PROPOSED REGULATION OF THE

STATE FIRE MARSHAL

LCB File No. R102-08

June 11, 2008

EXPLANATION – Matter in *italics* is new; matter in brackets [omitted material] is material to be omitted.

AUTHORITY: §§1-13, NRS 477.030.

A REGULATION relating to fire protection; requiring the submission of certain inspection reports to the State Fire Marshal Division; adopting certain publications by reference; revising provisions governing permits to store hazardous materials; revising provisions governing portable fire extinguishers and fixed fire extinguishing systems; revising provisions governing containers for flammable or combustible liquids; revising provisions governing the review of building plans by the Division; revising provisions governing the notification required to be provided to the State Fire Marshal of fires in buildings owned by the State of Nevada; requiring existing buildings or structures to conform to the requirements for new buildings and structures under certain circumstances; and providing other matters properly relating thereto.

- **Section 1.** Chapter 477 of NAC is hereby amended by adding thereto the provisions set forth as sections 2 and 3 of this regulation.
- Sec. 2. A local authority having jurisdiction that inspects a building owned by the State of Nevada shall submit a copy of the inspection report to the State Fire Marshal Division within 10 working days after the inspection.
- Sec. 3. Fire departments that provide training to firefighters using techniques or exercises which involve the use of fire or any device that produces or may be used to produce fire must follow the requirements set forth in N.F.P.A. Standard 1403 on live fire-training evolutions.
 - **Sec. 4.** NAC 477.281 is hereby amended to read as follows:

- 477.281 1. The State Fire Marshal hereby adopts by reference the following nationally recognized codes with additions and deletions as noted in NAC 477.283:
- (a) International Fire Code, [2003] 2006 edition, [Volume 1.] including appendices B, C and F. A copy is available from the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois 60478-5795, or from the International Code Council at the Internet address [http://www.iccsafe.org/e/category.html ,], at the price of [\$53] \$64.00 for members and [\$70] \$85.50 for nonmembers, plus [\$5.99] \$9.00 for shipping and handling.
- (b) International Building Code, [2003] 2006 edition. [, Volumes 1 and 2.] A copy is available from the International Code Council, 4051 West Flossmoor Road, Country Club Hills, Illinois 60478-5795, or from the International Code Council at the Internet address [4] http://www.iccsafe.org/e/category.html, [2,] at the price of [\$65] \$78.75 for members, plus [\$5.99] \$9.00 for shipping and handling, and [\$86] \$105.00 for nonmembers, plus [\$6.99] \$11.00 for shipping and handling.
- (c) *Uniform Mechanical Code*, [2003] 2006 edition. A copy is available from the International Association of Plumbing and Mechanical Officials, 5001 East Philadelphia Street, Ontario, California 91761-2816, or from the International Association of Plumbing and Mechanical Officials at the Internet address [http://publications.iapmo.org ,], at the price of [\$64] \$74 for members and [\$89] \$93 for nonmembers, plus \$8 for shipping and handling.
- 2. In addition to the codes adopted pursuant to subsection 1, the State Fire Marshal hereby adopts by reference codes and standards 10, 11, *12*, *12A*, 13, 13D, 13R, 14, 15, 17, 17A, 20, 22, 24, 25, 30B, 50, 50B, 52, 58, 72, 86, 90A, 90B, 96, 99, 110, 111, 140, 160, 385, 407, 409, 410, *418*, *495*, 704, 1123, 1126, *1141*, *1142*, *1144*, 1403 , *1961*, *1962*, *1963*, *1965* and 2001 of the *National Fire Codes* to supplement other codes adopted in this chapter. A copy of the *National*

Fire Codes is available from the N.F.P.A., 1 Batterymarch Park, Quincy, Massachusetts 02169-7471, at the price of [\$1,120.] \$1,144.80 for members and \$1,272.00 for nonmembers.

- 3. Where no specific codes or standards are specified in the *International Fire Code*, the applicable standards of the N.F.P.A. may be used.
 - **Sec. 5.** NAC 477.283 is hereby amended to read as follows:
- 477.283 1. The following changes are made to the [2003] 2006 edition of the *International Fire Code* as adopted by reference by the State Fire Marshal:
- (a) [Section 105.6.35 is revised to read as follows: "An operational permit is required to operate a place of assembly with an occupant load of 100 or more, or as otherwise required by the authority having jurisdiction."
- —(b) Section 108 is deleted.
- [(e)] (b) To section 202 under the Group I-1 heading is added: "All portions of a care facility which houses patients or residents which is classified by the State Board of Health as 'Category 2,' and which has an occupant load of more than 10 residents, is classified as an 'I-1' occupancy classification."
 - (c) In section 308.3.1, "open-flame cooking device" is deleted.
 - (d) In section 308.3.1.1, "liquefied-petroleum-gas-fueled cooking devices" is deleted.
- [(d)] (e) Section 508.3 is revised by adding a second paragraph to read as follows: "Subject to the approval of the fire authority, if the fire flow is not available for adequate fire protection, an approved automatic fire sprinkler system must be installed throughout the building or buildings. The sprinkler system must meet the requirements of the appropriate N.F.P.A. standard. The provisions of this paragraph do not apply if a fire sprinkler system is otherwise required by this chapter or the adopted codes."

- [(e) Section 508.5.7 is deleted and replaced with: "A clear space of at least 3 feet must be maintained around the front and sides of a fire department connection. A fire department connection must be visible from the approved fire apparatus access road and must be accessible in a direct and unobstructed approved route."]
- (f) Section [903.2.1.6 is deleted and replaced with: "Casinos are classified as drinking establishments and] 903.2.1.2 is revised by adding a new paragraph to read as follows: "Occupancies containing a casino, regardless of occupancy classification, must be designed and built with a sprinkler system classified as an ordinary Hazard Group 2."
- (g) [Section 903.2.7 is revised by adding a second paragraph to read as follows: "An R-1 or R-2 occupancy that has more than two stories must have an N.F.P.A. 13 system installed. An R-1 or R-2 occupancy that has two stories or less must have an N.F.P.A. 13 system or an N.F.P.A. 13R system installed."
- (h) Section 903.2.10 is revised by adding a new paragraph to read as follows: "A building that is more than two stories in height, including any height added by usable floor space, must have automatic sprinkler systems installed throughout."
- (i) Section 903.3.1.2 is revised to read as follows: "Where allowed, an R-1 or R-2 building that has two stories or less must have automatic sprinkler systems installed throughout in accordance with N.F.P.A. 13 or N.F.P.A. 13R. An R-1 or R-2 building that has more than two stories must have automatic sprinkler systems installed throughout in accordance with N.F.P.A. 13."
- (j)] Section 903.2 is revised by adding a new paragraph to read as follows: "In all occupancies except group R-3 and U occupancies, a building that is more than two stories in

height, including any height added by usable floor space, must have an automatic sprinkler system throughout."

- (h) Section 903.2.9 Group S-2 is revised by adding a second exception to read as follows: "Any open parking garage as defined in section 406.3 of the International Building Code is exempt from installing a sprinkler system."
- (i) Section 906.1 is revised to read as follows: "When required, portable fire extinguishers must be installed in all group A, B, E, F, H, I, M, R-1, R-2, R-4 and S occupancies. No exceptions will apply."
- (j) Section 906.2 is revised by amending the following exceptions: In exceptions 2 and 2.4, "once every three years" is deleted and replaced with "annually."
- (k) In sections 907.2.12, 907.9.2 and [1019.1.8,] 1020.1.7, "75 feet" is deleted and replaced with "55 feet."
- (1) Section 907.10.1 is revised by adding the following exceptions [:] following exception (2):
 - "(3) Electrical rooms and mechanical rooms that are not normally occupied and are less than 400 square feet.
 - (4) Janitor closets.
 - (5) Storage rooms that are less than 400 square feet.
 - (6) Elevator cabs.
 - (7) Individual work areas or offices and private toilets serving individual work areas or offices
 - (8) Individual inmate sleeping accommodations and patient sleeping rooms except as required by section 907.10.1.3. "

- (m) In section 907.10.2, "70 dBA" is deleted and replaced with "80 dBA," and "60 dBA" is deleted and replaced with "80 dBA."
- (n) Section 3301.1.3 is amended to read as follows: "The possession, manufacture, storage, sale, use and handling of [fireworks are prohibited except where permitted] Class 1.3 and Class 1.4 pyrotechnics are only allowed in jurisdictions where specifically approved by local ordinance."
- (o) To section 3801.1 is added: "In the event of a conflict between any provision in this chapter and the regulations of the Board for the Regulation of Liquefied Petroleum Gas, the regulations of the Board take precedence."
- (p) In appendix B of section B105.2, "75 percent" is deleted and replaced with "50 percent."
- 2. The following changes are made to the [2003] 2006 edition of the *International Building Code* as adopted by the State Fire Marshal:
- (a) [To section] Section 112 is [added the following provision: "This section does not apply to the State Fire Marshal of Nevada."] deleted.
- (b) [Section 303.1 is revised by adding a new category "Casinos" to subsection A-2.

 (c)] From section 403.1 [is deleted] the phrase ["* * *] " more than 75 feet [,"] (22,860 mm)

 above the lowest level of fire department vehicle access" is deleted and [to that section is added

 "* * *] replaced with " more than 55 feet above the lowest level of access for a vehicle of the fire department."
- [(d)] (c) To section 403.6 is added: "Loudspeakers or horns for a fire alarm must achieve at least 80 decibels of sound in all areas within the protected property."
 - (d) To section 403.8, the following provisions are added:

- (1) "All equipment contained within the fire command center must be tested annually by a person approved by the authority having jurisdiction. Systems terminating within the fire command center must be tested as required by the local authority having jurisdiction according to a schedule which is commensurate with the size and complexity of the facility being protected and the systems involved. All equipment for the safety of life must be reset and certified by a person approved by the authority having jurisdiction after being tested. A log of the tests required by this section must be available for inspection by the authority having jurisdiction.

 Graphic display annunciator panels may be required if the complexity of the systems warrant.

 Testing must follow procedures which are developed by the designer, manufacturer and nationally recognized standards of good practice as approved by the authority having jurisdiction."
- (2) "The fire command center must be housed in a room separated from the building in which it is located by noncombustible construction rated at a minimum of 2 hours. The room used for that command center must be provided an exterior door if possible."
- [(f)] (e) To section 403.12, at the end of the last sentence, is added: ["***] " or an activation of any fire alarm system or a power failure."
- [(g) Section 403.15 is deleted and replaced with: "A smoke control system must be provided and must meet the requirements of Chapter 9."
- (h)] (f) Section 903.2.2 [.1] is revised by adding a new paragraph to read as follows: "In high schools where automatic fire sprinkler systems are provided, the automatic fire sprinkler systems for the automotive and woodworking shops must be ordinary hazard group 1 automatic fire sprinkler systems."
 - (i) (g) In section 907.2.12, "75 feet" is deleted and replaced with "55 feet."

- (2):
 - "(3) Electrical rooms and mechanical rooms that are not normally occupied and are less than 400 square feet.
 - (4) Janitor closets.
 - (5) Storage rooms that are less than 400 square feet.
 - (6) Elevator cabs.
 - (7) Individual work areas or offices and private toilets serving individual work areas or offices.
 - (8) Individual inmate sleeping accommodations and patient sleeping rooms except as required by section 907.2.10.1.3. "
 - (k) (i) In section 907.9.2:
 - (1) "70 dBA" is deleted and replaced with "80 dBA"; and
 - (2) "60 dBA" is deleted and replaced with "80 dBA." ; and
- (3) "75 feet" is deleted and replaced with "55 feet."
- (1)] (j) In section 1008.1.8.7, exception 3 is revised to read as follows: "In stairways serving buildings other than high-rise buildings, doors are permitted to be locked on the side opposite the egress side, provided that the doors can be opened from the egress side. Except for exit discharge doors, the doors must automatically unlock upon the activation of a fire alarm system or a fire sprinkler alarm and for a power failure."
- [(m)] (k) Section [1019.1.8] 1020.1.7 is deleted and replaced with: "In a building having a floor level used for human occupancy which is more than 55 feet above or below the level of access for a vehicle of the fire department, all required exit enclosures must be pressurized in

accordance with this section. Pressurization must occur automatically upon activation of an approved fire alarm system. The exception and the relief venting provisions remain as written."

- 3. As used in this section, "casino" means any room in which gaming is conducted, including, without limitation, any bar, cocktail lounge or other facility housed therein as well as the area occupied by the games.
 - **Sec. 6.** NAC 477.323 is hereby amended to read as follows:
- 477.323 1. A person shall not store a hazardous material in excess of the amount set forth in the *International Fire Code*, *2006 edition*, as adopted pursuant to NAC 477.281, unless he has been issued [a] an operational permit by the State Fire Marshal to store that material. A permit must be renewed annually.
- 2. Permits may be revoked or suspended when, after investigation, the State Fire Marshal determines that:
 - (a) The permit is being used by a person other than the person to whom it was issued.
 - (b) The permit is being used for a location other than that for which it was issued.
 - (c) Any of the conditions or limitations set forth in the permit have been violated.
- (d) The holder of the permit has failed, refused or neglected to comply with any order or notice served upon him under the provisions of this chapter within the time provided therein.
- (e) A false statement or misrepresentation as to a material fact was made in the application for the permit or the plans on which the permit was based.
- 3. The State Fire Marshal may suspend or revoke any permit if an inspection or investigation reveals a hazardous condition that endangers the safety of any person, or if the holder of the permit is not in compliance with this section. The State Fire Marshal may reinstate a suspended permit after the holder of the permit has paid the annual fee and corrected all

deficiencies identified. A permit that has been revoked will not be reissued. A suspension will not exceed 24 months, after which the permit will be reissued or revoked.

- 4. [Except as otherwise provided in subsection 5, a] A permit may be issued to store, transport on-site, dispense, use or handle hazardous materials in excess of the amount listed in the *International Fire Code*, [2003] 2006 edition, section [105,] 105.6.20, for a fee of \$90.
- 5. [The fee established by subsection 4, or any portion of it, may be waived by the State Fire Marshal. The State Fire Marshal may issue a permit for other facilities or appliances listed in section 105 of the International Fire Code, 2003 edition, for a fee of \$55, and in addition thereto may charge a fee of \$38.50 per hour, or any fraction thereof, for inspection services and an amount equal to the actual expenses incurred for travel, salaries and administrative expenses.]

 The State Fire Marshal [may] will issue an [annual] operational permit for the manufacture, storage, sale and handling of explosives, blasting agents or fireworks for a fee of \$1,100 [.] and, in addition thereto, may charge a fee of \$110 for each building or structure at the facility and an amount equal to the actual expenses incurred for travel, salaries and administrative expenses.
- 6. The \$60 surcharge required by NRS 477.045 will be collected on all permits to store hazardous materials, in addition to any other fees.
- 7. A permit expires 1 year after the last day of the calendar month in which the permit was issued, unless a different expiration date is noted on the permit.
- 8. Revocation or suspension of a permit does not preclude the State Fire Marshal from proceeding with a criminal investigation. Evidence from a criminal investigation may be used as evidence in an administrative hearing for the revocation or suspension of a permit.
- 9. If a holder of a permit or an applicant for a permit intends to terminate the storage, dispensing, handling or use of hazardous materials at a facility, the holder or applicant must

submit a plan to the State Fire Marshal outlining the proposed termination of the storage, dispensing, handling or use of the hazardous materials at least 30 days before the date on which the facility is to be closed. The plan must demonstrate that the reported quantities of materials have been or will be transported, disposed of or removed in a manner that presents no hazardous conditions to any person or property.

- **Sec. 7.** NAC 477.410 is hereby amended to read as follows:
- 477.410 1. All installation, inspection, maintenance and repair of portable fire extinguishers and fixed *fire* extinguishing systems must be performed in accordance with N.F.P.A. *Standard* 10, "Standard for Portable Fire Extinguishers," and N.F.P.A. *Standards* 17 and 17A, 2002 editions, and the State Fire Marshal.
- 2. Regardless of exceptions contained in the N.F.P.A.'s applicable standards, all portable fire extinguishers except the carbon dioxide extinguishers, wet chemical extinguishers, disposable extinguishers and Halon extinguishers must be recharged at least annually and whenever the service seal has been broken or an inspection indicates that the extinguisher might fail to function. For the recharging of any dry chemical type of extinguishment cylinder to be valid, the serviceman must date and initial with a permanent marking pen on the topmost exposed portion of the pick-up tube before reassembly and recharging. The date on the pick-up tube must correspond to the date on the exterior service tag. Failure to date and initial the pick-up tube is grounds for the immediate suspension or revocation of a certificate of registration. If possible, a collar tag ring as required by N.F.P.A. *Standard* 10 or an alternate collar tag ring that is approved by the State Fire Marshal must be installed at the time the extinguisher is recharged or serviced.

- 3. Nitrogen or approved dry air must be used as expellant when recharging dry chemical type extinguishers unless the manufacturer recommends otherwise.
- 4. Before a fire extinguishing system using Halon is accepted, a test as referenced in N.F.P.A. Standard 11A must be performed and recorded.
- 5. Within 30 days before the date on which an extinguisher must be serviced, the owner of a portable fire extinguisher may enter into a verbal service agreement for the service of that extinguisher. Failure to comply with the provisions of this section by a person who holds a certificate of registration is a ground for the immediate suspension or revocation of the certificate of registration, and the person who holds the certificate of registration may be criminally or civilly liable for fraud.
 - **Sec. 8.** NAC 477.460 is hereby amended to read as follows:
- 477.460 1. Each automatic fire sprinkler system must be inspected quarterly. One of the quarterly inspections must be termed an annual inspection and be conducted in accordance with the provisions of subsection 2. The other quarterly inspections may be conducted by any responsible person, including an employee of a firm, who, in the opinion of the authority having jurisdiction, has sufficient knowledge of the system to conduct such inspections. The quarterly inspections must conform to the requirements of N.F.P.A. Standards 13 and 25. Records of inspection must be kept on-site for review by the authority having jurisdiction. Any deficiencies must be reported to the authority having jurisdiction if the owner or occupant has received notice of the deficiency and fails to correct the deficiency within 30 days. Systems which terminate within a station for central control for a high-rise building must be scheduled for testing in accordance with paragraph ((d)) of subsection 2 of NAC 477.283.

- 2. The annual inspection must be made by a qualified licensee for automatic fire sprinkler systems. The annual inspection must comply with the standards and publications described in subsection 1.
- 3. If a maintenance inspection indicates that additional work is required on a fire sprinkler system in order to have the system conform to code requirements, the licensee shall notify the owner and the authority having jurisdiction in writing immediately after the inspection. A tag must be properly signed, punched and attached. The word "deficient" must be written across the bottom of the tag.
- 4. A licensed company must give 30 days' written notice to the owner, the occupant and the authority having jurisdiction before it may discontinue service to the owner or the occupant, or both.
 - **Sec. 9.** NAC 477.680 is hereby amended to read as follows:
- 477.680 No person may sell or offer for sale any **[plastic or other nonmetallic]** portable container for use in *the* storage or transportation of Class I or Class II flammable or combustible liquids **[-]** *unless the container complies with N.F.P.A. Standard 30*.
 - **Sec. 10.** NAC 477.740 is hereby amended to read as follows:
- 477.740 1. The State Fire Marshal Division shall review any plans concerning the construction, the site and any system for protection from fire to determine if there is compliance with the provisions of this chapter and any adopted codes relating to safety from fire and the protection of life of any:
 - (a) Building owned or leased by the State;
- (b) Facility for public education [;] in a county whose population is 400,000 or more, or when requested by the local building official or administrator of the facility;

- (c) Health and care facility or child care facility licensed by the State; and
- (d) Building, project for construction or system for protection from fire [] involving public occupancy, excluding single-family detached dwellings, in any county whose population is less than [50,000] 100,000, if there is no interlocal agreement between the State Fire Marshal Division and the authority having jurisdiction or for which a request for review is received from the owner or the authority having jurisdiction.
- 2. All projects requiring review must receive [approval] a certificate of compliance with the provisions of this chapter and any adopted codes relating to safety from fire and the protection of life from the State Fire Marshal before [they may be used or occupied. Under certain circumstances,] the building or structure is occupied. If requested by the local building official, the State Fire Marshal [may allow] will provide input regarding possible temporary [use or] occupancy [if, in his determination, the safety of persons or property is not jeopardized.

 Approval or permission of] of the building or structure. A certificate of compliance from the State Fire Marshal [for occupancy] may be suspended or revoked by him if his approval was granted in error or because incorrect information was supplied, or if he determines that the project is in violation of any code adopted under this chapter, this regulation or other law.
- 3. The plans and specifications of the project must be drawn to scale upon substantial paper or cloth and must be of sufficient clarity to indicate the location, nature and extent of the work proposed and to show in detail that it conforms to this chapter and the codes adopted under this chapter. Plans must be drawn, signed and stamped by those persons who are authorized by specific statute and the State Contractors' Board to draw plans and specifications. [A list of those persons described in this subsection may be obtained from the State Fire Marshal.]

- 4. A plan which provides for fire stopping must provide details on the technical specifications for the materials used and the testing and listing for those materials.
 - **Sec. 11.** NAC 477.915 is hereby amended to read as follows:
 - 477.915 1. Every existing building owned by the State of Nevada must:
 - (a) Comply with the provisions of NRS 477.100 to 477.170, inclusive;
 - (b) Meet the requirements of the building code in effect when the building was constructed;
 - (c) If the building:
 - (1) Is designated as a B occupancy;
- (2) Regardless of occupancy designation, has a floor area which exceeds 12,000 square feet on any floor or 24,000 square feet on all floors, including any mezzanines; or
 - (3) Is an R-1 or R-2 occupancy,
- → be scheduled for installation of an automatic fire suppression system during the next remodeling of or addition to the building;
- (d) Meet the requirements for fire flows contained in this chapter and the *International Fire Code*, [2003] 2006 edition; and
- (e) Be equipped with noncombustible containers for the disposal of smoking materials in designated smoking areas.
- 2. Every fire in a building or area of a building owned by the State must be reported immediately to the local fire department [immediately and to], which shall notify the State Fire Marshal of the fire as soon as practicable. A written report of the incident must be filed with the State Fire Marshal Division within 24 hours [.] after the fire. The report must be filed by the state agency affected with the [Nevada] State Fire Marshal, 107 Jacobsen Way, Carson City, Nevada 89711.

- 3. Upon the failure of a smoke detector which is powered by a battery and installed in a building owned or occupied by the State, the smoke detector must be replaced by a smoke detector which is connected to the wiring of the building and has a battery as a backup source of power.
- 4. A person who knowingly violates the provisions of this section is subject to prosecution for a misdemeanor in accordance with NRS 477.250.
 - **Sec. 12.** NAC 477.917 is hereby amended to read as follows:
- 477.917 1. [If the value of individual or cumulative additions, alterations and repairs to a building or structure in any 12-month period exceeds 50 percent of the value of the building or structure at the commencement of the 12-month period, the building or structure must conform to the requirements for a new building or structure.
- 2. The State Fire Marshal will determine the value of the building or structure and the value of any additions, alterations and repairs. If the owner of the building disagrees with the value as determined by the State Fire Marshal, the owner of the building may engage a qualified and disinterested appraiser to ascertain the fair market value of the building or structure and the value of any additions, alterations and repairs.
- 3. As used in this section, "addition" means any extension or increase in the floor space or height of a building or structure.] Chapter 34 of the International Building Code, 2006 edition, will be used to determine whether an alteration, repair, addition or change of occupancy of an existing building or structure must comply with the requirements for a new building or structure.
- 2. Structures existing before the effective date of this regulation must comply with the requirements set forth in section 3410.2 of the International Building Code, 2006 edition.

TEXT OF REPEALED SECTIONS

477.690 Letter of compliance; required label. (NRS 477.030)

Manufacturers must furnish the State Fire Marshal with a letter of compliance for each model and size container for which approval is sought. Each letter of compliance must include the label of the testing laboratory, the model number, the capacity, the safety instructions relevant to the type of liquid for which the container is to be used and the name of the liquid for which the container is to be used.

477.695 Color and lettering. (NRS **477.030**)

Gasoline containers must be solid red in color and bear the word "gasoline." Kerosene containers shall be solid blue or solid white in color and bear the word "kerosene." Lettering on both containers must be 1-inch high and of a contrasting color in bold-faced type.

477.700 Spouts; vents; closures. (NRS 477.030)

Containers must be provided with an integral pouring spout, or designed to accept a pouring spout supplied with the container. Containers must be equipped with a vent which activates upon the building up of excessive pressure within the container. All openings in the container must be equipped with threaded closures containing gaskets resistant to deterioration by petroleum products.

477.925 Mattresses in correctional facilities. (NRS 477.030)

- 1. Unless otherwise required by state statute or regulation or local ordinance, a mattress in a correctional facility in this State must comply with ASTM E1354-04a and ASTM F1870-99.
- 2. A copy of ASTM E1354-04a and ASTM F1870-99 is available from Global Engineering Documents, 15 Inverness Way East, Englewood, Colorado 80112, or from the American National Standards Institute at the Internet address http://webstore.ansi.org, for the price of \$38 for each standard.