exit route travel to the exit discharge.

OSHA has divided this proposed provision into two provisions in the final rule. The Agency has also made an editorial change in response to a concern raised by the Tennessee Valley Authority (TVA) (Ex. 5–47). TVA pointed out that in the existing standard, each exit route does not have to support the maximum permitted occupant load; rather, the existing standard requires that the combined capacity of the exits must support the maximum permitted occupant load for that floor. OSHA agrees with the commenter and has revised final paragraph 1910.36(f) accordingly.

Several commenters (Exs. 5–14, 36) expressed concerns about how to determine adequate capacity or the expected occupancy load for each floor. Argonne National Laboratory (Ex. 5–14) suggested that OSHA adopt the latest NFPA 101 to determine ''whether or not adequate exiting capacity is provided from an area.'' Another commenter, Mr. Donald R. Delano (Ex. 5–36), suggested that OSHA define ''maximum permitted occupant load'' and ''expected occupant

load.'' IMC Global, Inc. (Ex. 5–54) asked that OSHA define ''occupant load.'' In response to these comments OSHA has added a definition for the term ''occupant load'' and explained generally how to calculate the occupant load in the definition. The calculation can be done in accordance with NFPA 101–2000, since there are a wide variety of general industry occupancies which may be subject to different considerations.

Final rule paragraph 1910.36(g) (proposed paragraph 1910.36(j)) addresses the height and width requirements for exit routes and specifies that the ceiling of an exit route must be at least seven feet six inches (2.3 m) high. The paragraph specifies that any projection from the ceiling cannot decrease the space between the projection and the floor to less than six feet eight inches (2.0 m). Paragraph 1910.36(g) also specifies that the width of an exit access must be at least 28 inches (71.1 cm) wide at all points and that where a single way of exit access leads to an exit, its width must be at least equal to the width of the exit to which it leads.

Final paragraph 1910.36(g) also specifies that the width of an exit route must be sufficient to accommodate the maximum permitted occupant load of each floor served by the exit route. Lastly, the paragraph specifies that any objects that project into the exit route must not reduce the width of the exit route to less than the minimum width requirements for exit routes.

Paragraphs 1910.36(h)(1) through (4) (proposed paragraphs 1910.36(k)(1)(i) through (iv)), set out special requirements for exit routes that are outside of a building. The paragraphs require that each outdoor exit route must meet the minimum height and width requirements for indoor exit routes and must also meet certain other requirements. Specifically, (1) an outdoor exit route must have guardrails to protect unenclosed sides if a fall hazard exists; (2) an outdoor exit route must be covered if snow or ice is likely to accumulate along the route, unless the employer can demonstrate that any snow or ice accumulation will be removed before it presents a slipping hazard; (3) an outdoor exit route must be reasonably straight and have smooth, solid, substantially level walkways; and (4) an outdoor exit route must not have a dead-end that is longer than 20 feet (6.2 m).

Several commenters addressed this paragraph. Two commenters (Exs. 5–29, 40) suggested adding the wording ''if a fall hazard exists'' to the requirement for guardrails. OSHA agrees that guardrails only need to protect unenclosed sides if a fall hazard exists. One commenter (Ex. 5–10) suggested that the Agency use a 50 foot dead-end rather than a 20 foot dead-end. This would be a significant change and appears to be a decrease in safety to employees during emergencies and therefore OSHA has not changed the length of a dead-end. Other changes to these provisions are editorial only.

Section 1910.37, Maintenance, Safeguards, and Operational Features for Exit Routes

OSHA proposed in § 1910.37 to include provisions covering the operation and maintenance of exit routes. OSHA has expanded the name from the proposal's ''Operation and Maintenance Requirements for Exit Routes'' to better reflect its contents. In the final rule, § 1910.37 is entitled ''Maintenance, safeguards, and operational features for exit routes.'' Provisions of this section include the safe use of exit routes during an emergency, lighting and marking exit routes, fire retardant paints, exit routes during construction, repairs, or alterations, and employee alarm systems.

OSHA has made several changes to paragraph 1910.37(a) of the proposed rule, by combining related provisions. In the final rule, paragraph 1910.37(a) remains titled ''The Danger To Employees Must Be Minimized'' and addresses furnishings and decorations (proposed paragraph 1910.37(a)(2)), travel toward a high hazard area (proposed paragraph 1910.37(a)(3)), unobstructed access to exit routes (proposed paragraph 1910.36(e)), and properly operating safeguards designed to protect employees (proposed paragraphs 1910.37(a) and 1910.37(e)). Minor editorial changes have been made to these paragraphs, with the exception that final paragraph 1910.37(a)(2) has been modified because commenters found the requirement confusing (Exs. 5–5, 18, 26, 63). This confusion resulted from OSHA's use of the terminology ''An exit route must not require employees to travel toward materials that burn very quickly, emit poisonous fumes, or are explosive.'' OSHA has modified the language to more closely reflect the current subpart E language: ''Exit routes must be arranged so that employees will not have to travel toward a high hazard area, unless the path of travel is effectively shielded from the high hazard area by suitable partitions or other physical barriers.'' In addition, OSHA added a definition for ''high hazard area'' to the final rule's definition section, 1910.34. The new definition is from NFPA–101 with slight editorial changes.

In the proposal, paragraph 1910.37(b) required that exit route lighting be adequate, and paragraph 1910.37(c) required that exits be marked appropriately. OSHA has combined these paragraphs into paragraph 1910.37(b) in the final rule, in part because the provisions are closely related and the Agency believes that the standard will be easier to understand and use if all the requirements covering lighting and marking of exit routes are arranged together. The content of these paragraphs remains virtually the same in the final rule except for editorial clarifications (*e.g.*, ''lighted'' instead of ''illuminated'') and the addition of specifications (issue 5 in the hearing notice at 62 FR 9403) for exit signs in response to comments (*e.g.*, Exs. 5–4, 14, 18, 21, 43, 54). OSHA believes that these changes will enable employers and employees to have better and clearer information concerning the requirements for exit routes.

Issue 6 in the hearing notice (62 FR at 9403) asked whether the proposed requirements for exit lighting were too general. Some commenters objected to OSHA's use of the word ''adequate'' to describe the required amount of lighting in exit routes (Exs. 5–4, 18, 19, 22, 54, 57, 63, 64). (Issue 6 in the hearing notice at 62 FR 9403.) OSHA's current subpart E uses the term ''adequate'' (existing paragraph 1910.36(b)(6)); OSHA did not revise the word ''adequate'' in the proposal because specifying a level of lighting could be viewed as a substantive change. However, OSHA has clarified in the final rule (paragraph 1910.37(b)(1)), to make it clear and performance-oriented. The revised provision requires that employees with normal vision be able to see their way along an exit route. Therefore, OSHA has retained the word ''adequate'' but clarified its meaning in the final rule. Employers and employees can refer to NFPA 101–2000 for more detailed guidance.

Final paragraph 1910.37(b)(4) (proposed paragraphs 1910.37(c)(3) and (c)(4)), addresses the marking of the direction of travel to an exit. Signs would be redundant where the direction of travel is apparent. Therefore, OSHA has added the existing subpart E language to the final rule ''where the direction of travel to the nearest exit is not immediately apparent'' because such signs are needed only in that situation (Exs. 5–4, 14, 21, 64).

Final paragraph 1910.37(b)(5) (proposed paragraph 1910.37(c)(5)), requires that doors that could be mistaken for exit doors must be marked

to indicate the actual use of the door. In the proposal, OSHA required the use of the term ''Not an Exit'' on such doors. Doing so eliminated the provision's performance nature. In the final rule OSHA has added the language currently found in subpart E (paragraph 1910.37(q)(2)) (''''Not an Exit'' or similar designation''). This change allows employers to comply with the current OSHA language or the NFPA language. (*E.g.,* Exs. 5–14, 36).

In final paragraph 1910.37(b)(6) (proposed paragraph 1910.37(c)(6)), OSHA has restored the language from subpart E referring to the color of exit signs. In the proposal OSHA stated ''An exit sign must show a designated color.'' OSHA has changed the language back to the current subpart E language, ''distinctive in color'' (paragraph 1910.37(q)(4)) at the request of several commenters (Exs. 5–30, 41). OSHA does not believe that the proposed language improved the provision and has accordingly changed it back to existing subpart E as recommended by commenters. This paragraph also retains the use of ''electroluminescent'' and ''self-luminous'' signs and has defined the terms in the definition section (§ 1910.34).

Paragraph 1910.37(b)(7) of the final rule was not in the proposed rule. OSHA proposed to delete the following requirement from current subpart E (paragraph 1910.37(q)(8)) ''Every exit sign shall have the word 'Exit' in plainly legible letters not less than 6 inches high, with the principal strokes of letters not less than three-fourths-inch wide.'' The Agency believed that this requirement could be handled without specifications (issue 5 in the hearing notice at 62 FR 9403). Commenters disagreed and suggested that the current exit sign dimensions also be included in the final rule. For example, Donald R. Delano, P.E., (Ex. 5–36, p. 3) remarked:

> Deletion of reference to design parameters for exit signs leaves no adequate frame of reference. Exit signs need to be of a minimum size and design, just as a national standard exists for a highway STOP sign.

Further, Tenneco Newport News Shipbuilding (NNS, Ex. 5–41, p.2) stated:

> The exit signs as dictated by the current standard have become traditional and easily recognized by the general public. An employer's interpretation of 'clearly visible' may not create an *easily recognized* sign. Therefore, *in an emergency* the lack of the traditional and consistent format may be detrimental. NNS suggests that the text from the current standard stay in effect.

(*See also* Exs. 5–5, 14, 18, 31, 39, 63.) OSHA agrees with these commenters and has included in the final rule new paragraph 1910.37(b)(7) specifying the height and stroke width of exit signs (as it appears in the existing subpart E, paragraph 1910.37(q)(8)).

Final paragraph 1910.37(c) (proposed paragraph 1910.37(d)), addresses the upkeep of fire-retardant properties of paints or solutions used in the workplace that might impact the safety of an exit route. In the proposal, OSHA stated that an employer must maintain the fire retardant properties of paints or other coatings used in the workplace. Commenters suggested that OSHA return to the existing subpart E language because the proposed language is vague and harder to understand than the existing language (*e.g.*, Exs. 5–4, 18, 21, 43, 54). OSHA believes the language in the final rule has been made clearer by returning to the subpart E language fire-retardant paints or ''solutions,'' rather than ''coatings.'' OSHA has further clarified the requirement by specifying that paints or solutions used in an exit route must be renewed as often as necessary to maintain the necessary flame retardant properties.

Final paragraph 1910.37(d) (proposed paragraph 1910.37(f)) addresses the maintenance of exit routes during construction, repairs, or alterations. ''Alterations'' were not included in the heading of the proposed provision; however, in the final rule, the heading has been modified to include ''alterations.'' Both the proposal and final rule include the word ''alterations'' in the regulatory text.

The first paragraph concerning new construction remains the same as proposed and is now paragraph 1910.37(d)(1). Minor editorial changes have been made to final paragraph 1910.37(d)(2) that address repairs and alterations. Final paragraph 1910.37(d)(3) concerning flammable and explosive substances or equipment used during construction, repairs, or alterations, remains the same as proposed except for some minor changes. As discussed above OSHA has added the word ''alterations'' to the proposed language. In addition, the Agency returned to the use of ''substances'' instead of ''materials.'' Finally, OSHA has added ''equipment'' to the paragraph. The words ''substances'' and ''equipment'' are in the present subpart E requirement (paragraph 1910.37(c)(3)) but were inadvertently left out of the proposal. OSHA has changed the proposed language ''flammable or explosive materials used during construction or repair must not expose employees to hazards * * *'' to ''Employees must not be exposed to hazards of flammable or explosive substances or equipment used during construction, repairs, or alterations, that are beyond the normal permissible conditions in the workplace * * *.''

Final rule paragraph 1910.37(e) (proposed paragraph 1910.37(g)), requires the installation and maintenance of an employee alarm system meeting § 1910.165, unless employees can promptly see or smell a fire or other hazard. This requirement remains unchanged from the proposed rule.

Section 1910.38, Emergency Action Plans, and Section 1910.39, Fire Prevention Plans

In the final rule, OSHA has retained the separate sections for emergency action plans and fire prevention plans, §§ 1910.38 and 1910.39 respectively. OSHA believes it is clearer for the plans and their requirements to be contained in separate sections. Because commenters tended to address both plans at the same time in their comments or their comments were quite similar about the plans, OSHA is discussing them together.

Final paragraph 1910.38(a) states that an emergency action plan is required, and final paragraph 1910.39(a) states that a fire prevention plan is required, when an OSHA standard requires such a plan. A number of commenters (Exs. 5–14, 20, 21, 23, 40, 49) recommended that OSHA include a listing of all OSHA standards that require an emergency action plan or a fire prevention plan. The Agency considered modifying the appendix to add a list of such standards. Instead, OSHA has issued a Compliance Directive that contains a list of current OSHA standards that require emergency action plans or fire prevention plans. The Agency has included this information in a Compliance Directive instead of an appendix to the standard because it is easier to amend the Compliance Directive as needed to keep it current.

For informational purposes, OSHA has identified the following general industry standards that require an emergency action plan or a fire prevention plan.

1. Process Safety Management of Highly Hazardous Chemicals, paragraph 1910.119(n), emergency action plan.

2. Hazardous Waste Operations and Emergency Response, paragraphs 1910.120(l)(1)(ii), (p)(8)(i), (q)(1), and (q)(11)(ii), emergency action plan.

3. Portable Fire Extinguishers, paragraphs 1910.157(a) and (b)(1), emergency action plan and fire prevention plan.

4. Grain Handling Facilities, paragraph 1910.272(d), emergency action plan.

5. Ethylene Oxide, paragraph 1910.1047(h)(1)(iii), emergency action plan and fire prevention plan.

6. Methylenedianiline, paragraph 1910.1050(d)(1)(iii), emergency action plan and fire prevention plan.

7. 1,3-Butadiene, paragraph 1910.1051(j), emergency action plan and fire prevention plan.

Final paragraph 1910.38(b) and paragraph 1910.39(b) address written emergency action plans and fire prevention plans respectively. They require that the plans must be in writing and available; and for employers with 10 or fewer employees the plan may be transmitted orally rather than in writing. In the final rule, proposed paragraphs 1910.38(a)(2) and (a)(3) are combined into one paragraph, 1910.38(b), and proposed paragraphs 1910.39(a)(2) and (a)(3) become final paragraph 1910.39(b). Combining these paragraphs involved some minor editorial changes.

The Department of Energy (Ex. 5–11, p. 2) suggested that plans should be communicated orally to a ''limited number'' of employees rather than the 10 or fewer required by OSHA because the intent would be better served by not using an arbitrary number. OSHA disagrees with this suggestion. Since their promulgation in 1980, the emergency action plan and the fire prevention plan have used 10 as a reasonable number of employees for a plan to be communicated orally.

The International Brotherhood of Teamsters (IBT) (Ex. 5–31, p. 6) did not agree with the language in proposed paragraph 1910.38(a)(2) and paragraph 1910.39(a)(2), which stated that ''the plan must be made available to employees on request.'' IBT asked the Agency to use the current language of subpart E, requiring the plans ''be available for employees to review.'' The IBT believed the proposed language added an obstacle to employees by making them request to see the plan. OSHA agrees; in the proposal it had inadvertently changed the language from the current subpart E. OSHA fully believes that the plan should be available for employee review and in the final rule the language reflects this intent.

OSHA has reordered final paragraph 1910.38(c), containing the elements of an emergency action plan, to better reflect the order of an emergency response. Final paragraph 1910.38(c)(1) (proposed paragraph 1910.38(b)(3)) requires that the plan include procedures for reporting a fire or other emergency. OSHA believes reporting a fire or other emergency should be the first thing done in an emergency. The rest of the elements remain in the same order.

Final paragraphs 1910.38(c)(2), (3), and (4) remain for the most part the same as the proposed paragraphs—procedures for evacuation and exit route assignments, procedures to be followed by employees who remain to operate critical plant operations before they evacuate, and procedures to account for all employees after evacuation.

Final paragraph 1910.38(c)(3) concerning emergency operations or shutdown of plant equipment during an emergency has been changed back to the current subpart E language. This was done to clarify that this element of the plan does not apply to all employees and all plants, only to those plants that use employees for these emergency or shutdown procedures (Exs. 5–4, 18, 54).

Eastman Kodak Company (Ex. 5–21, p.3) suggested that OSHA delete the wording that addresses accounting for employees (final paragraph 1910.38(c)(4)):

> • Procedures to assure that the fire area is clear of employees, visitors and contractors. Expectations to track employees such as maintenance personnel, service providers, or engineers is very burdensome. In today's work environment many transient employees work in multiple locations making it difficult to track who will be in any work area in an emergency. Hence, many emergency plans require the use of trained searchers to assure that the area being evacuated is clear of all personnel regardless of their normal work locations.

OSHA disagrees with this commenter and believes that accounting for employees after an emergency is critically important information to rescuers. Employees could, for example, be assigned designated locations away from the facility at which to meet.

In final paragraph 1910.38(c)(5), which requires that the plan include procedures for rescue or medical duties, OSHA has added language to clarify that the requirements only apply to those employees who will be performing such duties. This language parallels more closely the current subpart E language (paragraph 1910.38(a)(2)(iv)). The Agency has also changed ''rescue and medical duties'' in the proposal to ''rescue *or* medical duties'' (emphasis added) since employees may do one or the other but not necessarily both.

Final paragraph 1910.38(c)(6), which addresses names or job titles of employees to be contacted for more information or for an explanation of duties, has been revised from the proposal and is closer to the current language in subpart E (paragraph 1910.38(a)(2)(vi)). The change clarifies the requirement.

A few commenters (*e.g.*, Ex. 5–4) contended that proposed paragraphs 1910.38(d) and 1910.37(g), are redundant. However, while both paragraphs require alarm systems, the two provisions are different. Proposed paragraph 1910.37(g) (paragraph 1910.37(e) in the final rule) requires that an employee alarm system be installed and maintained, unless employees can promptly see or smell a fire or other hazard. It applies regardless of whether the employer must have an emergency action plan. Paragraph 1910.38(d) requires that employers have and maintain an alarm system when an employer is required to have an emergency action plan by another OSHA standard. That alarm system must be provided even if employees can promptly see or smell a fire or other hazard. These paragraphs remain the same as proposed in the final rule.

Final paragraph 1910.38(e), regarding training of designated employees to assist in a safe and orderly evacuation of other employees, remains as proposed except for minor reorganization.

Final paragraph 1910.38(f) (proposed paragraph 1910.38(e)) requires that employers review the emergency action plan with each employee when the plan is developed or the employee is assigned initially to a job, when responsibility under the plan changes or the plan changes. Only minor editorial changes have been made to the final provision.

With regard to 29 CFR 1910.39, fire prevention plans, final paragraph 1910.39(c) (proposed paragraph 1910.39(b)) remains the same as proposed. Few comments were received with respect to the elements of the fire prevention plan.

Final rule paragraph 1910.39(d) (proposed rule paragraph 1910.39(c)) requires employers to inform employees of workplace fire hazards and review those parts of the fire prevention plan necessary for the employee's self-protection. Only minor editorial changes were made to this paragraph.

Miscellaneous Changes

OSHA is also amending the sections listed in the preamble's discussion of 1910.38 and 1910.39 above (*e.g.*, 29 CFR 1910.120, 1910.157, etc.). These changes are necessary to conform with new section and paragraph designations for Emergency Action Plans and Fire Protection Plans found in this revised subpart E.

Other Hearing Issues

As discussed earlier in this preamble, OSHA asked a series of questions in its hearing notice (62 FR 9402). To the extent possible, OSHA has included the questions with the pertinent discussions in the preamble. For example, the use of performance-oriented language in the proposal was discussed earlier in this preamble (issue 3). ''Are terms too technical'' (issue 7) was discussed by commenters addressing the definitions of the standard or when commenters identified unclear language. However, some of the issues raised in the questions were more general and the vast majority of commenters did not definitively respond to these questions. These issues were numbered 3, 7, 8, 9, and 10 in the hearing notice (62 FR at 9403), and they asked: Would performance-oriented standards create compliance problems; are there terms that might be too technical; whether the revision imposes additional obligations; whether any requirements result in greater safety; and whether any requirements present technical feasibility problems. The questions raised in the hearing notice were intended to assure that various aspects of the proposal were fully considered. Some commenters addressed the issues through their comments regarding specific provisions of the proposal and did not respond to the questions specifically set forth in the hearing notice. To the extent that interested persons commented on these issues, OSHA has responded to these comments in the context of specific provisions of the proposed rule.

III. Legal Considerations

Because the final rule is only a plain language redrafting of a former Agency subpart, it is not necessary to determine significant risk or the extent to which the final rule reduces that risk. As noted above, most of the provisions of subpart E were adopted under section 6(a) of the Occupational Safety and Health Act, which gave the Secretary of Labor the authority, for a limited period of time, to adopt as occupational safety and health standards any established Federal Standard or national consensus standards unless the promulgation of such a standard would not result in improved safety and health for designated employees. By including section 6(a) in the OSH Act, Congress implicitly found that the promulgation of occupational safety and health standards was reasonably necessary or appropriate to provide safe or healthful employment and places of employment. In *Industrial Union Department, AFL–CIO* v. *American Petroleum Institute*, 448 U.S. 607 (1980), the Supreme Court ruled that before OSHA can increase the protection afforded by a standard, the Agency must find that the hazard being regulated poses a significant risk to employees and that a new, more protective standard is ''reasonably necessary and appropriate'' to reduce that risk. The final rule that replaces the Agency's former rules regulating means of egress, emergency action plans, and fire prevention plans does not directly increase or decrease the protection afforded to employees, nor does it increase employers' compliance obligations. Therefore, no finding of significant risk is necessary.

The Agency believes, however, that improved employee protection is likely to result from promulgation of the final rule because employers and employees who clearly understand a rule's requirements are more likely to comply with that rule. In addition, employers may find it easier to comply with the final rule because the final rule is more performance-oriented than the former rule.

IV. Economic Analysis

This final rule has been designated as significant and reviewed by the Office of Management and Budget under Executive Order 12866. It is not an economically significant rule under Executive Order 12866 or a major rule under the Unfunded Mandates Reform Act or section 801 of the Small Business Regulatory Enforcement Fairness Act (SBREFA). The final rule imposes no additional costs on any private or public sector entity and does not meet any of the criteria for an economically significant or major rule specified by the Executive Order or the other statutes. Certain provisions of the rule that add flexibility, such as permitting fire doors to remain open as long as they close automatically during an emergency and modifying the definition of exit route to reflect the acceptability of refuge areas, may even reduce costs for employers. Because the rule does not impose any additional costs on employers for exit routes, emergency action plans, and fire prevention plans, no economic or regulatory flexibility analysis of the final rule is required.

V. Regulatory Flexibility Certification

In accord with the Regulatory Flexibility act, 5 U.S.C. 601 *et seq.* (as amended), OSHA has examined the regulatory requirements of the final rule to determine if it will have a significant economic effect on a substantial number of small entities. As indicated in the previous section of this preamble, the final rule does not increase employers' compliance costs, and may even reduce the regulatory burden on all affected employers, both large and small. Accordingly, the Agency certifies that the final rule does not have a significant economic effect on a substantial number of small entities.

VI. Environmental Impact Assessment

OSHA has reviewed the final rule in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 *et seq.*), of the Council on Environmental Quality regulations (40 U.S.C. part 1500 *et seq.*), and the Department of Labor's NEPA regulations (29 CFR part 11). As noted earlier in this preamble, the final rule imposes the same requirements on employers as the standards it replaces. Consequently, the final rule has no additional impact beyond the impact imposed by OSHA's former standards for means of egress on the environment, including no impact on the release of materials that contaminate natural resources or the environment.

VII. Paperwork Reduction Act

The final rule contains no information collection requirements (paperwork) that are subject to the Paperwork Reduction Act. Therefore, approval under the Paperwork Reduction Act is unnecessary.

VIII. Unfunded Mandates

For the purposes of the Unfunded Mandates Reform Act of 1995, this rule does not include any Federal mandate that may result in increased expenditures by State, local, and tribal governments, or increased expenditures by the private sector of more than $100 million in any year.

IX. Federalism

OSHA has reviewed this final rule in accordance with the Executive Order on Federalism (Executive Order 13132, 64 FR 43255) which requires that agencies, to the extent possible, refrain from limiting state policy options, consult with states prior to taking any actions that would restrict state policy options, and take such actions only when there is clear constitutional authority and the presence of a problem of national scope. The Order provides for preemption of State law only if there is a clear Congressional intent for the Agency to do so. Any such preemption is to be limited to the extent possible.

Section 18 of the Occupational Safety and Health (OSH) Act (29 U.S.C. 651 *et seq.*) expresses Congress' intent to preempt state laws where OSHA has promulgated occupational safety and

health standards. Under the OSH Act, a state can avoid preemption on issues covered by Federal standards only if it submits, and obtains Federal approval of, a plan for the development of such standards and their enforcement (State-Plan state). 29 U.S.C. 667. Occupational safety and health standards developed by such State-Plan states must, among other things, be at least as effective in providing safe and healthful employment and places of employment as the Federal standards. Subject to these requirements, State-Plan states are free to develop and enforce their own requirements for exit routes, emergency action plans, and fire prevention plans. Having already adopted OSHA's former standards on means of egress, emergency action plans, and fire prevention plans, (or having developed alternative standards acceptable to OSHA), State-Plan states are not obligated to adopt the final rule; they may, however, choose to adopt the final rule, and OSHA encourages them to do so.

Although Congress has expressed a clear intent for OSHA standards to preempt State job safety and health rules in areas involving the safety and health rules of employees, this rule nevertheless limits State policy options to a minimal extent.

OSHA concludes that this action does not significantly limit State policy options.

X. State Plan States

OSHA encourages the 26 States and Territories with their own OSHA-approved occupational safety and health plans to revise their standards regulating means of egress, emergency action plans, and fire prevention plans according to the final rule that resulted from this rulemaking. These states include 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.

List of Subjects in 29 CFR 1910

Means of egress, Exit, Exit route, Emergency action plan, Fire prevention, Occupational safety and health, Reporting and recordkeeping, Signs and symbols.

XI. Authority and Signature

This document was prepared under the direction of John L. Henshaw, Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210.

Authority: Sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order No. 3–2000 (65 FR 50017) and 29 CFR part 1911.

Signed in Washington, DC, this 21st day of October, 2002.

John L. Henshaw,

Assistant Secretary of Labor.

OSHA amends 29 CFR part 1910 as follows:

PART 1910—OCCUPATIONAL SAFETY AND HEALTH STANDARDS

1. The authority citation for subpart E of part 1910 is revised to read as follows:

Authority: Secs. 4, 6, 8, Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order Nos. 12–71 (36 FR 8754), (8–76 41 FR 25059), 9–83 (48 FR 35736) or 1–90 (55 FR 9033), 6–96 (62 FR 111), or 3–2000 (65 FR 50017), as applicable.

2.a. In subpart E, §§ 1910.33, 1910.34, and 1910.39 are added, and §§ 1910.35 through 1910.38 are revised.

b. In the appendix to subpart E to part 1910, the heading is revised, and in the third sentence of section 1, ''in paragraph 1910.38(a)(2)'' is revised to read ''in paragraph 1910.38(c)''.

The added and revised text is set forth as follows:

Subpart E—Exit Routes, Emergency Action Plans, and Fire Prevention Plans

§ 1910.33 Table of contents.

This section lists the sections and paragraph headings contained in §§ 1910.34 through 1910.39.

§ 1910.34 Coverage and definitions.

(a) *Every employer is covered.* Sections 1910.34 through 1910.39 apply to workplaces in general industry except mobile workplaces such as vehicles or vessels.

(b) *Exits routes are covered.* The rules in §§ 1910.34 through 1910.39 cover the minimum requirements for exit routes that employers must provide in their workplace so that employees may evacuate the workplace safely during an emergency. Sections 1910.34 through 1910.39 also cover the minimum requirements for emergency action plans and fire prevention plans.

(c) *Definitions.*

Electroluminescent means a light-emitting capacitor. Alternating current excites phosphor atoms when placed between the electrically conductive surfaces to produce light. This light source is typically contained inside the device.

Exit means that portion of an exit route that is generally separated from other areas to provide a protected way of travel to the exit discharge. An example of an exit is a two-hour fire resistance-rated enclosed stairway that leads from the fifth floor of an office building to the outside of the building.

Exit access means that portion of an exit route that leads to an exit. An example of an exit access is a corridor on the fifth floor of an office building that leads to a two-hour fire resistance-rated enclosed stairway (the Exit).

Exit discharge means the part of the exit route that leads directly outside or to a street, walkway, refuge area, public way, or open space with access to the outside. An example of an exit

discharge is a door at the bottom of a two-hour fire resistance-rated enclosed stairway that discharges to a place of safety outside the building.

Exit route means a continuous and unobstructed path of exit travel from any point within a workplace to a place of safety (including refuge areas). An exit route consists of three parts: The exit access; the exit; and, the exit discharge. (An exit route includes all vertical and horizontal areas along the route.)

High hazard area means an area inside a workplace in which operations include high hazard materials, processes, or contents.

Occupant load means the total number of persons that may occupy a workplace or portion of a workplace at any one time. The occupant load of a workplace is calculated by dividing the gross floor area of the workplace or portion of a workplace by the occupant load factor for that particular type of workplace occupancy. Information regarding ''Occupant load'' is located in NFPA 101–2000, Life Safety Code.

Refuge area means either:

(1) A space along an exit route that is protected from the effects of fire by separation from other spaces within the building by a barrier with at least a one-hour fire resistance-rating; or

(2) A floor with at least two spaces, separated from each other by smoke-resistant partitions, in a building protected throughout by an automatic sprinkler system that complies with § 1910.159 of this part.

Self-luminous means a light source that is illuminated by a self-contained power source (*e.g.*, tritium) and that operates independently from external power sources. Batteries are not acceptable self-contained power sources. The light source is typically contained inside the device.

§ 1910.35 Compliance with NFPA 101–2000, Life Safety Code.

An employer who demonstrates compliance with the exit route provisions of NFPA 101–2000, the Life Safety Code, will be deemed to be in compliance with the corresponding requirements in §§ 1910.34, 1910.36, and 1910.37.

§ 1910.36 Design and construction requirements for exit routes.

(a) *Basic requirements.* Exit routes must meet the following design and construction requirements: (1) *An exit route must be permanent.* Each exit route must be a permanent part of the workplace.

(2) *An exit must be separated by fire resistant materials.* Construction materials used to separate an exit from other parts of the workplace must have a one-hour fire resistance-rating if the exit connects three or fewer stories and a two-hour fire resistance-rating if the exit connects four or more stories.

(3) *Openings into an exit must be limited.* An exit is permitted to have only those openings necessary to allow access to the exit from occupied areas of the workplace, or to the exit discharge. An opening into an exit must be protected by a self-closing fire door that remains closed or automatically closes in an emergency upon the sounding of a fire alarm or employee alarm system. Each fire door, including its frame and hardware, must be listed or approved by a nationally recognized testing laboratory. Section 1910.155(c)(3)(iv)(A) of this part defines ''listed'' and § 1910.7 of this part defines a ''nationally recognized testing laboratory.''

(b) *The number of exit routes must be adequate.* (1) *Two exit routes.* At least two exit routes must be available in a workplace to permit prompt evacuation of employees and other building occupants during an emergency, except as allowed in paragraph (b)(3) of this section. The exit routes must be located as far away as practical from each other so that if one exit route is blocked by fire or smoke, employees can evacuate using the second exit route.

(2) *More than two exit routes.* More than two exit routes must be available in a workplace if the number of employees, the size of the building, its occupancy, or the arrangement of the workplace is such that all employees would not be able to evacuate safely during an emergency.

(3) *A single exit route.* A single exit route is permitted where the number of employees, the size of the building, its occupancy, or the arrangement of the workplace is such that all employees would be able to evacuate safely during an emergency.

Note to paragraph 1910.36(b): For assistance in determining the number of exit routes necessary for your workplace, consult NFPA 101–2000, Life Safety Code.

(c) *Exit discharge.* (1) Each exit discharge must lead directly outside or to a street, walkway, refuge area, public way, or open space with access to the outside.

(2) The street, walkway, refuge area, public way, or open space to which an exit discharge leads must be large enough to accommodate the building occupants likely to use the exit route.

(3) Exit stairs that continue beyond the level on which the exit discharge is located must be interrupted at that level by doors, partitions, or other effective means that clearly indicate the direction of travel leading to the exit discharge.

(d) *An exit door must be unlocked.* (1) Employees must be able to open an exit route door from the inside at all times without keys, tools, or special knowledge. A device such as a panic bar that locks only from the outside is permitted on exit discharge doors.

(2) Exit route doors must be free of any device or alarm that could restrict emergency use of the exit route if the device or alarm fails.

(3) An exit route door may be locked from the inside only in mental, penal, or correctional facilities and then only if supervisory personnel are continuously on duty and the employer has a plan to remove occupants from the facility during an emergency.

(e) *A side-hinged exit door must be used.* (1) A side-hinged door must be used to connect any room to an exit route.

(2) The door that connects any room to an exit route must swing out in the direction of exit travel if the room is designed to be occupied by more than 50 people or if the room is a high hazard area (*i.e.*, contains contents that are likely to burn with extreme rapidity or explode).

(f) *The capacity of an exit route must be adequate.* (1) Exit routes must support the maximum permitted occupant load for each floor served.

(2) The capacity of an exit route may not decrease in the direction of exit route travel to the exit discharge.

Note to paragraph 1910.36(f): Information regarding ''Occupant load'' is located in NFPA 101–2000, Life Safety Code.

(g) *An exit route must meet minimum height and width requirements.* (1) The ceiling of an exit route must be at least seven feet six inches (2.3 m) high. Any projection from the ceiling must not reach a point less than six feet eight inches (2.0 m) from the floor.

(2) An exit access must be at least 28 inches (71.1 cm) wide at all points. Where there is only one exit access leading to an exit or exit discharge, the width of the exit and exit discharge must be at least equal to the width of the exit access.

(3) The width of an exit route must be sufficient to accommodate the maximum permitted occupant load of each floor served by the exit route.

(4) Objects that project into the exit route must not reduce the width of the exit route to less than the minimum width requirements for exit routes.

(h) *An outdoor exit route is permitted.* Each outdoor exit route must meet the minimum height and width requirements for indoor exit routes and

must also meet the following requirements:

(1) The outdoor exit route must have guardrails to protect unenclosed sides if a fall hazard exists;

(2) The outdoor exit route must be covered if snow or ice is likely to accumulate along the route, unless the employer can demonstrate that any snow or ice accumulation will be removed before it presents a slipping hazard;

(3) The outdoor exit route must be reasonably straight and have smooth, solid, substantially level walkways; and

(4) The outdoor exit route must not have a dead-end that is longer than 20 feet (6.2 m).

§ 1910.37 Maintenance, safeguards, and operational features for exit routes.

(a) *The danger to employees must be minimized.* (1) Exit routes must be kept free of explosive or highly flammable furnishings or other decorations.

(2) Exit routes must be arranged so that employees will not have to travel toward a high hazard area, unless the path of travel is effectively shielded from the high hazard area by suitable partitions or other physical barriers.

(3) Exit routes must be free and unobstructed. No materials or equipment may be placed, either permanently or temporarily, within the exit route. The exit access must not go through a room that can be locked, such as a bathroom, to reach an exit or exit discharge, nor may it lead into a dead-end corridor. Stairs or a ramp must be provided where the exit route is not substantially level.

(4) Safeguards designed to protect employees during an emergency (*e.g.*, sprinkler systems, alarm systems, fire doors, exit lighting) must be in proper working order at all times.

(b) *Lighting and marking must be adequate and appropriate.* (1) Each exit route must be adequately lighted so that an employee with normal vision can see along the exit route.

(2) Each exit must be clearly visible and marked by a sign reading ''Exit.''

(3) Each exit route door must be free of decorations or signs that obscure the visibility of the exit route door.

(4) If the direction of travel to the exit or exit discharge is not immediately apparent, signs must be posted along the exit access indicating the direction of travel to the nearest exit and exit discharge. Additionally, the line-of-sight to an exit sign must clearly be visible at all times.

(5) Each doorway or passage along an exit access that could be mistaken for an exit must be marked ''Not an Exit'' or similar designation, or be identified by a sign indicating its actual use (*e.g.*, closet).

(6) Each exit sign must be illuminated to a surface value of at least five foot-candles (54 lux) by a reliable light source and be distinctive in color. Self-luminous or electroluminescent signs that have a minimum luminance surface value of at least .06 footlamberts (0.21 cd/m^2) are permitted.

(7) Each exit sign must have the word ''Exit'' in plainly legible letters not less than six inches (15.2 cm) high, with the principal strokes of the letters in the word ''Exit'' not less than three-fourths of an inch (1.9 cm) wide.

(c) *The fire retardant properties of paints or solutions must be maintained.* Fire retardant paints or solutions must be renewed as often as necessary to maintain their fire retardant properties.

(d) *Exit routes must be maintained during construction, repairs, or alterations.* (1) During new construction, employees must not occupy a workplace until the exit routes required by this subpart are completed and ready for employee use for the portion of the workplace they occupy.

(2) During repairs or alterations, employees must not occupy a workplace unless the exit routes required by this subpart are available and existing fire protections are maintained, or until alternate fire protection is furnished that provides an equivalent level of safety.

(3) Employees must not be exposed to hazards of flammable or explosive substances or equipment used during construction, repairs, or alterations, that are beyond the normal permissible conditions in the workplace, or that would impede exiting the workplace.

(e) *An employee alarm system must be operable.* Employers must install and maintain an operable employee alarm system that has a distinctive signal to warn employees of fire or other emergencies, unless employees can promptly see or smell a fire or other hazard in time to provide adequate warning to them. The employee alarm system must comply with § 1910.165.

§ 1910.38 Emergency action plans.

(a) *Application.* An employer must have an emergency action plan whenever an OSHA standard in this part requires one. The requirements in this section apply to each such emergency action plan.

(b) *Written and oral emergency action plans.* An emergency action plan must be in writing, kept in the workplace, and available to employees for review. However, an employer with 10 or fewer employees may communicate the plan orally to employees.

(c) *Minimum elements of an emergency action plan.* An emergency action plan must include at a minimum:

(1) Procedures for reporting a fire or other emergency;

(2) Procedures for emergency evacuation, including type of evacuation and exit route assignments;

(3) Procedures to be followed by employees who remain to operate critical plant operations before they evacuate;

(4) Procedures to account for all employees after evacuation;

(5) Procedures to be followed by employees performing rescue or medical duties; and

(6) The name or job title of every employee who may be contacted by employees who need more information about the plan or an explanation of their duties under the plan.

(d) *Employee alarm system.* An employer must have and maintain an employee alarm system. The employee alarm system must use a distinctive signal for each purpose and comply with the requirements in § 1910.165.

(e) *Training.* An employer must designate and train employees to assist in a safe and orderly evacuation of other employees.

(f) *Review of emergency action plan.* An employer must review the emergency action plan with each employee covered by the plan:

(1) When the plan is developed or the employee is assigned initially to a job;

(2) When the employee's responsibilities under the plan change; and

(3) When the plan is changed.

§ 1910.39 Fire prevention plans.

(a) *Application.* An employer must have a fire prevention plan when an OSHA standard in this part requires one. The requirements in this section apply to each such fire prevention plan.

(b) *Written and oral fire prevention plans.* A fire prevention plan must be in writing, be kept in the workplace, and be made available to employees for review. However, an employer with 10 or fewer employees may communicate the plan orally to employees.

(c) *Minimum elements of a fire prevention plan.* A fire prevention plan must include:

(1) A list of all major fire hazards, proper handling and storage procedures for hazardous materials, potential ignition sources and their control, and the type of fire protection equipment necessary to control each major hazard;

(2) Procedures to control accumulations of flammable and combustible waste materials;

(3) Procedures for regular maintenance of safeguards installed on

heat-producing equipment to prevent the accidental ignition of combustible materials;

(4) The name or job title of employees responsible for maintaining equipment to prevent or control sources of ignition or fires; and

(5) The name or job title of employees responsible for the control of fuel source hazards.

(d) *Employee information.* An employer must inform employees upon initial assignment to a job of the fire hazards to which they are exposed. An employer must also review with each employee those parts of the fire prevention plan necessary for self-protection.

''Appendix E To Part 1910—Exit Routes, Emergency Action Plans, and Fire Prevention Plans.''

* * * * *

Subpart H—Hazardous Materials

3. The authority citation for subpart H of part 1910 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, 657); Secretary of Labor's Orders Nos. 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), 3–2000 (65 FR 50017), as applicable; and 29 CFR part 1911.

Sections 1910.103, 1910.106 through 1910.111, and 1910.119, 1910.120, and 190.122 through 126 also issued under 29 CFR part 1911.

Section 1910.119 also issued under section 304, Clean Air Act Amendments of 1990 (Pub. L. 101–549), reprinted at 29 U.S.C. 655 Note.

Section 1910.120 also issued under section 126, Superfund Amendments and Reauthorization Act of 1986 as amended (29 U.S.C. 655 Note), and 5 U.S.C. 553.

4. In § 1910.119, the first sentence of paragraph (n) is revised to read as follows:

§ 1910.119 Process safety management of highly hazardous chemicals.

* * * * *

(n) *Emergency planning and response.* The employer shall establish and implement an emergency action plan for the entire plant in accordance with the provisions of 29 CFR 1910.38.* * *

* * * * *

5. In § 1910.120, paragraphs (l)(1)(ii), (p)(8)(i), (q)(1), and the first sentence of paragraph (q)(11)(ii) are revised to read as follows:

§ 1910.120 Hazardous waste operations and emergency response.

* * * * *

(l) * * *

(1)(i) * * *

(ii) Employers who will evacuate their employees from the danger area when an emergency occurs, and who do not permit any of their employees to assist in handling the emergency, are exempt from the requirements of this paragraph if they provide an emergency action plan complying with 29 CFR 1910.38.

* * *

* * * * *

(p) * * *

(8) * * *

(i) *Emergency response plan.* An emergency response plan shall be developed and implemented by all employers. Such plans need not duplicate any of the subjects fully addressed in the employer's contingency planning required by permits, such as those issued by the U.S. Environmental Protection Agency, provided that the contingency plan is made part of the emergency response plan. The emergency response plan shall be a written portion of the employer's safety and health program required in paragraph (p)(1) of this section. Employers who will evacuate their employees from the worksite location when an emergency occurs and who do not permit any of their employees to assist in handling the emergency are exempt from the requirements of paragraph (p)(8) if they provide an emergency action plan complying with 29 CFR 1910.38.

* * * * *

(q) * * *

(1) *Emergency response plan.* An emergency response plan shall be developed and implemented to handle anticipated emergencies prior to the commencement of emergency response operations. The plan shall be in writing and available for inspection and copying by employees, their representatives and OSHA personnel. Employers who will evacuate their employees from the danger area when an emergency occurs, and who do not permit any of their employees to assist in handling the emergency, are exempt from the requirements of this paragraph if they provide an emergency action plan in accordance with 29 CFR 1910.38.

* * * * *

(11) * * *

(i) * * *

(ii) Where the clean-up is done on plant property using plant or workplace employees, such employees shall have completed the training requirements of the following: 29 CFR 1910.38, 1910.134, 1910.1200, and other appropriate safety and health training made necessary by the tasks they are expected to perform such as personal protective equipment and decontamination procedures. * * *

* * * * *

Subpart L—Fire Protection

6. The authority citation for subpart L of part 1910 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, 657); Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 F 35736), 6–96 (62 FR 111), or 3–2000 (65 FR 50017), as applicable; and 29 CFR part 1911.

7. In § 1910.157, paragraphs (a) and (b)(1) are revised to read as follows:

§ 1910.157 Portable fire extinguishers.

(a) *Scope and application.* The requirements of this section apply to the placement, use, maintenance, and testing of portable fire extinguishers provided for the use of employees. Paragraph (d) of this section does not apply to extinguishers provided for employee use on the outside of workplace buildings or structures. Where extinguishers are provided but are not intended for employee use and the employer has an emergency action plan and a fire prevention plan that meet the requirements of 29 CFR 1910.38 and 29 CFR 1910.39 respectively, then only the requirements of paragraphs (e) and (f) of this section apply.

(b) *Exemptions.* (1) Where the employer has established and implemented a written fire safety policy which requires the immediate and total evacuation of employees from the workplace upon the sounding of a fire alarm signal and which includes an emergency action plan and a fire prevention plan which meet the requirements of 29 CFR 1910.38 and 29 CFR 1910.39 respectively, and when extinguishers are not available in the workplace, the employer is exempt from all requirements of this section unless a specific standard in part 1910 requires that a portable fire extinguisher be provided.

* * * * *

Subpart R—Special Industries

8. The authority citation for subpart R of part 1910 is revised to read as follows:

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

9. In § 1910.268, paragraph (b)(1)(iii) is revised to read as follows:

§ 1910.268 Telecommunications.

* * * * *

(b) * * *

(1) * * *

(i) * * *

(ii) * * *

(iii) *Working spaces.* Maintenance aisles, or wiring aisles, between equipment frame lineups are working spaces and are not an exit route for purposes of 29 CFR 1910.34.

* * * * *

10.a. In § 1910.272, paragraph (d) is revised.

b. In Appendix A to § 1910.272, under the heading ''2. Emergency Action Plans'' the second sentence is revised.

The revised text is set forth as follows:

§ 1910.272 Grain handling facilities.

* * * * *

(d) *Emergency action plan.* The employer shall develop and implement an emergency action plan meeting the requirements contained in 29 CFR 1910.38.

* * * * *

Appendix A to § 1910.272 Grain Handling Facilities

* * * * *

2. Emergency Action Plan

* * * The emergency action plan (§ 1910.38) covers those designated actions employers and employees are to take to ensure employee safety from fire and other emergencies. * * *

* * * * *

Subpart Z—Toxic and Hazardous Substances

11. The authority citation for subpart Z of part 1910 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), 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 (29 U.S.C 653), except those substances that have exposure limits in Tables Z–1, Z–2, and Z–3 of 29 CFR 1910.1000. Section 1910.1000 also issued 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.

12. In § 1910.1047, paragraph (h)(1)(iii) is revised to read as follows:

§ 1910.1047 Ethylene oxide.

* * * * *

(h) * * *

(1) * * *

(i) * * *

(ii) * * *

(iii) The plan shall include the elements prescribed in 29 CFR 1910.38 and 29 CFR 1910.39, ''Emergency action plans'' and ''Fire prevention plans,'' respectively.

* * * * *

13. In § 1910.1050, paragraph (d)(1)(iii) is revised to read as follows:

§ 1910.1050 Methylenedianiline

* * * * *

(d) * * *

(1) * * *

(i) * * *

(ii) * * *

(iii) The plan shall specifically include provisions for alerting and evacuating affected employees as well as the elements prescribed in 29 CFR 1910.38 and 29 CFR 1910.39, ''Emergency action plans'' and ''Fire prevention plans,'' respectively.

* * * * *

14. In § 1910.1051, paragraph (j) is revised to read as follows:

§ 1910.1051 1,3–Butadiene

* * * * *

(j) *Emergency situations. Written plan.* A written plan for emergency situations shall be developed, or an existing plan shall be modified, to contain the applicable elements specified in 29 CFR 1910.38 and 29 CFR 1910.39, ''Emergency action plans'' and ''Fire prevention plans,'' respectively, and in 29 CFR 1910.120, ''Hazardous Waste Operations and Emergency Response,'' for each workplace where there is the possibility of an emergency.

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