



**DEPARTMENT OF LABOR**

**Occupational Safety and Health Administration**

**29 CFR Parts 1910, 1915, 1917, 1918, and 1926**

**[Docket No. OSHA-2011-0184]**

**RIN 1218-AC65**

**Updating OSHA Standards Based on National Consensus Standards; Head Protection**

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

**ACTION:** Direct final rule; request for comments.

**SUMMARY:** OSHA is issuing this direct final rule to revise the personal protective equipment (PPE) sections of its general industry, shipyard employment, longshoring, and marine terminals standards regarding requirements for head protection. OSHA is updating the references in its standards to recognize the 2009 edition of the American National Standard for Industrial Head Protection, and is deleting the 1986 edition of that national consensus standard because it is out of date. OSHA also is including the construction industry in this rulemaking to ensure consistency among the Agency's standards. OSHA is publishing a proposed rule in today's *Federal Register* taking this same action.

**DATES:** This direct final rule will become effective on [INSERT DATE 90 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER] unless OSHA receives a significant adverse comment by [INSERT DATE 30 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]. If OSHA receives a significant adverse comment, it will

publish a timely withdrawal of the rule in the *Federal Register*. Submit comments to this direct final rule (including comments to the information-collection (paperwork) determination described under the section titled **PROCEDURAL DETERMINATIONS**), hearing requests, and other information by [INSERT DATE 30 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]. All submissions must bear a postmark or provide other evidence of the submission date. (The following section titled **ADDRESSES** describes methods available for making submissions.)

The Director of the Federal Register approved the incorporation by reference of specific publications listed in this direct final rule as of [INSERT DATE 90 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** Submit comments, hearing requests, and other information as follows:

- *Electronic.* Submit comments electronically to <http://www.regulations.gov>, which is the Federal eRulemaking Portal. Follow the instructions online for submitting comments.
- *Facsimile.* OSHA allows facsimile transmission of comments and hearing requests that are 10 pages or fewer in length (including attachments). Send these documents to the OSHA Docket Office at (202) 693-1648; OSHA does not require hard copies of these documents. Instead of transmitting facsimile copies of attachments that supplement these documents (*e.g.*, studies, journal articles), commenters must submit these attachments to the OSHA Docket Office, Technical Data Center, Room N-2625, OSHA, U.S. Department of Labor, 200 Constitution Ave., NW., Washington, DC 20210. These attachments must clearly identify the sender's name, date, subject, and docket

number (*i.e.*, OSHA-2011-0184) so that the Agency can attach them to the appropriate document.

- *Regular mail, express delivery, hand (courier) delivery, and messenger service.*

Submit comments and any additional material (*e.g.*, studies, journal articles) to the OSHA Docket Office, Docket No. OSHA-2011-0184 or RIN No. 1218-AC65, Technical Data Center, Room N-2625, OSHA, U.S. Department of Labor, 200 Constitution Ave., NW., Washington, DC 20210; telephone: (202) 693-2350. (OSHA's TTY number is (877) 889-5627.) Note that security-related procedures may result in significant delays in receiving comments and other written materials by regular mail. Please contact the OSHA Docket Office for information about security procedures concerning delivery of materials by express delivery, hand delivery, and messenger service. The hours of operation for the OSHA Docket Office are 8:15 a.m. to 4:45 p.m., e.t.

- *Instructions.* All submissions must include the Agency name and the OSHA docket number (*i.e.*, OSHA Docket No. OSHA-2011-0184). OSHA will place comments and other material, including any personal information, in the public docket without revision, and these materials will be available online at <http://www.regulations.gov>. Therefore, the Agency cautions commenters about submitting statements they do not want made available to the public, or submitting comments that contain personal information (either about themselves or others) such as Social Security numbers, birth dates, and medical data.

OSHA requests comments on all issues related to this direct final rule. It also welcomes comments on its findings that this direct final rule would have no negative economic, paperwork, or other regulatory impacts on the regulated community. This

direct final rule is the companion document to a notice of proposed rulemaking published in the “Proposed Rules” section of today’s *Federal Register*. If OSHA receives no significant adverse comment on this direct final rule, it will publish a *Federal Register* notice confirming the effective date of this direct final rule and withdrawing the companion proposed rule. The confirmation may include minor stylistic or technical corrections to the document. For the purpose of judicial review, OSHA considers the date that it confirms the effective date of the direct final rule to be the date of issuance. However, if the Agency receives significant adverse comment on the direct final rule or proposal, OSHA will publish a timely withdrawal of this direct final rule and proceed with the proposed rule, which addresses the same revisions to its head protection standards.

- *Docket*. The electronic docket for this direct final rule established at <http://www.regulations.gov> lists most of the documents in the docket. However, some information (*e.g.*, copyrighted material) is not publicly available to read or download through this website. All submissions, including copyrighted material, are accessible at the OSHA Docket Office. Contact the OSHA Docket Office for assistance in locating docket submissions.

**FOR FURTHER INFORMATION CONTACT:** *General information and press inquiries:* Contact Frank Meilinger, OSHA Office of Communications, Room N-3647, U.S. Department of Labor, 200 Constitution Ave., NW., Washington, DC 20210; telephone: (202) 693-1999.

Technical inquiries: Contact Kenneth Stevanus, Directorate of Standards and Guidance, Room N-3609, OSHA, U.S. Department of Labor, 200 Constitution Ave., NW., Washington, DC 20210; telephone: (202) 693-2260; fax: (202) 693-1663.

**SUPPLEMENTARY INFORMATION:**

Copies of this Federal Register notice. Electronic copies of this *Federal Register* rule are available at <http://www.regulations.gov>. This *Federal Register* notice, as well as news releases and other relevant information, also are available at OSHA's webpage at <http://www.osha.gov>.

Availability of Incorporated Standards. With the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51, OSHA is incorporating by reference into the section the standards published by the International Safety Equipment Association (ISEA) to which §§ 1910.135(b)(1), 1915.155(b)(1), 1917.93(b)(1), 1918.103(b)(1), and 1926.100(b) refer. To enforce any edition other than the editions specified by §§ 1910.135(b)(1), 1915.155(b)(1), 1917.93(b)(1), 1918.103(b)(1), and 1926.100(b), OSHA must publish a notice of change in the *Federal Register*, and the material must be available to the public. All approved material is available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, telephone (202) 741-6030, or go to:

[http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Also, the material is available for inspection at any OSHA Regional Office or the OSHA Docket Office (U.S. Department of Labor, 200 Constitution Ave., NW., Room N-2625, Washington, DC 20210; telephone: (202) 693-2350 (TTY number: (877) 889-5627)).

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## **I. Background**

Subpart I of OSHA's general industry standards contains design requirements for head protection (*see* 29 CFR 1910.135). OSHA has similar requirements in subpart I of part 1915 (Shipyard Employment), subpart E of part 1917 (Marine Terminals), subpart J of part 1918 (Longshoring), and subpart E of part 1926 (Construction). The general industry and maritime rules require that the specified head protection comply with national consensus standards incorporated by reference into the OSHA standards unless the employer demonstrates that non-specified head-protection equipment is at least as effective in protecting workers as equipment that complies with the incorporated national consensus standard. (*See* 29 CFR 1910.135(b)(2); 1915.155(b)(2); 1917.93(b)(2); 1918.103(b)(2).) These design provisions are part of comprehensive requirements to ensure that employees use personal protective equipment that will protect them from hazards in the workplace.

As discussed in a previous *Federal Register* notice (69 FR 68283), OSHA is undertaking a series of projects to update its standards to incorporate the latest versions of

national consensus and industry standards. These projects include updating or removing national consensus and industry standards referenced in existing OSHA standards, updating regulatory text of standards adopted directly by OSHA from the language of outdated consensus standards, and, when appropriate, replacing specific references to outdated national consensus and industry standards with performance-oriented requirements.

On May 17, 2007, OSHA published a Notice of Proposed Rulemaking (NPRM) (72 FR 27771) entitled “Updating OSHA Standards Based on National Consensus Standards; Personal Protective Equipment.” The NPRM did not propose to revise construction industry standards covering personal protective equipment. The Agency received approximately 25 comments on the NPRM. On December 4, 2007, OSHA held an informal public hearing and received testimony from nine witnesses. Several of the commenters (Exs. OSHA-2007-0044-0021 and -0034) and witnesses (Tr. at 18-19 and 51-52) questioned the Agency’s decision not to include the construction industry in this rulemaking. OSHA responded at the hearing that it decided not to include the construction industry because of the size of the undertaking and OSHA’s limited resources (Tr. at 18-19; *see*, also, 74 FR 46352).

On September 9, 2009, OSHA published the final rule (74 FR 46350), which became effective October 9, 2009. However, OSHA did not include in the final rule a reference to the 2009 edition of the American National Standards Institute (ANSI) standard for industrial head protection (ANSI Z89.1) because this edition was not available to OSHA prior to the date (February 8, 2008) the administrative law judge who presided over the hearing closed the rulemaking record.

This direct final rule will update the references in 29 CFR 1910.135(b)(1), 1915.155(b)(1), 1917.93(b)(1), and 1918.103(b)(1) to recognize the 2009 edition of ANSI Z89.1, which is the most recent version of that standard. These revisions will allow use of helmets that comply with the three most recent editions of the consensus standard.

In addition, this direct final rule will remove the current references to ANSI Z89.1-1969 and ANSI Z89.2-1971 in 29 CFR 1926.100(b) and (c), and replace these outdated head protection references with the same three editions of ANSI Z89.1 referenced in the general industry and maritime industry standards. This action addresses the comments received during the initial rulemaking cited above, and will ensure consistency in the Agency's standards. By making the requirements of OSHA's head protection standards consistent with the Agency's other standards and with current industry practices, the direct final rule will eliminate confusion and clarify employer obligations, while providing up-to-date protection for workers exposed to falling objects.

## **II. Direct Final Rulemaking**

In a direct-final rulemaking, an agency publishes a direct final rule in the *Federal Register* along with a statement that the rule will become effective unless the agency receives significant adverse comment within a specified period. The agency also publishes concurrently with the direct final rule an identical proposed rule. If the agency receives no significant adverse comment, the direct final rule becomes effective. If, however, the agency receives significant adverse comment, the agency withdraws the direct final rule and treats the comments as submissions on the proposed rule.

OSHA uses direct final rules because it expects the rulemaking to be noncontroversial; provide protection to employees that is at least equivalent to the protection afforded to them by the outdated standard development organization standard; and impose no significant new compliance costs on employers (69 FR 68283, 68285). OSHA used direct final rules previously to update or, when appropriate, revoke references to outdated national consensus standards in OSHA rules (*see, e.g.*, 69 FR 68283, 70 FR 76979, 71 FR 80843, and 76 FR 75782).

For purposes of the direct final rule, a significant adverse comment is one that explains why the rule would be inappropriate, including challenges to the rule's underlying premise or approach. In determining whether a comment necessitates withdrawal of the direct final rule, OSHA will consider whether the comment raises an issue serious enough to warrant a substantive response in a notice-and-comment process. OSHA will not consider a comment recommending additional revisions to a rule to be a significant adverse comment unless the comment states why the direct final rule would be ineffective without the revisions. If OSHA receives a timely significant adverse comment, the Agency will publish a *Federal Register* notice withdrawing the direct final rule no later than 60 days after the publication date of the notice.

This direct-final rulemaking furthers the objectives of Executive Order 13563, which requires that the regulatory process “promote predictability and reduce uncertainty” and “identify and use the best, most innovative, and least burdensome tools for achieving regulatory ends.” As described below in this *Federal Register* notice, the revisions will make the requirements of OSHA's Head Protection standards consistent with current industry practices, thereby eliminating confusion and clarifying employer

obligations. OSHA believes that these revisions do not compromise the safety of employees, but will enhance employee protection. Therefore, the Agency believes that updating and replacing the national consensus standards in its head protection standards is consistent with, and promotes the objectives of, Executive Order 13563.

### **III. Summary and Explanation of Revisions to the Head Protection Standards**

#### **A. Updating the General Industry and Maritime Industry Standards**

OSHA published the previous revision of the general industry and maritime head protection standards on September 9, 2009 (74 FR 46350), which became effective October 9, 2009. These revised standards permit compliance with ANSI Z89.1-2003, ANSI Z89.1-1997, or ANSI Z89.1-1986. Since OSHA published the previous revision, ANSI Z89.1-2009 has become available. This rulemaking will update the references in 29 CFR 1910.135(b)(1), 1915.155(b)(1), 1917.93(b)(1), and 1918.103(b)(1) to recognize the 2009 edition of ANSI Z89.1.

To determine the differences between the 2009 and 2003 editions of ANSI Z89.1, the Agency prepared a side-by-side comparison of the two editions; Table 1 provides the results of this comparison. As this table shows, the differences between these two editions of the consensus standard are the provisions in the 2009 edition permitting optional testing for helmets worn in the backwards position (“reverse wearing”), optional testing for helmets at colder temperatures than provided in previous editions, and optional testing for the high-visibility coloring of helmets. If manufacturers choose to evaluate their helmets using any of these three testing options, and the helmets pass the specified tests, then the manufacturer may mark the helmets accordingly. Section 7.3.1 of ANSI Z89.1-2009 adds the reverse-wearing testing option; various other sections include

instructions regarding, or references to, the reverse-wearing testing option. Section 7.3.2 of the consensus standard adds the high-visibility testing option, and Table 1 of the consensus standard provides information about color measurements; various other sections of the consensus standard include instructions regarding, or references to, optional high-visibility testing. Section 8.4.1.2.1 of the consensus standard describes the preconditioning necessary to conduct helmet testing at lower temperatures than specified in previous editions of the consensus standard, and various other sections of the consensus standard contain additional information about such testing.

**Table 1—Differences Between ANSI Z89.1-2003 and ANSI Z89.1-2009<sup>1</sup>**

| <b>Section No. in ANSI Z-89.1-2009</b> | <b>Description of Differences</b>   |
|--|---|
| 3                                      | Adds definitions of “manufacturer” and “test plaque.” Removes definitions of “cap” and “hat.”   |
| 4                                      | Adds a requirement that manufacturers mark helmets that meet the reverse-wearing requirements with a reverse-wearing mark.  |
| 4.3                                    | Adds a new, optional section, “Reverse Wearing,” that explains that reverse-wearing helmets must pass all testing requirements whether worn facing frontwards or backwards.                     |
| 6.1                                    | Adds a requirement that manufacturer’s instructions for helmets include instructions for reverse wearing if applicable.   |
| 6.2                                    | Adds instructions for marking helmets tested for reverse-donning, lower-temperature, and high-visibility capabilities.  |
| 7.3.1                                  | Adds new, optional section, “Reverse Wearing,” that permits marking helmets with the reverse-wearing symbol if those helmets pass specified tests when mounted in the reverse-wearing position. |
| 7.3.2                                  | Adds new, optional section, “High-Visibility,” that permits marking helmets “HV” if those helmets have chromaticity and a total luminance factor at specified levels.                           |
| Table 1                                | Adds new table, “Color, High-Visibility Helmets,” specifying the levels of referenced by 7.3.2.   |
| 8.1.2                                  | In this section, which addresses what headform size to use in testing, adds a provision that requires the testing facility to decide the most suitable size if the manufacturer does not do so. |
| 8.1.3                                  | Adds a requirement that the testing facility establish a separate dynamic test line (DTL) for samples tested in the reverse-wearing   |

| Section No. in ANSI Z-89.1-2009 | Description of Differences  |
|---------------------------------|---|
|                                 | position.   |
| 8.2.1                           | Adds a requirement that the testing facility use a minimum of 36 test samples in compliance testing for helmets marked for reverse wearing.   |
| 8.3.1                           | Adds instructions for positioning reverse-wearing samples for DTL marking.  |
| 8.4.1.2.1                       | Adds new section, “Lower Temperatures,” that describes an optional procedure for preconditioning helmet samples at cold temperatures prior to testing.  |
| 9.2.2                           | Removes “vertical guard rail” from the list of components that comprise the test apparatus used in force-transmission testing.  |
| 9.2.3                           | For mounting samples for force-transmission testing, adds an instruction that the sample shall be “oriented in the normal wearing position.” Also adds instructions for mounting samples in the reverse-wearing position in preparation for force-transmission testing.   |
| 9.3.2                           | Removes “vertical guard rail” from the list of components that comprise the test apparatus used in apex-penetration testing.  |
| 9.4.2                           | Removes “vertical guard rail” from the list of components that comprise the test apparatus used in impact-energy attenuation testing.   |
| 9.4.2.1                         | For mounting samples for impact-energy attenuation testing, adds an instruction that “[t]he test sample shall be mounted in its normal wearing position on the headform with the STL parallel to the basic plane of the headform.” Adds instructions for mounting samples in the reverse-wearing position in preparation for impact-energy attenuation testing. |
| 9.5.3                           | For mounting samples before off-center penetration testing, adds an instruction that the sample shall be “oriented in the normal wearing position.” Adds instructions for mounting samples in the reverse-wearing position in preparation for off-center penetration testing.   |
| 9.8                             | Adds a new section, “High-Visibility Testing,” that explains how to prepare a test sample for high-visibility testing, and how to measure the color of that sample.   |
| 10                              | Moves the section “Normative References,” which appeared in ANSI Z89.1-2003 as Appendix E, to the main text. Adds “ASTM E1164-02 <i>Colorimetry – Standard Practice for Obtaining Spectrophotometric Data for Object-Color Evaluation</i> ” to the list of referenced standards.  |
| Table 3 – Schedule of Tests     | Revises Table 2 of ANSI Z89.1-2003 by: replacing various entries labeled “Cold” with “Cold or Lower Temperature”; for samples tested in the reverse-wearing position, adding entries  |

| Section No. in ANSI Z-89.1-2009 | Description of Differences  |
|---------------------------------|---|
|                                 | force-transmission, impact-energy attenuation, and off-center penetration testing; and adding to the second, narrative page information about testing in the reverse-wearing position for Type I and Type II helmets. |
| Appendices                      | Adds the title “Appendices” and a notation that “[t]he following appendices [are] not part of American National Standard ANSI/ISEA Z89.1-2009, but are included for information only.”                                |
| Appendix A                      | Adds a statement to paragraph A7 that “[h]elmet decorations should not be used to obscure dents, cracks, non-manufactured holes, other penetrations, burns or other damages.”   |

<sup>1</sup>This table provides only a summary of the differences between these two standards, and may not describe completely all of the differences between the standards or the content of any provision of the standards. Consult the published versions of the standards for an accurate determination of the differences between the standards.

As shown in the comparison provided in Table 1, ANSI Z89.1-2009 also includes other differences from ANSI Z89.1-2003. These differences include: (1) removing the definitions of “cap” and “hat” from the 2003 edition and inserting definitions of “manufacturer” and “test plaque” in the 2009 edition; (2) permitting the testing facility to determine an appropriate size of the headform if the manufacturer did not specify the size; (3) requiring orientation of test samples in the normal wearing position when conducting various test procedures; and (4) removing vertical guard rails from the lists of necessary components for specified test equipment.

OSHA believes that it is consistent with the usual and customary practice of employers in the general and maritime industries to require use of head protection that complies with the 1997, 2003, or 2009 editions of ANSI Z89.1. Therefore, the Agency determined that incorporating ANSI Z89.1-2009 into 29 CFR 1910.135(b)(1), 1915.155(b)(1), 1917.93(b)(1), and 1918.103(b)(1) will not add a compliance burden for employers. OSHA invites the public to comment on whether the revisions in the 2009 edition of the consensus standard represent current industry practice.

## B. Updating the Construction Industry Standard

The 2009 revision to the general industry and maritime industry personal protective equipment standards did not address the construction standards requiring personal protective equipment. Therefore, the construction standards at 29 CFR 1926.100(b) and (c) still require compliance with ANSI Z89.1-1969 and ANSI Z89.2-1971, respectively. These consensus standards, which set forth requirements regarding different types of helmets now both addressed in Z89.1, are out of date.<sup>1</sup>

In view of the limited useful life of protective helmets and the length of time (over 40 years) since OSHA last updated these standards, the Agency believes that no protective helmets currently are available or in use that manufacturers tested in accordance with the requirements of ANSI Z89.1-1969 and ANSI Z89.2-1971. To bring the construction standard up to date and to ensure consistency across OSHA standards, OSHA is amending 29 CFR 1926.6 and 1926.100 to permit compliance with ANSI Z89.1-1997, ANSI Z89.1-2003, or ANSI Z89.1-2009.

In reviewing ANSI Z89.1-2009, the Agency prepared side-by-side comparisons of the 2009 edition of ANSI Z89.1 with the 1969 edition of ANSI Z89.1 and the 1971 edition of ANSI Z89.2; Table 2 provides the results of these comparisons. Z89.1-1969 addresses protective helmets of all types, except those helmets that protect employees from high-voltage electric shock and burns. ANSI Z89.2-1971 addresses protective helmets that protect employees from high-voltage electric shock and burns. ANSI subsequently combined the testing requirements of these standards in the 1997, 2003, and 2009 editions of ANSI Z89.1; therefore, these editions of ANSI Z89.1 address all types

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<sup>1</sup>As noted earlier in Section I (“Background”) of in this *Federal Register* notice, OSHA did not include the construction industry in the previous rulemaking that updated the head-protection standards because of the size of the undertaking and OSHA’s limited resources.

of helmets, including helmets that protect employees from falling-object and electrical hazards.

As Table 2 demonstrates, the 2009 edition of the ANSI Z89.1 differs from ANSI Z89.1-1969 and ANSI Z89.2-1971. The 2009 edition defines Type I and Type II helmets by the areas of the head to which the helmets afford protection, rather than by whether the helmets have a brim. The 2009 edition also renames the classes of helmets tested for protection against electrical hazards (*i.e.*, classes G, E, and C instead of A, B, and C), although it still bases helmet classification on the capacity of the helmet to protect employees from electrical hazards. In addition, the 2009 edition eliminates a fourth class of helmets used in fire fighting. Many requirements included in the 1969 and 1971 editions, such as requirements specifying the type of material manufacturers must use when making different components and specifications regarding helmet accessories, no longer appear in the 2009 edition. Most importantly, ANSI revised the performance requirements and test methods. Accordingly, the 2009 edition includes fundamental updates such as more and different types of test methods, and the use of different equipment for performing these test methods. Other variations between the 2009 and 1969 and 1971 editions emanate from these fundamental updates.

**Table 2—Differences Between ANSI Z89.1-2009 and ANSI Z89.1-1969 and ANSI Z89.2-1971<sup>1</sup>**

| ANSI Z-89.1-2009  | ANSI Z89.1-1969   | ANSI Z89.2-1971   |
|---|---|---|
| 1.1 Scope<br>Explains that the standard describes Types and Classes, as well as testing and performance requirements for protective | 1 Scope<br>Explains that the standard establishes specifications for helmets that protect the heads of occupational workers from impact and | 1.1 Scope<br>Explains that the standard establishes specifications for helmets to protect the heads of electrical workers from impact and |

| ANSI Z-89.1-2009  | ANSI Z89.1-1969   | ANSI Z89.2-1971   |
|---|---|---|
| helmets.  | penetration from falling and flying object, and from limited electric shock and burn, but does not include high-voltage protective helmets. | penetration from falling or flying objects, and from high-voltage electric shock and burn.  |
| <p>1.2 Purpose</p> <p>Explains that the standard establishes minimum performance requirements for protective helmets that reduce the forces of impact and penetration, and that may provide protection from electric shock.</p>   | No purpose section.   | <p>1.2 Purpose</p> <p>Explains that the standard contains general, detailed, and physical requirements for the procurement of helmets that afford optimum protection for electrical workers, and includes supplemental safety requirements recommended for authorities considering establishing regulations or codes concerning the use of protective helmets for electrical workers.</p> |
| <p>1.3 Limitations</p> <p>Explains the limitations of protective helmets that meet the requirements of the standard in preventing injuries.</p>   | No limitations section.   | No limitations section.   |
| <p>2 Compliance</p> <p>Provides that “[a]ny statement(s) of compliance with this standard shall mean that the product meets all applicable requirements for the Type and Class. It is specifically intended that partial utilization of this standard is prohibited.”</p> | No compliance section.  | No compliance section.  |
| <p>3 Definitions</p> <p>Does not define “sweatband” or “winter liner.” Modifies slightly</p>  | <p>2 Definitions</p> <p>Provides definitions for “brim,” chin strap,” “crown straps,”</p>   | <p>2 Definitions</p> <p>Same definitions as ANSI Z89.1-1969.</p>  |

| ANSI Z-89.1-2009  | ANSI Z89.1-1969  | ANSI Z89.2-1971   |
|---|--|---|
| <p>the definitions of “brim,” “crown strap,” and “headband.” Modifies the definitions of “chin straps,” “helmet,” “nape strap,” “peak,” “shell,” and “suspension.” Adds definitions of “accessory,” “apex,” “basic plane,” “dynamic test line (DTL),” “flammability,” “harness,” “manufacturer,” “midsagittal plane,” “positioning index,” “projection,” “protective padding,” “reference plane,” “reference headform,” “shall,” “should,” “static test line (STL),” “test line,” and “test plaque.” Removes definitions of “sweatband” and “winter liner.”</p> | <p>“headband,” “helmet,” “nape strap,” “peak,” “shell,” “suspension,” “sweatband,” and “winter liner.”</p>   |   |
| <p>4 Types and Classes<br/>Classifies helmets as either as Type I or Type II, and either as meeting the Class G, E, or C electrical requirements. Also notes that manufacturers must mark helmets meeting the reverse-wearing requirements accordingly.</p> <p>4.1 Defines Type 1 helmets as helmets “intended to reduce the force of impact resulting from a blow only to the top of the head,” and Type 2 helmets as helmets “intended to reduce the</p>  | <p>3 Types and Classes<br/>Lists the following types and classes: Type 1 – Helmet, full brim, Type 2 – Helmet, brimless, with peak, Class A – Limited voltage protection, Class C – No voltage protection, and Class D – Limited voltage protection, Fire Fighters’ Service, Type 1, only. No provisions comparable to 4.1 and 4.2 of ANSI Z89.1-2009.</p> | <p>3 Types and Classes<br/>Lists the following types and class: Type 1 – Helmet, full brim, Type 2 – Helmet, brimless with peak, and Class B – High-voltage protection. No provisions comparable to 4.1 and 4.2 of ANSI Z89.1-2009.</p> |

| ANSI Z-89.1-2009  | ANSI Z89.1-1969   | ANSI Z89.2-1971   |
|---|---|---|
| <p>force of impact resulting from a blow to the top or sides of the head.”</p> <p>4.2 Defines Class G (General) helmets as helmets “intended to reduce the danger of contact with low voltage conductors,” Class E (Electrical) helmets as helmets “intended to reduce the danger of contact with higher voltage conductors,” and Class C (Conductive) helmets as helmets “not intended to provide protection against contact with electrical hazards.”</p> |   |   |
| <p>4.3 Reverse Wearing<br/>Helmets manufactured for reverse wearing must pass all optional testing requirements whether worn facing forward or backwards in accordance with the manufacturers’ instructions.</p>  | No reverse wearing option.  | No reverse wearing option.  |
| No materials section.   | <p>4 Materials<br/>Provides general specifications regarding materials used in helmets, such materials that are water resistant, slow burning, non-irritating to normal skin, and, for Class D helmets, fire resistant.</p> | No materials section.   |
| No recommended supplemental requirements section.   | No recommended supplemental requirements section.   | <p>4 Recommended Supplemental Requirements<br/>Describes requirements recommended for</p> |

| ANSI Z-89.1-2009   | ANSI Z89.1-1969   | ANSI Z89.2-1971   |
|--|---|---|
|  |   | authorities considering establishing regulations or codes concerning the use of protective helmets for electrical workers, including when helmets are necessary, what minimum requirements they should meet, etc. |
| No general requirements section.   | 5 General Requirements<br>Sets forth requirements regarding pieces of protective helmets, including its shell (5.1), headband (5.2), sweatband (5.2.1), and crown straps (5.3).                                   | 5 General Requirements<br>Sets forth requirements regarding pieces of protective helmets, including its shell (5.2), headband (5.3), sweatband (5.3.1), and crown straps (5.4).                                   |
| 5 Accessories<br>Provides that “[a]ccessories installed by the manufacturer shall not cause the helmet to fail the requirements of this standard.”   | 5.4 Accessories<br>Sets forth requirements regarding specific helmet accessories: chin strap and nape strap (5.4.1.), winter liners (5.4.2), face shields and welding helmets (5.4.3), and lamp brackets (5.4.4). | 5.5 Accessories<br>Sets forth requirements regarding specific helmet accessories: chin strap and nape strap (5.5.1), winter liners (5.5.2), and face shields (5.5.3).   |
| 6.1 Instructions<br>Requires instructions “explaining the proper method of size adjustment, use, care, useful service life guidelines and, if applicable, reverse wearing.”                | 5.5 Instructions<br>Provides that “[e]ach helmet shall be accompanied by instructions explaining the proper method of adjusting the suspension and headband.”   | 5.6 Instructions<br>Provides only that “[e]ach helmet shall be accompanied by instructions explaining the proper method of adjusting the suspension and headband.”  |
| 6.2 Marking<br>Requires that manufacturers permanently mark helmets with the name of the manufacturer, the date of manufacture, “ANSI/ISEA Z89.1,” the Type and Class designations and any | 5.6 Marking<br>Requires that manufacturers mark helmets with the name of the manufacturer, “ANSI Z89.1-1969,” and the Class. Specifies the minimum size of the markings.  | 5.7 Marking<br>Requires only that helmets be marked with the name of the manufacturer, “ANSI Z89.2-1971,” and “Class B.” Specifies the minimum size of the markings.  |

| <b>ANSI Z-89.1-2009</b>  | <b>ANSI Z89.1-1969</b>   | <b>ANSI Z89.2-1971</b>   |
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| applicable optional marking criteria, and the approximate headsize range. Specifies the minimum size of the markings.  |  |  |
| No separate, detailed requirements section.  | 6 Detailed Requirements<br>Provides additional, specific requirements regarding the helmet's shell (6.1), headband (6.2), sweatband (6.2.1), and crown straps (6.3).   | 6 Detailed Requirements<br>Provides additional, specific requirements regarding the helmet's shell (6.1), headband (6.2), sweatband (6.2.1), and crown straps (6.3).   |
| 7 Performance Requirements<br>Sets forth test results required when testing facilities test Type I and Type II helmets for flammability (7.1.1), force transmission (7.1.2), apex penetration (7.1.3), and electrical insulation properties for Class G (7.1.4.1) and Class E (7.1.4.2) ratings. Additional testing for Type II helmets for impact-energy attenuation (7.2.1), off-center penetration (7.2.2), and chin-strap retention (7.2.3). Requirements for optional testing of reverse-wearing helmets (7.3.1) and high-visibility helmets (7.3.2). | 7 Physical Requirements<br>Sets forth test results required when testing facilities test Class A, Class C, and Class D helmets, as applicable, for insulation resistance (not applicable to Class C helmets) (7.1), impact resistance (7.2), penetration resistance (7.3), weight (7.4), flammability (7.5), and water absorption (7.6). | 7 Physical Requirements<br>Sets forth test results required when testing facilities test Class B helmets for insulation resistance (7.1), impact resistance (7.2), penetration resistance (7.3), weight (7.4), flammability (7.5), and water absorption (7.6). |
| 8 Selection and Preparation of Test Samples<br><br>8.1 Headforms<br>Provides instructions  | 8 Methods of Test<br><br>8.1 Preparation of Samples<br>Requires that, for insulation resistance and  | Methods of Test<br><br>8.1 Preparation of Samples<br>Requires that, for insulation resistance and  |

| <b>ANSI Z-89.1-2009</b>   | <b>ANSI Z89.1-1969</b>  | <b>ANSI Z89.2-1971</b>  |
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| <p>regarding the materials and size of headforms the testing facility is to use in each type of test; explains that reference test lines are necessary; and notes that various attached figures show the manner in which testing facilities are to mount headforms in preparation for each type of test.</p> <p><b>8.2 Test Samples</b><br/>Explains how many samples are necessary for testing, refers to Table 3 for the order of testing, and provides temperatures and, in cases of disagreements, humidity levels at which testing must occur.</p> <p><b>8.3 Test Sample Markings</b><br/>Requires the testing facility to mark test samples to indicate the location of reference test lines, and describes procedures for marking the dynamic test line (DTL) and static test line (STL).</p> <p><b>8.4 Helmet Preconditioning</b><br/>Describes procedures for preconditioning test samples in hot, cold, optional lower temperatures, and wet conditions; this section also provides time limits after</p> | <p>water absorption tests, the testing facility remove any coating over the sample helmets. Provides temperatures and, in cases of disagreement, humidity levels at which testing must occur.</p> | <p>water absorption tests, the testing facility remove any coating over the sample helmets. Provides temperatures and, in cases of disagreement, humidity levels at which testing must occur.</p> |

| ANSI Z-89.1-2009  | ANSI Z89.1-1969   | ANSI Z89.2-1971  |
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| preconditioning for the test facility to conduct impact, penetration, and chin-strap retention tests.   |   |  |
| <p>9 Test Methods</p> <p>9.1 Flammability<br/>For flammability testing, describes the method for preparing (marking) test samples, components of the test apparatus, calibration, test procedures, and recording results.</p> <p>9.2 Force Transmission<br/>For force-transmission testing, describes the test method for preparing (conditioning) test samples, components of the test apparatus, mounting samples, calibration, test procedures, and recording results.</p> <p>9.3 Apex Penetration<br/>Describes the test method for preparing (conditioning) test samples, components of the test apparatus, mounting samples, calibration, test procedures, and recording results.</p> <p>9.4 Impact Energy Attenuation<br/>Describes methods for preparing (marking and conditioning) test samples,</p> | <p>8 Methods of Test<br/>See Section 8.5 (“Flammability”) below.</p> <p>8.2 Insulation Resistance Test<br/>Describes components of the test apparatus, mounting specimens, test procedures, and reporting results.</p> <p>8.3 Impact Resistance Tests<br/>Describes components of the test apparatus, mounting specimens, test procedures, and reporting results.</p> <p>8.4 Penetration Resistance<br/>Describes the components of the test apparatus, mounting specimens, test procedures, and reporting results.</p> <p>8.5 Flammability<br/>Describes the test method to determine conformance with 7.5 (using ASTM D635-68), preparing specimens, mounting specimens, test procedure, and reporting results.</p> <p>8.6 Water Absorption</p> | <p>8 Methods of Test<br/>See Section 8.5 (“Flammability Test”) below.</p> <p>8.2 Insulation Resistance Test<br/>Describes components of the test apparatus, mounting of specimens, test procedures, and reporting results.</p> <p>8.3 Impact Resistance Tests<br/>Describes components of the test apparatus, mounting specimens, test procedures for the impact-absorption test and mechanical-proof test, and reporting results.</p> <p>8.4 Penetration Resistance Test<br/>Describes the components of the test apparatus, mounting specimens, test procedures, and reporting results.</p> <p>8.5 Flammability Test<br/>Describes the test method to determine conformance with 7.5 (using ANSI K.65.21-1969/ASTM D</p> |

| ANSI Z-89.1-2009  | ANSI Z89.1-1969   | ANSI Z89.2-1971   |
|---|---|---|
| <p>components of the test apparatus, methods for mounting samples, the impact anvil, the test headform, the accelerometer, calibration, test procedures, and recording results.</p> <p>9.5 Off Center Penetration<br/>Describes methods for preparing (marking and conditioning) test samples, components of the test apparatus, methods for mounting samples, calibration, test procedures, and recording results.</p> <p>9.6 Chin Strap Retention (Type II only)<br/>Describes methods for preparing (conditioning) test samples, components of the test apparatus, calibration, test procedures, and recording results.</p> <p>9.7 Electrical Insulation<br/>Describes methods for preparing test samples (for Class E only, force-transmission test, one conditioned hot and one conditioned cold), components of the test apparatus, calibration, test procedures (separately for Class G and Class E helmets), and recording results.</p> | <p>Describes the components of the test apparatus, mounting specimens, test procedures, and reporting results.</p> <p>See Section 8.2 (“Insulation Resistance Test”) above.</p> | <p>635-1969, and provides instructions for reporting results.</p> <p>8.6 Water Absorption Test<br/>Describes the components of the test apparatus, mounting specimens, test procedures, and reporting results.</p> <p>See Section 8.2 (“Insulation Resistance Test”) above.</p> |

| ANSI Z-89.1-2009   | ANSI Z89.1-1969   | ANSI Z89.2-1971  |
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| 9.8 High-Visibility Testing<br>Describes procedures for sampling and conditioning test plaques, and determining color.   |   |  |
| 10 Normative References<br>Provides complete citations for standards on colorimetry, headforms, and instrumentation referenced in ANSI Z89.1-2009.   | No section on reference standards.  | 9 Revision of American National Standards Referred to in This Document<br>Notes that recently published ANSI standards supersede the ANSI standards on flammability testing, and eye and face protection, referenced in ANSI Z89.2-1971. |
| Table 1 Color, High-Visibility Helmets<br>Provides information about chromaticity and minimum total luminance factors.   | No comparable table.  | No comparable table.   |
| Table 2 Sizing Chart<br>Provides sizing guidance for 17 head-band sizes ranging from 6½ to 8½ inches.  | No comparable table.  | Table 1 Comparative Hat and Cap Sizes<br>Provides sizing guidance for 13 head-band sizes ranging from 6½ to 8 inches.  |
| No comparable tables.  | Table 1 Transmitted Forces in Pounds<br>Provides force values based on Brinell hardness numbers and the diameter of the impression. | Table 2 Transmitted Forces in Pounds<br>Provides force values based on Brinell hardness numbers and the diameter of the impression.  |
| Table 3 Schedule of Tests<br>Lists for each combination of test method and type of preconditioning, the minimum number of samples, test sample numbers, and test sequence for each helmet type and | No comparable table.  | No comparable table.   |

| ANSI Z-89.1-2009  | ANSI Z89.1-1969   | ANSI Z89.2-1971   |
|---|---|---|
| class. Also provides additional instructions regarding testing each type and class of helmet.   |   |   |
| Figure 1<br>Diagram of the ISO headform, with dimensions for sizes E, J, and M of the headform. | No comparable figure.   | No comparable figure.   |
| No comparable figure.   | Figure 1<br>Schematic of a Brinell Hardness Penetrator Assembly.                        | Figure 1<br>Schematic of a Brinell Hardness Penetrator Assembly.                        |
| Figure 2<br>Diagram of the proper location of the Dynamic Test Line.                            | No comparable figure. <sup>2</sup>  | No comparable figure. <sup>2</sup>  |
| No comparable photograph.   | Figure 2<br>Photograph of a suggested apparatus for the measurement of crown clearance. | Figure 2<br>Photograph of a suggested apparatus for the measurement of crown clearance. |
| Figure 3<br>Diagram of the headform used for force-transmission testing.                        | No comparable figure.   | No comparable figure.   |
| Figure 4<br>Diagram of a typical impact-energy attenuation headform fixture.                    | No comparable figure.   | No comparable figure.   |
| Figure 5<br>Diagram of a typical penetration headform fixture.                                  | No comparable figure.   | No comparable figure.   |
| Figure 6<br>Diagram of a chin-strap-retention test apparatus.                                   | No comparable figure.   | No comparable figure.   |
| Figure 7<br>Diagram of a typical force-transmission test apparatus.                             | No comparable figure.   | No comparable figure.   |
| Figure 8  | No comparable figure.   | No comparable figure.   |

| ANSI Z-89.1-2009  | ANSI Z89.1-1969   | ANSI Z89.2-1971   |
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| Diagram of a typical penetration test apparatus.  |   |   |
| Figure 9<br>Diagram of a typical penetrator.  | No comparable figure.   | No comparable figure.   |
| Figure 10<br>Diagram of a typical impact-energy attenuation test apparatus.   | No comparable figure.   | No comparable figure.   |
| Figure 11<br>Diagram of the proper location of the Static Test Line.  | No comparable figure. <sup>3</sup>  | No comparable figure. <sup>3</sup>  |
| Figure 12<br>Diagram of a flammability test apparatus.  | No comparable figure.   | No comparable figure.   |
| Appendix A<br>Recommendations, Cautions, Use, and Care<br>Provides guidance regarding instructions and warnings on helmets, fitting, cleaning, painting, and inspecting helmets, limitations of helmet protection ( <i>i.e.</i> , conditions that may reduce the protection afforded by helmets), precautions to use when handling helmets, and safe conditions ( <i>i.e.</i> , that impact, penetration, and electrical-insulation testing does not indicate safe impact- and voltage-exposure levels for industrial workers). | Appendix A1<br>Recommendations Concerning Equipment<br>Provides guidance regarding tying laces, painting and cleaning shells, periodic inspection of shells and helmet components for damage and wear (including removal from service when necessary), limitations of helmet protection ( <i>i.e.</i> , conditions that may reduce the protection afforded by helmets), sizes ( <i>i.e.</i> , the provision of extra-small and extra-large helmet sizes by manufacturers), and precautions to use when handling helmets). | Appendix<br>Recommendations and Precautions Concerning Helmet Use and Maintenance<br>Provides guidance regarding tying laces, cleaning shells, periodic inspection of shells and helmet components for damage and wear (including removal from service when necessary), limitations of helmet protection ( <i>i.e.</i> , conditions that may reduce the protection afforded by helmets), sizes ( <i>i.e.</i> , the provision of extra-small and extra-large helmet sizes by manufacturers), precautions to use when handling helmets, safe voltages ( <i>i.e.</i> , that the “mechanical proof test” and “minimum breakdown |

| ANSI Z-89.1-2009  | ANSI Z89.1-1969         | ANSI Z89.2-1971   |
|---|-------------------------|---|
|   |                         | voltage test” do not indicate safe voltage levels for using insulating safety headgear), and inspection ( <i>i.e.</i> , use of periodic visual inspections and electrical tests to detect conditions of helmets that may impair their dielectric strength). |
| Appendix B Electrical Insulation Testing<br>Describes equipment guidelines and precautions for high-voltage test equipment.   | No comparable appendix. | No comparable appendix.   |
| Appendix C Force Transmission Testing<br>Provides design and performance specifications for equipment used in force-transmission testing, calibration procedures for this test equipment (including force-measuring systems and velocity-measuring systems), and a procedure for determining the repeatability value the impactor (and specifications for acceptable values). | No comparable appendix. | No comparable appendix.   |
| Appendix D Impact Energy Attenuation Testing<br>Provides design and performance specifications for equipment used in impact-energy attenuation testing.   | No comparable appendix. | No comparable appendix.   |
| Appendix E Test Equipment Sources<br>Provides a list of sources for suitable test equipment.  | No comparable appendix. | No comparable appendix.   |

<sup>1</sup>This table provides only a summary of the differences among these three standards, and may not describe completely all of the differences among the standards or the content of any provision of the standards. Consult the published versions of the standards for an accurate determination of the differences among the standards.

<sup>2</sup>No provision of the standard addresses the Dynamic Test Line.

<sup>3</sup>No provision of the standard addresses the Static Test Line.

OSHA believes that it is consistent with the usual and customary practice of employers in the construction industry to require use of head protection that complies with ANSI Z89.1-2009, ANSI Z89.1-2003, or ANSI Z89.1-1997. OSHA further believes that the provisions of ANSI Z89.1-1969 and ANSI Z89.2-1971 are outdated, and employers in the industry are not using head protection that complies with the testing requirements of these outdated standards. Accordingly, the Agency determined that incorporating these editions of ANSI Z89.1 consensus standards for head protection into 29 CFR 1926.100(b) does not add a compliance burden for employers. OSHA invites the public to comment on whether use of head protection compliant with ANSI Z89.1-2009, ANSI Z89.1-2003, or ANSI Z89.1-1997 represents current industry practice.

Paragraph (b)(2) of this direct final rule for head protection in construction (*see* § 1926.100 (Head protection) below) addresses the requirement for the employer to ensure that the head protection provided for each employee exposed to high-voltage electric shock and burns also meets the specifications contained in Section 9.7 (“Electrical Insulation”) of any of the consensus standards identified in paragraph (b)(1) of this section. This requirement updates paragraph (c) of existing § 1926.100, which references outdated ANSI Z89.2-1971 (“Safety Requirements for Industrial Protective Helmets for Electrical Workers, Class B”). ANSI subsequently discontinued this separate consensus standard and included its provisions in ANSI Z89.1 beginning with the 1981 edition of ANSI Z89.1. OSHA is including paragraph (b)(2) in this direct final rule to emphasize that employers must ensure that each employee exposed to the hazards of high-voltage

electric shock and burns wears head protection that complies with the electrical-insulation testing requirements specified in Section 9.7 of the 1997, 2003, or 2009 editions of ANZI Z89.1, in addition to the requirements in those consensus standards that test helmets for protection against falling-object hazards under various conditions.

In addition to updating the references to ANSI Z89.1, OSHA is adding a provision to the construction standard that permits an employer to use head protection that is not manufactured in accordance with one of the incorporated ANSI Z89.1 consensus standards if the employer can demonstrate that the head protection it selects protects employees at least as effectively as head protection tested and constructed in accordance with one of the incorporated ANSI Z89.1 standards. Currently, the construction standard does not include such a provision. However, the general industry and maritime industry standards do include such a provision (*e.g.*, § 1910.135(b)(2)). Therefore, to allow flexibility and ensure consistency across standards, OSHA also is adding identical language to the construction standard.

In conclusion, OSHA examined the standards for head protection issued by ANSI over the last 40 years, and found that these standards reflect the state of the art in terms of design safety that existed when ANSI issued them. However, OSHA also found improvements in the design-safety requirements of each successive edition of these standards that would enhance employee protection from falling-object and electrical hazards.

#### **IV. Procedural Determinations**

##### **A. Legal Considerations**

The purpose of the Occupational Safety and Health Act of 1970 (OSH Act), 29 U.S.C. 651 *et seq.*, is to achieve to the extent possible safe and healthful working conditions for all employees. 29 U.S.C. 651(b). To achieve this goal, Congress authorized the Secretary of Labor to promulgate and enforce occupational safety and health standards. 29 U.S.C. 654(b), 655(b). A safety or health standard is a standard that “requires conditions, or the adoption or use of one or more practices, means, methods, operations, processes reasonably necessary or appropriate to provide safe or healthful employment or places of employment.” 29 U.S.C. 652(8). A standard is reasonably necessary or appropriate within the meaning of Section 652(8) of the OSH Act when a significant risk of material harm exists in the workplace and the proposed standard would substantially reduce or eliminate that workplace risk. *See Industrial Union Department, AFL-CIO v. American Petroleum Institute*, 448 U.S. 607 (1980). OSHA already determined that requirements for head protection, including design requirements, are reasonably necessary or appropriate within the meaning of Section 652(8).

This direct final rule neither reduces employee protection nor alters an employer's obligations under the existing standards. OSHA believes that, under this direct final rule, employers will be able to continue to use the same equipment they are using currently to meet their compliance obligation under the existing standards' design-criteria requirements. This direct final rule provides employers with additional options for meeting the design-criteria requirements for head protection—options most employers already are using. Therefore, this direct final rule does not alter the substantive protection that employers must provide to employees and the compliance burdens on employers. Accordingly, OSHA need not, in this rulemaking, determine significant risk

or the extent to which this direct final rule will reduce that risk, as typically required by Industrial Union Department.

#### B. Final Economic Analysis and Regulatory Flexibility Act Certification

This direct final rule is not economically significant within the context of Executive Order 12866, or a major rule under the Unfunded Mandates Reform Act or Section 801 of the Small Business Regulatory Enforcement Fairness Act. In addition, this direct final rule complies with Executive Order 13563. The rulemaking 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 relevant statutes.

This rulemaking allows employers increased flexibility in choosing head protection for employees. However, this direct final rule does not require an employer to update or replace its head protection solely as a result of this rule if the head protection currently in use meets the revised standards. Furthermore, because the rule imposes no costs, OSHA certifies that it will not have a significant economic impact on a substantial number of small entities.

#### C. OMB Review Under the Paperwork Reduction Act of 1995

This rulemaking does not impose new information-collection requirements for purposes of the Paperwork Reduction Act of 1995, 44 U.S.C. 3501-30. Accordingly, the Agency does not have to prepare an Information Collection Request in association with this rulemaking.

Members of the public may respond to this paperwork determination by sending their written comments to the Office of Information and Regulatory Affairs, Attn: OSHA

Desk Officer (RIN 1218-AC08), Office of Management and Budget, Room 10235, 725 17th Street NW., Washington, DC 20503. The Agency encourages commenters to submit these comments to the rulemaking docket, along with their comments on other parts of this direct final rule. For instructions on submitting these comments and accessing the docket, *see* the sections of this *Federal Register* notice titled **DATES** and **ADDRESSES**. However, OSHA will not consider any comment received on this paperwork determination to be a “significant adverse comment” as specified above under Section II (“Direct Final Rulemaking”).

To make inquiries, or to request other information, contact Mr. Todd Owen, Directorate of Standards and Guidance, OSHA, Room N-3609, U.S. Department of Labor, 200 Constitution Ave., NW., Washington, DC 20210; telephone (202) 693-2222.

#### D. Federalism

OSHA reviewed this direct final rule in accordance with the Executive Order on Federalism (Executive Order 13132, 64 FR 43255, August 10, 1999), 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 clear constitutional authority exists and the problem is national in scope. Executive Order 13132 provides for preemption of state law only with the expressed consent of Congress. Agencies must limit any such preemption to the extent possible.

Under Section 18 of the Occupational Safety and Health Act of 1970 (OSH Act; 29 U.S.C. 667), Congress expressly provides that states may adopt, with Federal approval, a plan for the development and enforcement of occupational safety and health

standards; states that obtain Federal approval for such a plan are referred to as “State-Plan States.” (29 U.S.C. 667.) Occupational safety and health standards developed by State-Plan States must 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 under state law their own requirements for occupational safety and health standards.

While OSHA drafted this direct final rule to protect employees in every state, Section 18(c)(2) of the Act permits State-Plan States and U.S. Territories to develop and enforce their own standards for the design of head protection provided these requirements are at least as effective in providing safe and healthful employment and places of employment as the requirements specified in this direct final rule.

In summary, this direct final rule complies with Executive Order 13132. In states without OSHA-approved state plans, this rulemaking limits state policy options in the same manner as other OSHA standards. In State-Plan States, this rulemaking does not significantly limit state policy options because, as explained in the following section, State-Plan States do not have to adopt this direct final rule.

#### E. State-Plan States

When Federal OSHA promulgates a new standard or amends an existing standard to be more stringent than it was previously, the 27 states or U.S. territories with their own OSHA-approved occupational safety and health plans must revise their standards to reflect the new standard or amendment, or show OSHA why such action is unnecessary, *e.g.*, because an existing state standard covering this area is at least as effective as the new Federal standard or amendment. 29 CFR 1953.5(a). In this regard, the state

standard must be at least as effective as the final Federal rule. State-Plan States must adopt the Federal standard or complete their own standard within six months of the publication date of the final Federal rule. When OSHA promulgates a new standard or amendment that does not impose additional or more stringent requirements than the existing standard, State-Plan States need not amend their standards, although OSHA may encourage them to do so. The following 22 states and U.S. territories have OSHA-approved occupational safety and health plans that apply only to private-sector employers: Alaska, Arizona, California, Hawaii, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, Nevada, New Mexico, North Carolina, Oregon, Puerto Rico, South Carolina, Tennessee, Utah, Vermont, Virginia, Washington, and Wyoming. In addition, Connecticut, Illinois, New Jersey, New York, and the Virgin Islands have OSHA-approved State Plans that apply only to state and local government employees.

With regard to this direct final rule, it will not impose any additional or more stringent requirements on employers compared to existing OSHA standards. Through this rulemaking, OSHA is updating the references in its standards to recognize the recent edition of the applicable national consensus standard, and deleting outdated editions of the national consensus standards referenced in its existing head protection standards. This direct final rule does not require employers to update or replace their head-protection equipment solely as a result of this rulemaking if the equipment currently in use meets the requirements of this direct final rule. OSHA believes that removing references to ANSI Z89.1-1969 and -1986, and ANSI Z89.2-1971, will have no affect on employers because, in view of the limited useful life of protective helmets, the Agency

assumes that no protective helmets currently are available or in use that manufacturers tested in accordance with these consensus standards.

Therefore, this direct final rule does not require action under 29 CFR 1953.5(a), and State-Plan States do not need to adopt this rule or show OSHA why such action is unnecessary. However, to the extent these State-Plan States have the same standards as the OSHA standards affected by this direct final rule, OSHA encourages them to adopt the amendments.

#### F. Unfunded Mandates Reform Act

OSHA reviewed this direct final rule according to the Unfunded Mandates Reform Act of 1995 (UMRA; 2 U.S.C. 1501 *et seq.*) and Executive Order 12875 (58 FR 58093, Oct. 28, 1993). 75 FR at 48130. As discussed above in Section IV.B (“Final Economic Analysis and Regulatory Flexibility Certification”) of this preamble, OSHA determined that this direct final rule imposes no additional costs on any private-sector or public-sector entity. Accordingly, this direct final rule requires no additional expenditures by either public or private employers.

As noted above under Section IV.E (“State-Plan States”) of this preamble, OSHA standards do not apply to state or local governments except in states that elected voluntarily to adopt an OSHA-approved state plan. Consequently, this direct final rule does not meet the definition of a “Federal intergovernmental mandate” (*see* Section 421(5) of the UMRA (2 U.S.C. 658(5)). Therefore, for the purposes of the UMRA, OSHA certifies that this direct final rule does not mandate that state, local, or tribal governments adopt new, unfunded regulatory obligations, or increase expenditures by the private sector of more than \$100 million in any year.

#### G. Consultation and Coordination with Indian Tribal Governments

OSHA reviewed this direct final rule in accordance with Executive Order 13175, 65 FR 67,249 (Nov. 9, 2000), and determined that it does not have “tribal implications” as defined in that order. This direct final rule does not have substantial direct effects on one or more Indian tribes, on the relationship between the Federal government and Indian tribes, or on the distribution of power and responsibilities between the Federal government and Indian tribes.

#### H. Consultation with the Advisory Committee on Construction Safety and Health

Under 29 CFR parts 1911 and 1912, OSHA must consult with the Advisory Committee on Construction Safety and Health (ACCSH or “the Committee”), established pursuant to Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3701 *et seq.*), in setting standards for construction work. Specifically, § 1911.10(a) requires the Assistant Secretary to provide ACCSH with a draft proposed rule (along with pertinent factual information) and give the Committee an opportunity to submit recommendations. *See* also §1912.3(a) (“[W]henver occupational safety or health standards for construction activities are proposed, the Assistant Secretary [for Occupational Safety and Health] shall consult the Advisory Committee.”).

On December 15, 2011, OSHA presented a draft of this direct final rule to ACCSH, as well as tables comparing the provisions of the outdated reference standards with the provisions of the recent editions of ANSI Z89.1. OSHA then explained that the rule would update the references to ANSI Z89.1 and Z89.2 in the current construction standard. The ACCSH subsequently recommended that OSHA pursue this rulemaking and replace the outdated references to ANSI Z89.1-1969 in the current construction

standard for head protection with references to the 1997, 2003, and 2009 editions of ANSI Z89.1, and replace the outdated reference to ANSI Z89.2-1971 with the 2009 edition of ANSI Z89.1. (A transcription of these proceedings is available at Ex. Docket No. OSHA-2011-0124-0025, pp. 237-245.)

#### **V. Authority and Signature**

David Michaels, Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, 200 Constitution Ave., N.W., Washington, DC 20210, authorized the preparation of this direct final rule. OSHA is issuing this direct final rule pursuant to 29 U.S.C. 653, 655, 657, 5 U.S.C. 553, Secretary of Labor's Order 1-2012 (77 FR 3912), and 29 CFR Part 1911.

#### **List of Subjects in 29 CFR Parts 1910, 1915, 1917, 1918, and 1926**

Head protection, Incorporation by reference, Occupational safety and health, Safety.

Signed at Washington, DC on June 14, 2012.

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**David Michaels,**  
*Assistant Secretary of Labor for Occupational Safety and Health.*

#### **Amendments to Standards**

For the reasons stated above in the preamble, the Occupational Safety and Health Administration is amending 29 CFR Parts 1910, 1915, 1917, 1918, and 1926 as follows:

#### **PART 1910—[AMENDED]**

#### **Subpart A—[Amended]**

1. Revise the authority citation for subpart A of part 1910 to read as follows:

**AUTHORITY:** 29 U.S.C. 653, 655, 657; Secretary of Labor's Order Numbers 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), 5-2002 (67 FR 65008), 5-2007 (72 FR 31159), 4-2010 (75 FR 55355), or 1-2012 (77 FR 3912), as applicable.

Sections 1910.6, 1910.7, 1910.8 and 1910.9 also issued under 29 CFR 1911. Section 1910.7(f) also issued under 31 U.S.C. 9701, 29 U.S.C. 9a, 5 U.S.C. 553; Public Law 106-113 (113 Stat. 1501A-222); Pub. L. 11-8 and 111-317; and OMB Circular A-25 (dated July 8, 1993) (58 FR 38142, July 15, 1993).

2. Amend §1910.6 by revising paragraphs (e)(71) through (e)(73) to read as follows:

**§ 1910.6 Incorporation by reference.**

\* \* \* \* \*

(e) \* \* \*

(71) American National Standards Institute (ANSI) Z89.1-2009, American National Standard for Industrial Head Protection, approved January 26, 2009; IBR approved for § 1910.135(b)(1)(i). Copies of ANSI Z89.1-2009 are available for purchase only from the International Safety Equipment Association, 1901 North Moore Street, Arlington, VA 22209-1762; telephone: 703-525-1695; fax: 703-528-2148; website: [www.safetysiteequipment.org](http://www.safetysiteequipment.org).

(72) American National Standards Institute (ANSI) Z89.1-2003, American National Standard for Industrial Head Protection; IBR approved for § 1910.135(b)(1)(ii). Copies of ANSI Z89.1-2003 are available for purchase only from the International Safety Equipment Association, 1901 North Moore Street, Arlington, VA 22209-1762; telephone: 703-525-1695; fax: 703-528-2148; website: [www.safetysiteequipment.org](http://www.safetysiteequipment.org).

(73) American National Standards Institute (ANSI) Z89.1-1997, American National Standard for Personnel Protection—Protective Headwear for Industrial Workers—Requirements; IBR approved for § 1910.135(b)(1)(iii). Copies of ANSI Z89.1-1997 are available for purchase only from the International Safety Equipment Association, 1901

North Moore Street, Arlington, VA 22209-1762; telephone: 703-525-1695; fax: 703-528-2148; website: [www.safetyequipment.org](http://www.safetyequipment.org).

\* \* \* \* \*

3. Amend § 1910.135 by revising paragraph (b)(1) to read as follows:

**§ 1910.135 Head protection.**

\* \* \* \* \*

(b) *Criteria for head protection.* (1) Head protection must comply with any of the following consensus standards:

(i) American National Standards Institute (ANSI) Z89.1-2009, “American National Standard for Industrial Head Protection,” incorporated by reference in § 1910.6;

(ii) American National Standards Institute (ANSI) Z89.1-2003, “American National Standard for Industrial Head Protection,” incorporated by reference in § 1910.6; or

(iii) American National Standards Institute (ANSI) Z89.1-1997, “American National Standard for Personnel Protection – Protective Headwear for Industrial Workers—Requirements,” incorporated by reference in § 1910.6.

\* \* \* \* \*

**PART 1915—[AMENDED]**

4. The authority citation for part 1915 continues to read as follows:

**AUTHORITY:** 33 U.S.C. 941; 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), 1-90 (55 FR 9033), 6-96 (62 FR 111), 3-2000 (65 FR 50017), 5-2002 (67 FR 65008), 5-2007 (72 FR 31160), 4-2010 (75 FR 55355), or 1-2012 (77 FR 3912), as applicable.

Section 1915.100 also issued under 49 U.S.C. 1801-1819 and 5 U.S.C. 553.

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

**Subpart A—[Amended]**

5. Amend § 1915.5 by revising paragraphs (d)(1)(ix)through (d)(1)(xi) to read as follows:

**§ 1915.5 Incorporation by reference.**

\* \* \* \* \*

(d)(1) \* \* \*

(ix) American National Standards Institute (ANSI) Z89.1-2009, American National Standard for Industrial Head Protection, approved January 26, 2009; IBR approved for § 1915.155(b)(1)(i). Copies of ANSI Z89.1-2009 are available for purchase only from the International Safety Equipment Association, 1901 North Moore Street, Arlington, VA 22209-1762; telephone: 703-525-1695; fax: 703-528-2148; website: [www.safetysafetyequipment.org](http://www.safetysafetyequipment.org).

(x) American National Standards Institute (ANSI) Z89.1-2003, American National Standard for Industrial Head Protection; IBR approved for § 1915.155(b)(1)(ii). Copies of ANSI Z89.1-2003 are available for purchase only from the International Safety Equipment Association, 1901 North Moore Street, Arlington, VA 22209-1762; telephone: 703-525-1695; fax: 703-528-2148; website: [www.safetysafetyequipment.org](http://www.safetysafetyequipment.org).

(xi) American National Standards Institute (ANSI) Z89.1-1997, American National Standard for Personnel Protection—Protective Headwear for Industrial Workers—Requirements; IBR approved for § 1915.155(b)(1)(iii). Copies of ANSI Z89.1-1997 are available for purchase only from the International Safety Equipment Association, 1901 North Moore Street, Arlington, VA 22209-1762; telephone: 703-525-1695; fax: 703-528-2148; website: [www.safetysafetyequipment.org](http://www.safetysafetyequipment.org).

\* \* \* \* \*

6. Amend § 1915.155 by revising paragraph (b)(1) to read as follows:

**§1915.155 Head protection.**

\* \* \* \* \*

(b) Criteria for protective helmets. (1) Head protection must comply with any of the following consensus standards:

- (i) American National Standards Institute (ANSI) Z89.1-2009, “American National Standard for Industrial Head Protection,” incorporated by reference in § 1915.5;
- (ii) American National Standards Institute (ANSI) Z89.1-2003, “American National Standard for Industrial Head Protection,” incorporated by reference in § 1915.5; or
- (iii) American National Standards Institute (ANSI) Z89.1-1997, “American National Standard for Personnel Protection – Protective Headwear for Industrial Workers—Requirements,” incorporated by reference in § 1915.5.

\* \* \* \* \*

**PART 1917—[AMENDED]**

7. Revise the authority citation for part 1917 to read as follows:

**AUTHORITY:** 33 U.S.C. 941; 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), 1-90 (55 FR 9033), 6-96 (62 FR 111), 3-2000 (65 FR 50017), 5-2002 (67 FR 65008), 5-2007 (72 FR 31160), 4-2010 (75 FR 55355), or 1-2012 (77 7 FR 3912), as applicable; and 29 CFR 1911.

Section 1917.28 also issued under 5 U.S.C. 553.

Section 1917.29 also issued under 49 U.S.C. 1801-1819 and 5 U.S.C. 553.

**Subpart A—[Amended]**

8. Amend § 1917.3 by revising paragraphs (b)(9) through (b)(11) to read as follows:

**§1917.3 Incorporation by reference.**

(b) \* \* \*

(9) American National Standards Institute (ANSI) Z89.1-2009, American National Standard for Industrial Head Protection, approved January 26, 2009; IBR approved for § 1917.93(b)(1)(i). Copies of ANSI Z89.1-2009 are available for purchase only from the International Safety Equipment Association, 1901 North Moore Street, Arlington, VA 22209-1762; telephone: 703-525-1695; fax: 703-528-2148; website: [www.safetysite.org](http://www.safetysite.org).

(10) American National Standards Institute (ANSI) Z89.1-2003, American National Standard for Industrial Head Protection; IBR approved for § 1917.93(b)(1)(ii). Copies of ANSI Z89.1-2003 are available for purchase only from the International Safety Equipment Association, 1901 North Moore Street, Arlington, VA 22209-1762; telephone: 703-525-1695; fax: 703-528-2148; website: [www.safetysite.org](http://www.safetysite.org).

(11) American National Standards Institute (ANSI) Z89.1-1997, American National Standard for Personnel Protection—Protective Headwear for Industrial Workers—Requirements; IBR approved for § 1917.93(b)(1)(iii). Copies of ANSI Z89.1-1997 are available for purchase only from the International Safety Equipment Association, 1901 North Moore Street, Arlington, VA 22209-1762; telephone: 703-525-1695; fax: 703-528-2148; website: [www.safetysite.org](http://www.safetysite.org).

\* \* \* \* \*

**Subpart E—[Amended]**

9. Amend § 1917.93 by revising paragraph (b)(1) to read as follows:

**§1917.93 Head protection.**

\* \* \* \* \*

(b)(1) The employer must ensure that head protection complies with any of the following consensus standards:

(i) American National Standards Institute (ANSI) Z89.1-2009, “American National Standard for Industrial Head Protection,” incorporated by reference in §1917.3;

(ii) American National Standards Institute (ANSI) Z89.1-2003, “American National Standard for Industrial Head Protection,” incorporated by reference in §1917.3; or

(iii) American National Standards Institute (ANSI) Z89.1-1997, “American National Standard for Personnel Protection – Protective Headwear for Industrial Workers— Requirements,” incorporated by reference in §1917.3.

\* \* \* \* \*

**PART 1918—[AMENDED]**

10. Revise the authority citation for part 1918 to read as follows:

**AUTHORITY:** 33 U.S.C. 941; 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), 1-90 (55 FR 9033), 6-96 (62 FR 111), 3-2000 (65 FR 50017), 5-2002 (67 FR 65008), 5-2007 (72 FR 31160), 4-2010 (75 FR 55355), or 1-2012 (77 FR 3912), as applicable; and 29 CFR 1911.

Section 1918.90 also issued under 5 U.S.C. 553.

Section 1918.100 also issued under 49 U.S.C. 1801-1819 and 5 U.S.C. 553.

**Subpart A—[Amended]**

11. Amend § 1918.3 by revising paragraphs (b)(9) through (b)(11) to read as follows:

**§ 1918.3 Incorporation by reference.**

\* \* \* \* \*

(b) \* \* \*

(9) American National Standards Institute (ANSI) Z89.1-2009, American National Standard for Industrial Head Protection, approved January 26, 2009; IBR approved for § 1918.103(b)(1)(i). Copies of ANSI Z89.1-2009 are available for purchase only from the

International Safety Equipment Association, 1901 North Moore Street, Arlington, VA 22209-1762; telephone: 703-525-1695; fax: 703-528-2148; website:

[www.safetysitequipment.org](http://www.safetysitequipment.org).

(10) American National Standards Institute (ANSI) Z89.1-2003, American National Standard for Industrial Head Protection; IBR approved for § 1918.103(b)(1)(ii). Copies of ANSI Z89.1-2003 are available for purchase only from the International Safety Equipment Association, 1901 North Moore Street, Arlington, VA 22209-1762; telephone: 703-525-1695; fax: 703-528-2148; website: [www.safetysitequipment.org](http://www.safetysitequipment.org).

(11) American National Standards Institute (ANSI) Z89.1-1997, American National Standard for Personnel Protection—Protective Headwear for Industrial Workers—Requirements; IBR approved for § 1918.103(b)(1)(iii). Copies of ANSI Z89.1-1997 are available for purchase only from the International Safety Equipment Association, 1901 North Moore Street, Arlington, VA 22209-1762; telephone: 703-525-1695; fax: 703-528-2148; website: [www.safetysitequipment.org](http://www.safetysitequipment.org).

\* \* \* \* \*

**Subpart J—[Amended]**

12. Amend § 1918.103 by revising paragraph (b)(1) to read as follows:

**§1918.103 Head protection.**

\* \* \* \* \*

(b)(1) The employer must ensure that head protection complies with any of the following consensus standards:

(i) American National Standards Institute (ANSI) Z89.1-2009, “American National Standard for Industrial Head Protection,” incorporated by reference in § 1918.3;

(ii) American National Standards Institute (ANSI) Z89.1-2003, “American National Standard for Industrial Head Protection,” incorporated by reference in § 1918.3; or

(iii) American National Standards Institute (ANSI) Z89.1-1997, “American National Standard for Personnel Protection – Protective Headwear for Industrial Workers— Requirements,” incorporated by reference in § 1918.3.

\* \* \* \* \*

## **PART 1926 – [AMENDED]**

### **A—General [Amended]**

13. Revise the authority citation for subpart A of part 1926 to read as follows:

**AUTHORITY:** 40 U.S.C. 333; 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), 5-2007 (72 FR 31160), 4-2010 (75 FR 55355), or 1-2012 (77 FR 3912), as applicable; and 29 CFR part 1911.

14. Amend §1926.6 as follows:

a. Revise paragraphs (h)(28) and (h)(29).

b. Add new paragraph (h)(30).

#### **§ 1926.6 Incorporation by reference.**

\* \* \* \* \*

(h) \* \* \*

(28) American National Standards Institute (ANSI) Z89.1-2009, American National Standard for Industrial Head Protection, approved January 26, 2009; IBR approved for § 1926.100(b)(1)(i). Copies of ANSI Z89.1-2009 are available for purchase only from the International Safety Equipment Association, 1901 North Moore Street, Arlington, VA 22209-1762; telephone: 703-525-1695; fax: 703-528-2148; website:

[www.safetyequipment.org](http://www.safetyequipment.org).

(29) American National Standards Institute (ANSI) Z89.1-2003, American National Standard for Industrial Head Protection; IBR approved for § 1926.100(b)(1)(ii). Copies of ANSI Z89.1-2003 are available for purchase only from the International Safety Equipment Association, 1901 North Moore Street, Arlington, VA 22209-1762; telephone: 703-525-1695; fax: 703-528-2148; website: [www.safetysafetyequipment.org](http://www.safetysafetyequipment.org).

(30) American National Standards Institute (ANSI) Z89.1-1997, American National Standard for Personnel Protection—Protective Headwear for Industrial Workers—Requirements; IBR approved for § 1926.100(b)(1)(iii). Copies of ANSI Z89.1-1997 are available for purchase only from the International Safety Equipment Association, 1901 North Moore Street, Arlington, VA 22209-1762; telephone: 703-525-1695; fax: 703-528-2148; website: [www.safetysafetyequipment.org](http://www.safetysafetyequipment.org).

\* \* \* \* \*

**Subpart E—[Amended]**

15. Revise the authority citation for subpart E of part 1926 to read as follows:

**AUTHORITY:** 40 U.S.C. 333; 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), 1-90 (55 FR 9033), 6-96 (62 FR 111), 5-2007 (72 FR 31160), 4-2010 (75 FR 55355), or 1-2012 (77 FR 3912), as applicable; and 29 CFR part 1911.

16. Amend § 1926.100 as follows:

- a. Add paragraphs (b)(1) through (b)(3).
- b. Remove paragraph (c).

**§ 1926.100 Head protection.**

\* \* \* \* \*

(b) \* \* \*

(1) The employer must provide each employee with head protection that meets the specifications contained in any of the following consensus standards:

(i) American National Standards Institute (ANSI) Z89.1-2009, “American National Standard for Industrial Head Protection,” incorporated by reference in § 1926.6;

(ii) American National Standards Institute (ANSI) Z89.1-2003, “American National Standard for Industrial Head Protection,” incorporated by reference in § 1926.6; or

(iii) American National Standards Institute (ANSI) Z89.1-1997, “American National Standard for Personnel Protection – Protective Headwear for Industrial Workers— Requirements,” incorporated by reference in § 1926.6.

(2) The employer must ensure that the head protection provided for each employee exposed to high-voltage electric shock and burns also meets the specifications contained in Section 9.7 (“Electrical Insulation”) of any of the consensus standards identified in paragraph (b)(1) of this section.

(3) OSHA will deem any head protection device that the employer demonstrates is at least as effective as a head protection device constructed in accordance with one of the consensus standards identified in paragraph (b)(1) of this section to be in compliance with the requirements of this section.

**Billing Code: 4510-26-P**

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