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Federal Registers

Steel Erection; Slip Resistance of Skeletal Structural Steel - 71:2879-2885

Federal Registers - Table of Contents

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DEPARTMENT OF LABOR

Occupational Safety and Health Administration

29 CFR Part 1926

RIN 1218-AC14

[Docket No. S-775 A]

Steel Erection; Slip Resistance of Skeletal Structural Steel

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

ACTION: Final rule.

SUMMARY: This document revokes a provision within the Steel Erection Standard which addresses slip resistance of skeletal structural steel. The Agency received comments that suggest there has been no significant progress regarding the suitability of the test methods referenced in the provision for testing slip resistance or the availability of coatings that would meet the slip resistant requirements of the provision. Most significantly, there is a high probability that the test methods will not be validated through statements of precision and bias by the effective date and that ASTM, an industry standards association, is likely to withdraw them shortly thereafter. As a result employers will be unable to comply with the provision. Therefore, the Agency has decided to revoke it.

DATES: This final rule is effective January 18, 2006.

ADDRESSES: In compliance with 28 U.S.C. 2112(a), OSHA designates the Associate Solicitor for Occupational Safety and Health, Office of the Solicitor, Room S-4004, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210, telephone (202) 693-5445, as the recipient of petitions for review of the final standard.

FOR FURTHER INFORMATION CONTACT: For general information and press inquiries, contact Kevin Ropp, OSHA Office of Communications, Room N-3647, OSHA, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210; telephone (202) 693-1999. For technical inquiries, contact Tressi Cordaro, Office of Construction Standards and Guidance, Directorate of Construction, Room N-3468, OSHA, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210; telephone (202) 693-2020.

For additional copies of this notice, contact OSHA's Office of Publications, U.S. Department of Labor, Room N-3101, 200 Constitution Avenue, NW., Washington, DC 20210; telephone (202) 693-1888. Electronic copies of this notice, as well as news releases and other relevant documents, are available on OSHA's Web site at http://www.osha.gov.

SUPPLEMENTARY INFORMATION: References: References to documents and materials are found throughout this Federal Register document. Materials in the docket of this rulemaking are identified by their exhibit numbers, as follows: ``Exhibit 2-1'' means exhibit number 2-1 and ``Exhibit 2-1-1'' means number exhibit 2-1, attachment 1 in Docket S-775A. A list of exhibits is available in the OSHA Docket Office, Room N-2625, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210; telephone (202) 693-2350 (OSHA's TTY number is (877) 889-5627), and on OSHA's Web site at http://www.osha.gov.

References to the Code of Federal Regulations are identified as follows: ``29 CFR 1926.750'' means chapter 29 of the Code of Federal Regulations, section 750 of part 1926.

I. Background

On January 18, 2001, OSHA published a new construction standard for steel erection work, 29 Code of Federal Regulation Subpart R (Sections 1926.750 through 1926.761 and Appendices A through H) (``2001 final rule'') (66 FR 5196). It was developed through negotiated rulemaking, together with notice and comment under section 6(b) of the Occupational Safety and Health Act of 1970 (OSH Act) (29 U.S.C. 655) and section 107 of the Contract Work Hours and Safety Standards Act (Construction Safety Act) (40 U.S.C. 3704). In the course of that rulemaking, OSHA received evidence that workers were slipping and falling when working on painted or coated structural steel surfaces that were wet from rain or condensation. The Agency decided that requiring such coatings to be slip-resistant would help to address the falling hazard. During the rulemaking, OSHA received evidence both in support of and in opposition to the technical feasibility of such a requirement.

The relevant provisions of the 2001 final rule are 29 CFR 1926.754(c)(3) and appendix B of subpart R of part 1926. Paragraph (c)(3) of Sec. 1926.754 establishes a slip-resistance requirement for the painted and coated top walking surface of any structural steel member installed after July 18, 2006.

Appendix B to subpart R is entitled ``Acceptable Test Methods for Testing Slip-Resistance of Walking/Working Surfaces (Sec. 1926.754(c)(3)). Non-Mandatory Guidelines for Complying with Sec. 1926.754(c)(3).'' The Appendix lists two acceptable test methods: Standard Test Method for Using a Portable Inclineable Articulated Strut Slip Tester (PIAST) (ASTM F1677-96); and Standard Test Method for Using a Variable Incidence Tribometer (VIT) (ASTM F1679-96).

The crux of the slip resistance requirement in Sec. 1926.754(c)(3) is that the coating used on the structural steel walking surface must have achieved a minimum average slip resistance of 0.50 (when wet) when measured by an English XL tribometer or by another test device's equivalent value, using an appropriate ASTM standard test method. In the preamble to the final rule, OSHA noted that the two ASTM standard test methods listed in Appendix B (ASTM F1677-96 and ASTM F1679-96) had not yet been validated through statements of precision and bias. (A precision and bias statement is documentation that the test method, in laboratory tests, has been shown to have an acceptable degree of repeatability and reproducibility). In addition, representatives of the coatings industry indicated that it would take time to develop new coatings to meet the requirement. For these reasons, the Agency delayed the provision's effective date until July 18, 2006, because the

evidence in the record indicated that it was reasonable to expect these developments to be completed by that date (66 FR 5216-5218).

The slip-resistance provision was challenged in the U. S. Court of Appeals for the D.C. Circuit by the Steel Coalition and the Resilient Floor Covering Institute. On April 3, 2003, OSHA entered into a settlement agreement with those petitioners. In that agreement, OSHA agreed to provide the petitioners and other interested parties with a further opportunity to present evidence on the progress that has been made on slip resistant coatings and test methods. OSHA agreed to then evaluate the evidence in the expanded record on these topics and, based on the entire rulemaking record issue a final rule, not later than January 18, 2006, reaffirming, amending, or revoking the requirements in Sec. 1926.754(c)(3).

Pursuant to the terms of the settlement agreement, on July 15, 2004 (69 FR 42379), OSHA published a notice announcing a limited reopening of the record for Sec. 1926.754(c)(3). This reopening specifically sought information regarding:

(1) Whether the test methods identified in Sec. 1926.754(c)(3) and Appendix B to subpart R--or any other test methods that are available, or reasonably can be expected to be available by July 18, 2006--are suitable and appropriate to evaluate the slip resistance of wetted, coated skeletal structural steel surfaces on which workers may be expected to walk in connection with steel erection activities; and

(2) Whether skeletal structural steel coatings that comply with the slip resistance criterion of the Standard when tested under the identified method(s) are commercially available--or reasonably can be expected to be commercially available--by July 18, 2006, and whether the use of such coatings will be economically feasible.

The record closed on October 13, 2004. During the reopening of the record, a total of 18 comments were submitted. Comments were received from DOW Chemical Company; the Associated General Contractors of America (AGC); the American Society of Safety Engineers (ASSE); International Association of Bridge, Structural, Ornamental and Reinforcing Iron Workers; Ironworker Employers Association; Resilient Floor Covering Institute (RFCI); the OSHA/SENRAC Steel Coalition; the Society for Protective Coatings (SSPC) co-signed by the American Institute of Steel Construction, Metal Building Manufacturers Association, National Paint and Coatings Association, Paint & Decorating Contractors of America and the Steel Joist Institute; as well as individual members of the public.

II. Reasons for Withdrawal/Revocation of 1926.754(c)(3)

In the original rulemaking, the Agency agreed with the Steel Erection Negotiated Rulemaking Advisory Committee's (SENRAC) recommendation to address slippery walking, working and climbing surfaces on skeletal structural steel (66 FR 5214). The purpose of Sec. 1926.754(c)(3) is to help prevent falls by reducing the chance of slipping on coated structural steel surfaces when wet. This provision was designed to augment other requirements in Subpart R that collectively form a strategy for reducing fatalities and injuries due to falls. For example, there are fall protection requirements (e.g., personal fall arrest) (Sec. 1926.760), and structural steel stability requirements (Sec. 1926.754-.758). The slip resistance provision was not intended to be the sole or primary means of protecting workers from fall hazards. The record as a whole now demonstrates that it is unrealistic to expect that employers will be able to comply with Sec. 1926.754(c)(3).

As mentioned, in the rulemaking for subpart R, the Agency decided to delay the effective date of Sec. 1926.754(c)(3) for five years. This delayed effective date was to serve two purposes: (1) To permit time for precision and bias statements to be developed and approved for the ASTM standards referenced in the provision, and (2) to provide time for the industry to develop coatings that complied with the requirements of the provision. Comments in the original rulemaking record suggested that five years would be a reasonably sufficient time to achieve these advancements (66 FR 5216-5217).

In the July 15, 2004, reopening notice, the Agency noted that, ``if this determination were to be in error, it would need to revise the slip-resistance provision in some respects, or possibly even to revoke

it'' (69 FR 42380). From the comments provided during the limited reopening of the record it appears that the determination was in fact premature. To date, the test methods referenced in Sec. 1926.754(c)(3) have not been validated, meaning they lack precision and bias statements and there is a high probability that they will not be validated by the effective date of the provision. Moreover, it now appears that ASTM intends to withdraw the test methods shortly after the effective date. Without the ASTM test methods, employers will not be able to comply with the provision. In addition, while some compliant coatings appear to be available, some manufacturers are uncertain as to how to develop coatings that comply with the provision without validated test methods. Further, the durability of such coatings in terms of protecting steel from corrosion in the variety of environments in which they would be used remains unknown.

Testing

ASTM Standard (Testing Method) Development

Section 1926.754(c)(3) requires that coatings be tested for slip resistance using an ASTM standard test method (F1677 or F1679). At the time the final rule was issued, ASTM had developed testing methods for two testing machines; however, under ASTM rules, these standards were provisional, pending the completion of precision and bias statements for each. As noted above, a precision and bias statement is documentation that the test method, in laboratory tests, has been shown to have an acceptable degree of repeatability and reproducibility. OSHA believes that completion of the precision and bias statements is critical; as the Agency stated in the settlement agreement, ``there is a need to have these test methods validated before they can be deemed acceptable for measuring slip resistance under the Standard.''

When OSHA enacted Sec. 1926.754(c)(3), the Agency believed there was a high probability that precision and bias statements would be approved for these two testing methods by the provision's effective date. This belief was based largely on data suggesting that the devices had the requisite accuracy and reliability. In this regard, in the preamble to the Steel Erection Standard, OSHA stated that the record showed F1677 and F1679 were ``sufficiently accurate and yield sufficiently reproducible results'' for use in testing whether coatings comply with the Standard (66 FR 5216). OSHA pointed out that the ``English II study'' (William English, Dr. David Underwood and Keith E. Vidal, ``Investigation of Means of Enhancing Footwear Traction for Ironworkers Working at Heights'' (November 1998)) showed the English XL tribometer (F1679) had ``achieved satisfactory precision and bias,'' in accordance with ASTM standard practice for conducting interlaboratory studies to determine test method precision (ASTM E691-92) (66 FR 5216).

However, currently there are no approved precision and bias statements for either ASTM method. (See Exhibits 2-4, 2-7, 2-8, 2-9, 2-11, 2-14). In fact, in 2004, the ASTM Committee on Standards (COS) expressed concerns about not only the lack of precision and bias statements but the proprietary (i.e., brand/model specific) nature of both F1677 and F1679. (See Exhibit 2-4 or 2-6). In a letter from Mr. Childs, Chairman of COS, to Mr. DiPilla, Chairman of ASTM Committee F-13, Mr. Childs notes that the lack of precision and bias statements in F1677 and F1679 violates ASTM Form and Style requirements. Mr. Childs also notes that the proprietary nature of the ASTM standards violates section 15 of the Regulations Governing ASTM Technical Committees. Further, the COS notes that the F-13 committee ``is working towards the development of methods that are not apparatus-specific, and expects that these standards will be developed by September 30, 2006'' (Exhibit 2-14-3). The letter concludes that COS intends to withdraw the two test methods if the committee has not completed action on developing methods that are not apparatus specific by September 2006.

Additional comments (Exhibits 2-2, 2-4, 2-7, 2-8, 2-11, 2-14) also suggest that ASTM will be withdrawing F1677 and F1679 in the near future. There are indications that it is unlikely that the F-13 committee will complete development of non-proprietary test methods by the September 2006 time frame. Evidence in the record suggests that in order for the F-13 committee to develop a non-proprietary standard, research would be necessary to ``develop a suite of standard reference

materials that * * * would become the accepted reference value, allowing validation of individual tribometers.'' (Exhibit 2-4). Information in the record indicates that completion of such research could take considerable time (Exhibits 2-7, 2-8). In addition, the F-13 committee had to raise money ($45,000) to fund that research, and there is no indication in the record that the funds had been secured and the research begun (Exhibit 2-4).

Therefore, from the record, it appears that ASTM standards F1677 and F1679 will not be validated with precision and bias statements by July 18, 2006 and that ASTM will withdraw the standards shortly thereafter. It is also unlikely that a new, non-proprietary standard will be drafted and finalized by the July 18, 2006, effective date (Exhibits 2-8, 2-11). In addition, any particular machine for which the ASTM method is used would have to have a precision and bias statement, and from the record this also seems unlikely to occur by the July 18, 2006, effective date in Sec. 1926.754(c)(3). Resilient Floor Covering Institute (RFCI) said their experience is that it takes three to four years for ASTM to approve standards once they are developed (Exhibit. 2-14, p. 7). In the meantime, COS has given no indication that it will delay withdrawing F1677 and F1679 during the approval process for a new test method. If there are no ASTM test methods it will not be possible for employers to comply with the Standard. Collectively, these comments indicate that it is unlikely that there will be completed ASTM standards (with precision and bias statements) for use by the scheduled effective date of the provision. Moreover, there is too much uncertainty about whether and when there will be a validated ASTM test method to justify delaying the effective date any further.

Reliability of Testing Methods/Devices

Another concern has been the reliability of the testing devices for which ASTM had developed standards. Some of the comments provide evidence that the English XL and Brungraber Mark II tribometers are reliable indicators of slip resistance.

For example, the American Society of Safety Engineers (ASSE) and the National Forensic Engineers, Inc. (Exhibits 2-5, 2-9) both point out that the testing of the English XL tribometer, conducted in ASTM F-13 workshops in 1998, 2000, and a 2002 interlaboratory test study, have shown precision results higher than any other standardized testing device or method. As a basis to support ASSE's position that these testers are reliable they also noted that there have been court cases where, they assert, the English XL machine has been accepted as a legitimate scientific instrument.

ASSE's comment includes an article by Brian C. Greiser, Timothy P. Rhoades and Raina J. Shah published in the June 2002 issue of Professional Safety, which addresses the suitability of the Brungraber Mark II and English XL machines for wet testing. This article describes a study, conducted by the authors, which compared the Brungraber and English machines. The study found the results generally comparable, so long as a particular test ``foot'' was used with the Brungraber machine (Exhibit 2-9).

The President of High Safety Consulting Services (Exhibit 3-2), Steven High, supports the use of ASTM F1679 and F1677 methodology and attached an analysis of a 1995 study (``English I''), which showed a positive correlation of wet testing results between the English XL and Brungraber Mark II tribometers.

Dr. Robert Smith of the National Forensic Engineers, Inc., submitted a 2003 ASTM paper he wrote, titled ``Assessing Testing Bias in Two Walkway-Safety Tribometers'' which was published in ASTM's Journal of Testing and Evaluation. His paper addresses calibration of English XL and Brungraber Mark II tribometers to eliminate bias (Exhibit 2-5). Specifically, Dr. Smith used graphical data criterion developed by M. Marpet to analyze testing data from a 1999 study (Powers, C.M., Kulig, K., Flynne, J., and Brault, J.R., ``Repeatability and Bias of Two Walkway Safety Tribometers,'' Journal of Testing and Evaluation JTEVA, Vol. 27) and finds that the results indicate bias in the English XL tribometer at higher angle settings when using the Neolite test foot material on a smooth surface (Exhibit 2-5-4). Dr. Smith's paper provides quantified data which, he suggests, validates the bias and allows for calibration of the English XL tribometer to eliminate the bias for wet testing.

Finally, some commenters stated that continued use of the English

XL machine by experts in the field demonstrated its reliability (see, e.g., exhibits 2-3, 2-5, 3-1).

In addition to comments supporting the reliability of the testing devices, comments were submitted arguing that they are unreliable. Three comments (Society for Protective Coatings, OSHA/SENRAC Steel Coalition, and Resilient Floor Covering Institute, Exhibits 2-7, 2-8, 2-14) discuss the reliability of the English XL and Brungraber tribometers and find them to be insufficiently reliable to use in testing coated structural steel when using the ASTM test methods. The Resilient Floor Covering Institute (RFCI) states, ``English XL generates results that are so imprecise and variable that no precision and bias statements have ever been approved for this test method'' (Exhibit 2-14). Additional concerns of these commenters are the test ``foot'' material, which they believe can vary from batch to batch in its production, as well as the ability of atmospheric conditions such as temperature and humidity to significantly affect the results of the tests.

The Society for Protective Coatings (SSPC) (Exhibit 2-7), said the ASTM F1677 and F1679 methods were not reliable because of the variability in the measured slip results, therefore making the methods [testers] unreliable. SSPC appended additional materials, including a study conducted by Dr. Bernard Appleman, which attempted to develop reference panels, to determine slip properties of coatings intended for erected steel (Exhibit 2-7-3). The study identifies four possible sources of variation in the Appleman test results, which brings those results into question. The study was not successful in developing reference panels, which SSPC argues is in part due to the inconsistent slip readings when using the test methods.

SSPC also appended minutes to an ASTM F-13.10 Subcommittee meeting held on June 3, 2002 which include a description of tests done on both the F1677 and F1679 methods. According to the minutes, stability testing on F1677 (the ASTM standard for the Brungraber Mark II device) had begun, and would need to be a continuing process to assess whether the individual machine was stable over time and use. The minutes also note that it is unknown whether changes in the results of the stability testing would be due to the machine, the Neolite test foot or some other factor. The minutes further describe ruggedness testing done on F1679 (the ASTM standard for the English XL device) and a summary of the results is included, which showed, among other things, that with a Neolite test foot, temperature influenced slip index readings and humidity had no effect on wet slip index readings.

RFCI (Exhibit 2-14) references a 2003 article by Bowman, et al. published in ASTM International, which indicates that the English XL has ``certain consistent biases and high variability,'' which makes it difficult to compare results with other tribometers. This study also indicates that the English XL tribometer and Brungraber Mark II are significantly affected by temperature and humidity.

RFCI also appended a study by Michael A. Sapienza conducted in June of 1998. The test attempted to establish consistent readings for a Neolite test ``foot'' on various machines for a series of surfaces. The study claims that the results indicate a high machine bias. A high machine bias indicates that the results are less likely to be replicated when a different test machine is used, which calls both the validity and the comparability of results from different test machines into question.

In Dr. Smith's paper, ``Assessing Testing Bias in Two Walkway-Safety Tribometers,'' as discussed above, he found that the Brungraber tribometer could be numerically calibrated to eliminate bias; however, the calibration was only possible for dry conditions and only up to a slip-resistance value of 0.4, below the Standard's 0.5 threshold. Above 0.4, the results were not reliable; thus, he concluded that the Brungraber test method was not suitable for testing coatings on structural steel under wet conditions (Exhibit. 2-5, p. 4).

The comments in the record indicate that there is some additional empirical evidence indicating the two testing devices referenced in the standard's Appendix B are reliable. However, there continues to be a debate within the industry on the issue of reliability and this debate emphasizes the need to have approved precision and bias statements for the applicable ASTM test methods. The precision and bias statements are necessary for employers to know with certainty when they are in

compliance with the slip resistant standard--by allowing them to rely on documentation or certification reflecting the results of testing using a test method that has been approved or shown to be suitable and appropriate for measuring the slip resistance of steel. As stated above, there are poor prospects that completed ASTM methods (with approved precision and bias statements) will be in place in the foreseeable future. The Agency had been relying on what appeared to be reasonable prospects in 2001 that the precision and bias statements would be completed by the provision's effective date. That would have completed the ASTM method process for at least these two testing devices. It now appears that not only will there be no completed precision and bias statements by July 2006, but that there will be no applicable ASTM standards in place as of September, 2006. Finally, with this degree of uncertainty regarding the future of ASTM standards for such devices, the Agency is unable to make a reasonable estimate for how much longer it will take beyond July 2006 for that process to be completed.

Coatings

In the preamble to the Steel Erection Standard, OSHA said record evidence of the availability of compliant slip resistant coatings was ``conflicting'' (66 FR 5217). Although OSHA found that there were some slip resistant coatings currently in use for steel erection, their use was in ``limited specialized applications'' and most had not been adequately tested to determine whether they comply with the Standard and meet industry performance needs (66 FR 5217-5218). OSHA acknowledged that it would take additional time for manufacturers to develop, test and widely distribute suitable coatings. However, in view of the fact that there were some coatings on the market and technology for developing additional coatings was in place, OSHA determined that a five-year delay in the effective date would provide enough time for the industry to develop and distribute compliant coatings across the industry (66 FR 5217).

In determining whether compliant slip resistant coatings are ``available'' (or reasonably can be expected to be available by the effective date) OSHA examined two issues: (1) whether available slip resistant coatings comply with the Standard's 0.50 minimum threshold, and (2) whether available slip resistant coatings are sufficiently durable for use in the variety of environments in which coatings are used. It should be noted that durability in this context means the suitability of the coatings to protect the steel in various settings from corrosion over time, rather than its ability to retain its slip resistant character. For example, to be useable by the industry, coatings for steel members in bridges in the northeast would need to be protective against road salt, a highly corrosive agent.

Some of the comments addressing the development of slip resistant coatings emphasize the difficulty of moving forward with the development of coatings without a reliable testing device. Other comments indicate that, notwithstanding that problem, the evaluation of existing coatings and development of prospective coatings that might meet the standard's criteria is proceeding and that employers can comply with the provision.

There is some new evidence to suggest that there are coatings available now and/or that reasonably could be expected to be available by July 2006, that meet the provision's slip resistance criterion. Specifically, several commenters (Exhibits 2-3, 2-5, 2-13, 2-15, 3-2) point to evidence from the original rulemaking--the 1995 and 1998 English studies, the Canadian Pulp Mill project--and to a new July 2003 article, ``The Rough, the Smooth and the Ugly,'' Journal of Protective Coatings and Linings, (Exhibit 2-7-10) to argue that paints are available now or that they could be available by the July 18, 2006 effective date with the addition of polybeads. See also Exhibit 2-5, wet testing study by Dr. Smith produced results that were ``always above 0.5.''

However, there is no new evidence relative to the durability of these coatings in terms of protecting steel from corrosion and no evidence on the extent to which they would be sufficiently durable for the variety of environments in which they are used. The extent to which currently available, potentially compliant coatings could satisfy the

variety of environments is unknown since the durability of those coatings in challenging settings (i.e., where salt or other corrosive agents are present) has not been established. Also, the durability of coatings with polybeads has not been established, so the extent to which those coatings could be used is also unknown.

In addition, there is no new evidence to supplement the original record (specifically the Canadian Pulp Mill project evidence) indicating that existing coatings or coatings that could reasonably be expected to be available (i.e., coatings with polybeads added) are durable in terms of protecting steel from corrosion. Those commenters that suggest paints are available now or could reasonably be available do not focus on the durability of the coatings.

One commenter, S. High (Exhibit 3-2), asserts that a small study he did indicates that some coatings currently used by fabricators meet the slip resistance threshold. However, even if a limited number of existing coatings meet the criteria for some settings, no evidence was presented to indicate that these coatings are sufficiently durable to meet the different performance needs of various environments encountered in steel erection.

Thus, there is insufficient information in the record for the Agency to be able to establish that either currently available coatings (which presumably are durable at least in some settings) or coatings that could reasonably be available would be suitable in terms of durability in various applications.

The major focus of the paint industry's comment is on the reliability of the testing devices rather than on the development of compliant coatings; its main argument is that the availability of paints is unknown because the test method is neither reliable nor accurate (SSPC Comment, Exhibit 2-7). SSPC submitted one new study, performed by KTA-Tator, Inc. titled ``Developing Reference Panels for Slip Testing of Erected Steel'' (Dr. Bernard Appleman, August 2002) (Exhibit 2-7). This study focused on the development of coated reference panels for slip resistance testing. The study attempted to develop painted surfaces with repeatable slip indexes that could serve as reference panels for unknown paints. These reference panels would then ``serve as a bench mark(s) to determine the relative slip index of coated steel.'' The study started with 12 paints and 3 were ultimately selected for further evaluation. The study claimed that it was not able to produce reference panels due to inconsistent slip indexes results.

Other comments were submitted that addressed a variety of issues, such as economic feasibility and the scope of the phrase ``paint or similar material.'' For example, one article that was submitted, ``The Rough, the Smooth and the Ugly,'' Journal of Protective Coatings and Linings July 2003 article, (Exhibit 2-7-10), addresses economic feasibility. The article states that minimal additional material costs were incurred in adding polybeads to the paint. However, citing the same article, SSPC argues that the conclusion that adding beads does not significantly increase costs of the coatings is ``very tentative.'' Another commenter (Exhibit 2-16) raises concerns over environmental restrictions which would possibly prohibit spraying paints (and/or impose other restrictions). This commenter also noted that compliant paints available for the ``dipping'' method (typically used for applying coatings to steel) are still not developed. Several commenters (Exhibits 2-11, 3-2) note a possible problem meeting both current state DOT mandated coating requirements and the requirements of Sec. 1926.754(c)(3). One of those commenters (Exhibit 3-2) emphasizes that this concern is particularly significant because of the time lag between submitting state job bids and commencement of the actual steel erection activity. Finally, another commenter (Exhibit 2-12), expresses concern over the breadth of the provision's coverage (particularly with regard to galvanized steel) in view of its reference to ``paint or similar material.''

Irrespective of these other issues, this record indicates that the availability of paints, which will both comply with the slip resistance requirement and have sufficient durability for the variety of applications in which the coated steel will be used, has not been established.

Suggested Alternatives to Testing Requirements

In addition to comments urging OSHA to reaffirm or revoke the slip resistance provision, several comments suggested alternatives including use of alternative testers and delaying the effective date to allow more time for the testing methods to be approved by the industry. One commenter (Exhibit 2-2) discusses two alternative testers, the British Pendulum tester, which is referenced by ASTM E404, and a ``German Ramp'' test. Specifically this comment notes that the British Pendulum tester is referenced in several standards in other countries, as well as in ASTM standards and standards for the International Organization for Standardization (ISO).

The International Association of Bridge, Structural, Ornamental, and Reinforcing Iron Workers (Exhibit 2-10) suggests that OSHA extend the July 18, 2006, deadline for three more years, to allow time to refine testing methods. In addition, the Associated General Contractors (AGC) suggests that, assuming OSHA retains the provision, OSHA should postpone the effective date (Exhibit 2-11).

In addition, one commenter (Exhibit 2-12) suggests that OSHA modify the standard by adding an exception to Sec. 1926.754(c)(3) where employees use fall protection at all heights.

The Agency considered the suggested alternatives; however, for several reasons they are not being adopted. With respect to alternative testing devices, there is not enough information in the record to indicate whether the alternative test devices would be acceptable for measuring slip resistance under the standard. For example, it is unclear whether ASTM has approved methods and precision and bias statements for the British Pendulum tester for use in this context (wet surfaces). As to delaying the effective date of the provision, OSHA has decided not to extend the effective date for three more years because the Agency does not believe that doing so will resolve the high degree of uncertainty that now surrounds the ASTM test methods. The ASTM test methods will not be validated by the effective date and are likely to be withdrawn later this year. In addition, there is great uncertainty whether there will be any approved ASTM test methods in this regard within the next three years. As discussed, although ASTM's COS expects the F-13 committee to complete development of a non-proprietary test method by September 2006, there is no information in the record about whether this deadline will be met. Moreover, once a standard is developed, ASTM rules require that it be validated and approved before it becomes effective. According to RFCI, the approval process alone could take three or four years to complete (Exhibit 2-14). As a result, it is doubtful that extending the effective date three years would be sufficient. For the same reasons, OSHA also rejected extending the effective date for an even longer period of time. There is too much uncertainty with the development of the ASTM test methods for the Agency to make a reasonable estimate of when, if ever, applicable ASTM test methods will be approved and validated.

The suggestion to provide an exception for workers who are using 100% fall protection at any elevation is rejected for two reasons. First, the Agency finds that there are technical reasons for revoking the provision. Second, the suggestion to provide such an exception raises issues that were addressed in Sec. 1926.760. In the final rule for Subpart R, the Agency decided to defer to SENRAC's recommendation on the issue of tying off for fall protection. Since the scope of this reopening did not include Sec. 1926.760, this alternative is rejected.

Conclusion

Compliance with the slip resistance provision depends on there being ASTM methods, that is standards and approved precision and bias statements, in place for the use of slip testing machines. Submitted comments indicate that ASTM's continued approval of the F1677 and F1679 methods are in doubt. The uncertainty of those standards' future undermines a basic assumption that underlies the provision--that there will be testing machines with ASTM methods in place for use when the provision goes into effect.

While some new evidence was submitted indicating that the two machines referenced in Appendix B are reliable, the reliability of the testing methods will be questioned in the industry until there are applicable ASTM methods (including approved precision and bias

statements). When that may occur is unclear. Such methods are necessary for employers to know that a coating complies with the standard.

The question of whether compliant paints are going to be available by July 2006 cannot be answered with sufficient certainty until there are completed ASTM testing methods available for evaluating the paints. As long as that aspect of the problem is unresolved, the question of paint availability will also be unresolved. Furthermore, durability testing cannot be completed until the paint industry knows what testing devices and methods to use to determine which paints to test for durability. Since the time frame for resolving the ASTM standards problem is uncertain, the time frame for ascertaining which paints would be both compliant with the provision and suitable for the industry is also uncertain.

Because the advancements OSHA anticipated are not likely to occur by the effective date, and may not occur for a number of years, it will not be possible for employers to comply with Sec. 1926.754(c)(3) and for these reasons, the Agency is revoking it.

III. Economic Analysis and Regulatory Flexibility Certification Analysis

The economic impact and regulatory flexibility analyses for the final Steel Erection Standard contained detailed information on economic impacts, including estimated annualized costs to comply with the slip-resistance provision (66 FR 5253-5263). As a result of the revocation of this provision its projected $29.5 million annualized costs for affected establishments, which were anticipated in the economic analysis for the final rule of Subpart R, will not be incurred. These projected costs were 38% of the total estimated increased costs to the industry for compliance with the final rule (66 FR 5257). The revocation of Sec. 1926.754(c)(3) is not an economically significant regulatory action for the purposes of EO 12866. OSHA also certifies that this revocation will not have a significant impact on a substantial number of small entities, for the purposes of the Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

IV. Environmental Impact Assessment

OSHA has reviewed the final rule in accordance with the requirements of the National Environmental Policy Act of 1969 (NEPA)(42 U.S.C. 4321 et seq.), the regulations of the Council on Environmental Quality (40 U.S.C. 1500), and the Department of Labor's NEPA procedures (29 CFR part 11). As with the existing Steel Erection Standard, the focus of this final rule is on the reduction and avoidance of accidents occurring during structural steel erection. Consequently, no major negative impact is foreseen on air, water or soil quality, plant or animal life, the use of land, or other aspects of the environment.

V. Unfunded Mandates

OSHA has reviewed the final rule in accordance with the Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1501 et seq.) and Executive Order 12875. For the reasons stated above and in the notice of proposed rulemaking (69 FR 42381), OSHA has determined that the final rule is likely to reduce the regulatory burdens imposed on public and private employers by the slip resistance provision this final rule revokes. This final rule would not expand existing regulatory requirements or increase the number of employers covered by the Steel Erection Standard. Consequently, the final rule would require no additional expenditures by either public or private employers and does not mandate that state, local or tribal governments adopt new, unfunded regulatory obligations.

VI. Federalism

OSHA has reviewed this 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 there is clear constitutional authority and the presence of a problem of national scope. Executive Order 13132 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 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 under State law their own requirements for safety and health standards.

This final rule complies with Executive Order 13132. As Congress has expressed a clear intent for OSHA standards to preempt State job safety and health rules in areas addressed by OSHA standards in States without OSHA-approved State Plans, this rule limits State policy options in the same manner as all OSHA standards. In States with OSHA-approved State Plans, this action does not significantly limit State policy options.

VII. State Plan States

When Federal OSHA promulgates a new standard or a more stringent amendment to an existing standard, the 26 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 there is no need for action, e.g., because an existing State standard covering this area is already ``at least as effective'' as the new Federal standard or amendment. 29 CFR 1953.5(a). The State standard must be at least as effective as the final Federal rule, must be applicable to both the private and public (State and local government employees) sectors, and should be in place within six months of the publication date of the final Federal rule. When OSHA promulgates a new standard or standards amendment which does not impose additional or more stringent requirements than an existing standard, States are not required to revise their standards, although OSHA may encourage them to do so. The 26 States and territories with OSHA-approved State Plans are: Alaska, Arizona, California, Connecticut (plan covers only State and local government employees), Hawaii, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, Nevada, New Mexico, New Jersey (plan covers only State and local government employees), New York (plan covers only State and local government employees), North Carolina, Oregon, Puerto Rico, South Carolina, Tennessee, Utah, Vermont, Virginia, Virgin Islands (plan covers only State and local government employees), Washington, and Wyoming.

Since this final rule revokes the slip-resistance provision in the Steel Erection standard (Subpart R, Sec. 1926.754(c)(3) and Appendix B), it will not impose any additional or more stringent requirements on employers. Therefore, States with OSHA-approved State Plans may, but are not required, to take parallel action. OSHA encourages State Plans to review the factors considered by OSHA in taking this action.

VIII. OMB Review Under the Paperwork Reduction Act

Under the Paperwork Reduction Act of 1995 (PRA)(44 U.S.C. 3501 et seq.), agencies are required to seek the Office of Management and Budget (OMB) approval for all collections of information (paperwork). As part of the approval process, agencies must solicit comment from affected parties with regard to collection of information, including the financial and time burdens estimated by the agencies for collection of information. OSHA has determined that this final rule does not contain any collections of information as defined in OMB's regulations (60 FR 44978 (8/29/1995)).

IX. Authority

This document was prepared under the Direction of Jonathan L. Snare, Acting Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210. It is issued under sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657), section 107 of the Contract Work Hours and Safety Standards Act (Construction Safety Act) (40 U.S.C. 3704), Secretary of Labor's Order 5-2002 (67 FR 65008), and 29 CFR part 1911.

Signed at Washington, DC, this 11th day of January, 2006.
Jonathan L. Snare,
Acting Assistant Secretary of Labor.

List of Subjects in 29 CFR Part 1926

Structural steel erection, Construction industry, Construction safety, Occupational Safety and Health Administration, Occupational safety and health.

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For the reasons set forth in the preamble, 29 CFR part 1926 is amended as follows:

PART 1926--SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION

Subpart R--Steel Erection

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1. The authority citation for Subpart R is revised to read as follows:

Authority: Section 107, Contract Work Hours and Safety Standards Act (Construction Safety Act) (40 U.S.C. 3704); Sections 4, 6, and 8, 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) or 5-2002 (67 FR 65008), and 29 CFR part 1911.

Sec. 1926.754 [Amended]

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2. In Sec. 1926.754, remove paragraph (c)(3).

Appendix B [Removed and Reserved]

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3. In Subpart R, remove and reserve Appendix B.

[FR Doc. 06-374 Filed 1-17-06; 8:45 am]

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