

accordance with the provisions of 7 CFR part 1403.

**§ 1470.111 Assignments.**

Any person who may be entitled to a payment may assign his rights to such payment in accordance with 7 CFR part 1404 or successor regulations as designated by the Department.

**§ 1470.112 Appeals.**

Any producer who is dissatisfied with a determination made pursuant to this subpart may make a request for reconsideration or appeal of such determination in accordance with the appeal regulations set forth at 7 CFR parts 11 and 780.

**§ 1470.113 Misrepresentation and scheme or device.**

(a) An apple operation shall be ineligible to receive assistance under this program if it is determined by the State committee or county committee to have knowingly:

(1) Adopted any scheme or device that tends to defeat the purpose of this program;

(2) Made any fraudulent representation; or

(3) Misrepresented any fact affecting a determination under this program. CCC will notify the appropriate investigating agencies of the United States and take steps deemed necessary to protect the interests of the government.

(b) Any funds disbursed pursuant to this part to any person or operation engaged in a misrepresentation, scheme, or device, shall be refunded to CCC in accordance with § 1470.117(a). The remedies provided in this subpart shall be in addition to other civil, criminal, or administrative remedies which may apply.

**§ 1470.114 Estates, trusts, and minors.**

(a) Program documents executed by persons legally authorized to represent estates or trusts will be accepted only if such person furnishes evidence of the authority to execute such documents.

(b) A minor who is otherwise eligible for assistance under this part must also:

(1) Establish that the right of majority has been conferred on the minor by court proceedings or by statute;

(2) Show that a guardian has been appointed to manage the minor's property and the applicable program documents are executed by the guardian; or

(3) Furnish a bond under which the surety guarantees any loss incurred for which the minor would be liable had the minor been an adult.

**§ 1470.115 Death, incompetency, or disappearance.**

In the case of death, incompetency, disappearance or dissolution of a person that is eligible to receive benefits in accordance with this subpart, such person or persons specified in part 707 of this chapter may receive such benefits, as determined appropriate by FSA.

**§ 1470.116 Maintenance and inspection of records.**

(a) Persons making application for benefits under this program must maintain accurate records and accounts that will document that they meet all eligibility requirements specified herein, as may be requested by CCC. Such records and accounts must be retained for 3 years after the date of payment to the apple operation under this program. Destruction of the records 3 years after the date of payment shall be the risk of the party undertaking the destruction.

(b) At all times during regular business hours, authorized representatives of CCC, the United States Department of Agriculture, or the Comptroller General of the United States shall have access to the premises of the apple operation in order to inspect, examine, and make copies of the books, records, and accounts, and other written data as specified in paragraph (a) of this section.

(c) Any funds disbursed pursuant to this subpart to any person or operation who does not comply with the provisions of paragraphs (a) or (b) of this section, or who otherwise receives a payment for which they are not eligible, shall be refunded with interest.

**§ 1470.117 Refunds; joint and several liability.**

(a) In the event of an error on an application, a failure to comply with any term, requirement, or condition for payment arising under the application, or this subpart, all improper payments shall be refunded to CCC together with interest and late payment charges as provided in part 1403 of this chapter.

(b) All persons signing an apple operation's application for payment as having an interest in the operation shall be jointly and severally liable for any refund, including related charges, that is determined to be due for any reason under the terms and conditions of the application or this part with respect to such operation.

Signed in Washington, DC, on August 30, 2002.

**James R. Little,**

*Executive Vice President, Commodity Credit Corporation.*

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**DEPARTMENT OF LABOR**

**Occupational Safety and Health Administration**

**29 CFR Part 1926**

[Docket #S-018]

RIN 1218-AB88

**Safety Standards for Signs, Signals, and Barricades**

**AGENCY:** Occupational Safety and Health Administration, Labor.

**ACTION:** Final rule.

**SUMMARY:** The Occupational Safety and Health Administration (OSHA) is revising the construction industry safety standards to require that traffic control signs, signals, barricades or devices protecting workers conform to Part VI of either the 1988 Edition of the Federal Highway Administration (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), with 1993 revisions (Revision 3) or the Millennium Edition of the FHWA MUTCD (Millennium Edition), instead of the American National Standards Institute (ANSI) D6.1-1971, Manual on Uniform Traffic Control Devices for Streets and Highways (1971 MUTCD).

**DATES:** This final rule will become effective December 11, 2002. The incorporation by reference of certain publications listed in the rule is approved by the Director of the Federal Register as of December 11, 2002.

**ADDRESSES:** In accordance with 28 U.S.C. 2112(a), the Agency designates the Associate Solicitor for Occupational Safety and Health, Office of the Solicitor of Labor, U.S. Department of Labor, Room S-4004, 200 Constitution Avenue, NW., Washington, DC 20210, to receive petitions for review of the final rule.

For copies of this **Federal Register** document contact: OSHA, 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 **Federal Register** document, as well as other relevant documents, can be obtained from OSHA's Web page on the Internet at <http://www.osha.gov>.

How to Obtain Copies of the MUTCD: The Federal Highway Administration partnered with three organizations to print copies of the Millennium Edition Manual of Uniform Traffic Control Devices for sale. The organizations are: (1) American Traffic Safety Services Association, 15 Riverside Parkway, Suite 100, Fredericksburg, VA 22406-1022; Telephone: 1-800-231-3475; FAX: (540) 368-1722; [www.atssa.com](http://www.atssa.com); (2) Institute of Transportation Engineers, 1099 14th Street, NW., Suite 300 West, Washington, DC 20005-3438; FAX: (202) 289-7722; [www.ite.org](http://www.ite.org); and (3) American Association of State Highway and Transportation Officials; [www.aashto.org](http://www.aashto.org); Telephone: 1-800-231-3475; FAX: 1-800-525-5562.

On-line copies of the Millennium Edition are available for downloading from DOT's Web site: <http://mutcd.fhwa.dot.gov/kno-millennium.htm>. On-line copies of the 1988 Edition of the Manual on Uniform Traffic Control Devices (Revision 3, dated 9/93, with the November 1994 Errata No. 1) are available for downloading from OSHA's Web site: [http://www.osha.gov/doc/highway\\_workzones](http://www.osha.gov/doc/highway_workzones). In addition, both documents are available for viewing and copying at each OSHA Area Office.

**FOR FURTHER INFORMATION CONTACT:** *General Information and Press Inquiries*—Bonnie Friedman, Director, Office of Public Affairs, Occupational Safety and Health Administration, U.S. Department of Labor, Room N-3647, 200 Constitution Avenue, NW., Washington, DC 20210; telephone: (202) 693-1999. *Technical Information*—Nancy Ford, Office of Construction Standards and Construction Services, Occupational Safety and Health Administration, U.S. Department of Labor, Room N-3468, 200 Constitution Avenue, NW., Washington, DC 20210; telephone (202) 693-2345.

**SUPPLEMENTARY INFORMATION:**

**I. Introduction**

This final rule addresses the types of signs, signals, and barricades that must be used to protect construction employees from traffic hazards. The vast majority of road construction in the United States is funded through Federal transportation grants. As a condition to receiving Federal funding, the U.S. Department of Transportation's (DOT's) Federal Highway Administration requires compliance with its MUTCD.

In furtherance of OSHA's statutory mandate to protect the health and safety of employees, OSHA also requires employers that are within the scope of its authority to comply with the

MUTCD. However, OSHA's current standard incorporates the 1971 version of the MUTCD, which FHWA has since updated. The purpose of this final rule is to update OSHA's standard.

**II. Procedural History**

On April 15, 2002, OSHA published a direct final rule and a companion proposed rule to update 29 CFR 1926 subpart G—Signs, Signals, and Barricades [67 FR 18091]. The Agency explained that unless a significant adverse comment is received within a specified period of time, the rule would become effective. Alternatively, if significant adverse comments are received, the agency would withdraw the direct final rule and treat the comments as comments to the proposed rule. Direct final rulemaking is used where the agency anticipates that the rule will be non-controversial.

The Agency stated that, for purposes of the direct final rule published on April 15, a significant adverse comment is one that explains why the rule would be inappropriate, including challenges to the rule's underlying premise or approach, or why it would be ineffective or unacceptable without a change. In determining whether a significant adverse comment would necessitate withdrawal of this direct final rule, OSHA would consider whether the comment raises an issue serious enough to warrant a substantive response in a notice-and-comment process. A comment recommending an addition to the rule would not be considered a significant adverse comment unless the comment states why this rule would be ineffective without the addition. If timely significant adverse comments were received, the agency would publish a notice of significant adverse comment in the **Federal Register** withdrawing this direct final rule no later than July 15, 2002.

In the companion proposed rule, which is essentially identical to the direct final rule [67 FR 18145], OSHA stated that in the event the direct final rule were withdrawn because of significant adverse comment, the agency could proceed with the rulemaking by addressing the comment and again publishing a final rule. The comment period for the proposed rule ran concurrently with that of the direct final rule. Any comments received under the companion proposed rule were to be treated as comments regarding the direct final rule. Likewise, significant adverse comments submitted to the direct final rule would be considered as comments to the companion proposed rule; the agency would consider such comments in developing a subsequent final rule.

On July 15, 2002, OSHA published a notice withdrawing the direct final rule [67 FR 46375], explaining that of the eight comments that had been submitted, the Agency was treating two as significant adverse comments. Both comments challenged the August 13, 2002 effective date of the rule. The two comments are being treated as comments on the companion proposed rule, and are addressed below. In response to the comments, OSHA has set the effective date at December 11, 2002.

**III. Background**

Currently, under 29 CFR part 1926 subpart G—Signs, Signals, and Barricades, OSHA requires that employers comply with the 1971 MUTCD. Specifically, employers must ensure that the following conform to the 1971 MUTCD: traffic control signs or devices used to protect construction workers (29 CFR 1926.200(g)(2)); signaling directions by flagmen (29 CFR 1926.201); and barricades for the protection of workers (29 CFR 1926.202).

In contrast, a DOT rule, 23 CFR 655.601 through 655.603, requires that such traffic control signs or devices conform to a more recent version of the MUTCD. DOT regulations provide that the MUTCD is the national standard for all traffic control devices on streets, highways and bicycle trails. DOT's rule requires that traffic control devices on roads in which federal funds were involved be in substantial conformance with its MUTCD. In effect, the MUTCD has become a national benchmark for all roads.

Under Title 23 of the U.S. Code, sections 109(d) and 402(a), the Secretary of Transportation is authorized to promulgate and require compliance with uniform guidelines to reduce injuries and fatalities from road accidents. Specifically, section 109(d) authorizes DOT to require (through its approval of State highway department requirements) all highway projects in which Federal funds are involved to comply with these types of uniform rules. Highways are broadly defined under section 101(a)(11) of the DOT statute, and include roads, streets and parkways. Under section 402(a), DOT is authorized to require each State to have a highway safety program, including uniform standards for traffic safety, approved by DOT. In accordance with this authority, DOT promulgated 23 CFR part 655, subpart F (Traffic Control Devices on Federal-Aid and Other Streets and Highways). In section 655.603(a), DOT established its MUTCD as "the national standard for all traffic

control devices installed on any street, highway, or bicycle trail open to public travel \* \* \* Under subpart F, the States were required to adopt Revision 3 for federally funded highways within two years of its issuance. The effective date of the final rule that adopted Revision 3 was January 10, 1994 [58 FR 65084 (December 10, 1993)]. A two-year period for transition to full compliance with Revision 3 expired January 10, 1996. Transition to full compliance with the Millennium edition must be completed by January 2003.

Consequently, employers have already been required to comply with Revision 3 for all federal-aid highways. In addition, all States have required compliance with Revision 3 for most roads (although there is some variation among the States regarding the extent to which compliance is required on municipal, county, and private roads).

In the early 1970s, the FHWA assumed from ANSI responsibility for publishing the MUTCD. The FHWA substantially rewrites the MUTCD every 10 to 20 years, and amends it every two to three years. Until the Millennium Edition was published in December 2000, the most recent edition was the 1988 edition. The 1988 edition consisted of 10 parts, including part VI, "Standards and Guides for Traffic Controls for Street and Highway Construction, Maintenance, Utility, and Incident Management Operations." The FHWA substantially revised and reissued part VI in 1993 (Revision 3). There are substantial differences both in substance and format between Revision 3 and the 1971 MUTCD. The most recent edition of the MUTCD, the Millennium Edition published in December 2000, contains some substantive changes and a new, easier to use format. States are required to adopt the Millennium Edition or its equivalent by January 2003.

Several stakeholders asked OSHA to update subpart G, because they had to meet the outdated OSHA requirements in addition to the DOT rule. They pointed out that Revision 3 and the Millennium Edition reflect updated standards and technical advances based on 22 years of experience in work zone traffic control design and implementation, as well as human behavior research and experience. The National Committee on Uniform Traffic Control Devices ("NCUTCD"), consisting of various national associations and organizations interested in highway construction or highway safety, including the American Road and Transportation Builders Association, the Association of American Railroads, the American

Automobile Association, the National Association of Governor's Highway Safety Representatives, and the National Safety Council, unanimously resolved in January 1999 to request that OSHA adopt Revision 3 in place of the 1971 MUTCD. In May 2000, OSHA's Advisory Committee on Construction Occupational Safety and Health ("ACCSH") also expressed support for adopting a more recent edition of the MUTCD as the OSHA standard for the construction industry.

OSHA reviewed the differences between the 1971 version, Revision 3 and the Millennium Edition and concluded that compliance with the more recently published manuals would provide all the safety benefits (and more) of the 1971 version. The differences between OSHA's regulations that reference the 1971 MUTCD and DOT's modern regulations create potential industry confusion and inefficiency, without in any respect advancing worker safety. Accordingly, in an interpretation letter dated June 16, 1999, to Cummins Construction Company, Inc., OSHA stated that it would accept compliance with Revision 3 in lieu of compliance with the 1971 MUTCD referenced in section 1926.200(g) through its *de minimis* policy.

The numerous and various changes to the 1971 MUTCD reflected in Revision 3 and the Millennium Edition stem from over 20 additional years of experience in temporary traffic control zone design, technological changes, and contemporary human behavior research and experience. Revision 3 and the Millennium Edition provide highway work zone planners more comprehensive guidance and greater flexibility in establishing effective temporary traffic control plans based on type of highway, traffic conditions, duration of project, physical constraints and the nature of the construction activity. Revision 3 and the Millennium Edition, accordingly, better reflect current practices and techniques to best ensure highway construction worker safety and health.

Accordingly, OSHA is amending the safety and health regulations for construction to adopt and incorporate Revision 3 (and the option to comply with the Millennium Edition), instead of the 1971 MUTCD, and to make certain editorial changes. The amendment deletes the references in 29 CFR 1926.200(g)(2) and 1926.202 to the 1971 MUTCD and inserts references to Revision 3 (and the option to comply with the Millennium Edition). The amendment clarifies and abbreviates 29 CFR 1926.201(a), by simply adopting

the requirements of Revision 3 (and the option to comply with the Millennium Edition) with regard to the use of flaggers. The amendment also makes certain editorial corrections, replacing the term workers for the term workmen and the term flaggers for the term flagmen in 29 CFR 1926.200(g)(2) and 1926.201(a).

Updating OSHA's rule eliminates the technical anomaly of having to meet both OSHA's outdated requirement to comply with the 1971 version and DOT's more modern requirements. Instead, OSHA's final rule requires compliance with Revision 3 (or, at the option of the employer, the Millennium edition). In addition to harmonizing OSHA's requirements with those of DOT, the final rule's additional safety measures (described below) will be enforceable as OSHA requirements. With the current emphasis on rebuilding the Nation's highways and improving safety in work zone areas, OSHA's update is particularly appropriate.

#### IV. Discussion of Changes

##### *Format and Style*

Both the 1971 MUTCD and Revision 3 were written in narrative form with "must/shall," "should," and "may" sentences indicating mandatory requirements, guidance, and options, respectively. These verbs were often intermixed within a single paragraph, leading to some confusion. In the Millennium Edition, each subsection is organized by "standard," "guidance," and "options" categories. An additional category, titled "support," is also included. This format clarifies what is expected of employers and the basis for those requirements. Pursuant to the requirements of 29 CFR 1926.31, only the mandatory language of standards that are incorporated through reference are adopted as OSHA standards. Therefore, the summary of changes below will focus primarily on the revisions that impose new requirements, or modify already existing requirements. The summary does contain short discussions on traffic control plans and tapers which, while not required by MUTCD, reflect industry practice.

The 1988 edition of the MUTCD eliminated the term "flagmen" and "workmen" and replaced them with the more inclusive "flaggers" and "workers." The final rule amends 29 CFR 1926.200(g)(2), 1926.201(a) and 1926.203 to be consistent with these changes.

In the Millennium Edition, the FHWA also changed the title of part 6 from "Standards and Guides for Traffic

Controls for Street and Highway Construction, Maintenance, Utility, and Incident Management Operations” to “Temporary Traffic Control.” The new title is more succinct and more accurately describes the contents of the section.

*Sections 6A Through 6B (Introduction and Fundamental Principles)*

Revision 3 and the Millennium Edition describe an overall “guiding philosophy” of “fundamental principles” for good temporary traffic control, which is not explicitly set out in part VI of the 1971 MUTCD. Although these principles do not formally establish new requirements, they provide a framework for understanding requirements set out in the remainder of part VI. In the corresponding section, the 1971 ANSI standard required that all temporary traffic control devices be removed as soon as practical when they are no longer needed. Revision 3 downgraded this requirement to a recommendation. This issue was revisited during the drafting of the Millennium Edition, which once again requires the removal of signs when they are no longer needed. The Millennium Edition requires that employers remove temporary traffic control devices that are no longer appropriate, even when the work is only suspended for a short period of time.

*Section 6C (Temporary Traffic Control Elements)*

The 1971 MUTCD does not discuss traffic control plans (TCPs), which are used by industry to describe traffic controls that are to be implemented in moving vehicle and pedestrian traffic through a temporary traffic control zone. Revision 3 emphasizes the importance of TCPs in facilitating safe and efficient traffic flow. Revision 3 recognizes that different TCPs are suitable for different projects and does not detail specific requirements. The Millennium Edition offers expanded guidance and options for TCPs, but it adds no requirements. In both Revision 3 and the Millennium Edition, a TCP is recommended but not required. Revision 3 and the Millennium Edition also discuss the “temporary traffic control zone,” comprised of several areas known as the “advance warning area,” “transition area,” “activity area,” and “termination area.” In addition, Revision 3 and the Millennium Edition explain the need for differing traffic control measures in each control zone area.

The 1971 MUTCD only briefly describes “tapers” and provides a

formula for calculating the appropriate taper length. However, Revision 3 defines and discusses five specific types of tapers used to move traffic in or out of the normal path of travel. It illustrates each of them, and sets out specific formulae for calculating their appropriate length. In all three editions, information relating to tapers is limited to guidance and contains no mandatory requirements.

All versions of the MUTCD require the coordination of traffic movement, when traffic from both directions must share a single lane. Revision 3 and the Millennium Edition describe five means of “alternate one-way traffic control,” adding the “Stop or Yield Control Method” to the methods described in the 1971 MUTCD. The “Stop or Yield Control Method” is appropriate for a low-volume two-lane road where one side is closed and the other side must serve both directions. It calls for a stop or yield sign to be installed on the side that is closed. The approach to the side that is not closed must be visible to the driver who must yield or stop.

*Section 6D (Pedestrian and Worker Safety)*

Revision 3 adds a lengthy section, not found in the 1971 MUTCD, that provides guidance and options on pedestrian and worker safety. Under Revision 3, the key elements of traffic control management that should be considered in any procedure for assuring worker safety are training, worker clothing, barriers, speed reduction, use of police, lighting, special devices, public information, and road closure. Revision 3 recommends that these traffic control techniques be applied by qualified persons exercising good engineering judgment. The Millennium Edition makes this recommendation a requirement. The Millennium Edition also requires advance notification of sidewalk closures.

*Section 6E (Hand Signaling or Flagger Control)*

Revision 3 and the Millennium Edition require that a flagger wear an orange, yellow, or “strong yellow green” (called “yellow-green” in Millennium Edition) vest, shirt, or jacket, instead of an “orange vest and/or an orange cap,” as directed in the 1971 ANSI standard. For nighttime work, Revision 3 requires that the outer garment be retro-reflective orange, yellow, white, silver, or strong yellow-green, or a fluorescent version of one of these colors. This clothing must be designed to identify clearly the wearer as a person, and the clothing

must be visible through the full range of body motions. For nighttime work, the Millennium Edition requires that the colors noted above be retro-reflective, but does not mandate that the clothing be visible through the full range of body motions. Both Revision 3 and the Millennium Edition allow the employer more flexibility in selecting colors.

Under the 1971 ANSI standard, the flagger was required to be visible to approaching traffic at a distance that would allow a motorist to respond appropriately. Revision 3 and the Millennium Edition contain more specific requirements. Under both versions, flaggers must be visible at a minimum distance of 1,000 feet. In addition, Revision 3 and the Millennium Edition list training in “safe traffic control practices” as a minimum flagger qualification.

Revision 3 and the Millennium Edition depart significantly from the 1971 ANSI standard by requiring that “Stop/Slow” paddles, not flags, be the primary hand-signaling device. The paddles must have an octagonal shape on a rigid handle, and be at least 18 inches wide with letters at least six inches high. The 1971 ANSI standard recommended a 24-inch width. Revision 3 and the Millennium Edition require that paddles be retro-reflectorized when used at night. Flags would still be allowed in emergency situations or in low-speed and/or low-volume locations. Revision 3 and the Millennium Edition differ in that Revision 3’s recommendations for flag and paddle signaling practice are requirements in the Millennium Edition. In addition, the Millennium Edition applies several new requirements when flagging is used. The flagger’s free arm must be held with the palm of the hand above shoulder level toward approaching traffic and the flagger must motion with the flagger’s free hand for road users to proceed. These requirements were guidance in Revision 3, and options in the 1971 ANSI standard.

*Section 6F (Devices)*

Revision 3 and the Millennium Edition reflect numerous differences in the design and use of various traffic control devices, such as signs, signals, cones, barricades and markings, used in temporary traffic control zones. Several signs or devices are described that are not mentioned in Part VI of the 1971 ANSI standard. These signs and devices, along with their location in Revision 3 and the Millennium Edition, can be found in Table 1.

TABLE 1.

New signs and devices	Revision 3	Millennium edition
Portable Changeable Message Signs .....	6F-2 .....	6F.52.
Arrow Displays .....	6F-3 .....	6F.53.
High-Level Warning Device or Flag Tree .....	6F-4 .....	6F.54.
Temporary Raised Islands .....	6F-5h .....	6F.63.
Impact Attenuators .....	6F-8a .....	6F.76.
Portable Barriers .....	6F-5g and 8b .....	6F.75.
Temporary Traffic Signals .....	6F-8c .....	6F.74.
Rumble Strips .....	6F-8d .....	6F.78.
Screens .....	6F-8e .....	6F.79.
Opposing Traffic Lane Divider .....	6F-8f .....	6F.64.
Shoulder Drop-Off .....	6F-1b(19) .....	6F.41.
Uneven Lanes .....	6F-1b(20) .....	6F.42.
No Center Stripe .....	6F-1b(21) .....	6F.43.
Be Prepared to Stop .....	VI-8c sign W20-7b .....	6F.15, W3-1a.
Detour Marker and End Detour .....	6F-1c(4) .....	6F.15.
Various Other Warning Signs .....	V1-8a, signs W1-4bR, W1-4cR, W1-8, W3-3, W4-1 and W4-3 and V1-8b, signs W5-2a and W8-3a.	

The dimensions, shape, legends or use of various signs have changed. Those changes are reflected in Table 2.

TABLE 2.

New signs	Revision 3	Millennium edition
Turn Off 2-Way Radios and Cellular Tele-phones.	6F-1b(18a) and (18b) .....	6F.15, W22-2.
Stop Ahead and Yield Ahead .....	VI-8a, signs W3-1a and W3-2a .....	6F.15, W3-1a & W3-2a.
Road Narrows and Narrow Bridge .....	VI-8a, signs W5-1 and W5-2 .....	6F.15, W5-1 & W5-2.
Right Lane Ends .....	VI-8c, sign W9-1 .....	6F.15, W9-1.
Length of Work .....	6F-1c(2) .....	6F.15, G20-1.
End Road Work .....	6F-1c(3) .....	6F.15, G20-2a.

Also, Revision 3 and the Millennium Edition offer expanded options for the color of temporary traffic control signs. Signs that under the 1971 ANSI standard were required to have orange backgrounds may now have fluorescent red-orange or fluorescent yellow-orange backgrounds.

The 1971 ANSI standard required that signs in rural areas be posted at least five feet above the pavement; signs in urban areas were required to be at least seven feet above the pavement. Revision 3 eliminated the distinction between urban and rural areas, and downgraded the requirement to a recommendation. It recommended that signs in all areas have a minimum height of seven feet. In the Millennium Edition, the FHWA returned to the 1971 ANSI requirements. The Millennium Edition also introduced the requirement that signs and sign supports be crashworthy.

The Millennium Edition introduced and clarified mandatory requirements for the design of the following signs: Weight Limit, Detour, Road (Street) Closed, One Lane Road, Lane(s) Closed, Shoulder Work, Utility Work, signs for blasting areas, Shoulder Drop-Off, Road Work next XX KM (Miles), and Portable Changeable Message.

The dimensions, color or use of certain channelizing devices have also changed. "Channelizing devices" include cones, tubular markers, vertical panels, drums, barricades, temporary raised islands and barriers. The 1971 ANSI standard required that traffic cones and tubular markers be at least 18 inches in height and that the cones be predominantly orange. Revision 3 raised the minimum height for traffic cones and tubular markers to 28" "when they are used on freeways and other high speed highways, on all highways during nighttime, or whenever more conspicuous guidance is needed." (6F-5b(1), 5c(1)) Revision 3 also expanded the color options for cones to include fluorescent red-orange and fluorescent yellow-orange. The Millennium Edition maintained these requirements.

Revision 3 and the Millennium Edition require that vertical panels be 8 to 12 inches wide, rather than the 6 to 8 inches required by the 1971 ANSI standard. Under Revision 3 and the Millennium Edition, drums must be made of lightweight, flexible and deformable materials, at least 36 inches in height, and at least 18 inches in width. Steel drums may not be used. The Millennium Edition adds the requirement that each drum have a

minimum of two orange and two white stripes with the top stripe being orange. Revision 3 and the Millennium Edition require that delineators only be used in combination with other devices, be white or yellow, depending on which side of the road they are on, and be mounted approximately four feet above the near roadway edge.

The 1971 ANSI standard required warning lights to be mounted at least 36 inches high. Revision 3 and the Millennium Edition reduced the minimum height to 30 inches and introduced new requirements for warning lights. Type A low intensity flashing warning lights and Type C steady-burn warning lights must be maintained so as to allow a nighttime visibility of 3000 feet. Type B high intensity flashing warning lights must be visible on a sunny day from a distance of 1000 feet.

Revision 3 and the Millennium Edition contain an additional requirement, not found in the 1971 ANSI standard, that requires employers to remove channelizing devices that are damaged and have lost a significant amount of their retro-reflectivity and effectiveness. Revision 3 and the

Millennium Edition also specifically prohibit placing ballast on the tops of drums or using heavy objects such as rocks or chunks of concrete as barricade ballast.

Revision 3 and the Millennium Edition address in greater detail the appearance and use of pavement markings and devices used to delineate vehicle and pedestrian paths. They require that after completion of the project, pavement markings be properly obliterated to ensure complete removal and a minimum of pavement scars. Whereas Revision 3 requires that all temporary broken-line pavement markings be at least four feet long, the Millennium Edition sets the minimum at two feet.

#### *Section 6G (Temporary Traffic Control Zone Activities)*

This section, not found in the 1971 ANSI standard, provides information on selecting the appropriate applications and modifications for a temporary traffic control zone. The selection depends on three primary factors: Work duration, work location, and highway type. Section 6G in both Revision 3 and the Millennium Edition emphasizes that the specific typical applications described do not include a layout for every conceivable work situation and that typical applications should, when necessary, be tailored to the conditions of a particular temporary traffic control zone.

Among the specific new requirements in Revision 3 and the Millennium Edition are the following: retro-reflective and/or illuminated devices in long term (more than three days) stationary temporary traffic control zones; warning devices on (or accompanying) mobile operations that move at speeds greater than 20 mph; warning sign in advance of certain closed paved shoulders; a transition area containing a merging taper in advance of a lane closure on a multi-lane road; temporary traffic control devices accompanying traffic barriers that are placed immediately adjacent to the traveled way; and temporary traffic barriers or channelizing devices separating opposing traffic on a two-way roadway that is normally divided.

The Millennium Edition includes several additional requirements in Section 6G. It requires the use of retro-reflective and/or illuminated devices in intermediate-term stationary temporary traffic control zones. A zone is considered intermediate-term if it is occupying a location more than one daylight period up to three days, or if there is nighttime work in the zone lasting more than one hour. The

Millennium Edition also requires a transition area containing a merging taper when one lane is closed on a multi-lane road. When only the left lane on undivided roads is closed, the merging taper must use channelizing devices and the temporary traffic barrier must be placed beyond the transition area channelizing devices along the centerline and the adjacent lane. In addition, when a directional roadway is closed, inapplicable WRONG WAY signs and markings, and other existing traffic control devices at intersections within the temporary two-lane two-way operations section, must be covered, removed, or obliterated.

#### *Revision 3 Section 6H (Application of Devices)*

Revision 3 and the Millennium Edition provide an extensive series of diagrams illustrating Atypical applications' of the temporary traffic control requirements. These illustrations are intended as practical guides on how to apply all the factors discussed in other chapters and displayed on Figures and Tables throughout Part VI.

#### *Effective Date*

In the direct final rule, OSHA set an effective date of August 13, 2002. In two of the eight comments received in response to the direct final rule and proposed rule, commenters asserted that the effective date needed to be delayed by one year. The Agency is treating those two comments as significant adverse comments.

The National Electrical Contractors Association (NECA) asserted that an additional year was needed to "allow enough time for industry organizations to notify their constituents of their new compliance responsibilities and for contractors to achieve full compliance." (EX 2-3). Specifically, NECA stated:

Most construction contractors not involved in routine highway construction are unaccustomed to the details [of the updated MUTCD] \* \* \* Utility contractors performing progressive removal and/or installation of electrical and communication line, piping, sewer system are not usually involved in the construction and maintenance of roadways \* \* \* There could be a shortage of traffic control devices from suppliers and manufacturers to meet expanded requests if there is an abrupt need to achieve full compliance among a broader construction audience than expected. This could potentially lead to unpredicted non-compliance among highway construction contractors as well as among non-highway contractors. For example, a representative of a major manufacturer of temporary traffic lane marking recently told NECA that the company's typical months for producing the tape for the upcoming construction season

are February and March, suggesting a possible shortage of material until well after the proposed OSHA effective compliance date of August 2002. Available material and equipment supply may not meet a rapid demand. Manufacturers and suppliers should be allowed time to expand their inventory in anticipation of expanded demand.

(EX 2-3).

The National Association of Homebuilders (NAHB) submitted similar comments (EX-2-7), asserting that:

Most residential construction is not involved in routine highway construction and therefore, most are not aware of the requirements of the MUTCD. \* \* \* [T]here may be a shortage of traffic control devices and equipment that could lead to significant cost increases or non-compliance with the new standard if these are unavailable. This would add additional costs to residential construction projects that are currently in progress or for contracts for construction endeavors that are already in place.

(EX 2-7).

The Agency finds that these assertions fail to demonstrate a need for a one-year delay in the effective date. Implicit in the comments is the assumption that the MUTCD has applied only to employers engaged in road work, while OSHA is now seeking to apply the revised MUTCD to contractors engaged in non-road work affected by road traffic hazards. The assumption that the requirements of the 1971 MUTCD were limited to the construction/repair of roads is incorrect. In section 6A-3 ("Application of Standards") of the 1971 MUTCD, "construction and maintenance operations" covered by the manual are described as including "encroachments by adjacent building construction."

Also, with respect to NECA's comment, as stated in section 6A-2 (Scope) of the 1971 MUTCD, the requirements have applied specifically to "utility work." Additionally, in 29 U.S.C. 1926 subpart V (Power Transmission and Distribution), section 1926.955(b)(7) requires that in metal power transmission/distribution tower construction, adequate traffic control must be maintained when crossing highways with equipment as required by the provisions of 1926.200 (g)(2)—which had incorporated the 1971 MUTCD. This Subpart V requirement has been in place since 1973. Therefore, employers other than just those constructing/repairing roads have had to comply with the 1971 MUTCD for approximately 30 years.

As discussed below, in analyzing the costs of updating the rule, OSHA estimates that the overwhelming majority of roads in the United States

are subject to DOT requirements to comply with Revision 3 or the Millennium Edition. Consequently, the percentage of worksites where equipment is now going to be required for the first time is small. Furthermore, it is unlikely that many construction employers work exclusively on sites subject to DOT jurisdiction. As long as some of their work has been subject to DOT requirements, they have had to have the equipment necessary to comply with the updated MUTCD since 1996. Therefore, it is unlikely that whatever new demand there is for equipment will be significant relative to current industry production levels.

The NAHB and NECA also stated that more time is needed to train both the industry and OSHA compliance officers on the updated MUTCD. In light of the fact that most affected employers have been required to comply with the updated MUTCD since 1996, it appears that a one-year extension in the effective date, which was requested by these commenters, is not necessary. However, to facilitate the Agency's emphasis on outreach efforts, OSHA has added 120 days to the original proposed effective date; the new effective date is December 11, 2002. This will also accommodate the small number of employers affected by this rule that have not until now been required to comply with the updated MUTCD requirements.

### Regulatory Planning and Review

#### *Executive Order 12866 (Regulatory Planning and Review)*

#### Relationship to Existing DOT Regulations

Through this rule, OSHA is requiring that traffic control signs, signals, barricades or devices conform to Revision 3 or Part VI of the Millennium Edition, instead of the ANSI MUTCD. The ANSI MUTCD was issued in 1971. In 1988 the FHWA substantially revised and reissued the MUTCD. Since that time, FHWA has published several updates, including a 1993 revision to Part VI—Revision 3. In December 2000, FHWA published a Millennium Edition of the MUTCD that changed the format and revised several requirements. Employers that receive Federal highway funds are currently required to comply with Revision 3 and have up until January 2003 to bring their programs into compliance with the Millennium Edition.

This is a significant regulatory action and has been reviewed by the Office of Management and Budget under Executive Order 12866. OSHA has determined that this action is not an economically significant regulatory

action within the meaning of Executive Order 12866. Revision 3 of the MUTCD adds to the ANSI requirements some new, alternative traffic control devices and expanded provisions and guidance materials, including new typical application diagrams that incorporate technology advances in traffic control device application. Part VI of the Millennium Edition includes some alternative traffic control devices and only a very limited number of new or changed requirements. However, the activities required by compliance with either Revision 3 or the Millennium Edition would not be new or a departure from current practices for the vast majority of work sites. All of these requirements are now or have been part of DOT regulations that cover work-related activities on many public roadways.

According to DOT regulations, the MUTCD is the national standard for streets, highways and bicycle trails. While OSHA's de minimus policy is applied to situations in which there is failure to comply with the 1971 ANSI MUTCD when there is compliance with Revision 3, this action will reduce any confusion created by the current requirement for employers to comply both with the 1971 ANSI MUTCD and DOT's MUTCD.

#### Percentage of Roads Covered Under OSHA's Standard Versus the DOT Standard

The majority of U.S. roads are currently covered by DOT regulations and their related State MUTCDs. DOT regulations cover all federal-aid highways, which carry the majority of traffic. Moreover, many states extend MUTCD coverage to non-federal-aid and private roads. Thus, the requirements imposed by this OSHA final rule will be new only for the small percentage of the work that is not directly regulated by DOT or state transportation agencies.

*Federal-Aid Highways.* Employers must comply with Revision 3 for all construction work respecting federal-aid highways. Although federal-aid highways constitute a minority of all public highways as measured by length, these highways carry the great majority of traffic. According to OSHA's analysis, 84 percent of vehicle-miles are driven on federal-aid highways (see Table 1). Though not a perfect measure, vehicular use corresponds more directly than length of road to the need for construction, repair, and other work activities addressed by the MUTCD. This suggests that most of these activities occur with respect to federal-aid highways. Conforming to the standards of the MUTCD during these

work activities is a clear requirement of receiving federal highway funds and is therefore regulated by DOT.

*State, Local, County and Municipal Roads (not Receiving Federal Aid).* The available data suggest that work respecting most non-federal-aid roads are required to comply with the MUTCD. Many states choose to regulate public roadways that are not federal-aid highways and thereby extend the coverage of the MUTCD. For example, OSHA reviewed the practices of nine states (Alabama, Arkansas, Colorado, Connecticut, Delaware, Kentucky, Michigan, North Carolina, and Texas), which include 23 percent of all U.S. public roads. In conducting this review, OSHA found that eight of the states require MUTCD standards on all state roads, while the ninth state requires MUTCD standards on state roads if the state contracts the work to be done. Five of these states also require that MUTCD standards be met on all county and municipal roads. For the sample of nine states, individual state coverage of public roads by state MUTCDs ranges from 12 percent to 100 percent (see Table 2). OSHA found that, on average, MUTCD coverage of all public roads in these nine states is 84 percent. (OSHA computed the average across the nine states by weighting by total highway miles.)

*Private Roads.* OSHA also examined MUTCD coverage of private roads. Although data on the extent of private roads is very limited, the best available information indicates that about 20 percent of the total mileage is accounted for by private roads (see Table 2). Some of these private roads are covered by State MUTCD standards. Of the nine states examined by OSHA, one state included private roads under the MUTCD standards if the state enforced traffic laws on these roads (e.g., roads in gated communities). Another state extended MUTCD standards to private roads if the state was involved in road design or approval. A third state deferred coverage to municipal ordinances, which may require meeting MUTCD standards on private roads. Thus, although it is clear that some local governments extend coverage to private roads, no data are available to specify with precision the extent to which this is the case.

#### Additional Incentives To Comply With the MUTCD

The estimates of the percentage of roads and highways covered by the MUTCD presented above are conservative. States, localities and their contractors have additional incentives to comply with the MUTCD when it is

not required. OSHA policy reinforces these incentives because OSHA does not enforce compliance with the ANSI MUTCD when there is compliance with Revision 3.

Under 23 U.S.C. 402(a), states must have highway safety programs that are approved by the Secretary of Transportation. The Secretary is directed to promulgate guidelines for establishing these programs. Those guidelines state that programs "should" conform with the MUTCD. DOT does not have the authority to require compliance with the MUTCD on roads that do not receive federal aid, but recommends it. In light of this, and the statement that the MUTCD is "the national standard for all traffic control devices" (23 CFR 655.603(a)), the MUTCD has become the standard of care for litigation purposes. Thus, when a state or local government engages in a road construction project, it will likely seek to meet a reasonable standard of care (*i.e.* compliance with a recent edition of the MUTCD). If it does not, it could face substantial liability if the construction on its roads is a contributing factor in an accident. While compliance with the MUTCD does not insulate a state or locality from liability, it significantly reduces its exposure.

Moreover, many of the contractors who conduct work on covered roads are likely to conduct work on non-covered roads as well. In the interest of efficiency, these contractors are likely to consistently apply the current version of the MUTCD to all work, rather than switch back to the ANSI version for a small percentage of their overall business.

Finally, as is discussed below, signs and devices meeting 1993 specifications are often less expensive than signs meeting 1971 ANSI specifications. This has provided contractors involved in road construction and repair operations with a natural incentive to replace old and worn signs with signs meeting the more up-to-date standard.

#### Costs Associated With the DOT Standard

DOT has consistently found that their revisions to the MUTCD as a whole and to its various parts have not given rise to new annual costs of compliance that are significant within the meaning of that term as used in Executive Order 12866. The **Federal Register** Notice (December 10, 1993) on the final amendment to the Manual on Uniform Traffic Control Devices (MUTCD); Work Zone Traffic Control states:

The FHWA has determined that this action is not a significant regulatory action within the meaning of Executive Order 12866 or

significant within the meaning of Department of Transportation regulatory policies and procedures. As previously discussed in the above sections on 'Changed Standards' and 'New Devices,' this revision of Part VI adds some new, alternative traffic control devices, and only a very limited number of new or changed requirements. Most of the changes included in this version of part VI are expanded guidance materials, including many new Typical Application Diagrams. The FHWA expects that application uniformity will improve at virtually no additional expense to public agencies or the motoring public. Therefore, based on this analysis a full regulatory evaluation is not required.

58 FR 65084, 65085.

The Federal Register Notice (December 18, 2000) on the final amendment to the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) states:

The FHWA has determined that this action is not a significant regulatory action within the meaning of Executive Order 12866 or significant within the meaning of Department of Transportation regulatory policies and procedures. It is anticipated that the economic impact of this rulemaking will be minimal. Most of the changes in this final rule provide additional guidance, clarification, and optional applications for traffic control devices. The FHWA believes that the uniform application of traffic control devices will greatly improve the traffic operations efficiency and the safety of roadways at little additional expense to public agencies or the monitoring public. Therefore, a full regulatory evaluation is not required.

65 FR 78923, 78957.

Moreover, OSHA has conducted detailed comparisons of the various versions of the MUTCD. The OSHA comparative analysis indicates that the majority of changes to the 1971 version offered increased flexibility, were advisory in nature, or changed mandatory requirements to non-mandatory provisions. Table 3 summarizes the differences between the 1971 ANSI MUTCD and the 1993 Revision that either potentially increase costs or lead to increased flexibility. In cases of increased flexibility and changes to non-mandatory provisions, it is likely that the effect will be to decrease the costs of compliance.

In a few instances, however, the 1993 Revision mandated sign or device changes that could lead to cost increases because contractors would need to purchase new signs for some projects. Table 4 summarizes these cases, which include specifications for stop/slow paddles, no parking signs, "road narrows" and other warnings, and reflective traffic drums. The table lists the changes in specifications as well as presents prices for the 1971 versus the

1993 version of the sign or device. Excluded from Table 4 are "approach warning signs," which are additional signs required by the 1993 MUTCD in highly vulnerable areas.

For stop/slow paddles, the more recent MUTCD version of sign (18" by 18") is less expensive than the older, ANSI version (24" by 24"), with vendors reporting a price difference of \$31.50 per sign. No parking signs that include the international "no parking" symbol (as required in the 1993 MUTCD) but do not include a legend are only \$0.80 more than the older ANSI version of the signs containing only a legend (the 1993 MUTCD does not require a legend). For "road narrows" and other warning signs, the MUTCD version (36" by 36") is \$31 more than the ANSI-specification in the most direct comparison that OSHA identified (\$90, as compared to \$59). One vendor, however, sold a version of the new sign using an alternative metal for less than \$47. Regarding reflective traffic drums, one vendor reported that reflective 55-gallon metal drums (1971 ANSI standard) are no longer produced. When they were last available they sold for \$45 to \$60 each. A reflective traffic drum meeting the MUTCD standard is \$68.

To summarize, prices for signs meeting 1993 MUTCD specifications are not significantly higher than prices for signs meeting 1971 ANSI specifications; in fact, the prices are often lower. Moreover, for devices such as reflective traffic drums, it is not even possible to replace old and worn items with items meeting 1971 standards. This suggests that contractors involved in road construction and repair operations have had an incentive to update to 1993 specifications as their equipment has worn out. The primary effect of the OSHA standard, will be to speed the process of switching to 1993 specifications for contractors who have not already chosen to switch.

To further gauge the potential burden of updating to 1993 MUTCD specifications, OSHA examined the forty-four colored illustrations of the different types of typical highway construction work zones presented in Sections 6G through 6H of the 1993 MUTCD. The majority of examples of work zones presented in the MUTCD represent situations that are currently covered by DOT regulations, and would not be affected by the OSHA standard. However, OSHA was able to identify three examples of situations that may not fall under DOT regulations, but would be included in the scope of the OSHA standard.

The first example examined was a "Lane closure on minor street,"

illustrated by Figure TA-18 (see page 142-3 of the MUTCD). In this example, compliance with the 1993 MUTCD would require no changes.

Requirements would be met using signs and devices meeting the 1971 ANSI specifications. Consequently, no incremental costs would be attributable to compliance with the 1993 MUTCD.

The second example examined was a "Lane closure for one lane-two way traffic control," illustrated by Figure TA-10 (see page 126-7 of the MUTCD). In this setting, compliance with the 1993 MUTCD is achieved by adding two flagger signs and four advance warning signs (two "Right [Left] Lane Closed Ahead" and two "Road Construction XXX Ft") to the 1971 ANSI requirement. In addition, two flagger hand signaling devices (sign paddles) meeting the 1993 dimensions (24" by 24") are needed. A Flagger sign can be purchased for about \$34, while the "Right [Left] Lane Closed Ahead" and "Road Construction XXX Ft" signs can be purchased for about \$47 each. The two sign paddles are \$67.<sup>1</sup> Thus, compliance with the 1993 MUTCD would involve a one-time expenditure of \$323.

Finally, OSHA examined a third situation, "Lane closure on low-volume two-lane road," illustrated by Figure TA-11 (see page 128-9 of the MUTCD). It is important to note that this situation would likely apply to a county or state road, and most states already extend the coverage of the MUTCD in this setting (see OSHA review of 9 states presented below). Here, compliance with the 1993 MUTCD is achieved through the use of two "Right [Left] Lane Closed Ahead" and two "Road Construction XXX Ft" to the 1971 ANSI requirement, which can be purchased for about \$47 each.<sup>2</sup> In addition, one advance warning sign with the international symbol for "yield" is needed. These can be purchased for roughly \$100.<sup>3</sup> Thus, compliance with the 1993 MUTCD would involve a one-time expenditure of \$288. If it is assumed that contractor chooses to use 20 drums instead of 20 cones, this would involve a one-time additional expenditure of \$1,360, increasing compliance costs to \$1,648.

In sum, DOT has consistently found that changes and revisions to the MUTCD do not lead to significant compliance costs. OSHA's comparative assessment of the 1971 ANSI requirements and the 1993 MUTCD tends to support DOT's findings.

<sup>1</sup> Prices are from Newman Signs (<http://www.newmansigns.com>)

<sup>2</sup> Prices are from Newman Signs (<http://www.newmansigns.com/>).

<sup>3</sup> Prices are from Newman Signs (<http://www.newmansigns.com/>).

Because the OSHA regulation applies the MUTCD as developed by DOT, the costs of compliance with the OSHA regulation will be insignificant as well.

#### Costs Attributable to the OSHA Standard

The analysis discussed above indicates that the costs of compliance for OSHA's proposed action will not be significant under Executive Order 12866. As DOT has estimated, the costs associated with the various versions of the MUTCD and its revisions are small. OSHA's comparative analysis of the 1971 ANSI and 1993 MUTCD supports DOT's estimates. In addition, the overwhelming majority of public roads are already covered by DOT regulations and their related State MUTCDs. As discussed above, OSHA estimated that more than 80 percent of work performed on U.S. roads is covered by DOT regulations and their related State MUTCDs. Due to the extension of MUTCD requirements to non-federal-aid and private roads as well as additional incentives to comply with the MUTCD in situations where compliance is not mandatory, the percentage of work already covered is likely to be much higher than 80 percent. The costs of compliance for those directly regulated by OSHA will, therefore, be substantially lower than those estimated for compliance with DOT regulations.

The differences between OSHA's current regulations that reference the ANSI MUTCD and DOT's regulations create potential industry confusion and inefficiency. OSHA's comparative analysis of the 1971 ANSI and 1993 MUTCD indicated that the majority of changes offered increased flexibility, were advisory in nature, or changed mandatory requirements to non-mandatory provisions. Since the costs of the proposed action are so minimal, it is possible that they will be completely offset by eliminating the inefficiency associated with inconsistent OSHA and DOT regulations as well the direct cost savings from enhanced flexibility and changes to non-mandatory provisions embodied in the 1993 MUTCD.

#### Technological and Economic Feasibility

The MUTCD is a standard that has been routinely updated for decades by DOT and in fact predates the federal highway program. The process used to update this standard is for DOT to work with state highway officials, who provide federal officials with information on the evolving nature of traffic control devices and industry practices. The federal role consists primarily of compiling this evolving set of practices and devices into a national

manual—the MUTCD—that includes standards, guidance, and options. As noted by a DOT official,<sup>4</sup> the MUTCD essentially codifies current industry practice. Thus, most potentially affected parties—local governments, highway and utility contractors, and others—already apply the MUTCD, which clearly demonstrates that doing so is both technologically and economically feasible.

#### Regulatory Flexibility Screening Analysis

In order to determine whether a regulatory flexibility analysis is required under the Regulatory Flexibility Act, OSHA has evaluated the potential economic impacts of this action on small entities. Table 5 presents the data used in this analysis to determine whether this regulation would have a significant impact on a substantial number of small entities. For purposes of this analysis, OSHA used the Small Business Administration (SBA) Small Business Size Standard and defined a small firm as a firm with \$27.5 million or less in annual receipts.

OSHA guidelines for determining the need for regulatory flexibility analysis require determining the regulatory costs as a percentage of the revenues and profits of small entities. The analysis presented here is in most respects a worst-case analysis. OSHA examined the situation of a small firm with less than 20 employees all of whose employees work on projects not previously covered by Revision 3 or the Millennium Edition. OSHA further assumed that the firm previously complied only with the existing OSHA rule (1971 ANSI MUTCD). OSHA derived estimates of the profits and revenues per firm for establishments with fewer than 20 employees for "Highway and Street Construction" (SIC 1611) using data from Census and Dun and Bradstreet. Compliance costs were estimated using the third situation examined under Costs Associated with the DOT Standard ("Lane closure on low-volume two-lane road") and assuming the worst-case scenario, where compliance costs were \$1,648. This value served as OSHA's estimate for upper-bound compliance costs per construction crew. OSHA assumed that a highway construction crew consists of four employees and computed an estimate of average total cost of the regulation per establishment of \$2,161. Annualized compliance costs were \$308 per establishments for small entities,

<sup>4</sup> Personal communication between Rudolph Umbs, Federal Highway Administration, and John Duberg, TechLaw, December 12, 2000.

amounting to 0.03 percent of revenue and 0.85 percent of profit. Based on this worst-case evaluation, OSHA certifies that this regulation will not have a significant economic impact on a substantial number of small entities.

TABLE 1.—FEDERAL AID HIGHWAY LENGTH, LANE-MILES AND VEHICLE-MILES

System	Length of roadway (Miles) <sup>1</sup>	Lane-Miles <sup>2</sup>	Annual Vehicle-Miles <sup>3</sup>
Interstate Highways .....	46,564	208,649	648,124
Other National Highways .....	113,995	333,355	546,028
Total National Highways .....	160,559	542,004	1,194,152
Other Federal-Aid .....	797,783	1,719,703	1,093,975
Total Federal-Aid Highways .....	958,342	2,261,707	2,288,127
Non Federal-Highways .....	2,973,673	5,947,348	420,201
Total Highways .....	3,932,015	8,209,055	2,708,328
Federal-Aid as a Percent of Total .....	24%	28%	84%

<sup>1</sup> FHWA, Highway Statistics: 1999, Section V, Table HM-16.  
<sup>2</sup> FHWA, Highway Statistics: 1999, Section V, Table HM-48.  
<sup>3</sup> FHWA, Highway Statistics: 1999, Section V, Table VM-3.

TABLE 2.—HIGHWAY MILES COVERED BY FEDERAL OR STATE MUTCDs: SELECTED STATES

State	Federal agency <sup>1</sup>	State agency	County	Town, township, municipal	Other <sup>2</sup>	Total miles covered	Total miles	Covered miles as a share of total (percent)
Alabama <sup>3</sup> .....	733	10,869	.....	.....	.....	11,602	94,246	12
Arkansas <sup>4</sup> .....	2,135	16,366	65,347	13,710	1	97,559	97,559	100
Colorado <sup>4</sup> .....	6,969	9,071	55,447	12,363	1,299	85,149	85,149	100
Connecticut <sup>4</sup> .....	4	3,717	.....	16,807	260	20,788	20,788	100
Delaware <sup>5</sup> .....	7	5,065	.....	.....	.....	5,072	5,748	88
Kentucky <sup>6</sup> .....	1,013	27,477	.....	.....	.....	28,490	74,120	38
Michigan <sup>4</sup> .....	2,083	9,725	89,344	20,570	.....	121,722	121,722	100
North Carolina <sup>7</sup> .....	2,361	78,103	.....	.....	.....	80,464	99,301	81
Texas <sup>4</sup> .....	454	79,164	142,285	78,488	116	300,507	300,507	100
9 State Total .....	15,759	239,557	352,423	141,938	1,676	751,353	899,140	84
U.S. Total .....	118,391	773,904	1,766,396	1,206,925	66,401	.....	3,932,017	.....
9 States as a % of U.S. Total .....	13%	31%	20%	12%	3%	.....	23%	.....

Source: FHWA, Highway Statistics: 1999, Section V, Table HM-10  
<sup>1</sup> Roadways in Federal parks, forests, and reservations that are not part of the State and local highway systems.  
<sup>2</sup> Includes State park, State toll, other State agency, other local agency, and other roadways not identified by ownership.  
<sup>3</sup> County, other local public, and private roads are covered if the state was part of design work or road approval.  
<sup>4</sup> All state, county, and municipal roads are covered.  
<sup>5</sup> Municipal and private roads are not covered.  
<sup>6</sup> All state, county, and municipal roads are covered if the state contracts the work.  
<sup>7</sup> NC has no county road; municipalities "should" use the MUTCD.  
<sup>8</sup> States for which OSHA reviewed MUTCD requirements.

TABLE 3.—CHANGES IN 1993 MUTCD (VS. 1971 ANSI) THAT LEAD TO POTENTIAL COST DECREASES OR INCREASES

1971 ANSI MUTCD	1993 Rev 3, Part VI MUTCD	Nature of change(s)
6E-3 <i>Flagmen</i> : The use of an orange vest, and/or an orange cap shall be required for flagmen.  For nighttime * * * garments shall be reflectorized.	6E-3: <i>High Visibility Clothing</i> : 1. For daytime work, the flagger's vest, shirt, or jacket shall be orange, yellow, strong yellow green or fluorescent versions of these colors. For nighttime work, * * * the garments shall be retroreflective: 1. Orange, yellow, white, silver, strong yellow-green, or a fluorescent version of one of these. 2. Shall be visible at a minimum distance of 1,000 feet. 3. Shall be designed to identify clearly the wearer as a person and be visible through the full range of body motions.	Mandatory provisions offer more flexibility—wider range of acceptable garments and colors.  Clarification of visibility distance requirements.  Millennium Edition no longer requires visibility through full range of body motions.

TABLE 3.—CHANGES IN 1993 MUTCD (VS. 1971 ANSI) THAT LEAD TO POTENTIAL COST DECREASES OR INCREASES—Continued

1971 ANSI MUTCD	1993 Rev 3, Part VI MUTCD	Nature of change(s)
<p>6E-2. <i>Hand-Signaling Devices:</i> Sign paddles should be at least 24 inches wide * * *</p>	<p>6E-4. <i>Hand-Signaling Devices:</i> The standard STOP/SLOW sign paddle shall be 18 inches square.</p>	Sign change.
<p>6E-5. <i>Flagger Stations:</i> * * * distance is related to approach speed and physical conditions at the site; however, 200 to 3000 feet is desirable.</p>	<p>6E-6. <i>Flagger Stations:</i> Table VI-1, Guidelines for length of longitudinal buffer space, may be used for locating flagger stations in advance of the work space. (Pg. 13: lengths start at 35 feet for 20MPH speed to 485 feet for 65 MPH))</p>	Guidance provisions that offer more flexibility.
<p>Figure 6-12 depicts 14 commonly used regulatory signs.</p>	<p>Footnote to the guidelines in Table VI indicate that distances apply on wet and level pavements. Employers will have to purchase the AASHTO (1990) document (A Policy on Geometric Design of Highways and Streets, AASHTO) for recommended adjustments for the effect of grade on stopping and variation for trucks. Also, 6E-6 references the same AASHTO document (1990), Table III-2 for "distance may be increased for downgrades." The reference to the 1990 document is outdated. Employers may purchase AASHTO: A Policy on Geometric Design of Highways and Streets, 2001. Member Price: \$80 or Non Member Price: \$102</p> <p>Figure VI-7A and VI-7b includes the 14 commonly used regulatory signs depicted in 1971 ANSI plus 7 additional signs:</p> <p>R3-1 (24"x24") International symbol: no right turn R3-2 (24"x24") International symbol: no left turn R3-5 (30"x36") left curve only R3-6 (30"x36") International symbol: left lane bear left R3-7 (30"x30") Left lane must turn left</p>	Contractors that perform work on steep downgrades most likely have referenced the document under projects covered by DOT regulations. OSHA should be able to include this information in the FEDERAL REGISTER or on the web.
<p>R4-7: international symbol with additional plaque that reads Keep Right (24"x18").</p>	<p>R3-8 (30"x30") Multi-turn left lanes <i>Two of the 14 signs depicted in ANSI 1971 were modified:</i> R4-7: additional plaque (24"x18") is no longer required.</p>	The additional signs allow greater flexibility.
<p>R8-3 (24"x30") "No Parking" sign.</p>	<p>R3-7 (30"x30") Left lane must turn left</p>	Sign change.
<p>6B-8 <i>Road (Street) Closed Sign</i> The Road (Street) Closed sign shall be used where the roadway is closed to all traffic except contractors' equipment * * * and shall be accompanied by appropriate detour signing.</p>	<p>R3-8 (30"x30") Multi-turn left lanes <i>Two of the 14 signs depicted in ANSI 1971 were modified:</i> R4-7: additional plaque (24"x18") is no longer required. R8-3 (24"x24") Letter sign was revised to reflect the international symbol for no parking.</p>	Sign change.
<p>6B-10 <i>Weight Limit Signs</i> Weight restrictions must be consistent with State or local regulations * * *</p>	<p>6-F.1.a(4): The "shall" provisions for Road (Street) Closed signs, etc., have been changed to "should."</p>	Changed to non-mandatory.
<p>"Flagman 500 Ft" sign.</p>	<p>6-F.1a.(6): Weight restrictions should be consistent with State or local regulations. One weight limit sign (R12-5 (30"x36")) was added for optional use.</p>	Changed to non-mandatory.
<p>"Road Work 1 Mile" sign. "Road Narrows" W5-1: 30"x30" "Narrow Bridge" W5-2: 30"x30" "Right Lane Ends" W9-1: 30"x30" International symbol signs require descriptive plaques:</p>	<p>A Sign changed to international symbol for flagger (48"x48")—this sign may be used in conjunction with other warning signs. This sign is omitted. Dimensions changed to 36"x36" Dimensions changed to 36"x36" Dimensions changed to 36"x36" International symbol signs no longer require descriptive plaques:</p>	Sign change. Sign change. Sign change. Greater flexibility. Reduction in requirements.
<p>(1) W6-1 with plaque: Divided Highway (24"x18") (2) W6-2 with plaque: Divided Highway Ends (24"x18") (3) W12-2 with plaque: Low Clearance (24"x18") (4) W8-5 plaque: Slippery When Wet (24"x18")</p>	<p>6-F.1 b.(4): Other approach warning signs. Certain conditions require other advance warning signs, such as limited sight distance or because an obstruction may require a motorist to stop. There are no specified standards for such signs. The determination of the sign or signs to be used shall be based on an engineering study using the following sections as guidelines. As an alternative to a specific distance on these advance warning signs, the word AHEAD may be used.</p>	Greater flexibility.
<p>Blasting Zone Ahead: W22-1: Previously, "Blasting Zone 1000 ft." Turn off Two-way Radios and Cellular Telephones: W22-2: "and Cellular Telephones" was added. <i>New signs available for selection:</i> Shoulder Drop Off: W8-9a Uneven Lanes: W8-11 No Center Strip: W8-12</p>	<p>Blasting Zone Ahead: W22-1: Previously, "Blasting Zone 1000 ft." Turn off Two-way Radios and Cellular Telephones: W22-2: "and Cellular Telephones" was added. <i>New signs available for selection:</i> Shoulder Drop Off: W8-9a Uneven Lanes: W8-11 No Center Strip: W8-12</p>	Greater flexibility.

TABLE 3.—CHANGES IN 1993 MUTCD (VS. 1971 ANSI) THAT LEAD TO POTENTIAL COST DECREASES OR INCREASES—  
Continued

1971 ANSI MUTCD	1993 Rev 3, Part VI MUTCD	Nature of change(s)
<p>6C-3 Cone Design</p> <p>These shall be a minimum of 18 inches in height</p> <p>6C-5 Vertical Panels Design</p> <p>* * * shall consist of at least one panel, 6 to 8 inches in width * * *</p> <p>6C-4 Drum Design</p> <p>Drums are normally metal drums, of 30 to 55 gallon capacity * * *</p>	<p>Lane curves: W1-4bR; W1-4cR                      Bear right: W1-8                      Signal ahead: W3-3                      Right lane traffic merging: W4-1; W4-3                      Lane narrows: W5-2a                      International symbol for "pavement ends": W8-3a                      Truck crossing: W8-6                      Loose gravel: W8-7                      Rough road: W8-7                      Shoulder Drop off: W8-9a                      Be Prepared to Stop: W20-7b                      6F-2. <i>Portable Changeable Message Signs (PCMS).</i>                      * * * used most frequently on high-density, urban freeways, * * * or where highway alignment, traffic routing problems or other conditions require advance warning and information.                      6F-3. <i>Arrow Displays.</i> * * * intended to provide additional warning and directional information to assist in merging and controlling traffic through or around a temporary traffic control zone.                      Type A: appropriate for use on low-speed urban streets.                      Type B: for intermediate-speed facilities and for maintenance or mobile operations on high-speed roadways.                      Type C: used on high-speed, high volume traffic control projects.                      Arrow display panels shall be mounted on a vehicle, a trailer, or other suitable support.                      Arrow display shall not be used on a two-lane, two-way roadway for temporary one-lane operation.                      An arrow display shall not be used on a multilane roadway to laterally shift all lanes of traffic, because unnecessary lane changing may result.                      6F-4. <i>High-level warning device (flag tree).</i> * * * most commonly used in urban high-density traffic situations to warn motorists of short-term operations                      * * * may supplement other traffic control devices in temporary traffic control zones.                      * * * shall consist of:                      —minimum of two flags with or without a Type B, high intensity, flashing warning light.                      —distance from the road way to the bottom of the lens of the light and to the lowest point of the flay material shall be no less than 8 feet.                      —flags shall be 16 inches square or larger and shall be orange or fluorescent versions of orange in color.                      6F-5 <i>Channelizing Devices</i>                      6F-5b <i>Cones</i>                      * * * shall be a minimum of 18 inches-except when used on freeways and other high-speed highways they shall be 28 inches in height.                      Retroreflection of 28-inch or larger cones shall be provided by a white band 6 inches wide, no more than 3 to 4 inches from the top of the cone, and an additional 4-inch wide white band a minimum of 2 inches below the 6-inch band.                      6F-5d <i>Vertical Panels</i>                      * * * shall be 8 to 12 inches wide * * *                      Vertical panels used on expressways, freeways and other high-speed roadways shall have a minimum of 270 square inches of retro reflective area facing traffic.                      6F-5e <i>Drums</i>                      Drums * * * shall be constructed of lightweight, flexible, and deformable materials and be a minimum of 36 inches in height; and have at least an 18 inch minimum width, regardless of orientation.                      Steel drums shall not be used.</p>	<p>PCMS is most frequently on high-density, urban freeways.                      These situations are most likely to be covered by DOT regulations, and thus, not affected by the OSHA standard.                      The Arrow Displays is an optional means (non-mandatory) for employers to supplement other traffic control devices. It is popular because it can be highly mobile (mounted on a vehicle, trailer, etc.) and easily repositioned as the job progresses.                      The high level warning device, also referred to as the flag tree, is another option (non-mandatory) for employers to use in addition to other traffic control devices.                      Projects on freeways and high-speed highways are likely to fall under DOT regulations, and thus, are unaffected by the OSHA standard.                      Projects on expressways, freeways, and high-speed highways are likely to fall under DOT regulations, and thus, are unaffected by the OSHA standard.                      Device change.</p>

TABLE 3.—CHANGES IN 1993 MUTCD (VS. 1971 ANSI) THAT LEAD TO POTENTIAL COST DECREASES OR INCREASES—Continued

1971 ANSI MUTCD	1993 Rev 3, Part VI MUTCD	Nature of change(s)
	<p>6F–8 Other devices</p> <p>New section added to reflect current technology.</p> <ol style="list-style-type: none"> <li>1. 6F–8a. Impact Attenuators.</li> <li>2. 6F–8b. Portable Barriers.</li> <li>3. 6F–8c. Temporary Traffic Signals.</li> <li>4. 6F–8d. Rumble Strips.</li> <li>5. 6F–8e. Screens.</li> <li>6. 6F–8f. Opposing Traffic Lane Divider.</li> </ol>	Offers greater flexibility. Impact Attenuators, portable barriers, etc. are new devices added to reflect common practices among highway construction and repair contractors.

TABLE 4.—PRICES FOR TRAFFIC WARNING SIGNS AND DEVICES CHANGED BY THE 1993 MUTCD REQUIREMENTS

Sign/Device	Summary of Change	Source	Price	Applicable standard
'Stop/Slow' Sign Pad- dle.	1971 ANSI width require- ments were (at least) 24 inches; Changed to 18 inches square in 1993 MUTCD.	Pac Sign Co. (G–hs–12) .....	\$65.00 .....	1971 ANSI
		John M. Warren, Inc. (TC1006).	33.50 .....	1993 MUTCD
'No Parking Any Time'	Changed to reflect inter- national symbol for No Parking.	John M. Warren, Inc. (TS1011).	12.95 .....	1971 ANSI
No Parking inter- national symbol, without written leg- end.	.....	Newman Signs (R7–31A) .....	12.05 .....	1993 MUTCD
		Newman Signs (R8–3A) .....	8.47 .....	1993 MUTCD
'No Parking' with inter- national symbol below legend.	.....	Pac Sign Co. (G–r–101be5)	16.00 .....	1993 MUTCD
		Pac Sign Co. (G–r–101ra5) ..	22.00 .....	1993 MUTCD
'Narrow Bridge'; 'Right Lane Ends'; 'Road Narrows'.	Dimensions changed from 30x30 in 1971 to 36x36 in 1993.	Pac Sign Co. (G–w5–2ara22; G–w9–1ra22; G–w5– 1ra22).	59.00 .....	1971 ANSI
'Right Lane Closed Ahead'.	.....	Pac Sign Co. (G–w20– 5rra27).	90.00 .....	1993 MUTCD
		Newman Signs (W20–5R–A)	46.63 .....	1993 MUTCD
Reflective Traffic Drum.	1971 ANSI requirement: metal drums of 30–55 gal- lon capacity. 1993 MUTCD requirement: constructed of lightweight, flexible, and deformable materials," 36 inch height minimum, 18 inch width minimum.	1971 ANSI version no longer produced; Northeast Traf- fic Control Company.	45 to 60 when last avail- able; estimate by sales representative.	1971 ANSI
		Bent Manufacturing Super- dome Drum.	68.00 .....	1993 MUTCD

Notes:  
 Price data were obtained from the following Web sites:  
 John M. Warren, Inc., Mobile, AL  
<http://www.johnmwarren.com/item.asp?cat=1&ThisPage=0&maxPage=0&prodID=140>  
<http://parkingsignsbypac.safeshopper.com/501/cat501.htm>  
<http://www.johnmwarren.com/item.asp?cat=2&ThisPage=2&maxPage=2&prodID=290>  
 Newman Signs  
<http://www.newmansigns.com/>  
 Pac Sign Co., Binghamton, NY  
<http://parkingsignsbypac.safeshopper.com/226/cat226.htm?239>  
<http://parkingsignsbypac.safeshopper.com/544/cat544.htm?239>  
<http://parkingsignsbypac.safeshopper.com/542/cat542.htm?239>  
<http://parkingsignsbypac.safeshopper.com/383/cat383.htm?239>  
 Bent Manufacturing, Huntington Beach, CA  
<http://www.bentmfg.com/drums.htm>

TABLE 5.—DATA AND CALCULATIONS FOR REGULATORY FLEXIBILITY ANALYSIS

Data type/Calculation	Amount/Result
Receipts (1,000) <sup>1</sup> .....	\$9,807,978
Median return on sales <sup>2</sup> (in percent) .....	3.00
Estimated profit for 1997 .....	\$294,239,340
Total employment <sup>1</sup> .....	42,501
Number of establishments <sup>1</sup> .....	8,104
Employment per establishment (Total employment divided by number of establishments) .....	5.24

TABLE 5.—DATA AND CALCULATIONS FOR REGULATORY FLEXIBILITY ANALYSIS—Continued

Data type/Calculation	Amount/Result
Receipts per establishment (Receipts divided by number of establishments) .....	\$1,210,264
Profit per establishment (Profit divided by number of establishments) .....	\$36,308
Number of crews per establishment (Employment per establishment divided by 4, assuming 4-person crew) .....	1.31
Worst-case one-time cost per crew (from economic analysis) .....	\$1,648
Total one-time cost per establishment (Worst-case one-time cost per crew multiplied by number of crews per establishment) .....	\$2,161
Annualization factor (10 year life, 7% interest) <sup>3</sup> .....	0.14
Annualized cost per establishment (Total one-time cost per establishment multiplied by annualization factor) .....	\$308
Cost as a percentage of receipts per establishment (Annualized cost per establishment divided by receipts per establishment) .....	0.03
Cost as a percentage of profit per establishment (Annualized cost per establishment divided by profit per establishment) .....	0.85

Notes:

<sup>1</sup> Data from the U.S. Bureau of Census, "Number of Firms, Number of Establishments, Employment, Annual Payroll, and Receipts by Employment Size of the Enterprise for the United States, All Industries—1997," (<http://www.census.gov/csd/susb/susb2.htm#go97>) for SIC 1611, Highway and Street Construction (Enterprises with less than 20 employees).

<sup>2</sup> Data from Dun and Bradstreet, "Industry Norms & Key Business Ratios, 1998–1999," for SIC 1611, Highway and Street Construction.

<sup>3</sup> Annualization factor (Af) computed using the formula following this footnote.

$$Af = \frac{i(1+i)^n}{(1+i)^n + 1}$$

where i is the interest rate and n is the useful life of the equipment.

**Response to Comments Related to Regulatory Analysis**

Comments received from the National Association of Home Builders (NAHB), the National Electrical Contractors Association (NECA) and the South Carolina Department of Transportation (SCDOT) confirm the existence of situations where: (1) federal funds for road construction are not used and (2) state regulations do not mandate adherence to the Millennium version of the MUTCD. OSHA's economic analysis both acknowledged and estimated the degree to which these situations are likely to occur. The comments did not challenge OSHA's estimates. Thus, comments received do not substantively affect the original economic analysis.

Both NAHB and NECA raised the concern that the original date of compliance could lead to a shortage of traffic control devices. Since the overwhelming majority of job sites are already required to comply with Millennium version of the MUTCD, the devices are widely available. In fact, OSHA's research indicated that devices used to comply with the 1971 MUTCD often are no longer manufactured. Thus, for some devices, compliance with the Millennium edition is much easier than compliance with the 1971 edition of the MUTCD.

Other comments also centered around August 2002 deadline for implementation. NECA suggests that such an immediate deadline could create a burden by disrupting contracts and work already in progress, since the new requirements may not have been incorporated. OSHA has addressed these concerns directly by extending the

effective date. Postponement of the effective date will ensure that the cost of complying with the standard (which OSHA has estimated to be quite small) will be even smaller.

In sum, the conclusion of OSHA's original regulatory analysis remains. The cost of complying with the standard will not represent a significant impact on small or large firms. This conclusion holds even in the unlikely case where the costs come entirely in the form of a decline in profits. In many cases, firms will be able to pass on at least some of the costs, further reducing the regulatory burden. Moreover, any costs attributable to the standard are short run in nature. As old contracts expire, new contracts will incorporate the costs of the new standard directly.

**Unfunded Mandates**

This final rule, which amends Subpart G—Signs, Signals, and Barricades (29 CFR 1926.200(g)(2), 201(a), 202 and 203) has been reviewed in accordance with the Unfunded Mandates Reform Act of 1995 (UMRA) (2 U.S.C. 1501 *et seq.*). For the purposes of the UMRA, the Agency certifies that this final rule does not impose any Federal mandate that may result in increased expenditures by State, local, or tribal governments, or increased expenditures by the private sector, of more than \$100 million in any year.

**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. The Order provides for preemption of State law only if there is a clear Congressional intent for the Agency to do so. Any such preemption is to be limited to the extent possible.

Section 18 of the Occupational Safety and Health (OSH) Act (29 U.S.C. 651 *et seq.*) expresses Congress' intent to preempt State laws where OSHA has promulgated occupational safety and health standards. Under the OSH Act, a State can avoid preemption on issues covered by Federal standards only if it submits, and obtains Federal approval of, a plan for the development of such standards and their enforcement. 29 U.S.C. 667. Occupational safety and health standards developed by such Plan States must, among other things, be at least as effective in providing safe and healthful employment and places of employment as the Federal standards. Subject to these requirements, State-Plan States are free to develop and enforce their own requirements for road-construction safety.

Although Congress has expressed a clear intent for OSHA standards to preempt State job safety and health rules in areas involving the safety and health of road-construction workers, this final rule has only a minimum impact on the states. DOT requires compliance with the MUTCD for "application on any highway project in which Federal highway funds participate and on projects in federally administered areas where a Federal department or agency controls the highway or supervises the traffic operations." 23 CFR 655.603(a). For this work, which represents the majority of road construction work in every State, all States must require compliance with the current edition of the MUTCD or another manual that substantially conforms to the current edition. States

have been required to enforce Revision 3 or their own substantially conforming manual since 1994. DOT regulations allow States until January 2003 to adopt the Millennium Edition, or another manual that substantially conforms to the Millennium Edition. See 23 CFR 655.603(b). In addition, States must have highway safety programs that are approved by the Secretary of Transportation, even for roads that do not receive Federal aid. The Secretary is directed to promulgate guidelines for establishing these programs. 23 U.S.C. 402(a). Those guidelines state, *inter alia*, that programs should conform with the current edition of the MUTCD. Accordingly, most States require compliance with the latest edition of the MUTCD even on roads that receive no Federal funding. The requirements described in this document are new requirements only for the very small percentage of employers that are not already covered by the DOT regulations or corresponding State requirements. Therefore, the required state plan adoption of the provisions of Revision 3 or the Millennium Edition or an equivalent standard will also effectively impose a new regulation only on that extremely small percentage of employers. (See economic analysis) OSHA concludes that this action does not have a significant impact on the states.

**State Plan Standards**

The 26 States or territories with OSHA-approved occupational safety and health plans must adopt an equivalent amendment or one that is at least as protective for employees within six months of the publication date of this final standard. These states are: Alaska, Arizona, California, Connecticut (for State and local government employees only), Hawaii, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, Nevada, New Mexico, New Jersey (for State and local government employees only), New York (for State and local government employees only), North Carolina, Oregon, Puerto Rico, South Carolina, Tennessee, Utah, Vermont, Virginia, Virgin Islands, Washington, and Wyoming.

**Paperwork Reduction Act**

This action does not impose new information collection requirements for purposes of the Paperwork Reduction Act of 1995, 44 U.S.C. 3501-30.

**List of Subjects in CFR Part 29**

Incorporation by reference, MUTCD, Occupational Safety and Health, Traffic control devices.

**Authority and Signature**

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

This action is taken pursuant to sections 4, 6, and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657), section 4 of the Administrative Procedure Act (5 U.S.C. 553), section 107 of the Contract Work Hours and Safety Standards Act (Construction Safety Act), 40 U.S.C. 333, Secretary of Labor's Order No. 3-2000 (65 FR 50017), and 29 CFR part 1911.

Signed at Washington, DC, this 6 day of September, 2002.

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

Part 1926 of Title 29 of the Code of Federal Regulations is hereby amended as set forth below:

**PART 1926 B—[AMENDED]**

1. The authority citation for Subpart G of Part 1926 is revised to read as follows:

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

**Subpart G—[Amended]**

2. Paragraph (g)(2) of § 1926.200 is revised to read as follows:

**§ 1926.200 Accident prevention signs and tags.**

\* \* \* \* \*

(g) \* \* \*

(2) All traffic control signs or devices used for protection of construction workers shall conform to Part VI of the Manual of Uniform Traffic Control Devices (AMUTCD''), 1988 Edition, Revision 3, September 3, 1993, FHWA-SA-94-027 or Part VI of the Manual on Uniform Traffic Control Devices, Millennium Edition, December 2000, FHWA, which are incorporated by reference. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. You may obtain a copy of the Millennium Edition from the following organizations: American Traffic Safety Services Association, 15 Riverside Parkway, Suite 100, Fredericksburg, VA 22406-1022; Telephone: 1-800-231-3475; FAX: (540) 368-1722; [www.atssa.com](http://www.atssa.com);

Institute of Transportation Engineers, 1099 14th Street, NW., Suite 300 West, Washington, DC 20005-3438; FAX: (202) 289-7722; [www.ite.org](http://www.ite.org); and American Association of State Highway and Transportation Officials; [www.aashto.org](http://www.aashto.org); Telephone: 1-800-231-3475; FAX: 1-800-525-5562. Electronic copies of the MUTCD 2000 are available for downloading at <http://mutcd.fhwa.dot.gov/kno-millennium>. Electronic copies of the 1988 Edition MUTCD, Revision 3, are available for downloading at [http://www.osha.gov/doc/highway\\_workzones](http://www.osha.gov/doc/highway_workzones). Both documents are available for inspection at the OSHA Docket Office, Room N2625, U.S. Department of Labor, 200 Constitution Avenue, NW., Washington, DC 20210 or at the Office of the Federal Register, 800 North Capitol Street, NW., Suite 700, Washington, DC.

\* \* \* \* \*

3. Paragraph (a) of § 1926.201 is revised to read as follows:

**§ 1926.201 Signaling.**

(a) *Flaggers.* Signaling by flaggers and the use of flaggers, including warning garments worn by flaggers shall conform to Part VI of the Manual on Uniform Traffic Control Devices, (1988 Edition, Revision 3 or the Millennium Edition), which are incorporated by reference in § 1926.200(g)(2).

\* \* \* \* \*

4. Section 1926.202 is revised to read as follows:

**§ 1926.202 Barricades.**

Barricades for protection of employees shall conform to Part VI of the Manual on Uniform Traffic Control Devices (1988 Edition, Revision 3 or Millennium Edition), which are incorporated by reference in § 1926.200(g)(2).

5. Paragraph (c) of § 1926.203 is revised to read as follows:

1926.203 Definitions applicable to this subpart.

\* \* \* \* \*

(c) *Signals* are moving signs, provided by workers, such as flaggers, or by devices, such as flashing lights, to warn of possible or existing hazards.

\* \* \* \* \*

[FR Doc. 02-23142 Filed 9-11-02; 8:45 am]

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