

RULES AND REGULATIONS

Title 34—LABOR AND INDUSTRY

DEPARTMENT OF LABOR AND INDUSTRY

[34 PA. CODE CHS. 3 AND 3a]

Boiler and Unfired Pressure Vessel Regulations

The Department of Labor and Industry (Department), Bureau of Occupational and Industrial Safety, deletes Chapter 3 and adds Chapter 3a (relating to boiler and unfired pressure vessel regulations) to read as set forth in Annex A. The final-form rulemaking provides regulations for boilers and unfired pressure vessels under the Boiler and Unfired Pressure Vessel Law (act) (35 P. S. §§ 1331.1—1331.19).

In response to comments received and meetings with affected parties, some changes have been made to the proposed rulemaking that was published at 34 Pa.B. 6033 (November 6, 2004).

Statutory Authority

This final-form rulemaking is issued under the authority provided in section 14 of the act (35 P. S. § 1331.14) which provides “The department may make, alter, amend or repeal regulations for the construction, stamping, installation, maintenance, repair, inspection and operation of boilers and unfired pressure vessels used or destined for use in this Commonwealth. The regulation may be based upon generally accepted national or international engineering standards, formulas and practices”

Section 11 of the act (35 P. S. § 1331.11) also mandates that the Department conduct commission examinations, renew commissions and set fees for the issuance and renewal of commissions. The Department may also suspend or revoke a commission for due cause.

Background

Boilers and pressure vessels are operated under conditions that produce and contain pressure. These vessels can pose a serious threat to life and property because a catastrophic failure of the vessel will release energy and shrapnel similar to the explosion of a bomb. The Commonwealth enacted several laws to ensure the safe manufacturing and operation of this equipment. These laws were consolidated into a single statute by the act of May 2, 1929 (P. L. 1513, No. 451) (Act 451). In 1998, the Legislature replaced Act 451 with the act and brought the boiler and pressure vessel program up to the current National standards of safety, construction and inspection. The act’s primary improvement was ensuring that the Commonwealth’s program is consistent with Nationally and internationally accepted standards by requiring National Board of Boiler and Pressure Vessel Inspectors (National Board) registration of manufacturers’ documents, requiring Nationally accepted standards for repairs and providing for consistent application of safety inspections for boilers.

The Department published notice of proposed rulemaking at 34 Pa.B. 6033 and invited interested parties to provide written comments. The proposed rulemaking was also posted on the Department’s website at www.dli.state.pa.us. The Department received public comments from one individual, William Barbato.

The Independent Regulatory Review Commission (IRRC) submitted its comments through a letter dated January 5, 2004.

Since the passage of the act, the Department has sought input and approval from the Boiler Advisory Board. The Boiler Advisory Board was created under section 2214 of The Administrative Code of 1929 (71 P. S. § 574(g)) to provide technical advice to the Industrial Board. The seven-member Board consists of representatives from insurance underwriters, insurance inspection services, boiler manufacturers, boiler and unfired pressure vessel engineers, a power generation engineer, organized labor and the Department’s boiler division. The Board has reviewed several drafts of this final-form rulemaking and provided comment and input on a number of substantive issues.

The Department also met with the Pennsylvania Restaurant Association, the Pennsylvania Food Merchants Association and Chart Industries concerning beverage dispensing systems.

Purpose

This final-form rulemaking is necessary to implement the improvements to boiler and pressure vessel programs in the act. The final-form rulemaking adopts “Nationally recognized” standards, which bring the program to the most current state-of-the-art in technology and safety. The final-form rulemaking identifies equipment in business locations that are included in the safety inspection program in section 9 of the act (35 P. S. § 1331.9). The final-form rulemaking also implements the accident reporting provisions of section 16 of the act (35 P. S. § 1331.16), provides requirements for testing and certification under section 11 of the act and provides for the revocation or suspension of commissions for due cause. The final-form rulemaking clarifies the requirements for persons performing repairs on boilers and pressure vessels.

Affected Persons

This final-form rulemaking will affect owners and users of boilers and unfired pressure vessels and commissioned boiler inspectors. This final-form rulemaking requires compliance by owners and users of boilers and unfired pressure vessels, except for boilers located on farms, apartments with four or less units and private residences. Approximately 300,000 boilers and unfired pressure vessels will be covered, most of which are currently registered with the Department. This final-form rulemaking is based on current National standards.

This final-form rulemaking also requires compliance by commissioned boiler inspectors. There are approximately 300 commissioned inspectors.

The general public will benefit from this final-form rulemaking. The general public is exposed to boilers and unfired pressure vessels on a daily basis. This final-form rulemaking will provide greater safety for the general public. Boiler operators, owners and users of boilers and unfired pressure vessels will also benefit from the final-form rulemaking by having a safe environment in which to work and uniform standards to follow.

Fiscal Impact

The Commonwealth will incur ongoing costs related to the administration and enforcement of this final-form rulemaking. The costs will be similar to the current costs

incurred by the boiler and unfired pressure vessel registration and inspection program. The current program costs are \$2,241,888. There will be no additional costs due to this final-form rulemaking.

Response to Comments

The following responses address the common areas of concern found in the comments received from Mr. Barbato and IRRC.

Both commentators suggested that the definition of "ASME Code" should be corrected to fully reference ASME Code. Mr. Barbato further commented that definition should include the American Society of Mechanical Engineers' (ASME) published cases and code interpretations. The Department agrees in part with these suggestions. The Department redrafted the definition and it now references "The Boiler and Pressure Vessel Code." However the Department does not wish to include the published cases and code interpretations.

ASME Code cases are fact specific. ASME Code cases are valid for 3 years, giving the requestor the opportunity to have the item included in the next revision of the triennial ASME Code. The Department has a mechanism to address boiler issues involving code cases and interpretations. The Industrial Board, through its appointed Boiler Advisory Board, will hear variance requests based on ASME Code cases and interpretations. The Industrial Board now determines whether variances should be granted based on these code cases and interpretations. See section 2214(d) and (h) of The Administrative Code of 1929. Also, since these code cases and interpretation do not always become part of the next ASME Code provision, it is the Department's position that it would be unwise to automatically adopt them as Pennsylvania standards.

Since the proposed rulemaking was published in November 2004, ASME has published the 2004 edition of the ASME Code. The Department revised this final-form rulemaking to adopt the 2004 edition of the ASME Code. The Department also updated the definitions of "ANSI/NB23," "ASME B 31.1" and "NFPA 85" to reference the 2004 editions, the latest published editions.

Both commentators stated that the definition of "process boiler" in the regulation differed from the definition in the act. The Department changed the definition to mirror the definition in the act.

Mr. Barbato commented that the reference to hot water storage vessels in § 3a.3(a)(2) (relating to scope) was unnecessary since hot water storage vessels are a subset of unfired pressure vessels. The Department agrees that hot water storage vessels are unfired pressure vessels. This language was added for clarity and to insure that persons owning or operating these vessels understood that the act and the Department's regulations applied to hot water storage vessels.

Both commentators made drafting suggestions for § 3a.3. The Department concurs with the suggestions and has made the following changes. Subsection (c) was changed to add "or more" after 5 cubic feet. This change was made to more accurately reflect the technical standard. Subsection (d)(3)—(14) was renumbered due to the duplicate use of subsection (d)(3).

Mr. Barbato commented that the exclusion in § 3a.3(d) for boilers and unfired pressure vessels owned or operated by the Federal government is not broad enough. The language of this subsection is the same as section 5(1) of the act (35 P. S. § 1331.5(1)). It reflects what the act and the regulation exclude.

Both commentators indicated that "meet" in § 3a.3(11) should be replaced with "do not exceed." The Department made this change.

Mr. Barbato stated that § 3a.3(d)(12), as proposed, pertained to both hot and cold water tanks. This section does pertain to both hot and cold water tanks.

Mr. Barbato questioned why the editions of the codes adopted in § 3a.4 (relating to adoption of National standards) were not listed. The editions are specified in § 3a.1 (relating to definitions).

IRRC expressed some concern about §§ 3a.5 and 3a.6 (relating to Pennsylvania Inspector Commission and National Board Commission; and certificate of competency, commission, credential card and renewal application). Specifically, IRRC stated that the role and purpose of the Pennsylvania and National Board examinations are unclear. IRRC stated that the final-form rulemaking should contain specific references to the pertinent regulations and requirements of the National Board. IRRC also stated that the regulation should clarify that an applicant must pass both the Pennsylvania and National Board examinations.

The Department reviewed the rulemaking and agreed with IRRC. The examination, testing and commission renewal process was unclear. The Department rewrote §§ 3a.5, 3a.6 and § 3a.7 (relating to reexamination) to clarify the process.

Section 3a.5 clarifies that an individual must hold a current Pennsylvania inspector commission to inspect boilers and unfired pressure vessels in this Commonwealth. It sets out the requirements for the Pennsylvania inspector commission and references the National Board requirements in NB-263. A definition of "NB-263" was also added to § 3a.1.

Section 3a.5 also clarifies the testing requirements and the application process. This section states that the National Board application will be used as the application for a Pennsylvania inspector commission examination. The Department will also issue a Pennsylvania credential card and commission to an applicant who meets the requirements of subsection (c) and pays the required fee under § 3a.2 (relating to fees). This section clarifies that the Department will administer examinations for National Board commissions and will issue a certificate of competency to the applicant, which will enable the applicant to receive a National Board commission.

The definition of "certificate of competency" was also revised in § 3a.1 to further clarify § 3a.5. In addition, both commentators suggested that the "inspector" in the definition of "certificate of competency" be replaced with the "inspect." The Department made this change.

Section 3a.6 deals with the issuance of certificates of competency, commissions, credential cards and renewal applications. Certificates of competency, commissions and credential cards are issued to individuals who meet the requirements of this part of the regulation. Pennsylvania inspector commissions and credential cards will be renewed annually. The application for renewal must be submitted on a Department-provided renewal application form with the required fee under § 3a.2.

Section 3a.7 was amended to be consistent with redrafted §§ 3a.5 and 3a.6. An applicant may take the Pennsylvania inspector commission examination three times in a 1-year period without submitting a new application or application fee. If the applicant fails to obtain a passing grade, the applicant may take the

Pennsylvania inspector commission examination a fourth time within a 1-year period by submitting a new application and the required fee under § 3a.2. These three sections were organized in this fashion for clarity and ease of use of the final-form rulemaking.

Both commentators noted an inconsistency in § 3a.8 (relating to reciprocity). The Department rewrote this section to clarify that for the Department to grant a reciprocal inspector commission to an applicant, the applicant must hold a current National Board Commission in good standing.

The Department added language to § 3a.22 (relating to other state stamps) to clarify the process of installing a boiler or unfired pressure vessel stamped with the ASME symbol and another state stamp. The added language clarifies that an intent to install form shall be submitted in accordance with the plan approval process in § 3a.99 (relating to notice of deficiency).

Both commentators noted that the effective date of the boiler control requirement in § 3a.24 (relating to boiler controls) was not specified. The Department added language to subsection (a) stating that "installation of boiler controls after February 4, 2006, must comply with ASME CSD 1 and NFPA 85."

Mr. Barbato commented that pressure-reducing stations in § 3a.25 (relating to pressure reducing stations) are outside the scope as defined in § 3a.3. The Department disagrees. Pressure reducing stations are within the scope of the act and NB-263 which is adopted in § 3a.4(1).

IRRC commented that § 3a.26 (relating to safety devices) entitled valves and safety devices refers to § 3a.152 (relating to safety appliances). IRRC suggested that the substantive portions of § 3a.152 be moved to § 3a.26 and the appropriate references to § 3a.26 be placed in § 3a.152. The Department reorganized these two sections in accordance with IRRC's comment.

Mr. Barbato commented that § 3a.35 (relating to ladders and runways) and § 3a.99 regarding ladders and runways are outside the scope of the final-form rulemaking. The Department disagrees. Ladders and runways provide access to boiler and unfired pressure vessels for maintenance, repair, inspection and operation. Also, the National Board Inspection Code (NBIC) which is adopted by this final-form rulemaking addresses ladders and runways. These items are clearly within the scope of the final-form rulemaking.

Mr. Barbato also commented the prescriptive standard for clearance found in § 3a.36 and § 3a.161 (relating to clearances; and modular boilers) and § 3a.99 may be too restrictive for newer designs. The NBIC recommends 36-inch clearances. This final-form rulemaking only requires 30-inch clearances. These sections are less restrictive than the National standard. Again, the clearance requirements are necessary for proper inspection and maintenance of equipment.

IRRC commented that § 3a.37 (relating to special design) needed to be clarified. IRRC stated that the "may" in subsection (a) should be changed to "shall" and that the reference to submission of duplicate plans for approval was confusing. The Department changed "may" to "shall" and rewrote this section to require submission of one copy of complete specifications to the Department for approval.

IRRC commented that § 3a.81 (relating to major repairs and alterations) was confusing in that it appeared to limit alterations or repairs to manufacturers who hold

the appropriate ASME or R stamp. IRRC questioned whether the Department intended to limit repairs to only manufacturers who hold appropriate ASME stamps to repair or alter boilers. The Department does not intend to limit repairs to only manufacturers. The Department rewrote the last sentences of subsections (b) and (c) to read "A manufacturer or repair company holding an ANSI/NB 23 'R' stamp may perform alterations to other vessels."

The Department also corrected the typographical error in § 3a.81(b) and (c) by using the correct acronym ANSI/NB 23.

Both commentators questioned the insurance notification provision of proposed § 3a.93. IRRC specifically questioned the need for and the effectiveness of this section noting that the act does not contain this requirement. The Department deleted proposed § 3a.93 from the final-form rulemaking. In the final-form rulemaking, the sections following this were renumbered sequentially.

IRRC expressed three concerns about proposed § 3a.94(a) (final-form § 3a.93(a)) (relating to accident notification). First, IRRC indicated that notification is required by the owner or user. IRRC suggested that this section should fully reflect section 16 of the act by including the term "operator." Second, IRRC questioned how the Department would interpret "immediately notify" the Department of an accident. Third, IRRC indicated the Department should indicate the name or number of the form to be used to report accidents and where the form is available in the final form rulemaking. The Department rewrote the final-form rulemaking to address all of these concerns. An operator is now covered under this section. A sentence indicating that notification within 24 hours will constitute "immediate notification" was added. The accident reporting form name and availability on the Department's website were added to subsection (a).

IRRC indicated that proposed § 3a.96(a) and (b) (final-form § 3a.93(a) and (b)) (relating to removal from service) was unclear as to whether the "XX" for the condemnation of a boiler would cover or be placed above the existing stamping by the Commonwealth or the National Board. IRRC suggested that the Department clarify this stamping in the final-form rulemaking. These subsections were rewritten to state that the "XX" will cross out the existing serial number.

IRRC questioned when the Department will conduct inspections of boilers for which owners have received a notice of deficiency under proposed § 3a.100(a)(2) (final-form § 3a.99). The Department will inspect boilers to verify repairs when the boiler has been placed out of service. All other repairs will be verified in the next regular boiler inspection. The Department has added language to § 3a.99(a)(2) to clarify that the Department will inspect the boiler or unfired pressure vessel which has been placed out of service to verify the corrective action or repair. Additionally, the Department must approve the corrective action or repair before the boiler or unfired pressure vessel is returned to service.

The Department corrected the citation to the act in § 3a.99(b) from section 11(e) of the act to section 10(e) of the act (35 P. S. § 1331.10(e)). This was a typographical error made in the proposed rulemaking.

Both commentators remarked that, as written, § 3a.111 (relating to field inspections) gives the impression that all inspections will be conducted by the Department. The Department added language to clarify that these inspections must be conducted by an individual holding a

current Pennsylvania inspector commission to inspect boilers and unfired pressure vessels in this Commonwealth. The added language does not limit inspections to Department inspectors.

IRRC further noted that the notification process for internal inspections required under § 3a.111(4) and (8) should be described in the final-form rulemaking. The Department added that it will notify the boiler owner or operator verbally or in writing of the need for an internal inspection in both these subsections.

Mr. Barbato commented that § 3a.114 (relating to removal of covering for inspection) should give the inspector discretion as to whether to require the removal of a boiler cover for inspection. The section, as drafted, gives significant discretion to the inspector. It only requires removal when the inspector determines it is necessary to determine the safety of the vessel and when there are no other means to obtain the required information.

Upon final review, the Department found that § 3a.115(a)(3) (relating to hydrostatic pressure test) was incorrect. The Department initially wrote this section to control the temperature of the atmosphere. Later, it was determined that requiring the temperature of the atmosphere to be between 70° and 120° would restrict many hydrostatic pressure tests from being performed much of the year. This section was rewritten to regulate the temperature of the water used to between 70° and 120°. In the proposed rulemaking, the Department had both criteria stated. This section has been changed to only regulate the temperature of the water.

Mr. Barbato commented that the ASME references in Subchapters E, F and G (relating to boilers installed prior to July 1, 1916, and unfired pressure vessels and power boilers installed prior to September 1, 1937; low pressure heating boilers installed prior to July 1, 1916; and unfired pressure vessels installed prior to September 1, 1937) should specifically reference the edition that applies. Section 8 of the act (35 P.S. § 1331.8) addresses this issue. It requires that all repairs and alterations be made in accordance with the NBIC, ANSI-NB 23. ANSI-NB 23 is adopted in § 3a.4(1) and requires that inspection and repairs be made in accordance with either the code of construction or the current code.

IRRC commented that Subchapter H (relating to special installations) mentions numerous special installations but does not provide any specific provisions on the inspection requirement of these types of equipment. IRRC stated the inspection requirements should be included in the final-form rulemaking. The Department added specific references for inspections to all of the equipment provisions in Subchapter H as follows:

- (1) Inspections of modular boilers (§ 3a.161) and portable boilers (§ 3a.162) shall be in accordance with § 3a.111(1)–(7).
- (2) Inspections of fired coil water heaters and instantaneous water heaters (§ 3a.163), storage water heaters (§ 3a.164) and swimming pool heaters (§ 3a.170) shall be in accordance with § 3a.111(4).
- (3) Inspections of steam/hot water coil storage water heaters (§ 3a.165), hot water/steam heat exchangers (§ 3a.167), and autoclaves and quick opening vessels (§ 3a.168) shall be in accordance with § 3a.111(8).
- (4) Inspections of miniature boilers and kitchen equipment (§ 3a.166) shall be in accordance with § 3a.111(1)–(6).

(5) Inspections of fuel trains and piping systems (§ 3a.169) shall be determined by the type of boiler to which the system is attached and in accordance with § 3a.111.

(6) Inspections of locomotive boilers (§ 3a.171) shall be in accordance with § 3a.111(1) and (2).

Mr. Barbato also questioned whether the exemptions for instantaneous water heaters in § 3a.3(d) apply to the nominal volume of the pool if there are no intervening shutoff valves between the pool and the heater regarding swimming pools under § 3a.170 (relating to swimming pool heaters). The exemption does not apply. Swimming pool heaters are specifically controlled by § 3a.170.

Regulatory Review

Under section 5(a) of the Regulatory Review Act (71 P.S. § 745.5(a)), on October 24, 2004, the Department submitted a copy of the notice of proposed rulemaking, published at 34 Pa.B. 6033, to IRRC and the Chairpersons of the Senate Labor and Industry Committee and the House Labor Relations Committee for review and comment.

Under section 5(c) of the Regulatory Review Act, IRRC and the Committees were provided with copies of the comments received during the public comment period, as well as other documents when requested. In preparing the final-form rulemaking, the Department has considered all comments from IRRC, the House and Senate Committees and the public.

Under section 5.1(j.2) of the Regulatory Review Act (71 P.S. § 745.5a(j.2)), on October 19, 2005, the final-form rulemaking was deemed approved by the House and Senate Committees. Under section 5.1(e) of the Regulatory Review Act, IRRC met on October 20, 2005, and approved the final-form rulemaking.

Contact Person

The contact person is Charles J. Sludden, Director of the Bureau of Occupational and Industrial Safety, Department of Labor and Industry, Room 1613, Labor & Industry Building, 7th and Forster Streets, Harrisburg, PA 17120, csludden@state.pa.us.

Findings

The Department finds that:

- (1) Public notice of proposed rulemaking was given under sections 201 and 202 of the act of July 31, 1968 (P.L. 769, No. 240) (45 P.S. §§ 1201 and 1202) and the regulations thereunder, 1 Pa. Code §§ 7.1 and 7.2.
- (2) A public comment period was provided as required by law and all comments were considered.
- (3) The final-form rulemaking is necessary and appropriate for the administration of the act.

Order

The Department, acting under the authorizing statutes, orders that:

(a) The regulations of the Department, 34 Pa. Code Chapters 3 and 3a, are amended by deleting §§ 3.1–3.7, 3.11–3.34, 3.41–3.68, 3.71–3.76, 3.81–3.87, 3.91, 3.101, 3.111–3.116, 3.121–3.129, 3.131–3.136, 3.141–3.145, 3.151–3.156 and 3.161; and by adding §§ 3a.1–3a.9, 3a.21–3a.39, 3a.51, 3a.61, 3a.62, 3a.71, 3a.81–3a.83, 3a.91–3a.100, 3a.111–3a.117, 3a.131–3a.134, 3a.141–3a.145, 3a.151–3a.156 and 3a.161–3a.171 to read as set forth in Annex A.

(b) The Secretary of the Department shall submit this order and Annex A to the Office of General Counsel and the Office of Attorney General for approval as to legality and form as required by law.

(c) The Secretary shall submit this order and Annex A to IRRC, the Senate Labor and Industry Committee and to the House labor Relations Committee as required by law.

(d) The Secretary of the Department shall certify this order and Annex A and deposit them with the Legislative Reference Bureau as required by law.

(e) This order shall take effect upon publication in the *Pennsylvania Bulletin*.

STEPHEN M. SCHMERIN,
Secretary

(*Editor's Note:* For the text of the order of the Independent Regulatory Review Commission, relating to this document, see 35 Pa.B. 6200 (November 5, 2005).)

Fiscal Note: Fiscal Note 12-58 remains valid for the final adoption of the subject regulations.

Annex A

TITLE 34. LABOR AND INDUSTRY

PART I. DEPARTMENT OF LABOR AND INDUSTRY

CHAPTER 3. (Reserved)

§§ 3.1—3.7. (Reserved).

§§ 3.11—3.34. (Reserved).

§§ 3.41—3.68. (Reserved).

§§ 3.71—3.76. (Reserved).

§§ 3.81—3.87. (Reserved).

§ 3.91. (Reserved).

§ 3.101. (Reserved).

§§ 3.111—3.116. (Reserved).

§§ 3.121—3.129. (Reserved).

§§ 3.131—3.136. (Reserved).

§§ 3.141—3.145. (Reserved).

§§ 3.151—3.156. (Reserved).

§§ 3.161. (Reserved).

CHAPTER 3a. BOILER AND UNFIRED PRESSURE VESSEL REGULATIONS

Subchap.

- A. GENERAL PROVISIONS
- B. REQUIREMENTS FOR BOILERS AND UNFIRED PRESSURE VESSELS
- C. ADMINISTRATION
- D. INSPECTIONS
- E. BOILERS INSTALLED PRIOR TO JULY 1, 1916, AND UNFIRED PRESSURE VESSELS AND POWER BOILERS INSTALLED PRIOR TO SEPTEMBER 1, 1937
- F. LOW PRESSURE HEATING BOILERS INSTALLED PRIOR TO JULY 1, 1916
- G. UNFIRED PRESSURE VESSELS INSTALLED PRIOR TO SEPTEMBER 1, 1937
- H. SPECIAL INSTALLATIONS

Subchapter A. GENERAL PROVISIONS

- | | |
|-------|---|
| Sec. | |
| 3a.1. | Definitions. |
| 3a.2. | Fees. |
| 3a.3. | Scope. |
| 3a.4. | Adoption of National standards. |
| 3a.5. | Pennsylvania Inspector Commission and National Board Commission. |
| 3a.6. | Certificate of competency, commission, credential card and renewal application. |
| 3a.7. | Reexamination. |
| 3a.8. | Reciprocity. |
| 3a.9. | Suspension or revocation of Pennsylvania inspector commission. |

§ 3a.1. Definitions.

The following words and terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise:

AGA—American Gas Association, 400 North Capital Street, NW, Washington, D.C. 2001.

ANSI—American National Standards Institute, 1430 Broadway, New York, New York 10018.

ANSI/NB23—National Board Inspection Code, 2004 edition, issued by the National Board of Boiler and Pressure Vessel Inspectors.

ASME—The American Society of Mechanical Engineers, Three Park Avenue, New York, New York, 10016-5990.

ASME Code—"The Boiler and Pressure Vessel Code," 2004 edition and its published cases and interpretations issued by ASME.

ASME B 31.1—"The ASME Code for Pressure Piping," 2004 edition issued by ASME.

ASME/CSD1—"Controls and Safety Devices for Automatically Fired Boilers," 2002 edition issued by ASME.

Act—The Boiler and Unfired Pressure Vessel Law (35 P. S. §§ 1331.1—1331.19).

Alteration—

(i) A change in the item described on the original manufacturer's data report, which affects the pressure containing capability of the pressure retaining item.

(ii) The term also includes nonphysical changes such as an increase in maximum allowable working pressure or an increase in design temperature of a pressure-retaining item and a reduction in minimum temperature that requires additional mechanical tests.

American Welding Society—The American Welding Society, 550 N.W. Lejenuen Road, Miami, Florida 33126.

Btu—British thermal unit.

Boiler—

(i) A closed vessel in which water is heated, steam is generated, steam is superheated, or any combination of these actions, under pressure or vacuum, for use externally to itself, by the direct application of heat from the combustion of fuels, or from electricity.

(ii) The term includes fired vessels for heating of liquids other than water where these vessels are separate from processing systems and are complete within themselves.

Certificate of competency—A document issued by the Department to an individual who has passed a National Board Commission Examination conducted in this Commonwealth.

Code of construction—ASME Code in effect at the time the boiler or unfired pressure vessel was manufactured.

Condemned boiler or unfired pressure vessel—A boiler or unfired pressure vessel which was inspected and declared unsafe or disqualified for use by the Department.

Department—The Department of Labor and Industry of the Commonwealth.

External inspection—An inspection made when a boiler or an unfired pressure vessel is in operation or in condition to be operational.

Fusion welding—The process of welding metals in a molten, or molten and vaporous state, without the application of mechanical pressure of blows.

Heat exchanger—A device having a shell and head, and a method to exchange heat between steam, hot water or any other liquid. This device may be fired or unfired.

IBC—The “International Building Code 2003” issued by the ICC.

ICC—International Code Council, 5203 Leesburg Pike, suite 600, Fall Church, Virginia 22041-3401.

IMC—The “International Mechanical Code 2003” issued by the ICC.

Industrial Board—The Department’s Industrial Board established under sections 445 and 2214 of The Administrative Code of 1929 (71 P. S. §§ 155 and 574) which hears requests for variances, extensions of time and appeals of Department decisions under the act.

Instantaneous water heater—A vessel in which water is heated as it passes through the vessel. Water is not stored in the vessel.

Internal inspection—An inspection made when a boiler or unfired pressure vessel is shut down and handholes, manholes, or other inspection openings are opened for inspection of the interior of the boiler or unfired pressure vessel.

Inspector—An inspector commissioned by the Department to field-inspect boilers or unfired pressure vessels in this Commonwealth.

Lap seam crack—A crack found in a lap seam, extending parallel to the longitudinal joint and located between or adjacent to rivet holes.

Locomotive boiler—

(i) A boiler mounted on a self-propelled track locomotive and used to furnish motivating power for travel on rails.

(ii) The term does not include locomotive cranes, tractors or other self-propelled apparatus.

Low pressure heating boiler—A steam boiler operated at a pressure not exceeding 15 psig or a hot water heating or hot water supply boiler operating at a pressure not exceeding 160 psig and a temperature not exceeding 250° F.

Miniature boiler—A boiler which is not more than 16 inches inside diameter of the shell, 5 cubic feet gross volume, excluding casing and insulation; 100 psig maximum allowable working pressure; and, 20 square feet of heating surface.

NB-263—“Rules for Commissioned Inspectors,” revision 13 issued by the National Board.

NEC—The “National Electric Code, National Fire Protection Association’s Standard 70,” 2002 edition, issued by the NFPA.

NFPA—The National Fire Protection Association, 1 Batterymarch Park, Quincy Massachusetts 02269.

NFPA 85—The “Boiler and Combustion System Hazard Code,” 2004 edition, issued by the NFPA.

National Board—The National Board of Boiler and Pressure Vessel Inspectors, 1055 Crupper Avenue, Columbus, Ohio 43229.

Nonstandard boiler—A boiler which does not bear ASME stamping.

Nonstandard unfired pressure vessel—An unfired pressure vessel which does not bear ASME stamping.

Owner or user—A person, firm, corporation or governmental body owning or operating any boiler or unfired pressure vessel within this Commonwealth.

Psig—Pounds per square inch gauge.

Psi—Pounds per square inch.

Pennsylvania special boiler—A boiler which does not bear standard stamping and bears special Pennsylvania stamping and a Department-approved number.

Pennsylvania special unfired pressure vessel—An unfired pressure vessel which bears special Pennsylvania stamping and a Department-approved number and does not bear standard stamping.

Portable boiler—A boiler which is designed to be moved from location to location and used on a temporary basis.

Power boiler—A closed vessel in which steam or other vapor is generated at a pressure of more than 15 psig by the direct application of heat.

Process boiler—Any vessel in which steam is generated or superheated under pressure or for use external to itself by direct or indirect application of heat. The source of heat must be in part from a process other than the boiler itself. To be classified as a process boiler, the boiler must be directly tied to another process other than the generation of steam.

R stamp—A National Board designation indicating that a company is authorized to repair boilers and vessels.

R-1 form—National Board report of repair form.

Reinstalled equipment—Equipment removed from its original setting and reinstalled in the same location or a new location without change of ownership.

Repair—The process of restoring a boiler or unfired pressure vessel component or system to a safe and satisfactory condition.

Secondhand boiler—A boiler whose location and ownership have been changed after primary use.

Secondhand unfired pressure vessel—An unfired pressure vessel whose location and ownership have been changed after primary use.

Secretary—The Secretary of the Department.

Standard boiler or unfired pressure vessel—A boiler or an unfired pressure vessel which bears stamping in accordance with this chapter.

Standard Qualification Procedures of the American Welding Society, D1.1—The “Structure Welding Code, Steel 2002” issued by the American Welding Society.

Steam coil vessel—A vessel that stores hot water that contains an internal steam coil with controls used to heat hot water.

Storage water heater—A fired or an electrically heated vessel for storing or furnishing hot water supply.

Unfired pressure vessel—A vessel in which pressure is obtained from an external source or from an indirect application of heat.

Unfired steam boiler—An unfired pressure vessel which generates steam for power or heat to be used externally to itself.

VR stamp—A National Board designation that a company is authorized to repair and set safety relief valves.

§ 3a.2. Fees.

(a) The Department will charge commission, certificate of operation and inspection fees in accordance with section 613-A of The Administrative Code of 1929 (71 P. S. § 240.13A).

(b) The following fees apply to unfired pressures vessels and boilers:

- (1) Certificate of operation:
 - (i) Unfired pressure vessels \$44
 - (ii) Boilers \$22
- (2) Internal inspection of power boilers, high pressure, high temperature water boilers and miniature boilers:
 - (i) Boilers of 50 square feet of heating surface or less \$22
 - (ii) Boilers over 50 square feet of heating surface and less than 4,000 square feet of heating surface.. \$36
 - (iii) Boilers over 4,000 square feet of heating surface or more and less than 10,000 square feet of heating surface \$51
 - (iv) Boilers over 10,000 square feet of heating surface..... \$58
 - (v) Miniature boilers..... \$15
- (3) External inspection of power boilers, high pressure and high temperature water boilers:
 - (i) Boilers of 50 square feet of heating surface or less \$15
 - (ii) Boilers over 50 square feet of heating surface and less than 4,000 square feet of heating surface.. \$22
- (4) Not more than \$50 plus the annual certificate fee shall be collected for any and all inspections for boilers covered under paragraphs (2) and (3) in any 1 year.
- (5) Internal or external inspection of low pressure boilers:
 - (i) Heating boilers without a manhole..... \$18
 - (ii) Heating boilers with a manhole \$22
 - (iii) Hot water supply boilers \$15
 - (iv) Not more than \$50 plus the annual certificate fee will be collected for inspections of any low pressure boiler in any required inspection period.
- (6) Internal or external inspection of pressure vessels:
 - (i) Each pressure vessel subject to inspection having a cross sectional area of 50 square feet or less \$15
 - (ii) Each additional 100 square feet of area in excess of 50 square feet \$15
 - (iii) Not more than \$75 shall be paid for each inspection on any one vessel.
 - (iv) A group of pressure vessels operating as a single machine or unit shall be considered one pressure vessel. Not more than \$75 plus the annual certificate fee will be collected for inspections of any pressure vessel in any required inspection period, except in cases where the vessel is moved.
- (7) Plan approval:

- (i) Complete mechanical room drawings-boilers and other vessels \$73
- (ii) High pressure boilers..... \$29
- (iii) Low pressure boilers..... \$29
- (8) Boiler inspector commissions:
 - (i) Inspection's examination fee \$44
 - (ii) Certificate of competency and commission fee..... \$22
 - (iii) New credential card fee (annual) \$15
- (9) Hydrostatic test (witnessed)..... \$22
- (10) Onsite consultation fee per hour..... \$29
- (11) Inspection of repair fee \$15
- (12) ASME and National Board "R" Stamp Shop survey fees:
 - (i) Full day..... \$726
 - (ii) Half day..... \$363
- (13) Copy of Department's regulations \$7
- (14) Acceptance of boilers and pressure vessels not originally destined for use within the Commonwealth \$726
- (c) Industrial Board variance request \$100

§ 3a.3. Scope.

(a) This chapter applies to:

- (1) The boiler and the pipe connections up to and including the stop valve or valves nearest the boiler as required by the ASME Code and Power Piping, B31.1. Superheaters, reheaters, economizers and other pressure parts connected directly to the boiler without intervening valves will be considered as parts of the boiler and their construction must conform to ASME Code and Power Piping, B31.1 requirements.
- (2) Unfired pressure vessels and hot water storage vessels.
 - (b) Boilers installed before July 1, 1916, and unfired pressure vessels and power boilers installed before September 1, 1937, must comply with §§ 3a.131, 3a.141—3a.145 and 3a.151—3a.154.
 - (c) Heat exchangers must comply with § 3a.167 (relating to hot water/steam heat exchangers) when the heat exchanger operates at 16 psi or greater, and has 5 cubic feet or more of volume not allowing for channel or tube nest displacements.
- (d) This chapter does not apply to:
 - (1) Piping between the reheater connections and the turbine or other prime mover.
 - (2) Boilers and unfired pressure vessels regulated under the Atomic Energy Act of 1954 (42 U.S.C.A. §§ 2011—2297h-13).
 - (3) Boilers and unfired pressure vessels owned or operated by the Federal Government.
 - (4) Boilers located on farms, except in sales areas which are accessible to the public.
 - (5) Boilers located in single-family dwellings and multi-unit dwellings with four or less units.
 - (6) Storage water heaters and instantaneous water heaters if all the following limitations are not exceeded:
 - (i) A heat input of 200,000 Btus /hr (58.6 kW).

- (ii) A water temperature of 210°F (99°C).
- (iii) A nominal water-containing capacity of 120 gallons (454 L).
- (7) Unfired pressure vessels used for the transportation of compressed gases that are operated in compliance with specifications and regulations of the United States Department of Transportation (49 CFR Part 173 (relating to shippers general requirements for shipments and packaging)).
- (8) Air tanks located on vehicles operating under other Commonwealth agency regulations or rules and used for carrying passengers or freight.
- (9) Air tanks installed on the right-of-way of railroads and used directly in the operation of switches and signals and under Federal or other Commonwealth agency jurisdiction.
- (10) Vessels having an internal or external operating pressure of no more than 15 psi with no limitation on size when equipped with approved safety devices.
- (11) Unfired pressure vessels designed to ASME Code section VIII, Division 1 which do not exceed one of the following specifications:
 - (i) 5 cubic feet (0.14m³) in volume and 250 psi (1,720 kPa) design pressure.
 - (ii) 3 cubic feet (0.08m³) in volume and 350 psi (2,410 kPa) design pressure.
 - (iii) 1.5 cubic feet (0.04m³) in volume and 600 psi (4,140 kPa) design pressure.
 - (iv) Vessels having an inside diameter, width, height or cross section diagonal not exceeding 6 inches (152 mm), with no limitation on length of vessel or pressure.
- (12) Unfired pressure vessels with a nominal water-containing capacity of up to 120 gallons containing water under pressure. These vessels include unfired pressure vessels that contain air, which is trapped in the system and where the compression air serves only as a cushion.
- (13) Filters and softeners with a nominal water containing capacity of 120 gallons or less and pressures not exceeding 100 psi at ambient temperature.
- (14) Air conditioner heat exchangers (chillers) with a design pressure not more than 300 psi and a water temperature not more than 210° F.
- (15) Coil-type hot water boilers which meet the requirements of ASME Code, Section I, paragraph, PG 2.3.

§ 3a.4. Adoption of National standards.

The Department adopts and incorporates by reference the following codes:

- (1) ANSI/NB23.
- (2) ASME Code.
- (3) ASME Code published cases and interpretations that have been approved by the Industrial Board.
- (4) ASME B 31.1.
- (5) ASME/CSD1.
- (6) National Electric Code, NFPA 70.
- (7) NFPA 85.

§ 3a.5. Pennsylvania Inspector Commission and National Board Commission.

(a) An individual shall hold a current Pennsylvania Inspector Commission to inspect boilers and unfired pressure vessels in this Commonwealth.

(b) The Department will conduct a Pennsylvania Inspector Commission examination on the act, this chapter and the ASME Codes.

(c) An applicant for a Pennsylvania Inspector Commission shall meet the following requirements:

- (1) An applicant shall hold a current National Board Commission.
- (2) An applicant shall meet the National Board requirements in NB-263.
- (3) An applicant shall pass the Pennsylvania Inspector Commission examination with a grade of 70% or more.
- (d) The National Board application will be used as the application for a Pennsylvania Inspector Commission examination.

(e) The Department will issue a Pennsylvania credential card and commission to an applicant who meets the requirements of subsection (c) and pays the required fee under § 3a.2 (relating to fees).

(f) The Department will administer examinations for National Board Commissions four times a year. Upon successful completion of the National Board Commission examination administered by the Department, the Department will issue a certificate of competency to the applicant which will enable the applicant to receive a National Board Commission.

§ 3a.6. Certificate of competency, commission, credential card and renewal application.

(a) The Department will issue a certificate of competency, credential card and commission to an applicant who passes an examination for inspector, meets the requirements of this part and pays the required fee under § 3a.2 (relating to fees).

(b) An inspector shall renew a certificate of competency and obtain a new credential card each year to continue to act as an inspector. The inspector shall complete and submit a Department-provided renewal application and pay the required fee under § 3a.2 to renew the commission.

§ 3a.7. Reexamination.

(a) An applicant may take the Pennsylvania Inspector Commission examination three times in a 1-year period if the applicant fails to obtain a passing grade without submitting a new application and fee.

(b) An applicant may take the Pennsylvania Inspector Commission examination a fourth time within a 1-year period if the applicant fails to obtain a passing grade by submitting a new application and the required fee under § 3a.2 (relating to fees).

§ 3a.8. Reciprocity.

(a) The Department may grant a reciprocal inspector commission to an applicant who meets the following requirements:

- (1) The applicant holds a current National Board Commission in good standing.
- (2) The applicant is currently employed by another state or an insurance company in good standing.
- (3) The applicant passes the Department-administered written examination under § 3a.5(b) (relating to Pennsylvania Inspector Commission and National Board Commission).

(b) An applicant for reciprocal inspector commission shall submit a completed Department-provided applica-

tion form, a copy of the inspector's National Board Commission and the required fee under § 3a.2 (relating to fees) to the Department.

§ 3a.9. Suspension or revocation of Pennsylvania inspector commission.

(a) *General.* The Department may suspend or revoke a Pennsylvania inspector commission for due cause under section 11(d) of the act (34 P. S. § 1331.11(d)). Due cause includes the following:

- (1) Practicing fraud or deceit or making untrue representations in obtaining a commission.
- (2) Failure to remit the required commission fee under § 3a.2 (relating to fees).
- (3) Violating a provision of the act or this chapter.
- (4) Incompetence or gross negligence while acting as a boiler inspector.
- (5) Acting in a manner presenting a danger to public health and safety.
- (6) Having a commission or any other authorization to engage in the business of boiler inspection revoked or suspended or having other disciplinary action taken, surrendering a commission or other authorization in lieu of discipline, or having an application for a commission or authorization to engage in the business of boiler inspection refused or denied by the National Board, the proper authority of another state or Federal district, territory, insular possession of the United States or Canada.
- (7) Engaging in fraud, deceit or other act of moral turpitude while acting as a boiler inspector.
- (8) Failure to enforce the act or this chapter.
- (9) Engaging in boiler inspection activities without a current commission issued by the Department.
- (10) Pleading guilty, entering a plea of nolo contendere, being found guilty, receiving probation without verdict, disposition in lieu of trial or an Accelerated Rehabilitative Disposition for any felony or for any other crime relating to boiler inspection in the courts of this Commonwealth, a Federal court, a court of any other state, territory or insular possession of the United States or a court of Canada.

(b) *Notice and hearing.* Actions of the Department relating to suspension or revocation under this section will be taken subject to the right of notice, hearing and adjudication in accordance with 2 Pa.C.S. (relating to administrative law and procedure). Suspension and revocation proceedings will be conducted under 1 Pa. Code Part II (relating to the General Rules of Administrative Practice and Procedure).

(c) *Procedure for suspension or revocation.*

(1) The Department will serve the boiler inspector with an order to show cause under 1 Pa. Code § 35.14 (relating to orders to show cause). The order to show cause will contain notification that the certification may be subject to action and the grounds for the action. The order to show cause will require that the boiler inspector respond in writing within 30 days after the date of service of the order. The Department will also serve a copy of the order to show cause upon the boiler inspector's current employer, if any.

(2) The boiler inspector shall file an answer in writing to the allegations set forth in the order to show cause in accordance with 1 Pa. Code § 35.37 (relating to answers to orders to show cause). If made, answers shall be filed

with the Department at the appropriate address within 30 days after the date of service of the order to show cause. Failure to file an answer will result in the entry of a default judgment against the inspector.

(3) At the request of any of the parties, the Department will hold a hearing on the matter. The Secretary will designate a presiding officer to preside at the hearing and to issue a proposed report under 1 Pa. Code §§ 35.201—35.207 (relating to proposed reports). The Secretary may delegate final authority to the hearing examiner.

(4) The presiding officer will have the power to conduct hearings under 1 Pa. Code §§ 35.185—35.190 (relating to presiding officers). The presiding officer will issue a proposed report that must be served upon counsel of record or to the parties in the hearing. The presiding officer will transmit the proposed report and the certified record to the Secretary within 15-days after issuance of the proposed report.

(5) A participant desiring to appeal to the Secretary shall, within 30 days after the service of a copy of the proposed report, file exceptions to the proposed report under 1 Pa. Code § 35.211 (relating to procedure to except to proposed report). A response may be filed within 20 days to the exceptions.

(6) The Secretary or a designee will issue a final order under 1 Pa. Code § 35.226 (relating to final orders).

(d) The Department may not reinstate a Pennsylvania inspector commission that was revoked under this section unless ordered to do so by a court of competent jurisdiction. The Department will order the surrender of the Pennsylvania inspector commission documents following an order of revocation or suspension.

(e) Subsection (c) supplements 1 Pa. Code §§ 35.14, 35.37, 35.185—35.190, 35.201—35.207, 35.211 and 35.226.

Subchapter B. REQUIREMENTS FOR BOILERS AND UNFIRED PRESSURE VESSELS

GENERAL REQUIREMENTS

Sec.	
3a.21.	Stamping.
3a.22.	Other state stamps.
3a.23.	Lap seam crack.
3a.24.	Boiler controls.
3a.25.	Pressure reducing stations.
3a.26.	Safety devices.
3a.27.	Different working pressures.
3a.28.	Blowoff tanks.
3a.29.	Discharge outlets.
3a.30.	Electric boilers.
3a.31.	Forced circulation boilers.
3a.32.	Supports.
3a.33.	Explosion doors.
3a.34.	Ventilation for combustion equipment.
3a.35.	Ladders and runways.
3a.36.	Clearances.
3a.37.	Special design.
3a.38.	Commercial beverage dispensing systems.
3a.39.	Manufactured parts.

INSTALLATIONS OF POWER BOILERS

3a.51. Compliance with the ASME Code for power boilers.

INSTALLATIONS OF LOW-PRESSURE HEATING BOILERS

3a.61. Compliance with the ASME Code for low-pressure boilers.

3a.62. Registration and installation.

INSTALLATIONS OF UNFIRED PRESSURE VESSELS

3a.71. Compliance with the ASME Code for installations of unfired pressure vessels.

REPAIRS AND ALTERATIONS

- 3a.81. Major repairs and alterations.
- 3a.82. Reconstruction and repair.
- 3a.83. Repairs by welding.

GENERAL REQUIREMENTS

§ 3a.21. Stamping.

(a) A boiler or unfired pressure vessel destined for use in this Commonwealth must be built to the applicable ASME code of construction or meet the requirements of section 7 of the act (35 P. S. § 1331.7).

(b) A boiler or unfired pressure vessel built to the ASME Code must be stamped with the appropriate ASME symbol, the manufacturer's information in accordance with stamping requirements of the code of construction, and its National Board registration number. The stamping may be applied to a nameplate in accordance with the code of construction.

(c) National Board registration and stamping requirements do not apply to cast iron boilers, which are constructed under ASME Code provisions and do not require final inspection by a National Board inspector.

(d) A new boiler or unfired pressure vessel installed in this Commonwealth must be stamped with an identifying serial number consisting of the keystone symbol and figures, which may not be less than 5/16 inches in height and arranged as follows:



(e) A boiler or unfired pressure vessel that is not built to the ASME Code may be stamped with a Pennsylvania special number if it meets the requirements of section 7(b) of the act.

(f) The Department may accept a boiler or unfired pressure vessel with a registration number from another state for use in this Commonwealth if a National Board inspector inspected and approved the boiler or unfired pressure vessel during construction.

(g) Stamping required under this section must be exposed at all times and may not be concealed by paint or lagging.

§ 3a.22. Other state stamps.

A boiler or unfired pressure vessel stamped with the ASME symbol and another state stamp may be installed and operated if a National Board inspector witnessed its construction and the shop data report is provided to the Department with a completed Department-provided intent to install form under § 3a.98 (relating to plan approval).

§ 3a.23. Lap seam crack.

The shell or drum of a boiler or unfired pressure vessel containing a lap seam crack along a longitudinal riveted joint shall be immediately taken out of service. Repairs may not be made without Department approval.

§ 3a.24. Boiler controls.

(a) The installation of boiler controls performed after February 4, 2006, must comply with ASME CSD 1 and NFPA 85.

(b) The maintenance and inspection of boilers must comply with ANSI/NB 23.

§ 3a.25. Pressure reducing stations.

(a) The installation of pressure reducing stations must comply with ASME B 31.1.

(b) Hand-controlled bypasses around reducing valves may be used if the bypass has no greater capacity than the reducing valve. Hand controlled bypasses may be used around reducing valves at greater capacity than the reducing valve if the system or unfired pressure vessel has adequate relief or safety valve protection, or meets the requirements of the high pressure system.

(c) A pressure gauge must be installed on the low-pressure side of a reducing station.

§ 3a.26. Safety devices.

(a) A boiler or unfired pressure vessel must be protected by safety relief devices, and indicating and controlling devices sufficient to insure its safe operation which meet all of the following requirements:

(1) The devices must be constructed, located, installed and maintained to prevent the safety devices from becoming inoperative.

(2) The devices must have sufficient relieving capacity to prevent a rise of pressure in the boiler or unfired pressure vessel of more than 10% above the maximum allowable working pressure, taking into account the effect of static head.

(3) The discharge from safety devices must be carried to a safe place away from the boiler or unfired pressure vessel.

(b) Safety valves for other than noxious liquids or toxic vapors must be direct spring-loaded type valves, designed with substantial lifting devices so that the disk can be lifted from its seat by the spindle of at least 1/8 the diameter of the valve if the pressure of the vessel is at 75% of the safety valve setting.

(c) Each safety valve must have clear manufacturer markings that are 1/4-inch or larger. The markings must contain all of the following information stamped on the valve, cast on the valve body, or cast on a plate securely fastened to the valve:

(1) The name or identifying trademark of the manufacturer.

(2) The pipe size, in inches, of the valve inlet.

(3) The pressure, in pounds, at which the valve is set to open.

(4) The blow down, in pounds.

(d) If the valve inlet is not threaded, the initial diameter of the inlet may not be less than the inside diameter of a standard pipe of the same size.

(e) The difference between the opening and closing pressures of a safety valve must be a minimum of 20%.

(f) Existing safety valves bearing ASME stamping different from the requirements in subsection (c) are permitted if the safety valves have equivalent construction and relieving capacity.

(g) Safety valves with a cast iron seat or a disk may not be used.

(h) If more than one safety valve is used, the discharge capacity must be the combined capacity of all safety valves.

(i) A boiler or unfired pressure vessel in which pressure is not generated and is derived from an outside source must have a safety device connected to the vessel or

system which it protects in a manner to prevent a rise in pressure beyond the maximum allowable pressure.

(j) A boiler or unfired pressure vessel in which pressure may be generated must have a safety device or devices connected directly to the vessel and comply with all of the following:

(1) When the contents of a vessel may cause interference with the operation of the vessel or safety valve when the safety valve is directly attached, the safety valve or valves may be connected in a manner to avoid the interference.

(2) An escape pipe may be used. The pipe must be full sized and fitted with an open drain to prevent liquid from lodging in the upper part of the safety valve. A valve may not be placed on the escape pipe between the safety valve and the atmosphere.

(3) An elbow may be placed on an escape pipe if it is located close to the safety valve outlet or the escape pipe is securely anchored and supported. If two or more safety devices are placed on one connection, the connection must have a cross sectional area at least equal to the combined area of the safety devices' inlets.

(k) Every safety valve which is exposed to temperatures of 32°F or less must have a drain of at least 3/8 inch in diameter at the lowest point where water can collect.

(l) A spring in a safety or relief valve in service for pressures 250 psi and less may not be reset for a pressure more than 10% above or 19% below the pressure at which the valve is marked. For pressures higher than 250 psi, the spring may not be reset for any pressure more than 5% above or 50% below the pressure at which the safety or relief valve is marked.

(m) Safety valves for compressed air tanks cannot be larger than 3-inch diameter. The valves must be proportioned for the maximum number of cubic feet of free air that may be applied per minute.

(n) A rupture disk may be used as a pressure safety device on boilers or unfired pressure vessels containing nontoxic gases, when it is designed to fail at not more than the design pressure of the vessel.

(o) Safety valves on systems using toxic gases must discharge in accordance with the ASME Code, Section VIII, Division 1, 2 or 3.

(p) A company or organization holding a Department-issued certificate of authorization to reset and reseal safety valves and relief valves or a current VR stamp is required to reset and reseal safety valves and relief valves.

(q) A company or organization holding a current VR stamp is required to repair safety valves and relief valves.

(r) A safety valve or relief valve may not be loaded to maintain a working pressure in excess of the maximum working pressure stated on the boiler or unfired pressure vessel's certificate of operation.

(s) Additional or supplemental safety or relief valves installed on a boiler or unfired pressure vessel, may exceed maximum working pressure if the valves comply with the applicable code of construction or this chapter.

§ 3a.27. Different working pressures.

(a) At least one safety valve on each boiler must be set at or below the maximum allowable working pressure. All other valves may be set within a range of 3% above the maximum allowable working pressure. The range of

setting of all of the saturated steam valves on the boiler may not exceed 10% of the saturated steam valve set at the highest pressure.

(b) When a boiler system is comprised of boilers with different maximum allowable working pressures having minimum safety valve settings varying more than 6% and connected so that steam flows toward the lower pressure boiler, the boiler system must meet one of the following requirements:

(1) A check valve must be installed in the steam line to protect the lower pressure boilers.

(2) Additional safety valves on the low-pressure side of the boiler system must protect lower pressure boilers and meet the following requirements:

(i) The additional safety valve capacity must be based on the maximum amount of steam that can flow into the low-pressure system.

(ii) Additional safety valves must have at least one valve set at a pressure that is not greater than the lowest maximum allowable pressure.

(iii) Other valves must be set within a range of not more than 3% above the lowest allowable pressure.

§ 3a.28. Blowoff tanks.

(a) Blowoff piping from a power boiler or a miniature boiler may not discharge directly into a sewer. A blowoff tank will be used if conditions do not provide an adequate and safe open discharge.

(b) ASME Section VIII, Division I governs the construction of metal blowoff tanks.

(c) The cross sectional area of the outlet from blowoff tanks must be twice the area of the inlet. The outlet pipe must be located to drain the blowoff tank to within 8 inches of the bottom of the tank.

(d) A vent pipe comprised of at least four times the area of the inlet pipe must lead to the outer atmosphere.

(e) Vents must lead as directly as possible to the outer air and discharge in a safe location. There may be no valve or other obstructions such as water pockets between the tank and the discharge end of the vent pipe.

(f) Pipe connections between the boiler blowoff valves and the tank must be as direct as possible and conform to the ASME Code.

(g) A manhole or an access opening shall be installed for cleaning the tank.

(h) A blowoff tank that is not vented as required in this section must meet one of the following requirements:

(1) Constructed to withstand pressure equal to the pressure allowed on its attached boiler.

(2) Equipped with a safety valve or valves of sufficient capacity to prevent the pressure from exceeding the safe working pressure of the tank.

§ 3a.29. Discharge outlets.

Discharge of safety valves of a boiler generating in excess of 500 pounds of steam per hour must be piped to the outside atmosphere and to a safe point of discharge. Blowoff pipes and other outlets must be located to prevent injury to personnel.

§ 3a.30. Electric boilers.

Appliances required for electric boilers must be attached to the boilers in accordance with the following requirements:

(1) A cable shall be provided for grounding the boiler shell and shall be the same gauge as the incoming power line to the boiler. The cable must be permanently connected and grounded.

(2) A suitable screen or guard shall be placed around high-tension bushings with a sign containing a high voltage warning. The screen or guard shall be located to prevent a person from accidentally coming in contact with the high-tension circuit.

(3) The power circuit to the boiler must be open when safety valves are adjusted.

(4) The power line must be open when the boiler is under steam pressure and the operator is making a necessary adjustment.

(5) Safety or relief valves must have a relieving capacity of 3 1/2 pounds per hour for each kilowatt rating.

(6) Boiler shell grounding connectors shall be installed in accordance with the following:

(i) The NEC, Chapter 4, except that the cable gauge size must comply with paragraph (1).

(ii) A conductor will be permanently attached to the boiler shell by suitable lugs, pressure connectors, clamps, or other Department-approved means. Connectors that depend on solder to maintain connection may not be used.

§ 3a.31. Forced circulation boilers.

Forced circulation boilers and boilers with no fixed steam or waterline must conform to the ASME Code, section 1.

§ 3a.32. Supports.

(a) A boiler or unfired pressure vessel must be supported by masonry or structural supports sufficient to safely support the boiler or vessel and its contents.

(b) An air compressor vessel must be shock mounted.

§ 3a.33. Explosion doors.

Stoker coal fired boilers under positive pressure must be equipped with explosion doors to relieve furnace pressure. The explosion doors must be located in the setting wall within 7 feet of the firing floor or any platform, and must be provided with substantial deflectors to divert the blast away from personnel.

§ 3a.34. Ventilation for combustion equipment.

Adequate air to support combustion shall be provided. The recommendations of the manufacturer of the equipment shall be utilized.

§ 3a.35. Ladders and runways.

(a) Walkways, runways and platforms are required between and on top of boilers, which are more than 8-feet high from the operating floor to afford accessibility for the operation and servicing.

(b) Walkways, runways and platforms must meet the following requirements:

- (1) Be constructed of metal.
- (2) Be constructed of safety treads, standard grating, or similar material with a minimum clear width of 30 inches.
- (3) Be constructed by bolts, welds or rivets.
- (4) Be equipped with handrails that are 42-inches high with an intermediate rail and 6-inch toeboard.

(c) A stairway that is a means of access to the walkways, runways or platforms must not exceed an angle of 45°.

(d) A ladder that serves as a means of access to walkways, runways or platforms must be constructed:

- (1) Of metal.
- (2) So the rungs extend through the side members and are permanently secured to the side rails.
- (3) So the front of the rungs have a distance of at least 30 inches from the nearest permanent object on the climbing side of the ladder.
- (4) So the back of the rungs have a distance of at least 6 1/2 inches from the nearest permanent object.
- (5) So there is a clear width of at least 15 inches from the centerline of the ladder on either side across the front of the ladder.

(e) A welder qualified under Standard Qualification Procedures of the American Welding Society is required for welding a walkway, runway, platform or ladder.

(f) A walkway, runway or platform exceeding 6 feet in length must have at least two means of exit access.

§ 3a.36. Clearances.

(a) The following clearances apply for boilers installed after January 1, 1960:

- (1) The minimum clearance around each boiler must be 30 inches with at least 6 feet clearance from the floor to overhead obstructions.
- (2) The minimum clearance around each unfired pressure vessel must be 18 inches. The minimum clearance in front of a manhole cover must be 30 inches.
- (3) A clearance of at least 12 inches must be provided between the floor and lower head or the underside of the shell of an unfired pressure vessel. The clearance distance must be the measurement from a vessel appendage to the next object.

(b) The following requirements apply to a single installation or assembly of storage water heaters or instantaneous water heaters, which operate as a unit:

- (1) The unit may be arranged with a minimum clearance of 6 inches between components if an 18-inch clearance shall be maintained around the assembly. The clearance in front of a manhole opening is a minimum of 30 inches.
- (2) An assembly may not exceed 9 million BTU input.
- (3) Casings must be readily removable for inspection purposes, if casings are provided.

(c) A new building containing multiple boiler installations must meet the following minimum overhead clearance requirements:

- (1) Between the boiler platform and the ceiling: 7 feet.
- (2) Between the top of the boiler proper and the ceiling for all installations: 3 1/2 feet.
- (3) Between the highest point of any valve or fitting and the ceiling: 6 inches.

(d) Subsections (a) and (b) do not apply to pressure vessels of factory assembled package units that are governed by § 3a.111 (relating to field inspections) if there is adequate clearance for operation and inspection. Subsection (a) applies to the entire factory assembled unit.

(e) The minimum clearance around a wall-hung boiler must be 30 inches except for the wall mount side.

(f) The clearance between modules in a modular system may be reduced to the manufacturer's recommendations if the entire modular boiler system meets the 30-inch clearance requirement of subsection (a)(1).

(g) This section does not apply to a miniature boiler if the boiler can be safely inspected as installed.

(h) Tripping hazards are not permitted.

§ 3a.37. Special design.

(a) The owner or user of a new boiler or unfired pressure vessel having unusual features of special design intended for installation and operation in this Commonwealth shall submit the following to the Department for approval:

(1) One copy of complete specifications.

(2) Drawings that show all details of the proposed construction and the method of computation used in determining the safe working pressure for each new boiler and unfired pressure vessel.

(b) A specially designed boiler or unfired pressure vessel may not be operated until the Department approves its design.

§ 3a.38. Commercial beverage dispensing systems.

(a) An unfired pressure vessel used in a commercial beverage dispensing system must have clearance of 18 inches for at least 50% of the vessel surface. The remaining vessel surface may have its clearance reduced to 1 inch.

(b) The Department will issue one certificate of operation and charge one fee under § 3a.2 (relating to fees) for all vessels used in a commercial dispensing system at a single business location at the same design maximum working pressure.

§ 3a.39. Manufactured parts.

Parts manufactured for boilers or unfired pressure vessels constructed to the ASME Code must be manufactured and stamped in accordance with the applicable section of the ASME Code. Data reports must be furnished in accordance with the applicable section of the ASME Code.

INSTALLATIONS OF POWER BOILERS

§ 3a.51. Compliance with the ASME Code for power boilers.

Installations of power boilers must comply with the provisions of section 1 of the ASME Code, ASME/CSD1 and NFPA 85.

INSTALLATIONS OF LOW-PRESSURE HEATING BOILERS

§ 3a.61. Compliance with the ASME Code for low-pressure boilers.

Installations of low-pressure heating boilers must comply with section IV of the ASME Code and ASME/CSD 1.

§ 3a.62. Registration and installation.

(a) An installer of low-pressure steel heating boilers shall provide a copy of the manufacturer's data report to the inspector when the boiler is installed.

(b) A cast iron boiler shall be hydrostatically tested when it is installed. The inspector may accept the factory hydrostatic test.

(c) An installer of low-pressure cast iron boilers shall submit a "Cast Iron Installation Report" to the Department on a Department-provided form. The Cast Iron Installation Report contains manufacturer, testing and installation information.

INSTALLATIONS OF UNFIRED PRESSURE VESSELS

§ 3a.71. Compliance with the ASME Code for installations of unfired pressure vessels.

Installations of unfired pressure vessels must comply with sections VIII or X of the ASME Code.

REPAIRS AND ALTERATIONS

§ 3a.81. Major repairs and alterations.

(a) An owner or user of a boiler or unfired pressure vessel shall consult with an inspector on a repair that affects the working pressure or safety of a boiler or unfired pressure vessel.

(b) A repair to a boiler or unfired pressure vessel must comply with the applicable provisions of the ASME Code or ANSI/NB 23. A manufacturer or repair company may not perform welded repairs and tube replacements without holding an "R" Stamp.

(c) An owner or user of a boiler or unfired pressure vessel shall consult with the inspector responsible for completing the report of welded repair before commencement of work or repairs that alter the original design of a boiler or unfired pressure vessel. A manufacturer or repair company holding an ANSI/NB 23 "R" stamp may perform alterations to other vessels.

(d) Welds shall be documented on a Department-issued "Record of Welded Repair Form" or a R-1 form. Hydrostatic testing of welded repairs may be conducted at the inspector's discretion in accordance with ANSI/NB23.

(e) An owner or user of a boiler or unfired pressure vessel that requires an inspection under this chapter shall immediately notify the Department when a defect affecting the safety of the boiler or unfired pressure vessel is discovered.

§ 3a.82. Reconstruction and repair.

Workmanship, materials, fittings and attachments used in the reconstruction or repair of a boiler or unfired pressure vessel must meet ANSI/NB 23. The boiler or unfired pressure vessel may not become operational until an inspector approves all repairs.

§ 3a.83. Repairs by welding.

(a) Welding repairs must comply with section IX of the ASME Code.

(b) A repair to a boiler or unfired pressure vessel that involves welding may be made if an inspector approves the repair and signs a record of welded repairs.

(c) Repairs by fusion welding must comply with ANSI/NB 23.

(d) Repairs listed as routine in ANSI/NB 23 may be preapproved by an inspector.

Subchapter C. ADMINISTRATION

Sec.	
3a.91.	Certificates of operation.
3a.92.	Unsafe operation.
3a.93.	Accident notification.
3a.94.	Restamping.
3a.95.	Condemnation.
3a.96.	Removal from service.
3a.97.	Reinstallation.
3a.98.	Plan approval.

- 3a.99. Notice of deficiency.
- 3a.100. Appeals.

§ 3a.91. Certificates of operation.

(a) The Department will issue a certificate of operation for a boiler or unfired pressure vessel upon receipt of an inspection report indicating that the boiler or unfired pressure vessel is safe to operate at the pressure limit listed in the inspection report.

(b) The owner or user shall post the certificate in a visible location that is as close as possible to the boiler or unfired pressure vessel.

§ 3a.92. Unsafe operation.

The Department will suspend the certificate of operation and seal a boiler or unfired pressure vessel that is unsafe. A person, firm, partnership or corporation operating a boiler or unfired pressure vessel with a suspended certificate of operation is subject to the penalties of section 19 of the act (35 P. S. § 1331.19).

§ 3a.93. Accident notification.

(a) Under section 16 of the act (35 P. S. § 1331.16), the owner, user or operator shall immediately notify the Department by telephone, facsimile transmission, electronic mail or messenger of an accident or explosion. Immediate notification means within 24 hours of the accident. The owner, user or operator shall file a written report with the Department on the Department's boiler accident report form within 5 days of the accident. The boiler accident report form may be obtained on the Department's website (www.dli.state.pa.us).

(b) The boiler or unfired pressure vessel, its parts or equipment involved in the accident or explosion may not be removed or disturbed before a Department inspection is made except to prevent harm to persons or property.

§ 3a.94. Restamping.

(a) An inspector will instruct the owner or user to restamp a boiler or unfired pressure vessel when the stamping becomes indistinct or detached. The owner or user shall submit a request for restamping the boiler or unfired pressure vessel to the Department. The request must be accompanied with proof of the original stamping consisting of a rubbing of the original stamping or a copy of the manufacturer's data sheet.

(b) A Department inspector has sole authorization to perform the Department restamping. The restamping will contain the same information as the original stamping. The Department will not restamp the ASME symbol.

§ 3a.95. Condemnation.

(a) A Department inspector will stamp an unsafe boiler or unfired pressure vessel by crossing out the serial number stamping. The following designation will be used:

Pa < XX >

(b) The stamping will be at least 5/16 inch in height.

(c) A Department inspector will remove the stamping of subsection (a) when a boiler or unfired pressure vessel has been restored or repaired to comply with this chapter. No other person may remove the stamping.

§ 3a.96. Removal from service.

An owner or user shall notify the Department when a boiler or unfired pressure vessel is removed from service for a repair or alteration within 10 days.

§ 3a.97. Reinstallation.

(a) Fittings and appliances used for the reinstallation of a boiler and pressure vessel must comply with this chapter.

(b) The owner or user of a boiler or unfired pressure vessel shall notify the Department within 10 days of the new location of a boiler or unfired pressure vessel that is moved.

(c) The owner or user may not place a reinstalled boiler or unfired pressure vessel into service until it passes a Department inspection.

§ 3a.98. Plan approval.

(a) Installation of a boiler must comply with all of the requirements of this section.

(b) A boiler owner shall submit an intent to install form or other data showing compliance with the act and this chapter to the Department before a boiler is installed.

(c) A boiler owner shall submit drawings and a request for a variance to the Industrial Board if the installation clearances do not meet the requirements of § 3a.36 (relating to clearances). Drawings must be at least 18 inches by 24 inches in size drawn to a scale of not less than 1/4 inch equals 1 foot. Drawings for boiler installations must include the following:

- (1) A floor plan and cross section of the boiler room.
- (2) The proposed location of all boilers, drums, headers, doors, steam, air and water gages, safety devices, blowoffs, all necessary piping, and all other parts and equipment.
- (3) The exit ways from all of the following:
 - (i) Boiler rooms.
 - (ii) Blowoff pits and ashpits or alleys.
 - (iii) High pressure steam line tunnels.
 - (iv) Other places where there is danger to persons in confined space in case of explosion.
 - (v) Platforms.
- (4) Walkways located over boilers.
- (5) Clearance dimensions above, around and between boilers, equipment and other construction.

§ 3a.99. Notice of deficiency.

(a) The Department will use the following procedures if an inspection reveals any violation of the act or this chapter:

(1) The Department will issue a written notice of deficiency to the boiler or unfired pressure vessel owner or user. The notice will contain a description of the violations and an order requiring correction of the violations and repairs within 30 days of the date of issuance. When a violation relates to the unsafe operation of a boiler, the Department will act under § 3a.92 (relating to unsafe operation).

(2) The written notice of deficiency will include a certification requiring the boiler or unfired pressure vessel owner or user to sign, date and return the certification when the corrective action or repair has occurred. The Department will inspect boilers or unfired pressure vessels which have been placed out of service to verify the corrective action or repair. The Department must approve the corrective action or repair before the boiler or unfired pressure vessel is returned to service.

(3) If the boiler or unfired pressure vessel owner or user does not correct the deficiency within the period of time allowed in the notice of deficiency, the Department may initiate action to seal the boiler or unfired pressure vessel by issuing an order to show cause to the boiler or unfired pressure vessel owner or user.

(4) The order to show cause must contain a statement of the grounds for the action, the alleged violations of the act and this chapter and notification that the boiler or unfired pressure vessel may be sealed. The order to show cause must contain notification that the owner or user shall submit a written answer within 30 days. The Department will serve the order to show cause upon the owner or user by certified mail or personal service.

(5) The owner or user may file a written answer to the order to show cause with the Department within 30 days following service of the order to show cause. The answer must contain specific admissions or denials of the allegations contained in the order to show cause and set forth the specific facts, matters of law or regulation interpretation relied upon by the owner or user. The answer may contain a request for a variance or an extension of time for compliance.

(b) The Department will consider a timely-filed request for variance or extension of time, or a timely-filed appeal as a stay to an enforcement action unless the Department acts under § 3a.92 (relating to unsafe operation) or the boiler constitutes a danger to life or property under section 10(e) of the act (35 P. S. § 1331.10(e)).

(c) The Department will inspect the boiler or unfired pressure vessel at the expiration of an extension of time or other time period granted for compliance under this section. If the boiler or unfired pressure vessel violates the act or this chapter following inspection, the Department may seal or condemn the boiler or unfired pressure vessel under section 13 of the act (35 P. S. § 1331.13). The Department will serve the seal order upon the owner or user by certified mail or personal service.

(d) Under section 13 of the act, the Department will issue a notice to discontinue operation to the boiler or unfired pressure vessel owner or user for a violation that was not corrected. The notice to discontinue operation will require the owner or user to discontinue the use of the boiler or unfired pressure vessel within 24 hours. The boiler or unfired pressure vessel may not be returned to service until the violations have been corrected, the repairs have been made and the Department notifies the owner or user that the boiler or unfired pressure vessel may be returned to service.

(e) Subsection (a) supplements 1 Pa. Code §§ 35.14 and 35.37 (relating to orders to show cause; and answers to orders to show cause).

§ 3a.100. Appeals.

(a) A person aggrieved by a notice of deficiency or a notice to discontinue operation may appeal the order to the Industrial Board within 30 days of the issuance of the order.

(b) The Industrial Board will decide petitions for variances and extensions of time, and appeals of Department decisions.

(c) The Board may consider the following factors, among others, when reviewing and ruling upon a request for an extension of time or a variance or other appropriate relief:

(1) The reasonableness of the Department's rules and regulations as applied in the specific case.

(2) The extent to which an extension of time or a variance will subject occupants to unsafe conditions.

(3) The availability of professional or technical personnel needed to come into compliance.

(4) The availability of materials and equipment needed to come into compliance.

(5) The efforts being made to safeguard occupants against boiler and unfired pressure vessel hazards.

(6) The efforts being made to come into compliance as quickly as possible.

(7) Compensatory safety features which will provide an equivalent degree of protection for the occupants.

Subchapter D. INSPECTIONS

Sec.	
3a.111.	Field inspections.
3a.112.	Inspection preparation.
3a.113.	Inspection accessibility.
3a.114.	Removal of covering for inspection.
3a.115.	Hydrostatic pressure test.
3a.116.	Inspection during construction.
3a.117.	Inspection report.

§ 3a.111. Field inspections.

Field inspections shall be conducted by an individual holding a current Pennsylvania Inspector Commission to inspect boilers and unfired pressure vessels in this Commonwealth. Field inspections shall be conducted according to the following timetable:

(1) Power boilers and process boilers will be inspected internally and externally while not under pressure every 12 months except as provided under section 9(e) and (f) of the act (35 P. S. § 1331.9(e) and (f)).

(2) The Department may extend power boiler internal inspections to 24 months and process boiler internal inspections to 60 months if the boiler passes an annual external inspection and the following requirements are met:

(i) There is continuous boiler water treatment under the direct supervision of a person trained and experienced in water treatment for controlling and limiting corrosion and deposits.

(ii) The records are available for review and contain the following:

(A) The date and time the boiler was out of service and the reason for being taken out of service.

(B) Daily analysis of water samples showing water conditions and elements or characteristics that produce corrosion or other deterioration to the boiler or its parts.

(iii) An inspector performed annual inspections of the boiler, which included inspection of the items contained in paragraphs (1) and (2).

(iv) The boiler is operated under direct supervision of a trained operator.

(v) Inspection records demonstrate no significant scaling, corrosion, erosion or overheating.

(3) Internal and external inspection of low-pressure steam vapor boilers that are not under pressure will be conducted every 24 months.

(4) External inspection of hot water supply boilers will be conducted every 24 months. An inspector may require internal inspection because of a vessel's age or condition. The Department will notify the boiler owner or operator verbally or in writing of the need for an internal inspection.

(5) Internal inspection of steel hot water heating boilers will be conducted every 48 months. External inspections will be conducted every 24 months.

(6) Internal and external inspections of low-pressure boilers in schools will be conducted every 24 months.

(7) External inspections of cast iron boilers will be conducted every 24 months and will include an internal inspection of the firebox. The unit shall be flushed until clean if the watersides appear to contain sludge.

(8) Unfired pressure vessels will be inspected every 36 months. An inspector may require internal inspections because of a vessel's age or condition. The Department will notify the boiler owner or operator verbally or in writing of the need for an internal inspection.

§ 3a.112. Inspection preparation.

(a) An owner or user shall prepare a boiler or unfired pressure vessel for internal inspection in accordance with the ANSI/NB23 after a inspector provides notification.

(b) The inspector will not inspect a boiler or unfired pressure vessel that is not properly prepared for an internal inspection.

§ 3a.113. Inspection accessibility.

Underground-unfired pressure vessels shall be installed or reinstalled in a manner that allows for external inspection of the vessel after February 4, 2006.

§ 3a.114. Removal of covering for inspection.

An owner or user shall remove a portion of the jacketing, setting wall or other form of casing or housing so an inspector may view rivet size and pitch, and other data necessary to determine the safety of a boiler or unfired pressure vessel when a portion of the jacketing, setting wall or other form of casing or housing is not visible and there is no other means to obtain this information.

§ 3a.115. Hydrostatic pressure test.

(a) A hydrostatic pressure test must comply with the following requirements:

(1) A hydrostatic pressure test may not exceed the following pressures:

(i) For boilers or unfired pressure vessels in the field, 1.5 times the maximum allowable working pressure.

(ii) For boilers of locomotives, 1.25 times the maximum allowable working pressure.

(iii) For glass-lined unfired pressure vessels, the maximum allowable working pressure.

(iv) For unfired pressure vessels fabricated to ASME section VIII, division 1 after January 1, 2000, 1.3 times the maximum allowable working pressure.

(v) For unfired pressure vessels fabricated to ASME Section VIII, Divisions 2 and 3, the pressure that was preapproved by an inspector.

(2) Pressure must be controlled at all times and may not be more than 106% of the test pressure allowed by the ASME Code at the time of construction.

(3) The temperature of the water used to apply the test must be between 70° and 120°F.

(4) A safety valve must be removed or each valve shall be held to its seat by a testing clamp. Screwing down the compression screw upon the spring is prohibited. A VR stamp holder must reseal the valves.

(5) Pressure must be equal to or below the release pressure of the safety valve having the highest release setting when a test is applied to an existing installation to determine tightness.

(b) An inspector may require a hydrostatic test after the completion of a repair to insure the pressure containing boundaries hold design pressure.

§ 3a.116. Inspection during construction.

An inspector shall comply with ASME requirements for inspections of cast iron boilers in construction.

§ 3a.117. Inspection report.

An inspector shall submit a copy of each boiler or unfired pressure vessel inspection to the Department no more than 30 days after the inspection.

Subchapter E. BOILERS INSTALLED PRIOR TO JULY 1, 1916, AND UNFIRED PRESSURE VESSELS AND POWER BOILERS INSTALLED PRIOR TO SEPTEMBER 1, 1937

- Sec.
- 3a.131. Allowable working pressure.
- 3a.132. Fusible plugs.
- 3a.133. Repair and replacement.
- 3a.134. Weighted safety valves.

§ 3a.131. Allowable working pressure.

The ASME Code governs calculation of allowable working pressure.

§ 3a.132. Fusible plugs.

Fire-actuated fusible plugs may be used if the plugs conform to the requirements of Sections A19—A21, Appendix A, section I of the ASME Code. The plugs must be replaced annually.

§ 3a.133. Repair and replacement.

Repairs or replacements to fittings or appliances must comply with the requirements for installations in the ASME Code and ASME/CSD1.

§ 3a.134. Weighted safety valves.

Weighted safety valves may not be used on boilers or unfired pressure vessels.

Subchapter F. LOW PRESSURE HEATING BOILERS INSTALLED PRIOR TO JULY 1, 1916

- Sec.
- 3a.141. Riveted boilers.
- 3a.142. Welded boilers.
- 3a.143. Cast iron boilers.
- 3a.144. Safe pressure.
- 3a.145. Steam stop valves.

§ 3a.141. Riveted boilers.

(a) The ASME Code governs the determination of the maximum allowable working pressure on the shell of a riveted heating boiler.

(b) The maximum allowable working pressure of a steam heating boiler may not exceed 15 psig.

(c) The maximum allowable working pressure of a hot water boiler may not exceed 160 psig at a temperature not exceeding 250°F.

§ 3a.142. Welded boilers.

The maximum allowable working pressure on the shell of a welded steel or wrought iron heating boiler may not exceed the requirements of ASME Code, section IV.

§ 3a.143. Cast iron boilers.

(a) The maximum allowable working pressure on the shell of a cast iron boiler may not exceed 15 psig for a steam boiler and the stamped working pressure for a hot water boiler.

(b) The maximum allowable working pressure for a boiler having a cast iron shell or heads, and steel or wrought iron tubes may not exceed 15 psig for a steam boiler and the stamped working pressure for a hot water boiler.

§ 3a.144. Safe pressure.

An inspector may reduce the operating pressure of a heating boiler if the inspector determines that the boiler is unsafe for operation at the approved pressure and the boiler is not properly repaired. The inspector may reduce the operating pressure based upon the remaining thickness of the pressure boundaries and code of construction requirements.

§ 3a.145. Steam stop valves.

(a) A boiler equipped with a steam stop valve must contain a check valve in the condensate return line between the boiler and the system.

(b) A heating system equipped with a steam stop valve must have a check valve in the condensate return pipe from the part of the system equipped with the steam stop valve.

**Subchapter G. UNFIRED PRESSURE VESSELS
INSTALLED PRIOR TO SEPTEMBER 1, 1937**

Sec.

- 3a.151. Maximum allowable working pressure.
3a.152. Safety appliances.
3a.153. Pipe connections and fittings.
3a.154. Repair and renewal.

§ 3a.151. Maximum allowable working pressure.

(a) The maximum allowable working pressure on the shell of an unfired pressure vessel is determined by the following:

- (1) The strength of the weakest course completed from the thickness of the plate.
- (2) The tensile strength of the plate.
- (3) The efficiency of the longitudinal joint.
- (4) The inside diameter of the course.
- (5) The safety factor allowed by the ASME Code.

(b) The equation for computing the maximum allowable working pressure is:

$TS \times t \times E =$ Maximum allowable working pressure in psi where:

$R \times FS$

(1) TS equals the ultimate strength of the shell plates in psi. If the tensile strength is not known, 55,000 psi must be used for temperatures not exceeding 700° F.

(2) T equals the maximum thickness of shell plates of weakest course in inches.

(3) E equals the efficiency of longitudinal joint depending upon construction.

(i) ANSI/NB 23, Appendix C, sections A-1 to A-9 must be used to calculate efficiency for a riveted joint.

(ii) Fusion welded joints must have the flowing E values:

- (A) Single lap weld is 40%.

(B) Double lap weld is 60%.

(C) Single butt weld is 60%.

(D) Double butt weld is 75%.

(E) Forge weld is 70%.

(F) Brazed steel and brazed copper is 80%.

(4) R equals the inside radius of the weakest course of the shell in inches if the thickness of the shell does not exceed 10% of the radius. The outer radius is used in the equation if the thickness is over 10% of the radius.

(5) FS equals the minimum safety factor allowed by this section. The minimum allowable safety factors are as follows:

(i) For unfired pressure vessels, except those of lap seam construction, the minimum safety factor is five.

(ii) For unfired pressure vessels with longitudinal lap joints the minimum safety factor is 5 1/2.

(iii) For unfired pressure vessels with reinstalled or secondhand lap seamed construction the minimum safety factor is six.

(iv) For unfired pressure vessels with reinstalled or secondhand butt strap or welded construction the minimum safety factor is 5 1/2.

(c) The ASME Code, section VIII, Division 1 is incorporated as the maximum allowable working pressure for cylindrical unfired pressure vessels subjected to external or collapsing pressure.

(d) The formulas in ASME Code, section VIII, divisions 1 and 2 or ASME, section X are incorporated and must be used to calculate the maximum allowable pressure for the head of an existing unfired pressure vessel that was not constructed in accordance with this chapter.

(e) The effect of static head must be considered in checking an existing vessel's maximum allowable working pressure.

§ 3a.152. Safety appliances.

An unfired pressure vessel must be protected by safety appliances required in § 3a.26(a)—(o) (relating to safety devices).

§ 3a.153. Pipe connections and fittings.

(a) The general arrangement of piping shall be designed to reduce vibration, expansion and drainage, and provide adequate support at the proper points.

(b) The code of construction governs repairs of existing high-pressure/temperature piping systems installed before 1998.

§ 3a.154. Repair and renewal.

Repairs to fittings and controls must comply with the ASME Code and ASME/CSD1 requirements for installations.

Subchapter H. SPECIAL INSTALLATIONS

Sec.

- 3a.161. Modular boilers.
3a.162. Portable boilers.
3a.163. Fired coil water heaters and instantaneous water heaters.
3a.164. Storage water heaters.
3a.165. Steam/hot water coil storage water heater.
3a.166. Miniature boilers and kitchen equipment.
3a.167. Hot water/steam heat exchangers.
3a.168. Autoclaves and quick opening vessels.
3a.169. Fuel trains and piping systems.
3a.170. Swimming pool heaters.
3a.171. Locomotive boilers.

§ 3a.161. Modular boilers.

(a) A modular boiler as defined in ASME Code, section IV shall be installed in accordance with § 3a.36 (relating to clearances). The distance between modules may be reduced to the manufacturer's recommendations if the entire modular boiler system meets the 30-inch clearance requirements.

(b) A modular boiler must have only one inlet and one outlet valve, as required by ASME Code, section IV. The boiler controls must comply with ASME Code, section IV and ASME/CSD1.

(c) Inspection of modular boilers shall be performed in accordance with § 3a.111(1)–(7) (relating to field inspections).

§ 3a.162. Portable boilers.

(a) A portable boiler must meet the requirements of § 3a.21 (relating to stamping).

(b) A portable boiler may be mounted in covered trailers if the following conditions are met:

(1) A 30-inch clearance is provided on both ends of the boiler.

(2) The boiler's trailer is provided with chocks and is anchored to prevent movement during operation.

(3) The boiler is anchored to the trailer.

(4) The trailer provides a means or area to remove boiler tubes.

(5) The roof or the ceiling of the trailer provides space to allow proper operation of all valves and appurtenances.

(c) The clearance on one side of a boiler mounted in a covered trailer may be reduced to 3 inches if the trailer has access panels for removal of handhole plugs for inspection and maintenance.

(d) The user or operator shall notify the Department in writing and obtain written Department approval before a portable boiler is moved and placed in service.

(e) Inspection of portable boilers shall be performed in accordance with § 3a.111(1)–(7) (relating to field inspections).

§ 3a.163. Fired coil water heaters and instantaneous water heaters.

(a) A fired coil water heater and instantaneous water heater shall be installed in accordance with ASME Code, section IV, articles HLW 700, HLW 800 and HG 614.

(b) A storage vessel may be used with a fired coil water heater and instantaneous water heater, if its controls comply with ASME CSD1, and it meets the ASME Code over-pressure protection requirements. The vessel must be ASME Code constructed if the Btu input exceeds 200,000 Btu.

(c) Temperature controls must be designed to not exceed 210°F.

(d) Inspection of fired coil water heaters and instantaneous water heaters shall be performed in accordance with § 3a.111(4) (relating to field inspections).

§ 3a.164. Storage water heaters.

(a) A storage water heater shall be installed in accordance with ASME Code, section IV, articles HLW 700 and HLW 800, and comply with safety valve requirements of ASME CSD1.

(b) Temperature controls must be designed to not exceed 210°F.

(c) Inspection of storage water heaters shall be performed in accordance with § 3a.111(4) (relating to field inspections).

§ 3a.165. Steam/hot water coil storage water heater.

(a) The design and construction of a steam/ hot water coil storage water heater must comply with ASME Code, section VIII and the additional control requirements of ASME/CSD1.

(b) Temperature controls must be designed to not exceed 210°F.

(c) Inspection of steam/hot water coil storage water heaters shall be performed in accordance with § 3a.111(8) (relating to field inspections).

§ 3a.166. Miniature boilers and kitchen equipment.

(a) A miniature boiler must be manufactured under the ASME "S," "H" or "M" Code. A boiler manufactured under ASME "S" and "H" Code must be stamped with a National Board registration number.

(b) Clearance requirements contained in § 3a.36 (relating to clearances) do not govern a miniature boiler or kitchen equipment if all pressure containing parts with appurtenances are visible for inspection.

(c) Miniature boiler controls must comply with ASME/CSD1.

(d) The sight glass and pressure gauge of a miniature boiler installed in a cabinet must always be visible during operation.

(e) Discharge from safety valves must be piped to a safe point.

(f) Burners for gas-fired installations must be AGA approved.

(g) Inspection of miniature boilers and kitchen equipment shall be performed in accordance with § 3a.111(1)–(6) (relating to field inspections).

§ 3a.167. Hot water/steam heat exchangers.

(a) Heat exchangers must be manufactured under the ASME Code.

(b) Heat exchangers must have adequate over-pressure protection to protect both systems.

(c) Heat exchangers used for domestic hot water supply must have a high temperature limit switch designed not to exceed 210°F.

(d) Inspection of hot water/steam heat exchangers shall be performed in accordance with § 3a.111(8) (relating to field inspections).

§ 3a.168. Autoclaves and quick opening vessels.

(a) An inspector shall inspect autoclaves and quick opening vessels with close examination of all moving parts, locking devices, pins and interlocking devices, in accordance with ANSI/NB 23.

(b) An autoclave and quick opening vessel must have interlocking systems to prevent charging the vessel until all openings and locking devices are fully in place.

(c) A pressure-relieving device must be sized in accordance with the data plate for pressure. The capacity must be based on the pressure and pipe size or the total Btu valve of the boiler.

(d) Inspection of autoclaves and quick opening vessels shall be performed in accordance with § 3a.111(8) (relating to field inspections).

§ 3a.169. Fuel trains and piping systems.

(a) The piping of low-pressure steam systems, except PVC materials, must comply with Chapters 10 and 12 of the IMC.

(b) The piping of low-pressure hydronic piping systems, except PVC materials, must comply with Chapter 12 of the IMC.

(c) The design and installation of high-pressure steam and high temperature hot water piping must comply with ASME B31.1.

(d) The repair of high pressure/temperature piping systems installed before 1998 must comply with the code of construction.

(e) The installation of fuel trains and associated piping must comply with ASME/CSD1.

(f) Inspection of fuel trains and piping systems shall be determined by the type of boiler to which the system is attached and performed in accordance with § 3a.111 (relating to field inspections).

§ 3a.170. Swimming pool heaters.

(a) A swimming pool heater is an instantaneous water heater. The heater must meet the construction requirements of ASME Code, section IV and the control requirements of ASME/CSD1 except if exempt under § 3a.3(d) (relating to scope).

(b) A pool heater may be piped with polyvinyl chloride material rated for the pressure and temperature of the heater after the isolation valves.

(c) Inspection of swimming pool heaters shall be performed in accordance with § 3a.111(4) (relating to field inspections).

§ 3a.171. Locomotive boilers.

(a) New installations for boilers of locomotives must comply with ASME Code, section I.

(b) Inspection of locomotive boilers shall be performed in accordance with § 3a.111(1) and (2) (relating to field inspections).

[Pa.B. Doc. No. 06-176. Filed for public inspection February 3, 2006, 9:00 a.m.]

Title 49—PROFESSIONAL AND VOCATIONAL STANDARDS

STATE BOARD OF MEDICINE

[49 PA. CODE CH. 17]

Licensure of Medical Doctors

The State Board of Medicine (Board) amends §§ 17.1, 17.2, 17.5 (relating to license without restriction; license without restriction—endorsement; and graduate license) and adds § 17.9 (relating to credentials verification service) to read as set forth in Annex A.

A. Effective Date

The final-form rulemaking is effective upon publication in the *Pennsylvania Bulletin*.

B. Statutory Authority

Section 8 of the Medical Practice Act of 1985 (act) (63 P. S. § 422.8) authorizes the Board to promulgate standards for licensing consistent with the requirements of sections 27—29 of the act (63 P. S. §§ 422.27—422.29).

C. Background and Purpose

The Board has determined that its regulations pertaining to eligibility for a license to practice medicine of graduates of foreign medical schools and applicants for a license by endorsement are, in view of currently available alternatives, unduly restrictive and costly. The Board therefore amends §§ 17.1(b) and 17.5(c)(2) to delete the requirements that graduates of foreign medical schools demonstrate 32 months and 4,000 hours of instruction and 72 weeks of clinical instruction. The Board's experience indicates that these requirements have become unduly restrictive to qualified applicants to the practice of medicine in this Commonwealth. Further, the Board has determined that the time and expense involved with verifying each credit hour and each clinical rotation exceeds the relative benefit. Few, if any, other jurisdictions have comparable requirements. Thus, this Commonwealth is placed at a competitive disadvantage in attracting qualified applicants.

The Board continues, but clarifies, the requirement that graduates of foreign medical colleges submit a diploma and transcript verified by a medical college listed in the International Medical Education Directory and chartered and recognized by the country in which it is situated for the provision of medical doctor education. The Board also requires that the applicant complete the equivalent of 4 academic years of medical education including 2 years in the study of the arts and sciences of medicine as generally recognized by the medical education community in the United States and 2 years of clinical study of the practice of medicine as generally recognized by the medical education community in the United States. These changes provide the Board greater flexibility in ascertaining the qualifications of applicants without relying on an arbitrary hourly/weekly breakdown of foreign curricula.

Next, the Board amends § 17.2(c), pertaining to license by endorsement, to delete the examination as a mandatory requirement. The deletion of the mandatory requirement will provide the Board with greater discretion in assessing the qualifications for license by endorsement of physicians who have extensive practice experience. In enforcing this section, the Board has reviewed applications from eminently qualified physicians of high professional reputation. The Board has come to recognize that requiring these practitioners to take general licensing examinations poses an undue restriction to licensing these qualified practitioners.

The prior language in § 17.2(d) described criteria that the Board viewed as equivalent to Education Commission for Foreign Medical Graduates (ECFMG) certification for physicians licensed prior to March 25, 1958. This language is no longer necessary because they would be applicable to individuals who would now be approximately 74 years of age. ECFMG certification has included steps 1 and 2 of the United States Medical Licensing Examination (USMLE) since June and September 1992, respectively. Prior certification by the ECFMG required the passage of one of several alternative examinations. At this point, individuals who have prior ECFMG certification should also possess over 10 years of experience. Accordingly, the Board believes it appropriate for endorse-

ment purposes to treat individuals with ECFMG certification as possessing the equivalent of passing scores on steps 1 and 2 of the USMLE. Accordingly, § 17.2(d) is amended to recognize this equivalency.

The Board identified the criteria it has considered when reviewing applications for license by endorsement from individuals who otherwise are qualified to practice medicine but who have not taken a licensing examination recognized by the Board. This final-form rulemaking codifies those criteria. Under the final-form rulemaking, the Board may consider whether the applicant has a significant history in the practice of medicine, has recognized professional and academic achievement and credentials and has obtained certification by a Board-recognized specialty certification body.

The Board also will accept the Federation of State Medical Board's Credentials Verification Service (FCVS) as an optional mechanism for all applicants to document completion of education, training and examination requirements. The FCVS serves as a document depository and as a clearinghouse for applicants. Applicants who are seeking licensure must submit documentation demonstrating completion of medical education and clinical training. Applicants applying in more than one jurisdiction will have the option of submitting credentialing documents to the FCVS, which will verify the authenticity of those documents. Applicants who utilize the FCVS may save time and expense because their credentials will be verified once rather than multiple times.

D. *Description of Amendments*

The amendments to §§ 17.1(b) and 17.5(c)(2) delete the requirements that graduates of foreign medical schools demonstrate 32 months and 4,000 hours of instruction and 72 weeks of clinical instruction. These requirements are replaced with the requirement that graduates of foreign medical colleges submit a diploma and transcript verified by a medical college listed in the International Medical Education Directory and chartered and recognized by the country in which it is situated for the provision of medical doctor education. The Board also requires that the applicant complete the equivalent of 4 academic years of medical education including 2 years in the study of the arts and sciences of medicine as generally recognized by the medical education community in the United States and 2 years of clinical study of the practice of medicine as generally recognized by the medical education community in the United States.

Section 17.2(c), pertaining to license by endorsement, is amended to delete the examination requirement as mandatory. Section 17.2(d) is amended to accept ECFMG certification as the equivalent of passing scores on steps 1 and 2 of the USMLE.

Section 17.2(e) is amended to identify the criteria the Board will consider instead of examination when reviewing applications for license by endorsement.

Section 17.9 has been added to indicate that applicants have the option of using the FCVS to authenticate and maintain records of their credentials.

E. *Compliance with the Regulatory Review Act and Public Comment*

In drafting and promulgating this final-form rulemaking, the Board solicited input and suggestions from the regulated community and other parties who have identified themselves as interested in the Board's regulatory agenda. Proposed rulemaking was published at 34 Pa.B. 4887 (September 4, 2004). The Board entertained

public comment for of 30 days during which time the Board received comments from the Pennsylvania Academy of Family Physicians and from the Federation of State Medical Boards of the United States, Inc. Both organizations supported the Board's proposed rulemaking. The Board received no negative public comments. Following the close of the public comment period, the Board also received comments from the Independent Regulatory Review Commission (IRRC) and the House Professional Licensure Committee (HPLC). The following is a summary of those comments and the Board's response.

IRRC asked if the proposed rulemaking allowed licenses without restriction and graduate licenses to be issued to applicants who cannot qualify under the existing regulation. IRRC also asked why Board verification of the specific time period requirements under §§ 17.1(b) and 17.5(c) is no longer needed. Under the existing regulation, the Board's administrative staff verifies the specific number of hours of academic study and the specific number of weeks of clinical study in which the applicant participated. The Board's staff verifies this information directly with the source foreign medical colleges and teaching hospitals. The Commonwealth is, to the best of the Board's knowledge, the only state that does this. Over time the foreign medical colleges and teaching hospitals have become increasingly unable or unwilling to break down the attendance of their students with the level of specificity that the regulation requires. As a consequence, applicants who have completed a course of study that would be generally accepted in the United States cannot obtain a license in this Commonwealth based upon a review of the standard academic credentials available for Board staff review. Specifically, in regard to graduate training licenses, this either delays significantly or prevents the issuance of the license. As a further consequence, teaching hospitals in this Commonwealth are unable to fill graduate medical training residency positions, leading to vacancies and reduction of available care in teaching hospitals. These vacancies are likely to lead to increased demand on the available hospital staff. Vacancies in graduate medical programs also potentially impact the availability of future residency slots and may negatively impact the availability of Federal funds that support graduate medical training in this Commonwealth.

IRRC also requested information about the FCVS. Detailed information on this service is available through the Federation of State Medical Board's website at www.fsmb.org. The FCVS is a document clearing house and authentication service. It was established in 1996 to provide a centralized, uniform process for state medical boards, as well as private and governmental entities, to obtain a verified, primary source record of a physician's core medical credentials. The FCVS obtains primary source verification of medical education, postgraduate training, licensure examination history, board action history and identity. This repository of information allows an individual to establish a confidential, lifetime professional portfolio that can be forwarded at the individual's request to any interested party, including state medical boards, hospitals, managed care plans and professional societies. Without this final-form rulemaking, this Commonwealth would remain one of only four states, along with Alaska, Arkansas and Nebraska, that do not recognize the FCVS. The Board, by this final-form rulemaking, will allow applicants the option of using the FCVS to authenticate and maintain their credentials rather than requiring the applicant to obtain those documents separately from the original source for Board review.

In the proposed rulemaking, the Board had determined to rely on ECFMG certification to support an application instead of verifying the completion of the 4,000 hours of academic and 72 weeks of clinical study. The HPLC questioned the wisdom of deleting the specific requirement of verification of 4,000 hours of academic and 72 weeks of clinical study. The HPLC also questioned whether the Board has statutory authority to rely solely on the ECFMG certification as a demonstration of graduation from medical college and completion of clinical study. The Board has authority under section 8 of the act to promulgate standards for licensing consistent with the requirements of sections 27—29 of the act. Historically, the Board's authority to ascertain whether applicants who have graduated from international medical schools possess education and training has been well established. See section 5 of the Medical Education and Licensure Act of 1911 and section 6 of the Medical Practice Act of 1974. Moreover, the Board has historically been permitted to use private standard setting bodies to aid in ascertaining the quality of education and training of its applicants. See sections 5 and 6(b) of the Medical Practice Act of 1974. The Board continues to possess these authorities under the current act. See *McKeesport Hospital v. Pennsylvania State Board of Medicine*, 539 Pa. 384, 652 A.2d 827 (1995). Accordingly, the statutory amendments the HPLC suggests are unnecessary to further the intent of this final-form rulemaking.

In response to the HPLC's concerns, the Board agrees that it is the Board's responsibility to evaluate the education credentials of applicants for licensure. Therefore, the Board has modified the final-form rulemaking so as to continue, but clarify, the requirement that the applicant submit a diploma and transcript verified by a medical college listed in the International Medical Education Directory and chartered and recognized by the country in which it is situated for the provision of medical doctor education. The Board also requires that the applicant complete the equivalent of 4 academic years of medical education including 2 years in the study of the arts and sciences of medicine as generally recognized by the medical education community in the United States and 2 years of clinical study of the practice of medicine as generally recognized by the medical education community in the United States. In this way, the Board may continue to ascertain the quality of the applicant's education as compared to recognized standards as established by the Liaison Committee for Medical Education in the United States. In regard to the Committee's concern that the Board verify 4,000 discrete hours of academic study and 72 discrete weeks of clinical study, for the reasons stated above continuing this requirement is impracticable.

Because the Board has amended this final-form rulemaking to address the HPLC concern that the Board continue to evaluate the credentials of applicants as opposed to relying on ECFMG certification pertaining to the ECFMG verification process, it is not necessary to address the Committee's comments regarding the ECFMG certification process. The Board notes that the ECFMG, among other things, verifies the authenticity of source documents. In this regard they perform functions similar to the Board. It was not the Board's intent to suggest that ECFMG performs the identical functions of the Board.

Lastly, although supportive of the Board's efforts in regard to identifying the criteria the Board uses in licensing physicians by endorsement, the HPLC provided editorial suggestions to clarify that portion of the rulemaking. The Board has adopted the HPLC's editorial

suggestions in part, but has declined to rewrite the language in its entirety because it believes the suggestions adopted sufficiently clarify the final-form rulemaking.

F. *Fiscal Impact and Paperwork Requirements*

There is no adverse fiscal impact or paperwork requirement imposed on the Commonwealth, political subdivision or the private sector.

G. *Sunset Date*

The Board continuously monitors its regulations. Therefore, no sunset date has been assigned.

H. *Regulatory Review*

Under section 5(a) of the Regulatory Review Act (71 P. S. § 745.5(a)), on August 23, 2004, the Board submitted a copy of the notice of proposed rulemaking, published at 34 Pa.B. 4887, to IRRC and the Chairpersons of the HPLC and the Senate Consumer Protection and Professional Licensure Committee (SCP/PLC) for review and comment.

Under section 5(c) of the Regulatory Review Act, IRRC, the HPLC and the SCP/PLC were provided with copies of the comments received during the public comment period, as well as other documents when requested. In preparing the final-form rulemaking, the Department has considered all comments from IRRC, the HPLC, the SCP/PLC and the public.

Under section 5.1(j.2) of the Regulatory Review Act (71 P. S. § 745.5a(j.2)), on December 14, 2005, the final-form rulemaking was approved by the HPLC. On January 4, 2006, the final-form rulemaking was deemed approved by the SCP/PLC. Under section 5.1(e) of the Regulatory Review Act, IRRC met on January 5, 2006, and approved the final-form rulemaking.

I. *Contact Person*

Further information may be obtained by contacting Gerald S. Smith, Counsel, State Board of Medicine, P. O. Box 2649, Harrisburg, PA 17105-2649, gerasmith@state.pa.us.

J. *Findings*

The Board finds that:

(1) Public notice of intention to adopt these amendments has been given under sections 201 and 202 of the act of July 31, 1968 (P. L. 769, No. 240) (45 P. S. §§ 1201 and 1202) and the regulations promulgated thereunder, 1 Pa. Code §§ 7.1 and 7.2.

(2) A public comment period was provided as required by law and all comments were considered.

(3) The amendments to the final-form rulemaking do not enlarge the purpose of proposed rulemaking published at 34 Pa.B. 4887.

(4) This final-form rulemaking is necessary and appropriate for administering and enforcing the authorizing acts identified in Part B of this preamble.

K. *Order*

The Board, acting under its authorizing statutes, orders that:

(a) The regulations of the Board, 49 Pa. Code Chapter 17, are amended by amending §§ 17.1, 17.2 and 17.5 and by adding § 17.9 to read as set forth in Annex A, with ellipses referring to the existing text of the regulations.

(b) The Board shall submit this order and Annex A to the Office of General Counsel and the Office of Attorney General as required by law.

(c) The Board shall certify this order and Annex A and deposit them with the Legislative Reference Bureau as required by law.

(d) This order shall take effect on publication in the *Pennsylvania Bulletin*.

CHARLES D. HUMMER, Jr., M. D.,
Chairperson

(Editor's Note: For the text of the order of the Independent Regulatory Review Commission, relating to this document, see 36 Pa.B. 362 (January 21, 2006).)

Fiscal Note: Fiscal Note 16A-4917 remains valid for the final adoption of the subject regulations.

Annex A

TITLE 49. PROFESSIONAL AND VOCATIONAL STANDARDS

PART I. DEPARTMENT OF STATE

Subpart A. PROFESSIONAL AND OCCUPATIONAL AFFAIRS

CHAPTER 17. STATE BOARD OF MEDICINE—MEDICAL DOCTORS

Subchapter A. LICENSURE OF MEDICAL DOCTORS

§ 17.1. License without restriction.

(a) Except as provided in § 17.2 (relating to license without restriction—endorsement), to secure a license without restriction an applicant shall:

(1) Have passed a licensing examination acceptable to the Board by having achieved one of the following:

(i) A passing score on Step 1, Step 2 and Step 3 of the USMLE as determined by USMLE completed within a 7-year period.

(ii) A score of 75 on FLEX I and a score of 75 on FLEX II, as determined by the Federation.

(iii) A score of 75, obtained in an individual attempt, on the licensing examination provided by the Federation from June 1968 to December 1984.

(iv) A passing score as determined by the NBME on the National Boards.

(v) A passing score on Part I of the National Boards or Step 1 of the USMLE plus Part II of the National Boards or Step 2 of the USMLE plus Part III of the National Boards or Step 3 of the USMLE completed within a 7-year period.

(vi) A score of 75 on FLEX I and Step 3 of the USMLE completed within a 7-year period.

(vii) A passing score on Part I of the National Boards or Step 1 of the USMLE plus Part II of the National Boards or Step 2 of the USMLE plus FLEX II completed within a 7-year period.

(viii) A passing score, as determined by the Medical Council of Canada, on the examination of the Medical Council of Canada taken in or after May 1970, if the examination was taken in English.

(ix) A passing score, as determined by the licensing authority of another state, territory or possession of the

United States, on a state board examination taken prior to December 1973, if the examination was taken in English.

(2) Have graduated from an accredited medical college or from an unaccredited medical college.

(3) Have been certified by the ECFMG if the applicant is a graduate of an unaccredited medical college.

(4) Have successfully completed the following graduate medical training requirement:

(i) A year of graduate medical training at a first or second-year level if the applicant is a graduate of an accredited or unaccredited medical college and participated in a graduate medical training program prior to June 30, 1987.

(ii) Two years of graduate medical training at a first and second-year level if the applicant is a graduate of an accredited medical college and did not participate in a graduate medical training program prior to June 30, 1987.

(iii) Three years of graduate medical training at a first, second and third-year level if the applicant is a graduate of an unaccredited medical college and did not participate in a graduate medical training program prior to June 30, 1987.

(5) Satisfy the general qualifications for a license specified in § 16.12 (relating to general qualifications for licenses and certificates).

(b) An applicant who is a graduate of an unaccredited medical college shall submit a complete application and shall, in addition to satisfying the requirements in subsection (a), submit a diploma and transcript verified by a medical college listed in the International Medical Education Directory and chartered and recognized by the country in which it is situated for the provision of medical doctor education. The transcript must identify the successful completion of the equivalent of 4 academic years of medical education including 2 academic years in the study of the arts and sciences of medicine generally recognized by the medical education community in the United States and 2 academic years of clinical study of the practice of medicine as generally recognized by the medical education community in the United States.

§ 17.2. License without restriction—endorsement.

* * * * *

(c) *License examination.* In evaluating the qualifications of an applicant who seeks a license without restriction on the basis of endorsement, the Board will accept a passing score on a licensing examination acceptable to the Board. If the examination was not taken in English, but is otherwise acceptable, and a passing score was secured, the Board will accept the examination result if the applicant has also secured a passing score on the Test of English as a Foreign Language (TOEFL).

(d) *ECFMG certification.* For purposes of endorsement, a graduate from an unaccredited medical school who has obtained certification by the ECFMG shall be deemed to have the equivalent of a passing score on steps 1 and 2 of the USMLE.

(e) The Board may, in lieu of the examination requirement provided for in subsection (c), consider whether the applicant has a significant history in the practice of medicine, has recognized professional and academic achievement and credentials and has obtained certification by a Board recognized specialty certification body.

§ 17.5. Graduate license.

* * * * *

(c) Additional requirements for securing a graduate license are that the applicant shall satisfy the following:

* * * * *

(2) If the applicant is a graduate of an unaccredited medical college or satisfies the requirements of subsection (b)(2), and files an application for a graduate license, the application will not be considered filed with the Board until it is complete. The applicant shall submit a diploma and transcript verified by a medical college listed in the International Medical Education Directory and chartered and recognized by the country in which it is situated for the provision of medical doctor education. The transcript must identify the successful completion of the equivalent of 4 academic years of medical education including 2 academic years in the study of the arts and sciences of medicine generally recognized by the medical education community in the United States and 2 academic years of clinical study of the practice of medicine as generally recognized by the medical education community in the United States.

(3) Satisfy the requirements in § 16.12 (relating to general qualifications for licenses and certificates).

* * * * *

§ 17.9. Credentials verification service.

Applicants may use the Federation of State Medical Boards credentials verification service (FCVS) to verify the authenticity of their diplomas, transcripts, examination scores, and other documentation held by the FCVS.

[Pa.B. Doc. No. 06-177. Filed for public inspection February 3, 2006, 9:00 a.m.]

STATE BOARD OF VEHICLE MANUFACTURERS, DEALERS AND SALESPERSONS

[49 PA. CODE CH. 19]
Protest Proceedings

The State Board of Vehicle Manufacturers, Dealers and Salespersons (Board) amends § 19.3 (relating to applicability of general rules) and adds §§ 19.31—19.38 (relating to protest proceedings).

Description and Need for Rulemaking

This final-form rulemaking adds §§ 19.31—19.38 to set forth procedural requirements for litigants to follow in vehicle protest matters before the Board. These procedural requirements supplement 1 Pa. Code Part II (relating to General Rules of Administrative Practice and Procedure) (GRAPP).

Summary of Comments and Responses to Proposed Rulemaking

The Board published notice of proposed rulemaking at 35 Pa.B. 2408 (April 23, 2005) with a 30-day public comment period. The Board received no comments from any member of the public. The Board received comments from the Independent Regulatory Review Commission (IRRC) and the House Professional Licensure Committee (HPLC) as part of their review of proposed rulemaking under the Regulatory Review Act (71 P.S. §§ 745.1—745.12). The Board did not receive comments from the Senate Consumer Protection and Professional Licensure

Committee (SCP/PLC) as part of its review of proposed rulemaking under the Regulatory Review Act.

The HPLC first noted that § 19.3 states that §§ 19.31—19.38, regarding applicability of general rules, supplement the GRAPP. The HPLC suggested that the Board revise § 19.3 to make clear that §§ 19.31—19.38 apply solely to protest proceedings and not to disciplinary matters before the Board. The Board revised the proposed rulemaking accordingly. HPLC also “ask[ed] the Board to ensure that the proposed procedural rules comport with the requirements of the Due Process Clause of the U. S. Constitution and the Pennsylvania Constitution, and that the right to be heard and the right to receive notice be preserved in the proposed rules.” Although the Board does not believe that anything in this final-form rulemaking infringes upon the due process rights of any litigant, the Board will endeavor to assure that application of the provisions of this final-form rulemaking, together with the provisions of the Board of Vehicles Act (act) (63 P. S. §§ 818.1—818.37) and the GRAPP, does not result in any denial of due process.

IRRC commented that the term “papers” in § 19.31 (relating to filing of documents) lacks clarity and recommended that the Board replace it with the term “documents.” The Board revised this section accordingly.

IRRC also commented on § 19.36(c) (relating to prehearing statements), which provides that the failure to file a prehearing statement as required may subject a party to sanctions, including being precluded from presenting evidence. IRRC questioned under what circumstances the Board would impose sanctions and what other sanctions could be imposed. Because the Board has no authority to impose monetary sanctions in protest proceedings, it would be limited to sanctioning a litigant by precluding the litigant from presenting evidence or otherwise contesting issues. The Board anticipates that sanctions would be imposed when, due to its failure to timely file an adequate prehearing statement, the litigant has unfairly precluded an opponent from preparing to present, challenge or oppose evidence on specified issues.

Fiscal Impact and Paperwork Requirements

The final-form rulemaking will have no adverse fiscal impact on the Commonwealth or its political subdivisions and will impose no additional paperwork requirements upon the Commonwealth, political subdivisions or the private sector.

Effective Date

The final-form rulemaking will become effective upon publication in the Pennsylvania Bulletin.

Statutory Authority

The final-form rulemaking is adopted under sections 4(a)(9), 8, 11, 13 and 27 of the act (63 P. S. §§ 818.4(a)(9), 818.8, 818.11, 818.13 and 818.27).

Regulatory Review

Under section 5(a) of the Regulatory Review Act (71 P. S. § 745.5(a)), on April 23, 2005, the Board submitted a copy of the notice of proposed rulemaking, published at 35 Pa.B. 2408, to IRRC and the Chairpersons of the HPLC and the SCP/PLC for review and comment.

Under section 5(c) of the Regulatory Review Act, IRRC and the Committees were provided with copies of the comments received during the public comment period, as well as other documents when requested. In preparing the final-form rulemaking, the Department has considered all comments from IRRC, the House and Senate Committees and the public.

Under section 5.1(j.2) of the Regulatory Review Act (71 P. S. § 745.5a(j.2)), on December 13, 2005 the final-form rulemaking was approved by the HPLC. On January 4, 2006, the final-form rulemaking was deemed approved by SCP/PLC. Under section 5.1(e) of the Regulatory Review Act, IRRC met on January 5, 2006, and approved the final-form rulemaking.

Additional Information

Persons who require additional information about the final-form rulemaking should submit inquiries to Teresa Woodall, Board Administrator, State Board of Vehicle Manufacturers, Dealers and Salespersons, P. O. Box 2649, Harrisburg, PA 17105-2649, (717) 783-1697, st-vehicle@state.pa.us.

Findings

The Board finds that:

- (1) Public notice of proposed rulemaking was given under sections 201 and 202 of the act of July 31, 1968 (P. L. 769, No. 240) (45 P. S. §§ 1201 and 1202) and regulations thereunder, 1 Pa. Code §§ 7.1 and 7.2.
- (2) A public comment period was provided as required by law and all comments were considered.
- (3) This final-form rulemaking is necessary and appropriate for the administration of the act.
- (4) This final-form rulemaking does not enlarge the scope of proposed rulemaking published at 35 Pa.B. 2408.

Order

The Board, acting under its authorizing statute, orders that:

- (a) The regulations of the Board, 49 Pa. Code Chapter 19, are amended by adding §§ 19.32—19.38 to read as set forth at 35 Pa.B. 2408; and by amending § 19.31 and adding § 19.31 to read as set forth in Annex A.
- (b) The Board shall submit this order, 35 Pa.B. 2408 and Annex A to the Office of Attorney General and the Office of General Counsel for approval as required by law.
- (c) The Board shall certify this order, 35 Pa.B. 2408 and Annex A and deposit them with the Legislative Reference Bureau as required by law.
- (d) The final-form rulemaking shall take effect upon publication in the *Pennsylvania Bulletin*.

EDWIN K. GALBREATH, Jr.,
Chairperson

(Editor's Note: For the text of the order of the Independent Regulatory Review Commission, relating to this document, see 36 Pa.B. 362 (January 21, 2006).)

Fiscal Note: Fiscal Note 16A-608 remains valid for the final adoption of the subject regulations.

Annex A

TITLE 49. PROFESSIONAL AND VOCATIONAL STANDARDS
PART I. DEPARTMENT OF STATE
Subpart A. PROFESSIONAL AND OCCUPATIONAL AFFAIRS
CHAPTER 19. STATE BOARD OF VEHICLE MANUFACTURERS, DEALERS AND SALESPERSONS
GENERAL PROVISIONS

§ 19.3. Applicability of general rules.

Under 1 Pa. Code § 31.1 (relating to scope of part), 1 Pa. Code Part II (relating to General Rules of Administra-

tive Practice and Procedure) (General Rules), is applicable to the activities of and proceedings before the Board. Sections 19.31—19.38 (relating to protest proceedings) supplement the General Rules and apply solely to proceedings under sections 8(d), 13 and 27 of the act (63 P. S. §§ 818.8(d), 818.13 and 818.27).

PROTEST PROCEEDINGS

§ 19.31. Filing of documents.

(a) *Place of filing.* Every pleading and other document in a protest matter shall be filed with the prothonotary for the Department of State at One Penn Center, 2601 North Third Street, Post Office Box 2649, Harrisburg, PA 17105-2649.

(b) *Copies.* An original and one copy of each document shall be filed with the prothonotary. A copy of each document shall be served on each party to the protest. An additional copy of each document shall be served on the Board's counsel for protest matters (protest counsel) at One Penn Center, 2601 North Third Street, Post Office Box 2649, Harrisburg, PA 17105-2649.

[Pa.B. Doc. No. 06-178. Filed for public inspection February 3, 2006, 9:00 a.m.]

Title 67—TRANSPORTATION

DEPARTMENT OF TRANSPORTATION

[67 PA. CODE CHS. 201, 203, 204, 211, 212 AND 217]

Official Traffic-Control Devices

The Department of Transportation (Department), under the authority of 75 Pa.C.S. §§ 3353, 3354, 6103, 6105, 6121, 6122, 6123 and 6123.1, deletes Chapters 201, 203, 204, 211 and 217 and adds Chapter 212 (relating to official traffic-control devices) to read as set forth in Annex A. Included as part of the new Chapter 212, the Department adopts the National Manual on Uniform Traffic Control Devices (MUTCD) as published by the Federal Highway Administration (FHA).

Purpose of this Chapter

The purpose of Chapter 212 is to adopt the National MUTCD, to establish new regulations regarding additional study requirements, warrants, principles and guidelines not included in the MUTCD; and to establish greater uniformity for the design, location and operation of all official traffic signs, signals, markings and other traffic-control devices within this Commonwealth.

Purpose of this Final-Form Rulemaking

With the promulgation of this final-form rulemaking, the most recent edition of the National MUTCD, published by the FHA, will become the standard for traffic control in this Commonwealth. As provided in 75 Pa.C.S. §§ 6103(c) and 6121 (relating to promulgation of rules and regulations by department; and uniform system of traffic-control devices), this final-form rulemaking will also establish additional regulations regarding study requirements, warrants, principles and guidelines and insure uniformity for the design, location and operation of all official signs, signals, markings and other traffic-control devices within this Commonwealth, incorporating, revising and adding to regulations in deleted Chapters 201, 203, 204, 211 and 217.

Publication for Public Comment

The proposed rulemaking was published at 34 Pa.B. 4712 (August 28, 2004) and the public was invited to submit comments. The proposed rulemaking was also submitted to the Independent Regulatory Review Commission (IRRC) and to the House and Senate Transportation Committees. Comments were received from IRRC and from the public. The Department considered the written comments in formulating this final-form rulemaking. A separate comment and response document has been prepared to address these comments and is available upon request. Several commentators expressed concern that the final-form rulemaking would require local municipalities to be responsible for the installation and maintenance of stop signs, stop ahead signs and other traffic controls on State highways where they intersect with local roads. As explained more fully in the response document, it is the intention of the final-form rulemaking to clarify local responsibility for stop signs and stop ahead signs on local road approaches where they intersect with State highways. The Department will retain responsibility for the installation and maintenance of these signs and other traffic controls on State highways, except as specifically provided for in this final-form rulemaking.

Persons and Entities Affected

This final-form rulemaking affects the Commonwealth, the Pennsylvania Turnpike Commission, local authorities, contractors, consultants, utility companies, vendors, and the motoring public.

Fiscal Impact

Elimination of current Department Publications Nos. 68, 201 and 203 is projected to annually reduce publication costs by approximately \$30,000. It is estimated that changes in signing requirements, particularly in work zones, will result in approximately \$6.0 million savings to the regulated community and State and local governments.

Contractors and highway agencies may have some modest savings since fewer traffic-control devices will be required in some construction and maintenance projects. In addition, consultants and suppliers of traffic-control devices should be able to be more efficient due to increased uniformity from state to state.

Regulatory Review

Under section 5(a) of the Regulatory Review Act (71 P. S. § 745.5(a)), on August 12, 2003, the Department submitted a copy of the notice of proposed rulemaking, published at 34 Pa.B. 4712, to IRRC and the Chairpersons of the House and Senate Transportation Committees for review and comment.

Under section 5(c) of the Regulatory Review Act, IRRC and the Committees were provided with copies of the comments received during the public comment period, as well as other documents when requested. In preparing the final-form rulemaking, the Department has considered all comments from IRRC, the House and Senate Committees and the public.

Under section 5.1(j.2) of the Regulatory Review Act (71 P. S. § 745.5a(j.2)), on December 14, 2005, the final-form rulemaking was deemed approved by the House and Senate Committees. Under section 5.1(e) of the Regulatory Review Act, IRRC met on December 15, 2005, and approved the final-form rulemaking.

Sunset Date

The Department is not establishing a sunset date for these regulations, since these regulations are needed to administer provisions required under 75 Pa.C.S. (relating

to Vehicle Code). The Department, however, will continue to closely monitor these regulations for their effectiveness.

Contact Person

The contact person for this proposed rulemaking is Glenn C. Rowe, P. E., PTOE, Division Chief, Bureau of Highway Safety and Traffic Engineering, 400 North Street, 6th Floor, Harrisburg, PA 17120-0064, (717) 787-3620.

Order

The Department orders that:

(a) The regulations of the Department of Transportation, 67 Pa. Code Chapters 201, 203, 204, 211, 212 and 217, are amended by deleting §§ 201.1—201.6, 201.21, 201.22, 201.31—201.33, 201.35, 201.51, 201.52, 201.52a, 201.53, 201.54, 201.61, 201.62, 201.71, 201.81—201.83, 201.91, 203.1, 203.3—203.9, 203.21—203.24, 203.41—203.44, 203.51—203.61, 203.71, 203.72, 203.81—203.87, 203.101—203.106, 203.121—203.131, Appendix A, 204.1—204.3, 204.5, 204.6, Appendix A, 211.1—211.12, 211.21—211.32, 211.41—211.43, 211.51, 211.52, 211.52a, 211.53—211.57, 211.71—211.81, 211.91—211.98, 211.111—211.133, 211.141, 211.151—211.153, 211.155—211.167, 211.181, 211.191, 211.191a, 211.192, 211.193, 211.201—211.206, 211.221—211.223, 211.231—211.245, 211.251—211.256, 211.271, 211.272, 211.274, 211.275, 211.291—211.297, 211.301—211.307, 211.322—211.329, 211.341—211.345, 211.351—211.357, 211.371, 211.372, 211.381, 211.383, 211.384, 211.391—211.395, 211.411—211.424, 211.431—211.440, 211.451, 211.451a, 211.452, 211.452a, 211.453, 211.457, 211.458, 211.471, 211.472, 211.474—211.479, 211.491—211.495, 211.511, 211.517, 211.519, 211.531, 211.534—211.538, 211.541—211.545, 211.546a, 211.547—211.555, 211.561, 211.562, 211.571, 211.581, 211.583, 211.585, 211.587, 211.589, 211.591, 211.592a—211.600, 211.602—211.605, 211.611, 211.612, 211.613a, 211.614, 211.615, 211.631—211.633, 211.641, 211.642, 211.642a, 211.642c—211.642g, 211.643—211.645, 211.645, 211.651—211.656, 211.671—211.682, 211.691, 211.692, 211.694—211.696, 211.701—211.703, 211.711, 211.721—211.725, 211.725a, 211.726—211.732, 211.741—211.744, 211.751—211.760, 211.764, 211.771—211.777, 211.781—211.797, 211.811, 211.821—211.824, 211.831, 211.832, 211.841—211.843, 211.851, 211.861—211.864, 211.871—211.875, 211.881—211.883, 211.885, 211.886, 211.901, 211.902, 211.911, 211.914, 211.921, 211.923, 211.924, 211.926, 211.927, 211.941—211.947, 211.961—211.971, 211.981, 211.983, 211.991—211.1017, 211.1031—211.1042, 211.1051—211.1058, 211.1071—211.1075, 211.1081—211.1085, 211.1091—211.1095, 211.1097—211.1111, 211.1131—211.1141, 211.1151—211.1185, 211.1201, 211.1211—211.1214 and 217.1—217.4; and by adding §§ 212.1—212.12, 212.101—212.123, 212.201—212.203, 212.301—212.303, 212.401—212.419, 212.501, 212.601 and 212.701 to read as set forth in Annex A.

(b) The Secretary of the Department shall submit this order and Annex A to the Office of General Counsel and the Office of Attorney General for approval as to legality and form, as required by law.

(c) The Secretary of the Department shall certify this order and Annex A and deposit them with the Legislative Reference Bureau, as required by law.

(d) This order shall take effect upon publication in the *Pennsylvania Bulletin*.

ALLEN D. BIEHLER, P. E.,
Secretary

(Editor's Note: For the text of the order of the Independent Regulatory Review Commission, relating to this document, see 35 Pa.B. 7072 (December 31, 2005).)

Fiscal Note: Fiscal Note 18-392 remains valid for the final adoption of the subject regulations.

Annex A

TITLE 67. TRANSPORTATION

PART I. DEPARTMENT OF TRANSPORTATION

Subpart A. VEHICLE CODE PROVISIONS

ARTICLE VIII. ADMINISTRATION AND ENFORCEMENT

CHAPTER 201. (Reserved)

- §§ 201.1—201.6. (Reserved).
- § 201.21. (Reserved).
- § 201.22. (Reserved).
- §§ 201.31—201.33. (Reserved).
- § 201.35. (Reserved).
- § 20151. (Reserved).
- § 20152. (Reserved)
- § 201.52a. (Reserved).
- § 201.53. (Reserved).
- § 201.61. (Reserved).
- § 201.62. (Reserved).
- § 201.71. (Reserved).
- §§ 201.81—201.83. (Reserved).
- § 201.91. (Reserved).

CHAPTER 203. (Reserved)

- § 203.1. (Reserved).
- §§ 203.3—203.9. (Reserved).
- §§ 203.21—203.24. (Reserved).
- §§ 203.41—203.44. (Reserved).
- §§ 203.51—203.61. (Reserved).
- § 203.71. (Reserved).
- § 203.72. (Reserved).
- §§ 203.81—203.87. (Reserved).
- §§ 203.101—203.106. (Reserved).
- §§ 203.121—203.131. (Reserved).
- Appendix A. (Reserved).

CHAPTER 204. (Reserved)

- §§ 204.1—204.3. (Reserved).
- § 204.5. (Reserved).
- § 204.6. (Reserved).
- Appendix A. (Reserved).

CHAPTER 211. (Reserved)

- §§ 211.1—211.12. (Reserved).
- §§ 211.21—211.32. (Reserved).
- §§ 211.41—211.43. (Reserved).
- § 211.51. (Reserved).
- § 211.52. (Reserved).
- § 211.52a. (Reserved).
- § 211.53. (Reserved).
- §§ 211.71—211.81. (Reserved).
- §§ 211.91—211.98. (Reserved).
- §§ 211.111—211.133. (Reserved).
- § 211.141. (Reserved).
- §§ 211.151—211.153. (Reserved).
- §§ 211.155—211.167. (Reserved).
- § 211.181 (Reserved).
- § 211.191a. (Reserved).
- § 211.192. (Reserved).
- § 211.193. (Reserved).
- § 211.198. (Reserved).
- §§ 211.201—211.206. (Reserved).
- §§ 211.221—211.223. (Reserved).

- §§ 211.231—211.245. (Reserved).
- §§ 211.251—211.256. (Reserved).
- § 211.271. (Reserved).
- § 211.272. (Reserved).
- § 211.274. (Reserved).
- § 211.275. (Reserved).
- §§ 211.291—211.297. (Reserved).
- §§ 211.301—211.307. (Reserved).
- §§ 211.322—211.329. (Reserved).
- §§ 211.341—211.345. (Reserved).
- §§ 211.351—211.357. (Reserved).
- § 211.371. (Reserved).
- § 211.372. (Reserved).
- § 211.381. (Reserved).
- § 211.383. (Reserved).
- § 211.384. (Reserved).
- §§ 211.391—211.395. (Reserved).
- §§ 211.411—211.424. (Reserved).
- §§ 211.431—211.440. (Reserved).
- § 211.451. (Reserved).
- § 211.451a. (Reserved).
- § 211.452. (Reserved).
- § 211.452a. (Reserved).
- § 211.457. (Reserved).
- § 211.458. (Reserved).
- § 211.471. (Reserved).
- § 211.472. (Reserved).
- §§ 211.474—211.479. (Reserved).
- §§ 211.491—211.495. (Reserved).
- § 211.511. (Reserved).
- § 211.517. (Reserved).
- § 211.519. (Reserved).
- § 211.531. (Reserved).
- §§ 211.534—211.538. (Reserved).
- §§ 211.541—211.545. (Reserved).
- § 211.546a. (Reserved).
- §§ 211.547.—211.555. (Reserved)
- § 211.561. (Reserved).
- § 211.562. (Reserved).
- § 211.571. (Reserved).
- § 211.581. (Reserved).
- § 211.583. (Reserved).
- § 211.585. (Reserved).
- § 211.587. (Reserved).
- § 211.589. (Reserved).
- § 211.591. (Reserved).
- §§ 211.592a—211.592c. (Reserved).
- §§ 211.593—211.605. (Reserved).
- § 211.611. (Reserved).
- § 211.612. (Reserved).
- § 211.613a. (Reserved).
- § 211.614. (Reserved)
- § 211.615. (Reserved).
- §§ 211.631—211.633. (Reserved).
- § 211.641. (Reserved).
- § 211.642. (Reserved)
- § 211.642a. (Reserved).
- §§ 211.642c—211.642g. (Reserved).
- §§ 211.643.—211.645. (Reserved)
- §§ 211.651—211.656. (Reserved).
- §§ 211.671—211.682. (Reserved).
- § 211.691. (Reserved).
- § 211.692. (Reserved).
- §§ 211.694—211.696. (Reserved).
- §§ 211.701—211.703. (Reserved).
- § 211.711. (Reserved).
- §§ 211.721—211.725. (Reserved).
- § 211.725a. (Reserved)
- §§ 211.726.—211.732. (Reserved)
- §§ 211.741—211.744. (Reserved).

- §§ 211.751—211.760. (Reserved).
 §§ 211.771—211.777. (Reserved).
 §§ 211.781—211.797. (Reserved).
 § 211.811. (Reserved).
 §§ 211.821—211.824. (Reserved).
 § 211.831. (Reserved).
 § 211.832. (Reserved).
 §§ 211.841—211.843. (Reserved).
 § 211.851. (Reserved).
 §§ 211.861—211.864. (Reserved).
 §§ 211.871—211.875. (Reserved).
 §§ 211.881—211.883. (Reserved).
 § 211.885. (Reserved).
 § 211.886. (Reserved).
 § 211.901. (Reserved).
 § 211.902. (Reserved).
 § 211.911. (Reserved).
 § 211.914. (Reserved).
 § 211.921. (Reserved).
 § 211.923. (Reserved).
 § 211.924. (Reserved).
 § 211.926. (Reserved).
 § 211.927. (Reserved).
 §§ 211.941—211.947. (Reserved).
 §§ 211.961—211.971. (Reserved).
 § 211.981. (Reserved).
 § 211.983. (Reserved).
 §§ 211.991—211.1017. (Reserved).
 §§ 211.1031—211.1042. (Reserved).
 §§ 211.1051—211.1058. (Reserved).
 §§ 211.1071—211.1075. (Reserved).
 §§ 211.1081—211.1085. (Reserved).
 §§ 211.1091—211.1095. (Reserved).
 §§ 211.1097—211.1111. (Reserved).
 §§ 211.1131—211.1141. (Reserved).
 §§ 211.1151—211.1185. (Reserved).
 § 211.1201. (Reserved).
 §§ 211.1211—211.1214. (Reserved).

CHAPTER 212. OFFICIAL TRAFFIC-CONTROL DEVICES

Subchap.

- A. GENERAL PROVISIONS
 B. SIGNS
 C. MARKINGS
 D. HIGHWAY TRAFFIC SIGNALS
 E. TEMPORARY TRAFFIC CONTROL
 F. TRAFFIC CONTROLS FOR SCHOOL AREAS
 G. TRAFFIC CONTROLS FOR BICYCLE FACILITIES
 H. SPECIAL EVENTS

Subchapter A. GENERAL PROVISIONS

- Sec.
 212.1. Definitions.
 212.2. Adoption of Federal standards.
 212.3. Pennsylvania's Supplement to the MUTCD.
 212.4. Application.
 212.5. Installation and maintenance responsibilities.
 212.6. Removal of traffic hazards.
 212.7. Signs and banners across or within the legal limits of a State-designated highway.
 212.8. Use, test, approval and sale of traffic-control devices.
 212.9. Traffic calming.
 212.10. Requests for changes, interpretations or permission to experiment.
 212.11. Metric measurements.
 212.12. Department publications.

§ 212.1. Definitions.

The following words and terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise:

ADT—Average daily traffic—The total volume of traffic during a number of whole days—more than 1 day and less than 1 year—divided by the number of days in that period.

Active work zone—The portion of a work zone where construction, maintenance or utility workers are on the roadway or on the shoulder of the highway, and workers are adjacent to an active travel lane. Workers are not considered adjacent to an open travel lane if they are protected by a traffic barrier and no ingress or egress to the work zone exists through an opening in the traffic barrier.

Advisory speed—The recommended speed for vehicles operating on a section of highway based on the highway design, operating characteristics and conditions. When posted, the speed is displayed as a warning sign; that is, either a black-on-yellow or a black-on-orange sign.

Angle parking—Parking, other than parallel parking, which is designed and designated so that the longitudinal axis of the vehicle is not parallel with the edge of the roadway.

Assemblage—

(i) An organized gathering of people without vehicles, or with vehicles that are stationary, which encroaches onto a street or highway and interferes with the movement of pedestrian or vehicular traffic.

(ii) The term includes street fairs, block parties and other recreational events.

Bureau—The Bureau of Highway Safety and Traffic Engineering, which is the office of the Department responsible for traffic regulations and statewide policies regarding traffic-control devices.

City of the first and second class—A city so classified in accordance with section 1 the act of June 25, 1895 (P. L. 275, No. 188) (53 P. S. § 101), known as the City Classification Law.

Conventional highway—A highway other than an expressway or a freeway.

Corner sight distance—

(i) *Available corner sight distance*—The maximum measured distance along a crossing highway which a driver stopped at a side road or driveway along that highway can continuously see another vehicle approaching. For the purpose of measuring the available sight distance, the height of both the driver's eye and the approaching vehicle should be assumed to be 3.5 feet above the road surface. In addition, the driver's eye should be assumed to be 10 feet back from the near edge of the highway or the near edge of the closest travel lane if parking is permitted along the highway.

(ii) *Minimum corner sight distance*—The minimum required corner sight distance based on engineering and traffic studies, to ensure the safe operation of an intersection. The minimum value is a function of the speed of the approaching vehicles and the prevailing geometrics.

Crash—

(i) A collision involving one or more vehicles.

(ii) Unless the context clearly indicates otherwise, the term only includes those collisions that require a police report; that is, the collision involves one of the following:

(A) Injury to or death of any person.

(B) Damage to any vehicle involved to the extent that it cannot be driven under its own power in its customary manner without further damage or hazard to the vehicle, to other traffic elements, or to the roadway, and therefore requires towing.

Department—The Department of Transportation of the Commonwealth.

Delineator—A retroreflective device mounted on the road surface or at the side of the roadway in a series to indicate the alignment of the roadway, especially at night or in adverse weather.

Divided highway—A highway divided into two or more roadways and so constructed as to impede vehicular traffic between the roadways by providing an intervening space, physical barrier or clearly indicated dividing section.

85th percentile speed—The speed on a roadway at or below which 85% of the motor vehicles travel.

Engineering and traffic study—An orderly examination or analysis of physical features and traffic conditions on or along a highway, conducted in accordance with this chapter for the purpose of ascertaining the need or lack of need of specific traffic restrictions, and the application of traffic-control devices.

Expressway—A divided arterial highway for through traffic with partial control of access and generally with grade separations at major intersections.

Freeway—A limited access highway to which the only means of ingress and egress is by interchange ramps.

Grade—The up or down slope in the longitudinal direction of the highway, expressed in percent, which is the number of units of change in elevation per 100 units of horizontal distance. An upward slope is a positive grade; a downward slope is a negative grade.

Highway—

(i) The entire width between the boundary lines of every way publicly maintained when any part thereof is open to the use of the public for purposes of vehicular travel.

(ii) The term includes a roadway open to the use of the public for vehicular travel on grounds of a college or university, or public or private school, or public or historical park.

Local authorities—

(i) County, municipal and other local boards or bodies having authority to enact regulations relating to traffic.

(ii) The term includes airport authorities except when those authorities are within counties of the first class or counties of the second class.

(iii) The term also includes State agencies, boards and commissions other than the Department, and governing bodies of colleges, universities, public and private schools, public and historical parks.

MUTCD—The current edition of the Manual on Uniform Traffic Control Devices, as adopted by the Federal Highway Administration (FHWA), and available on the FHWA website.

Narrow bridge or underpass—A bridge, culvert or underpass with a two-way roadway clearance width of 16 to 18 feet, or any bridge, culvert or underpass having a roadway clearance less than the width of the approach travel lanes.

Night or nighttime—The time from 1/2 hour after sunset to 1/2 hour before sunrise.

Normal speed limit—The regulatory speed limit or the 85th percentile speed that existed before temporary traffic control was established, for example, prior to the beginning of a work zone.

Numbered traffic route—A highway that has been assigned an Interstate, United States or Pennsylvania route number, consisting of one, two, or three digits, sometimes with an additional designation such as business route, truck route or other similar designation.

Private parking lot—A privately owned parking lot open to the public for parking with or without restriction or charge.

Procession—

(i) An organized group of individuals, or individuals with vehicles, animals or objects, moving along a highway on the roadway, berm or shoulder in a manner that interferes with the normal movement of traffic.

(ii) The term includes walks, runs, parades and marches.

Retroreflective sheeting—

(1) Material which allows a large portion of the light coming from a point source to be returned directly back to a location near its origin, and is used to enhance the nighttime reflectivity of traffic control signs, delineators, barricades and other devices.

(ii) The term includes materials with nonexposed glass bead lens and microprismatic retroreflective sheeting.

Roadway—That portion of a highway improved, designed or ordinarily used for vehicular travel, exclusive of the sidewalk, berm or shoulder. If a highway includes two or more separate roadways, the term refers to each roadway separately but not to all roadways collectively.

Safe-running speed—The average speed for a portion of highway determined by making a minimum of five test runs while periodically recording the speed at different locations while driving at a speed which is reasonable and prudent, giving consideration to the available corner and stopping sight distance, spacing of intersections, roadside development and other conditions.

Sales Store—The Department facility that sells maps and publications.

School—A public, private or parochial facility for the education of students in grades kindergarten through 12.

School zone—A portion of a highway that at least partially abuts a school property or extends beyond the school property line that is used by students to walk to or from school or to or from a school bus pick-up or drop-off location at a school.

Secretary—The Secretary of the Department.

Special activity—

(i) An organized vehicle race, speed competition or contest, drag race or acceleration contest, test of physical endurance, exhibition of speed or acceleration, or any other type of event conducted for the purpose of making a speed record.

(ii) The term includes those races defined in 75 Pa.C.S. § 3367 (relating to racing on highways).

State-designated highway—A highway or bridge on the system of highways and bridges over which the Department has assumed or has been legislatively given jurisdiction.

Stopping sight distance—The length of highway over which a 2-foot high object on the roadway is continuously visible to the driver, with the driver's eye height assumed to be 3.5 feet above the road surface.

TTC—Temporary traffic control—An area of a highway where road user conditions are changed because of a work zone or incident by use of temporary traffic-control devices, flaggers, police officers or other authorized personnel.

TTC plan—A plan for maintaining traffic through or around a work zone.

Through highway—

(i) A highway or portion of a highway on which vehicular traffic is given preferential right-of-way, and at the entrances to which vehicular traffic from intersecting highways is required by law to yield the right-of-way in obedience to a Stop Sign (R1-1), Yield Sign (R1-2) or other traffic-control device when the signs or devices are erected as provided in this chapter.

(ii) The term includes all expressways and freeways.

Traffic calming—The combination of primarily physical measures taken to reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for nonmotorized street users. The primary objectives of traffic calming measures are to reduce speeding and to reduce the volume of cut-through traffic on neighborhood streets.

Traffic-control devices—Signs, signals, markings and devices consistent with this chapter placed or erected by authority of a public body or official having jurisdiction, for the purpose of regulating, warning or guiding traffic.

Traffic restriction—A restriction designated by a traffic-control device to regulate the speed, direction, movement, placement or kind of traffic using any highway.

Traffic signal—

(i) A power-operated traffic-control device other than a sign, warning light, flashing arrow panel or steady-burn electric lamp.

(ii) The term includes traffic-control signals, pedestrian signals, beacons, in-roadway warning lights, lane-use-control signals, movable bridge signals, emergency traffic signals, firehouse warning devices, ramp and highway metering signals and weigh station signals.

Travel lane—

(i) A lane of a highway which is used for travel by vehicles.

(ii) A lane in which parking is permitted during off-peak hours but is restricted for use as a travel lane during peak hours to obtain greater traffic movement.

Warrant—A description of the threshold conditions to be used in evaluating the potential safety and operational benefits of traffic-control devices based upon average or normal conditions.

Work zone—The area of a highway where construction, maintenance or utility work activities are being conducted, and in which traffic-control devices are required in accordance with this chapter.

§ 212.2. Adoption of Federal standards.

(a) *General provisions.* Consistent with the authority contained in 75 Pa.C.S. §§ 6103(c) and 6121 (relating to promulgation of rules and regulations by the Department; and uniform system of traffic-control devices), the Department hereby adopts the MUTCD, as published by the Federal Highway Administration. The MUTCD is adopted in its totality except where this chapter clearly indicates that it is not being adopted, or that additional warrants or criteria are being provided.

(b) *Modification of Federal statutes, regulations or provisions.* As provided in 75 Pa.C.S. § 6103(d), if the MUTCD is amended or modified by the Federal Highway Administration, the amendment will take effect on the effective date specified by the Federal Highway Administration unless the Department publishes a notice in the *Pennsylvania Bulletin* stating that the amendment or modification will not apply.

§ 212.3. Pennsylvania's Supplement to the MUTCD.

The Department will publish this chapter as a supplement to the MUTCD. This publication will be called *Official Traffic Control Devices* (Department Publication 212), and will include an appendix with additional guidance information, including the following:

(1) How to determine various elements associated with engineering and traffic studies.

(2) How to obtain crash rates for various types of roads.

(3) How to measure the various types of sight distance.

(4) Where National study data is located.

§ 212.4. Application.

(a) *General.* This chapter applies to the approval, location, installation, revision, operation, maintenance and removal of all traffic signs, signals, markings and other traffic-control devices on all streets and highways in this Commonwealth. All signs, signals, markings and other traffic-control devices erected shall conform to this chapter. Traffic restrictions, which were posted or erected prior to February 4, 2006, in accordance with any regulations in effect at that time, are not subject to this chapter.

(b) *New restrictions.* Except as noted in §§ 212.109 and 212.117 (relating to bridge speed limits; and weight, size and load restrictions), engineering and traffic studies can be performed by police officers, roadmasters, maintenance supervisors or traffic technicians. The establishment or revision of a traffic restriction may be warranted if one of the following applies:

(1) One or more of the engineering and traffic study warrants covered in this chapter justifies the traffic restriction.

(2) Sound engineering judgment based upon a combination of all data sources substantiates the need for the restriction.

(c) *Removal of an existing restriction.* The removal of an existing traffic restriction may be warranted if one of the following applies:

(1) A study indicates that none of the engineering and traffic study warrants covered in this chapter justify the existing traffic restriction.

(2) The condition that originally justified the restriction no longer exists.

(d) *Warrants no substitute for engineering judgment.* Warrants established under this chapter provide the threshold for consideration of the installation of a traffic-control device, but are not a substitute for engineering judgment. The fact that a warrant for a particular traffic-control device is met is not conclusive justification for the installation of the device.

(e) *Traffic-control during emergencies.* During National, State or local emergencies including floods, fires, hurricanes, tornadoes, earthquakes, terrorist events, sink holes and bridge collapses, the Department on State-designated highways and local authorities on highways under their

jurisdiction may suspend existing restrictions or effect temporary restrictions without an engineering and traffic study as provided in 75 Pa.C.S. §§ 6108 and 6109(a)(20) (relating to power of Governor during emergency; and specific powers of department and local authorities). These temporary restrictions expire at the end of the emergency.

(f) *Highway construction projects.* The standards in this chapter apply to all highway construction projects that do not have design field view approval before January 1, 2006, and all highway construction projects that have plans, specifications and estimate (PS&E) packages submitted to the Department's Bureau of Design on or after July 1, 2006. Highway construction projects that have design field view approval before January 1, 2006, and PS&E packages submitted to the Department's Bureau of Design before July 1, 2006, must comply with the standards applicable at the time of design. Those standards may be found in Department Publications 68, *Official Traffic Control Devices*, 1975 Edition, 201M, *Engineering and Traffic Studies*, dated December 1993, and 203M, *Work Zone Traffic Control*, dated September 24, 2002.

(g) *Highway occupancy permits and utility work.*

(1) The standards in this chapter are applicable to all utility work and work performed under a highway occupancy permit, except that work performed under a highway occupancy permit or utility work requiring a permit, with the permit issued before January 1, 2006, must comply with the standards applicable at the time the permit was issued. Those standards may be found in Department Publications 68, *Official Traffic Control Devices*, 1975 Edition, 201M, *Engineering and Traffic Studies*, dated December 1993, and 203M, *Work Zone Traffic Control*, dated September 24, 2002.

(2) The standards in this chapter apply to all utility work performed on or after January 1, 2006, using an emergency permit card under § 459.6 (relating to emergency work).

§ 212.5. Installation and maintenance responsibilities.

(a) *Authority to erect traffic-control devices.* The delegation of responsibilities for the installation and maintenance of traffic-control devices is in accordance with 75 Pa.C.S. §§ 6122 and 6124 (relating to authority to erect traffic-control devices; and erection of traffic-control devices at intersections).

(b) *Traffic-control devices on State-designated highways.*

(1) *Conventional highways.*

(i) Local authorities may not revise or remove any traffic-control device installed by the Department or by a contractor for the Department without written approval of the Department.

(ii) Cities of the first and second class are responsible for the installation, revision, removal, maintenance and operation of all traffic-control devices on the highways within their city boundaries. Department approval is not required, except as follows:

(A) As may be required in an agreement between the city and the Department.

(B) Department approval is required for traffic signals if the city does not have municipal traffic engineering certification in accordance with Chapter 205 (relating to municipal traffic engineering certification).

(iii) Local authorities other than cities of the first and second class shall obtain written Department approval before installing any new, or revising or removing any existing traffic-control device unless noted otherwise in this chapter or as provided in an agreement with the Department.

(iv) Local authorities may install, revise or remove the following devices, and Department approval is not required:

(A) Stopping, standing or parking signs (R7 and R8 Series).

(B) Street name signs (D3 Series).

(C) Crosswalk markings.

(D) Parking stall markings, except written Department approval is required prior to creating new angle parking.

(E) Curb markings.

(F) Parking meters.

(v) Local authorities, or other agencies as indicated, are responsible for installing, maintaining and operating the following traffic-control devices, subject to Department approval prior to any change in the traffic restriction:

(A) Traffic signals, and all associated signs and markings included on the Department-approved traffic signal plan.

(B) Speed Limit Signs (R2-1) for speed limits of 35 miles per hour or less. The Department will be responsible for all hazardous grade speed limits and bridge speed limits, and for all speed limits at Department rest areas, welcome centers and weigh stations.

(C) Stop lines and yield lines at intersections.

(D) Pedestrian group signs (R9 Series).

(E) Traffic signal group signs (R10 Series).

(F) Street Closed (____) to (____) Sign (R11-10).

(G) Snowmobile Road (____) Closed to All Other Vehicles Sign (R11-11).

(H) All Trucks Must Enter Weigh Station Sign (R13-1-1) and Weigh Station signs (D8 Series) for weigh stations not owned or operated by the Department.

(I) Railroad Crossbuck Sign (R15-1), Track Sign (R15-2), Emergency Notification Sign (I-13a), and other signs, gates, or lights that are within the railroad company's right-of-way, shall be installed by the railroad company.

(J) Signal Ahead Sign (W3-3).

(K) Entrance and crossing signs (W11 Series), which warn of possible crossings by pedestrians, hikers, cattle, farm equipment, ATVs, fire apparatus, and so forth, except the Deer Crossing Sign (W11-3), Elk Crossing Sign (W11-3A), Horsesdrawn Vehicle Sign (W11-11), Left Turns and Cross Traffic Sign (W11-21), Left Turns Sign (W11-21-1) and Watch for Turns Sign (W11-21-2) will be the responsibility of the Department.

(L) Children group signs (W15 Series).

(M) Parking Area Sign (D4-1).

(N) Telephone directional signs (D9-1 series), which shall be installed by the telephone company.

(O) Bicycle Route Sign (D11-1).

(P) Traffic Signal Speed Sign (I1-1).

(Q) Trail group signs (I4 Series).

(R) Snowmobile and all terrain vehicles group signs (I12 Series).

(S) School zone speed limits, and all school signs (S Series).

(T) Pavement markings for mid-block crosswalks.

(U) Pavement markings for bicycles such as the bicycle lane symbol.

(2) *Expressways and freeways.* Local authorities may not install, revise or remove traffic-control devices on an expressway or freeway or at an intersection with an expressway or freeway without written Department approval, unless noted otherwise in this chapter.

(c) *Traffic-control devices on local highways.* As provided in 75 Pa.C.S. § 6122, local authorities are responsible for the installation, revision, maintenance, operation and removal of any traffic-control device on highways under their jurisdictions, except local authorities shall obtain written Department approval for the following two items:

(1) Installing, revising or removing any school zone speed limit or traffic signal as indicated in 75 Pa.C.S. § 3365(b) (relating to special speed limitations) and § 6122(a)(2), respectively, except Department approval is not required for cities of the first and second class, and other local authorities that have municipal traffic engineering certification in accordance with Chapter 205.

(2) Revising or removing a traffic-control device installed in accordance with an agreement between the local authorities and the Department.

(d) *Traffic-control devices on local highway approaches to intersections with State-designated highways.*

(1) The Department is responsible for approving the traffic control at intersections of local highways and State-designated highways, including the local highway approaches.

(2) At new intersections, the permittee is responsible for installing traffic-control devices on local highway approaches as required by an approved highway occupancy permit issued in accordance with Chapter 441 (relating to access to and occupancy of highways by driveways and local roads).

(3) At existing intersections, local authorities or permittees are responsible to install, remove and maintain traffic-control devices as required to control traffic on the local highway approaches, including replacement or repair of missing, damaged, blocked or outdated devices in need of upgrade.

(i) Traffic-control devices to be maintained on local roadways include the following, as applicable:

(A) Stop Signs (R1-1) and Yield Signs (R1-2).

(B) Stop lines and yield lines.

(C) No Right Turn Signs (R3-1), No Left Turn Signs (R3-2), No Turns Signs (R3-3), Left Turn Signs (R3-5), Left Lane Must Turn Left Signs (R3-7L), One-Way Signs (R6 Series) and other similar type traffic restriction, prohibitions or lane control signs.

(ii) Local authorities or permittees shall obtain written Department approval before implementing any revised traffic-control scheme at the intersection.

(4) The Department may take appropriate action if it deems it necessary to carry out the maintenance responsibility of a local authority or permittee because of failure or inability to act in a timely manner.

(5) Local authorities are responsible to determine the need for any Stop Ahead Signs (W3-1) and Yield Ahead Signs (W3-2) on local highway approaches to State-designated highways, and for installing and maintaining any warranted signs.

(e) *Police authority.* Police officers may install temporary traffic-control devices on any highway without approval from the Department or the local authorities. These traffic-control devices may be used to close highways during emergencies, to weigh or inspect vehicles, to establish sobriety checkpoints or to conduct other enforcement programs or activities.

§ 212.6. Removal of traffic hazards.

(a) *Interfering signs, lights or markings.* The Secretary and local authorities, under their respective jurisdictions, have the authority to cause the removal of all colored or flashing lighted signs or other lights, signs or markings so located as to interfere with traffic or to be confused with or to obstruct the view or effectiveness of traffic-control devices.

(b) *Trees, plants, shrubs or other obstructions.* The Department on State-designated highways, and local authorities on any highway within their boundaries, may require a property owner to remove or trim a tree, plant, shrub or other obstruction or part thereof which constitutes a traffic hazard. The following are examples of traffic hazards:

(1) The obstruction restricts the stopping sight distance for drivers of through vehicles or the available corner sight distance for drivers entering from side roads or driveways to distances less than the appropriate minimum stopping sight distance or minimum corner sight distance values.

(2) The obstruction critically restricts the sight distance to a traffic-control device.

(3) Vehicle crash records indicate that a crash has involved the obstruction or that the obstruction contributed to one or more of the vehicle crashes.

§ 212.7. Signs and banners across or within the legal limits of a State-designated highway.

(a) *Prohibition.* It is unlawful to place any sign, marking or banner containing advertising matter of any kind on, across or within the right-of-way of any State-designated highway without the written consent of the Department.

(b) *Abatement.* A sign, marking or banner containing advertising matter placed without the written consent of the Department will be declared to be a public nuisance and may be removed by the Department with or without notice to the persons responsible for the placing of the sign, marking or banner containing advertising matter.

§ 212.8. Use, test, approval and sale of traffic-control devices.

(a) *Statutory requirements.* Under 75 Pa.C.S. § 6127 (relating to dealing in nonconforming traffic-control devices), it is unlawful for a person to manufacture, sell, offer for sale or lease for use on the highway, any traffic-control device unless it has been approved and is in accordance with this title.

(b) *Devices requiring Department approval.* Department approval is required prior to the sale or use of the following types of traffic-control devices on any highway:

(1) Delineation devices, including flexible delineator posts, guide rail and barrier-mounted delineators and raised pavement markers.

(2) Pavement marking materials including paint, epoxy, polyesters, methyl methacrylate, thermoplastic, preformed tapes and glass beads.

(3) Retroreflective sheeting materials used for traffic-control devices.

(4) Traffic signal equipment, including the following:

- (i) Controller units.
- (ii) Signal heads—lane-use traffic-control, pedestrian, and vehicle.
- (iii) Detectors—pedestrian and vehicle.
- (iv) Load switches.
- (v) Flasher units.
- (vi) Time clocks.
- (vii) Relays.
- (viii) Preemption and priority control equipment.

(ix) Electrically-powered signs—variable speed limit signs, blank-out signs and internally illuminated signs, including School Speed Limit Signs.

- (x) Portable traffic-control signals.
- (xi) Local intersection coordinating units.
- (xii) Dimming devices.
- (xiii) In-roadway warning lights.
- (xiv) Auxiliary devices and systems.

(5) Traffic signs and the associated breakaway sign supports.

(6) Work zone traffic-control devices, including the following:

- (i) Arrow panels.
- (ii) Barricades.
- (iii) Citizen band traffic alert radios.
- (iv) Cones.
- (v) Crash cushions.
- (vi) Drums.
- (vii) Portable changeable message signs.
- (viii) Portable traffic sign supports.
- (ix) Speed display signs, as used to inform motorists of the speed of their vehicles.
- (x) Stop/slow paddles.
- (xi) Temporary pavement marking tapes.
- (xii) Temporary traffic barrier.
- (xiii) Tubular markers.
- (xiv) Variable speed limit signs.
- (xv) Vertical panels.
- (xvi) Warning lights.

(7) Yield to pedestrian channelizing devices, which are designed for placement between lanes of traffic to remind motorists to yield to pedestrians in crosswalks.

(c) *Approval procedure.* A manufacturer or person desiring approval for the sale, use or lease of one or more of the devices listed in subsection (b) shall contact the Bureau of Highway Safety and Traffic Engineering.

(d) *Listing of approved traffic-control devices.* Approved traffic-control devices will be listed in the Department's *Approved Construction Materials* (Department Publication

35), available from the Department's Sales Store or through the Department's website.

§ 212.9. Traffic calming.

(a) *General policy.* The Department on State-designated highways, and local authorities on any highway within their boundaries, may implement traffic calming measures in conformance with *Pennsylvania's Traffic Calming Handbook* (Department Publication 383).

(b) *Department approval.* Local authorities shall obtain approval of the Department prior to implementing a traffic calming measure on a State-designated highway, except when the Department's handbook provides otherwise or when the Department has entered into an agreement with local authorities that provides otherwise.

§ 212.10. Requests for changes, interpretations or permission to experiment.

A local authority may submit a request to the Department for a change or an interpretation of the provisions of this chapter, or for approval to use an alternate device or to experiment with a device in a way not provided for in this chapter.

(1) The request must be submitted in writing to the Bureau of Highway Safety and Traffic Engineering.

(2) The request must include information in accordance with Section 1A.10 of the MUTCD (relating to interpretations, experimentation, changes and interim approvals). If appropriate, the Department will forward the request to the Federal Highway Administration according to procedures in Section 1A.10 of the MUTCD.

(3) The type of information to be compiled during any experiment must be identified in the request, and the collection of any data and the development of any follow-up report will be a conditional part of the request.

§ 212.11. Metric measurements.

(a) *General policy.* The following conversion factors may be used for the design and placement of traffic-control devices as included in this chapter:

- (1) One inch equals 25 millimeters.
- (2) One foot equals 0.30 meter.
- (3) One mile equals 1.6 kilometers.

(b) *Metric sign messages.* Unless authorized in writing by the Secretary, sign messages on regulatory, warning and guide signs, except for auxiliary signs used for educational purposes, may not display metric units of measurement.

§ 212.12. Department publications.

The Department will publish or make available documents to assist those persons responsible for conducting engineering and traffic studies; manufacturing traffic signs and other traffic-control devices; erecting, maintaining and operating traffic-control devices; and maintaining traffic in work zones. The following documents will be available from the Department's Sales Store:

(1) *Approved Construction Materials* (Department Publication 35) which contains listings of approved suppliers of specific materials.

(2) *Official Traffic-Control Devices* (Department Publication 212) which contains this chapter, and an appendix containing additional guidance related to elements of appropriate engineering and traffic studies and the provisions of this chapter.

(3) *Pennsylvania Handbook of Approved Signs* (Department Publication 236M) which contains the design and application details of official traffic signs.

(4) *Signing and Marking Standard* (Department Publication 111M) which contains the traffic standards that provide detailed guidance for sign legends, expressway and freeway signs, sign spacing and location criteria and sign posts. The publication also includes detailed drawings of pavement marking lines and symbols, and the placement of delineation devices at on-ramps, off-ramps and lane drops.

(5) *Traffic Signal Design Handbook* (Department Publication 149M) which contains information for use in the design and operation of a traffic signal installation.

(6) *Traffic Signal Standard Drawings, TC-8800 Series* (Department Publication 148M) which contains detailed guidance for the construction of traffic signals, controller assemblies, traffic signal supports, electrical distribution, signal heads and detectors.

(7) *Work Zone Traffic Control Guidelines* (Department Publication 213) which provides additional guidance and suggested temporary traffic-control plans for maintaining traffic through highway construction, maintenance and utility work zones to supplement various situations not included in the MUTCD.

Subchapter B. SIGNS

Sec.

- 212.101. Official signs.
- 212.102. Sign manufacturers.
- 212.103. Sign size.
- 212.104. Retroreflectorization.
- 212.105. Sign posts and mountings.
- 212.106. Additional warrants for Stop Signs (R1-1) and Yield Signs (R1-2).
- 212.107. Except Right Turn Sign (R1-1-1).
- 212.108. Speed limits.
- 212.109. Bridge speed limits.
- 212.110. Hazardous grade speed limits.
- 212.111. Turn restriction warrants.
- 212.112. Signs to prohibit passing.
- 212.113. One-way streets.
- 212.114. Stopping, standing and parking restrictions.
- 212.115. Posting of private parking lots.
- 212.116. No Turn on Red Sign (R10-11 sign series).
- 212.117. Weight, size and load restrictions.
- 212.118. Street name signs.
- 212.119. Signing of named highways.
- 212.120. General motorist service signs.
- 212.121. Specific service signs.
- 212.122. Recreational and cultural interest area signs.
- 212.123. Tourist-oriented directional signs.

§ 212.101. Official signs.

(a) *Approved signs.* Official traffic signs are identified in the *Pennsylvania Handbook of Approved Signs* (Department Publication 236M) which includes sign standards that show the shape, color, dimensions, legends, application and placement of official signs. When sign messages are required other than those provided for in the *Pennsylvania Handbook of Approved Signs*, the Bureau of Highway Safety and Traffic Engineering may authorize new sign standards. When approved by the Secretary, through the Chief, Traffic Engineering and Operations Division, these signs shall also be regarded as official signs.

(b) *Existing nonstandard signs.* Official signs must replace existing signs of nonstandard design or application as rapidly as is economically feasible.

(c) *Unacceptable variations.* Variations in the proportion of symbols, stroke width and height of letters, width of borders or layout of word or symbol messages will be sufficient cause for the Secretary to order the removal or

replacement of a sign, but will not be a defense in prosecution for violation of any mandatory traffic control provided by the sign.

§ 212.102. Sign manufacturers.

Only signs manufactured by the Department or a Department-approved sign manufacturer shall be used on any highway. Commercial or municipal sign manufacturers who wish to obtain Department approval to manufacture signs shall request an application from the Bureau of Highway Safety and Traffic Engineering.

§ 212.103. Sign size.

Signs smaller than the minimum size or larger than the largest size specified on the sign standards in the *Pennsylvania Handbook of Approved Signs* (Department Publication 236M) are not permitted without written approval from the Department.

§ 212.104. Retroreflectorization.

Retroreflective sheeting or other approved retroreflective materials must be used on all signs that do not have sign illumination, unless the sign standard as included in the *Pennsylvania Handbook of Approved Signs* (Department Publication 236M) indicates that the sign does not need to be retroreflective. Type III or higher type retroreflective sheeting is encouraged to improve nighttime visibility of signs, especially for older drivers.

§ 212.105. Sign posts and mountings.

Unless physically protected by guide rail or a barrier, or installed beyond the clear zone as defined in the Department's *Design Manual, Part 2 (Department Publication 13M)*, all sign posts must be of a Department-approved breakaway design as listed in the *Approved Construction Materials* (Department Publication 35), and in accordance with the *Signing and Marking Standards* (Department Publication 111M).

§ 212.106. Additional warrants for Stop Signs (R1-1) and Yield Signs (R1-2).

(a) *Through highways.* The Department and local authorities may designate highways as through highways to permit more continuous movement and less delay to the major flow of traffic.

(1) Stop Signs (R1-1) or Yield Signs (R1-2) may be installed at all approaches to the through highway to provide preferential right-of-way at intersections.

(2) The designation of a highway as a through highway does not prevent modification of the right-of-way assignment at intersections of the through highway.

(3) The justification for the modification at a particular intersection will be based on the warrants in the MUTCD and the additional warrants in subsection (b), (c) or (d).

(b) *Stop Signs (R1-1) at intersections.* In addition to the warrants for stop signs in the MUTCD (relating to stop sign applications), a Stop Sign (R1-1) may be installed on a channelized right-turn roadway at a signalized intersection where the traffic-control signals are not readily visible, and the right-turn roadway does not have separate signals, and a Yield Sign (R1-2) is not appropriate.

(c) *Multway stop applications.* In addition to the criteria and options warranting multway stop applications in the MUTCD, the following apply:

(1) The five or more reported crashes in a 12-month period for Warrant B may include both reportable crashes, and nonreportable crashes that are documented

in the police files, that occurred during a 12-month period during the most recent 3 years of available crash data.

(2) Multiway stop applications may not be used because of limited available corner sight distance unless there is no practical method of improving the sight distance or reducing the speed limit to satisfy the minimum corner sight distance values.

(d) *Stop and yield control at locations other than intersections.*

(1) *One-lane bridges and underpasses.* Stop Signs (R1-1) are warranted in advance of a one-lane bridge or underpass when roadway geometry is such that drivers cannot see an approaching vehicle in sufficient time for both vehicles to stop prior to entering the bridge or underpass. If sight distance is not a problem, a Yield Sign (R1-2) with the supplemental To Oncoming Traffic Sign (R1-2a) may be installed at both ends of a one-lane bridge or underpass.

(2) *Crossings.* Stop Signs (R1-1) may be installed on highways on a temporary basis at officially designated crossings such as construction haul roads. These Stop Signs (R1-1) should only be visible and in effect during the time periods the crossing is being used and should be supplemented with a flashing red light for added visibility.

(3) *Private roads and driveways.* Stop Signs (R1-1) or Yield Signs (R1-2) may be installed to control traffic exiting from a private road or driveway onto a highway or to control traffic on the highway at a private road or driveway if the warrants applied at highway intersections are satisfied.

(4) *Truck pulloffs on hazardous grades.* A Stop Sign (R1-1) may be installed within an officially designated truck pull-off area in advance of a hazardous grade indicating the location that trucks are to stop within the pulloff.

(5) *Temporary traffic control.* Stop Signs (R1-1) may be installed at both ends of short one-lane construction, maintenance or utility operation to provide self-regulating traffic control providing the one-lane section excluding the tapers is less than 250 feet, the ADT is less than 1,500, and the sight distance is sufficient.

§ 212.107. Except Right Turn Sign (R1-1-1).

When a major traffic movement at an intersection is a right turn, the Except Right Turn Sign (R1-1-1) may be placed below the Stop Sign (R1-1) on that approach to minimize the total delay at the intersection. When this sign is used, Stop Signs (R1-1) are required on all other intersection approaches except for the approach with a corresponding left-turn movement.

§ 212.108. Speed limits.

(a) *General.* This section applies to maximum speed limits established according to 75 Pa.C.S. §§ 3362 and 3363 (relating to maximum speed limits; and alteration of maximum limits). Engineering and traffic studies are not required for statutory speed limits, but documentation should be on file for urban districts and residence districts to show that the requirements defined in the Vehicle Code are satisfied.

(b) *Engineering and traffic studies.* Speed limits established in accordance with 75 Pa.C.S. § 3363 may be established in multiples of 5 miles per hour up to the maximum lawful speed. The speed limit should be within 5 miles per hour of the average 85th percentile speed or the safe-running speed on the section of highway, except

the speed limit may be reduced up to 10 miles per hour below either of these values if one or more of the following conditions are satisfied:

(1) A major portion of the highway has insufficient stopping sight distance if traveling at the 85th percentile speed or the safe-running speed.

(2) The available corner sight distance on side roads is less than the necessary stopping sight distance values for through vehicles.

(3) The majority of crashes are related to excessive speed and the crash rate during a minimum 12-month period is greater than the applicable rate in the most recent high-crash rate or high-crash severity rate table included in the appendix of Official Traffic-Control Devices (Department Publication 212). Crashes related to excessive speed include those crashes with causation factors of driving too fast for conditions, turning without clearance or failing to yield right-of-way.

(c) *Variable speed limits.* To improve safety, speed limits may be changed as a function of traffic speeds or densities, weather or roadway conditions or other factors.

(d) *Special speed limits.*

(1) Within a rest area or welcome center, a 25 mile per hour speed limit may be established without the need for an engineering and traffic study if pedestrians walk across the access roadways between the parking lot and the rest facilities.

(2) Within a toll plaza or a truck weight station, an appropriate speed limit may be established without an engineering and traffic study by the authorities in charge to enforce the safety of the operations or to protect the scales.

(e) *Posting of speed limits.* A Speed Limit Sign (R2-1) or variable speed limit sign showing the maximum speed limit shall be placed on the right side of the highway at the beginning of each numerical change in the speed limit, but an additional sign may also be installed on the left side of the highway. If the new speed limit begins at an intersection, the first sign should be installed within 200 feet beyond the intersection. The placement of this sign must satisfy both the requirement to post the beginning of the new speed limit and the requirement to post the end of the previous speed limit. Additional requirements for posting are as follows:

(1) Speed limits of 50 miles per hour or less shall be posted as follows:

(i) A Reduced Speed (____) Ahead Sign (R2-5), or a Speed Reduction Sign (W3-5), shall be placed on the right side of the highway 500 to 1,000 feet before the beginning of every speed reduction unless one of the following applies:

(A) The speed reduction is 10 miles per hour or less.

(B) The speed reduction begins at an intersection and all traffic entering the roadway with the speed reduction has to either stop at a Stop Sign (R1-1) or make a turn.

(C) The new speed limit is posted on variable speed limit signs.

(ii) Speed Limit Signs (R2-1) or a variable speed limit sign showing the maximum speed shall be placed on the right side of the highway at the beginning of the speed limit and at intervals not greater than 1/2 mile throughout the area with the speed limit.

(iii) The end of a speed limit is typically identified by the placement of a sign indicating a new speed limit, but

the End Plaque (R2-10) may be placed above a Speed Limit Sign (R2-1) at the end of the zone if the appropriate speed limit is not known on the following section of roadway.

(2) On freeways, a Speed Limit Sign (R2-1) shall be installed after each interchange unless insufficient space exists for the signs.

§ 212.109. Bridge speed limits.

(a) *Establishment.* A bridge speed limit shall be established under 75 Pa.C.S. § 3365(a) (relating to special speed limitations) if an engineering investigation by a professional engineer establishes the need to reduce the vibration and impact of vehicles due to a structural condition of the bridge or elevated structure.

(b) *Posting.* An established bridge speed limit shall be posted similar to other speed limits in § 212.108(e) (relating to speed limits), except that a Bridge Sign (R12-1-2) must be mounted directly above each Speed Limit Sign (R2-1) and Reduced Speed (____) Ahead Sign (R2-5). The sign indicating the beginning of the bridge speed limit should be installed within 50 feet of the beginning of the structure. The end of the bridge or elevated structure must be the end of the bridge speed limit.

§ 212.110. Hazardous grade speed limits.

(a) *Establishment.* A hazardous grade speed limit may be established under 75 Pa.C.S. § 3365(c) (relating to special speed limitations) if an engineering and traffic study establishes the need for all vehicles or vehicles having a gross weight in excess of a designated weight to be limited to a maximum speed on a downgrade.

(1) The designated weight should be 26,000 pounds unless the engineering and traffic study determines that a different weight should be used.

(2) When a hazardous-grade speed limit is established, it should be consistent with the speed that similar vehicles can climb the hill or other Department-approved methodology, except that a hazardous-grade speed limit should not be greater than the lowest advisory speed or legal speed limit either on the hill or at the base of the hill.

(3) A hazardous-grade speed limit may be established when one or more of the following conditions exist:

(i) The length of grade exceeds the value set forth in the following table:

Average Grade (percent)	Length of Grade (feet)	
	Condition A*	Condition B**
-3	20,000	—
-4	8,000	16,000
-5	5,000	10,000
-6	3,000	6,000
-7	2,000	4,000
-8	1,800	3,600
-10	1,500	3,000
-12	1,250	2,500
-15	1,000	2,000

* Condition A applies if vehicles are required to stop or reduce speed at or before the bottom of the hill or if there is an urbanized area at the base of the hill.

** Condition B pertains to all other locations.

(ii) A crash has occurred on the downgrade that can be attributed to the speed of a vehicle having a gross weight in excess of the designated weight.

(iii) A verified report has been received during the past 3 years of an operator losing control of a vehicle on the grade, and the vehicle is a type having a gross weight in excess of the designated weight.

(b) *Posting.* A hazardous grade speed limit shall be posted with traffic-control devices as follows:

(1) A Reduced Speed (____) Ahead Sign (R2-5), advising of the maximum hazardous grade speed limit, with a Truck Marker (M4-4), or other marker as applicable, mounted directly above the Reduced Speed (____) Ahead Sign (R2-5), shall be placed on the right side of the highway at a distance of 500 to 1,000 feet before the hazardous grade speed limit, except that this advance sign is not required if the hazardous grade speed limit begins at a vehicle pull-off where all applicable vehicles are required to stop.

(2) A Trucks Over (____) Lbs. Speed Sign (R2-2-1), or other sign as applicable, shall be erected at the beginning of the hazardous grade speed zone and at intervals not greater than 1/4 mile throughout the zone.

(3) A Trucks Over (____) Lbs. Speed Sign (R2-2-1), or other sign as applicable, with an End Sign (R2-10) mounted above the Trucks Over (____) Lbs. Speed Sign (R2-2-1) or other sign, shall be installed at the end of the hazardous grade speed limit.

§ 212.111. Turn restriction warrants.

A straight-through or turning movement may be restricted if the movement can be made at an alternate location, and if one or more of the following conditions are present:

(1) A review of vehicle crashes shows that ten crashes have occurred during the previous 3 years, or five crashes have occurred during any 12-month period in the previous 3 years that can be attributed to vehicles making or attempting to make the movement.

(2) When a capacity analysis or field review of the intersection indicates that turning or crossing vehicles are causing unreasonable delays or creating a potential crash situation for through vehicles.

(3) When a field review of the intersection indicates that significant conflicts occur between vehicles making or attempting to make a particular movement and other vehicular or pedestrian movements.

(4) When a field review of the intersection indicates that a turn or straight-through movement delays the platoon of vehicles through a progressive signal system.

(5) When a field review of the intersection indicates that the geometric design or the available corner sight distance does not adequately provide for the movement or the movement frequently cannot be safely executed.

(6) A study shows that the turning movement is frequently being made by through traffic onto a residential street to avoid downstream congestion.

§ 212.112. Signs to prohibit passing.

The No Passing Zone Pennant (W14-3) is the primary sign to identify the beginning of a no-passing zone on a two-lane highway and shall be installed on the left side of the road. The Do Not Pass Sign (R4-1) may be installed on the right side of the roadway to supplement the No Passing Zone Pennant Sign (W14-3). The Pass With Care Sign (R4-2) may be installed at the end of the no-passing zone. Warrants for no-passing zones are included in § 212.202 (relating to no-passing zones).

§ 212.113. One-way streets.

A one-way street may be established if the following conditions are satisfied:

- (1) The traffic flow can be accommodated in both directions. Whenever possible, an adjacent parallel street should be used to form a one-way couplet.
- (2) The street has a reasonable number of intersections for entrance to or exit from the one-way street or one-way system.
- (3) The roadways at the terminal points of the one-way street provide satisfactory transitions to and from the two-way operation.
- (4) There will be a reduction of intersection delays.
- (5) Existing bus routes can be satisfactorily accommodated.
- (6) Emergency vehicles can reasonably and expeditiously reach their destinations.

§ 212.114. Stopping, standing and parking restrictions.

(a) *General.* Stopping, standing or parking may be restricted along the curb or edge of a roadway when one or more of the following conditions exist:

- (1) The distance between the center of the center line pavement markings (or the center of the roadway if center line pavement markings are not present) and the curb or edge of roadway is less than 19 feet on major arterial highways, or less than 18 feet on other roadways.
- (2) The street width is such that, if vehicles are parked along one or both curb faces or edges of the roadway, two vehicles cannot move abreast of one another in the same or the opposite direction without one yielding to allow the other vehicle to pass.
- (3) A capacity analysis indicates that parking should be removed at all times or during certain hours to accommodate the traffic volume.
- (4) At an intersection, the available corner sight distance for a driver on the minor road is less than the

necessary minimum stopping sight distance value for the driver on a through roadway.

(5) An analysis of vehicle crashes indicates that at least three crashes during the previous 3-year period have been directly or indirectly attributed to one of the following primary causes:

- (i) Vehicles parking on the roadway.
 - (ii) Vehicles entering or leaving the parked position.
 - (iii) Drivers or passengers getting out of parked vehicles on the street side.
 - (iv) Reduced sight distance due to the parked vehicles.
- (6) The area is designated as an official bus stop or as a loading and unloading zone.
- (7) The area is adjacent to or opposite of a fire station driveway or any other type driveway or intersection where turning maneuvers would be restricted if parking were present.

(8) The width of the shoulder is not sufficient to allow a vehicle or its load to park completely off the roadway.

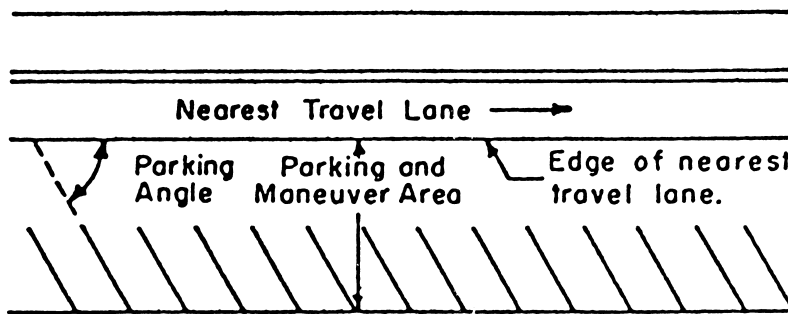
(9) Along roadways having three or more lanes and speed limits of 40 miles per hour or above, parking may be restricted to allow vehicles to use the berm or shoulder as a clear recovery area.

(b) *Angle parking.* As defined in § 212.1 (relating to definitions), angle parking will only be authorized as follows:

(1) New angle parking may be established only along streets where the following criteria are satisfied:

(i) The parking and maneuver area, as shown in the diagram which follows, adjacent to the near edge of the nearest travel lane equals or exceeds the distance indicated in the following table:

Parking Angle (degrees)	Parking and Maneuver Area (feet)
30	26
45	30
60	37
90	43



- (ii) Parked vehicles do not adversely affect the available corner sight distance.
- (iii) Additional travel lanes are not required for the existing traffic volumes to achieve a satisfactory level of operation.
- (iv) Parking stalls will be adequately marked and spaced.
- (v) Pedestrian activity is minimal within the parking maneuver area.

(2) It is recommended that existing angle parking be eliminated if an analysis of vehicle crashes indicates that the parking-related crash rate within the area of existing angle parking is greater than the rate on similar portions of the same street or other streets within the same municipality which have parallel parking.

(c) *Parking meters.* When parking is permitted, local authorities may install parking meters and appropriate pavement markings to designate parking stalls. The

hours of effectiveness of parking meters must be indicated either on the meter or within the dome of the meter, but official traffic signs shall be erected to indicate hours when parking is prohibited.

(d) *Prohibition of kinds and classes.* When parking is permitted, local authorities or the Department may prohibit certain kinds and classes of vehicles from parking for safety, capacity or environmental reasons. Official signs must indicate the prohibitions.

(e) *Parking reserved for persons with disabilities.* The Reserved Parking Penalties Sign (R7-8f) shall be installed below all Reserved Parking Signs (R7-8), as provided in 75 Pa.C.S. § 3354(d) (relating to handicapped persons and disabled veterans).

(f) *Miscellaneous restrictions.*

(1) Local authorities or the Department may restrict or regulate parking without an engineering and traffic study to accomplish the following:

- (i) Facilitate construction, maintenance or utility operations.
- (ii) Eliminate long-term parking or parking in excess of a specified time limit.
- (iii) Provide for reserved parking spaces.
- (iv) Provide for snow emergency routes.
- (v) Provide for mail delivery or pickup.

(2) Restrictions for the elimination of long-term parking must apply only during short periods of time such as early morning hours when it will not seriously inconvenience local residents.

(g) *Double parking.* When parking is permitted, local authorities may, by local ordinance without an engineering and traffic study, authorize double parking (standing or parking on the roadway side of a vehicle stopped or parked at the edge or curb of a roadway) for the purpose of loading or unloading persons or property. On State-designated highways, double parking is not permitted without written approval of the Department.

(h) *Authority.* Local authorities may establish, revise or remove stopping, standing or parking restrictions on State-designated highways within their physical boundaries, except Department approval is required prior to revising or removing any of the following:

- (1) Established in conjunction with a State or Federal aid project.
- (2) Requested or posted by the Department for safety or capacity reasons.
- (3) Included as a condition on a traffic signal permit.

§ 212.115. Posting of private parking lots.

(a) *General.* Posting of private property, including parking lots, giving notice to the public of parking restrictions as required by 75 Pa.C.S. §§ 3353(b)(2) and 3354(d)(3) (relating to prohibition in specified places; and additional parking regulations) must be in accordance with this section.

(b) *Public notice signs.*

(1) The legend on public notice signs at private parking lots must indicate the restrictions which apply. In addition to a primary restriction such as those contained in subparagraph (i), the sign may contain one or more supplemental restrictions or messages of the type included in subparagraph (ii).

(i) Primary restrictions include messages such as private parking, parking by permit only, authorized parking only, private parking for (____) apartment and parking only for patrons of (____).

(ii) Secondary restrictions or messages may include applicable hours of the day, applicable days of the week, applicable charges and warnings that unauthorized vehicles may be towed.

(iii) The name and telephone number of the owner or other person in control or possession of the property should also be included on the legend.

(2) Public notice signs should be erected at each entrance to the private parking lot and positioned so as to face traffic entering the lot. If there are no designated entrances—such as when a lot has one or more sides continuously open to a roadway—one or more signs should be erected so as to be readily visible to an ordinarily observant driver. Minimum message size shall be as follows:

(i) A primary restriction as defined in paragraph (1)(i) must have a minimum letter height of 3 inches. Signs erected at a distance of more than 75 feet from an entrance point must have letter height which is at least one additional inch in high for each 25-foot interval in the distance. The stroke width of the legend must be a minimum of 1/8 of the required height of the legend.

(ii) A secondary restriction as defined in paragraph (1)(ii) must have minimum dimensions equal to one-half of the minimum dimensions required for the primary restriction, except the letter height must be at least 2 inches.

(3) Signs which have application during hours of darkness must have a retroreflectorized sign message or background and be positioned so as to be illuminated by the headlight beams of entering vehicles, or the sign may be illuminated during applicable hours of darkness so as to be readily visible to an ordinarily observant driver.

(4) Under 75 Pa.C.S. § 3353(b), the prosecution of an owner or towing a vehicle from a private parking lot is prohibited unless restrictions are posted in accordance with this subsection.

(c) *Reserved parking signs or markings.*

(1) Special signs may be used to reserve designated parking stalls for named persons or classes of people, for particular vehicles, or for persons with special placards or assigned permit numbers. When used, these signs may be erected at the front of each parking stall or, in the case of parallel parking, at intervals not exceeding 100 feet along the side of the stalls. The minimum size sign must be 12 inches by 12 inches, and the minimum size message must be 2 inches in height.

(2) In lieu of signs to designate parking stalls as noted in subsection (a), pavement markings may be used on the pavement or an applicable curb for this purpose if:

(i) The public notice sign indicates that a permit is required.

(ii) The markings are readily visible to an ordinarily observant driver.

(3) The Reserved Parking Sign (R7-8) shall be used to designate reserved parking stalls for handicapped persons or severely disabled veterans. The Reserved Parking Penalties Sign (R7-8f), which indicates the minimum and maximum fine for violators and that violators may be towed, shall be installed below the Reserved Parking Sign (R7-8).

(4) Parking stalls designated under paragraph (3) for handicapped persons or severely disabled veterans may only be used by vehicles bearing a handicapped person or severely disabled veteran registration plate or displaying a handicapped person or severely disabled veteran parking placard issued by the Commonwealth or another state.

(5) Whenever signs required to implement the provisions of paragraph (3) become either obsolete or missing, they must be replaced with new official signs as rapidly as is feasible. The costs associated with the installation and replacement of the required signs for a particular location must be borne by the owner or person in control or possession of the property on which the signs are to be erected.

§ 212.116. No Turn on Red Sign (R10-11 sign series).

(a) *Warrants for no-turn-on-red restrictions.* The following warrants may be used in addition to the warrants for no-turn on red restrictions in the MUTCD (relating to traffic signal signs).

(1) A right turn on red, or left turn on red from a one-way highway to another one-way highway, may be prohibited from an intersection approach where an engineering and traffic study indicates that one or more of the following conditions exist:

(i) The available corner sight distance between a driver desiring to turn on red and an approaching vehicle on the cross street is less than the minimum shown on the following table:

Speed Limit or 85th Percentile Speed	Minimum Sight Distance to Approaching Vehicle*						
	Std. Values	Cross Street Approach Grade					
		-9%	-6%	-3%	3%	6%	9%
25	152	173	165	158	147	143	140
30	197	227	215	205	200	184	179
35	247	287	271	257	237	229	222
40	301	354	333	315	289	278	269
45	360	427	400	378	344	331	320
50	424	507	474	446	405	388	375
55	493	593	553	520	469	450	433

* Measure sight distance from a location 10 feet before a marked pedestrian cross walk or, if none, 10 feet from the edge of the cross street roadway or curb line, where both the eye and the approaching vehicle are 3.5 feet high.

(ii) The intersection has more than four approaches or has restrictive geometry that is likely to cause vehicular conflicts which are not easily recognized by drivers.

(iii) The turning movement is allowed from more than one lane on a specific approach.

(iv) The vehicular turning movement would result in significant vehicular and pedestrian conflicts, such as locations where the crosswalk is designated as a school crossing or is used by large numbers of children, senior citizens or persons with physical disabilities. A no-turn-on-red restriction at these locations may only apply during the time periods that significant vehicular-pedestrian conflicts would occur, in accordance with paragraph (3).

(v) Opposing traffic has unusual movements, such as double left turns, which would not be expected by drivers turning on a red signal.

(vi) An analysis of vehicle crash data indicates that the turn-on-red movement has created an unsafe condition.

(2) Part-time or intermittent prohibition of the turn-on-red movement must be used at locations where a potential safety concern exists for only a portion of the day. These restrictions must be implemented by the use of one or more of the following:

(i) A Restricted Hours Panel (R10-20A) under the No Turn On Red Sign.

(ii) A supplemental message incorporated directly into the No Turn On Red Sign.

(iii) A sign designating the hours the restriction is effective.

(iv) A blank-out No-Turn-On-Red Sign.

(3) A part-time or intermittent prohibition of the turn-on-red movement may be used at an intersection approach where vehicles turning on red would cross an at-grade railroad crossing within 200 feet and the traffic signal controller is preempted during train movements during the time the signal controller is preempted in accordance with paragraph (2).

(b) *Application.* This section applies to signalized roadway and driveway intersections along all highways.

(c) *Engineering and traffic studies.* Engineering and traffic studies required by subsection (a)(1) shall be conducted by local authorities. The Department will be responsible for conducting the study at the following locations:

(1) At intersections where the traffic signal controller is preempted during train movements for a nearby crossing.

(2) At new or revised traffic signal installations when the traffic signal is designed by the Department.

(d) *Department approval.* Written approval of the Department's district executive shall be obtained prior to installation of a No Turn on Red Sign (R10-11 Series) at any intersection where the Department has issued the traffic signal permit.

§ 212.117. Weight, size and load restrictions.

(a) *Weight restriction based on condition of bridge.* Traffic on a bridge may be prohibited or restricted by weight of vehicle, number of vehicles, or kinds or classes of vehicles when an engineering evaluation conducted by

a professional engineer establishes the need. Engineering evaluation of a bridge or bridge component may be based on structural analysis and rating computations, testing, engineering judgment or a combination thereof. Restriction is warranted when one or more of the following conditions are present:

(1) The safe load capacity of the bridge is exceeded by the load effect of any of the legal load configurations. The capacity and load effects are to be determined in accordance with the *Bridge Safety Inspection Manual* (Department Publication 238).

(2) Engineering judgment indicates that the condition or material of construction of one or more portions or components of a bridge is such that further use by heavy vehicles may damage the bridge because of severe impact, fatigue or other reasons.

(3) The bridge is damaged due to fire, a vehicle crash or environmental deterioration, and engineering judgment indicates that a vehicle weight restriction is necessary to ensure an adequate level of safety.

(b) *Weight restriction based on condition of highway.* Traffic on a highway may be prohibited or restricted by weight of vehicle, or kinds or classes of vehicles when warranted by an engineering evaluation. Engineering evaluation may be based on structural analysis, testing, engineering judgment or a combination thereof. A restriction is warranted when one or more of the following conditions are present:

(1) The highway pavement or shoulders have inadequate structural capacity or have been weakened due to deterioration, high traffic volumes or climatic condition, and may be seriously damaged unless a restriction is imposed.

(2) An engineering evaluation of previous similar climatic conditions on the highway or on similar highways indicates that vehicles over a certain weight should have been prohibited.

(c) *Size restriction based on condition of bridge or highway.* Traffic on a bridge or highway may be restricted by size of vehicle or kinds or classes of vehicles when, after an engineering evaluation, one or more of the following conditions are found to be present:

(1) A bridge has poor alignment, substandard horizontal or vertical clearance, or creates problems for vehicles with low ground clearance, or the restriction is otherwise necessary to protect the bridge from vehicle crashes or damage.

(2) A highway has inadequate turning radii, horizontal width or creates concerns for vehicles with low ground clearance at one or more locations.

(d) *Weight and size restrictions based on traffic conditions.* Traffic on a highway or bridge may be prohibited or restricted by weight or size of vehicle, or kinds or classes of vehicles when, an engineering evaluation of the horizontal and vertical alignment, prevailing traffic speeds, compatibility of the various types of traffic, history of vehicle crashes or vehicular characteristics, indicates that the movement of certain vehicles constitutes a safety hazard. Restrictions may include weight; height, width or length of vehicles or their loads; types of cargo; speed or gearing; stopping requirements; specified travel lanes; and hours of operation.

(e) *Erection of signs.* Appropriate signs shall be erected within 25 feet of each end of a restricted portion of a highway or bridge whenever vehicles are prohibited under

subsection (a), (b), (c) or (d). In the case of a restriction on a highway or bridge which does not begin or end at an intersection with an unrestricted highway, an advance information sign shall also be erected at the intersection nearest each end of the restricted highway or bridge to allow drivers to avoid the restricted highway or bridge.

(f) *Alternate routes.* An alternate route shall be established whenever vehicles are prohibited under subsection (a) or (b) on either a numbered traffic route or a State-designated highway on the National Highway System, as established by the Federal Highway Administration, when the following apply:

(1) A reasonable alternate route exists which is not readily perceived by drivers.

(2) The alternate route can legally, safely, structurally and physically accommodate the weight and size of vehicles and their loads that are being detoured.

(3) Five or more vehicles per day are estimated to be prohibited from using the original route.

§ 212.118. Street name signs.

For street name signs, white lettering on a green background is recommended, but local authorities may use white lettering on blue or brown background, or black lettering on white background, provided the same colors are used systematically throughout the municipality. To improve sign legibility, upper and lower case lettering is recommended.

§ 212.119. Signing of named highways.

Signs carrying the name of the highway will be permitted at intervals of at least every 15 miles on conventional highways.

§ 212.120. General motorist service signs.

The application of general motorist service signs shall be in accordance with the Department's Statewide policy and the *Signing and Marking Standards* (Department Publication 111M), and will be limited to expressways and freeways, except:

(1) Small trailblazer signs shall be installed on conventional highways when motorist services are signed on an expressway or freeway and it is necessary to guide motorists along conventional highways to the physical site of the motorist service.

(2) Hospital symbol signs are permitted on all highways.

§ 212.121. Specific service signs.

(a) The Department may enter into an agreement with a private agency to administer a program for specific service signs for gas, food, lodging, camping and attractions. Specific service signs may only be installed on freeways, except small trailblazer signs shall be installed on conventional highways when it is necessary to guide motorists to the physical site of the specific service. If a trailblazer is required on a local roadway to direct motorists to a specific business, and the local authority refuses to allow the trailblazer on its local highway, specific service signs may not be provided for that business.

(b) Airports may be signed on either major guide signs or on specific service signs at freeway-to-freeway interchanges.

§ 212.122. Recreational and cultural interest area signs.

Recreational and Cultural Interest Area Signs, as described in Chapter 2H of the MUTCD, that is, relating to

the RG, RM, RA, RL, RW and RS Series signs, will be authorized for use within any State park, State forest picnic area, Federal recreation area, National forest or public park.

§ 212.123. Tourist-oriented directional signs.

Tourist-Oriented Directional Signs (D7-4) must be of the size and type specified in the Department's *Handbook of Official Signs* (PennDOT Publication 236M) or as specified in an agreement with the Department, instead of the design included in Chapter 2G of the MUTCD (relating to tourist-oriented directional signs). The Department may enter into an agreement with an outside entity to administer a program for tourist-oriented directional signs.

Subchapter C. MARKINGS

- Sec.
- 212.201. Pavement marking standards.
- 212.202. No-passing zones.
- 212.203. Delineation.

§ 212.201. Pavement marking standards.

The *Signing and Marking Standards* (Department Publication 111M) contains additional design details for pavement markings. Pavement markings for lane drops, expressways, freeways, on-ramps and off-ramps, and all pavement marking words and symbols must conform to the *Signing and Marking Standards*.

§ 212.202. No-passing zones.

(a) *Additional warrants on two-lane, two-way highways.* In addition to the sight distance warrant in Section 3B.02 of the MUTCD (relating to no-passing zone pavement marking and warrants), no-passing zones may be established at the following locations on two-lane, two-way highways with center line pavement markings:

- (1) In advance of a divided highway or an obstruction such as a bridge support pillar, a channelizing island or a safety zone, which separates the two lanes of traffic.
- (2) On or within, and in advance of any bridge, tunnel or underpass designated as a narrow bridge or underpass in accordance with § 212.1 (relating to definitions).
- (3) In advance of a Stop Sign (R1-1), Yield Sign (R1-2) or traffic signal.
- (4) On the approach to an intersection where passing may be undesirable due to the high number of crossing or turning movements.
- (5) Within a school zone.
- (6) In areas where an analysis of vehicle crashes shows an unusually high number of passing-related crashes.
- (7) In areas where the roadside development includes many driveways and intersections where passing would create frequent potential conflicts.
- (8) At locations where the roadway width is very restrictive, shoulders are nonexistent or in poor condition, the roadway cross-section has an excessive crown, or obstacles are close to the roadway.
- (9) In areas where traffic volumes are very heavy and there would be very limited opportunities for motorists to pass other vehicles.
- (10) At locations where a passing zone would otherwise be less than 600 feet in length.
- (11) At locations where engineering judgment indicates that allowing passing is undesirable because a better passing area exists farther ahead.

(b) *Minimum advance distance.* No passing zones established according to subsection (a)(1)—(5) must precede the location by the minimum distance noted in the following table:

<i>Speed Limit or 85th Percentile Speed (mph)</i>	<i>Distance (feet)</i>
35 or less	300
40	350
45	400
50	450
55	500

§ 212.203. Delineation.

The 4-foot mounting height for delineators specified in the MUTCD (relating to delineator placement and spacing) is not applicable for guide rail and barrier-mounted delineators. In addition, post-mounted delineators may be 4 feet above the ground instead of 4 feet above the near edge of pavement as specified in the MUTCD.

Subchapter D. HIGHWAY TRAFFIC SIGNALS

- Sec.
- 212.301. Purpose.
- 212.302. Traffic-control signals.
- 212.303. Pedestrian-control signals.

§ 212.301. Purpose.

This subchapter sets forth additional guidance and criteria relating to the design, application and operation of traffic-control signals within this Commonwealth. The *Traffic Standards—Signals TC-8800 Series* (Department Publication 148M) and the *Traffic Signal Design Handbook* (Department Publication 149M) contain additional design details, specifications, checklists and forms.

§ 212.302. Traffic-control signals.

(a) *Flashing operation of traffic-control signals.* During flashing operation, a minimum of two vehicular signal heads on each approach must be flashed for the through movement. Any other signal heads may be blanked out.

(b) *Warrants.* In addition to the criteria in the MUTCD, the following applies:

- (1) *Traffic volumes.* The traffic volume for channelized right-turn movements may not be included in any warrant analysis.
- (2) *Vehicle crashes.* The five or more reported crashes within a 12-month period for Warrant 7 in the MUTCD (relating to Warrant 7, crash experience) may include both reportable crashes, and nonreportable crashes that are documented in the police files, that occurred within a 12-month period during the most recent 3 years of available crash data.
- (3) *Warrant 9, ADT volume warrant.*

(i) An "ADT volume warrant" is added as "Warrant 9" and may be used in addition to the eight warrants contained in Sections 4C.02 through 4C.09 of the MUTCD (relating to Warrants 1 through 8). This warrant must apply at a proposed intersection, an intersection revised by a highway construction project, or at the driveway of a proposed commercial or residential development where vehicle counts cannot be taken. If a traffic-control signal is installed under this warrant, a traffic count must be taken within 6 months of the opening of a development or within 2 years of the opening of a highway. If the traffic volumes do not satisfy this warrant, or one or more of the other eight warrants, consideration should be given to

removing the traffic-control signal and replacing it with appropriate alternative traffic-control devices, if any are needed.

(ii) This warrant is satisfied when the estimated ADT volumes on the major street and on the higher volume

minor street or driveway approach to the intersection, when projected using an accepted procedure such as put forth in the Trip Generation Manual published by the Institute of Transportation Engineers, equals or exceeds the values in either Condition A or Condition B:

Condition A—ADT Volume Warrant					
Number of Lanes for Moving Traffic on Each Approach		Estimated ADT*			
Major Street	Minor Street	Major Street (Both Approaches)		Higher-Volume Minor Street (One Direction Only)	
		100%	70%**	100%	70%**
1	1	10,000	7,000	3,000	2,100
2 or more	1	12,000	8,400	3,000	2,100
2 or more	2 or more	12,000	8,400	4,000	2,800
1	2 or more	10,000	7,000	4,000	2,800

Condition B—ADT Volume Warrant					
Number of Lanes for Moving Traffic on Each Approach		Estimated ADT*			
Major Street	Minor Street	Major Street (Both Approaches)		Higher-Volume Minor Street (One Direction Only)	
		100%	70%**	100%	70%**
1	1	15,000	10,500	1,500	1,050
2 or more	1	18,000	12,600	1,500	1,050
2 or more	2 or more	18,000	12,600	2,000	1,400
1	2 or more	15,000	10,500	2,000	1,400

* Based on the volume projected to be present within 6 months of the opening of the development or within 2 years of the opening of the highway.

** May be used if the 85th percentile speed of the major street traffic exceeds 40 miles per hour or the intersection lies within the built-up area of an isolated community having a population of less than 10,000.

§ 212.303. Pedestrian-control signals.

Pedestrian-control signals provide special types of traffic signal indications for the exclusive purpose of controlling pedestrian traffic. These indications consist of the illuminated symbols of a walking person (symbolizing WALK) and an upraised hand (symbolizing DON'T WALK) or the illuminated words WALK and DON'T WALK.

- (1) New pedestrian-control signals must use symbolized messages.
- (2) Signals using word messages may be retained for their useful service life.

Subchapter E. TEMPORARY TRAFFIC CONTROL

- Sec.
- 212.401. General.
- 212.402. Exempt work.
- 212.403. Temporary traffic-control plans.
- 212.404. Sign supports.
- 212.405. Regulatory speed limits.
- 212.406. Channelizing devices.
- 212.407. Markings.
- 212.408. Impact attenuators.
- 212.409. Travel lane rumble strips.
- 212.410. Delineators.
- 212.411. Flaggers.
- 212.412. Flagger signaling devices.
- 212.413. Portable traffic-control signals.
- 212.414. Emergency work.
- 212.415. Type D Arrow Panels.

- 212.416. Shadow vehicles.
- 212.417. Flashing warning lights.
- 212.418. Good management principles.
- 212.419. Special controls in work zones.

§ 212.401. General.

This subchapter supplements the criteria in the MUTCD, and applies to highway construction, maintenance operations and utility work or incident management, either on a highway or so close to a highway that workers, equipment or materials encroach on the highway. Compliance with this subchapter does not relieve the contractor or others of their general responsibility for the protection of the public and the employees in work zones.

§ 212.402. Exempt work.

(a) *General.* The following types of work are exempt from the requirements contained in this chapter and in the MUTCD:

- (1) Snow plowing and other snow or ice control operations.
- (2) Refuse collection, trash collection, leaf pick-up, street cleaning, municipal street sweeping and residential lawn care.
- (3) Operations which do not involve construction, maintenance operations or utility work, such as mail, newspaper, home fuel or other local deliveries.

(4) Studies or inspections of highway or utility features which may be completed without blocking any part of a travel lane.

(5) Construction, maintenance operations or utility work in areas outside the highway right-of-way; except when the work is so close to the highway that workers, equipment or materials encroach on the highway.

(6) Construction, maintenance operations or utility work where all workers, equipment or materials are behind a guide rail, more than 2 feet behind a curb or 15 feet or more from the edge of a roadway.

(7) Mowing operations on roads with less than 10,000 vehicles per day and where equipment does not encroach on the roadway.

(8) Traffic data collection.

(b) *Safety considerations.* While the types of work in subsection (a) are exempt from the specific traffic-control guidelines of this subchapter, they must be accomplished in a manner that will provide an adequate degree of safety for the workers and the public.

§ 212.403. Temporary traffic-control plans.

Plans for construction projects must either reference or include a temporary traffic-control (TTC) plan, which must consist of one of the following:

(1) A reference to a specific figure either in the MUTCD or in the *Work Zone Traffic Control Guidelines* (Department Publication 213) that properly depicts actual site conditions.

(2) A copy of a specific figure either in the MUTCD or the *Work Zone Traffic Control Guidelines* (Department Publication 213) which has been modified to depict actual site conditions and the necessary traffic-control requirements for the specific project.

(3) One or more detailed plan sheets or drawings showing the actual site conditions and the TTC requirements for the specific project.

§ 212.404. Sign supports.

(a) *Post-mounted signs.* Post-mounted signs or signs on fixed supports shall be installed in accordance with the *Signing and Marking Standards* (Department Publication 111M).

(1) Post-mounted sign installations must be of a breakaway or yielding design unless they are adequately placed behind guide rail or median barrier.

(2) Signs may not be mounted on existing utility poles or other structures unless the owner grants written permission and the signs can be properly positioned to convey their messages effectively.

(b) *Portable sign supports.* Portable sign supports must be of a type approved by the Department and listed in *Approved Construction Materials* (Department Publication 35).

§ 212.405. Regulatory speed limits.

(a) *General.* Regulatory speed limits in temporary traffic-control zones and in the area in advance of a work zone where traffic queues are anticipated may be established as follows:

(1) A regulatory speed limit up to 10 miles per hour below the normal speed limit may be established without an engineering and traffic study, provided the reduced regulatory speed limit is at least 25 miles per hour. Regulatory speed limits less than 25 miles per hour or

more than 10 miles per hour below the normal speed limit require an engineering and traffic study and the prior approval of the Department for State-designated highways and approval of local authorities for local highways. To qualify for an additional speed limit reduction, the engineering and traffic study must indicate that traffic queues, erratic maneuvers, high vehicle crash rates or undesirable working conditions exist on the project or have existed on similar projects.

(2) Regulatory speed limits for temporary traffic control must be signed with either Speed Limit Signs (R2-1), Work Area Speed Limit Signs (R2-2-2) or variable speed limit signs. For speed limits that are 50 miles per hour or less, the signs must be spaced not greater than 1/2 mile apart throughout the limits of the reduced speed limit zone. Conflicting regulatory or warning signs must be removed, covered, folded or turned so that they are not readable or identifiable by oncoming traffic whenever the reduced regulatory speed limit is in effect.

(3) A Speed Limit Sign (R2-1) showing the speed limit on the section of highway immediately after the work zone must be positioned at the end of the reduced regulatory speed limit, except an R2-1 sign is not necessary if a Work Area Speed Limit Sign (R2-2-2) is used and an End Road Work Sign (G20-2) or End Work Area Sign (G20-3) is in place at the end of the regulatory speed limit.

(b) *Variable speed limits.* In an effort to avoid unnecessary speed restrictions, variable speed limits are encouraged in lieu of static signs. These speed limits may be remotely controlled, either manually or by a computer using hardware and software to monitor functions such as traffic speeds, volumes, densities and queues.

§ 212.406. Channelizing devices.

(a) *Device consistency.* Channelizing devices used to form a particular taper or a particular longitudinal line of devices must all be of a single type. For example, cones, drums, barricades and vertical panels may not be intermixed within the same taper or line, but the type of device being used in a taper may differ from the type of device being used in a longitudinal section.

(b) *Cones.* Cones may only be used as a channelizing device for operations where work is in active progress. The minimum height of cones is 28 inches except cones that are 18 inches high may be used to protect new pavement markings.

§ 212.407. Markings.

When lane line and center line pavement markings on more than 250 linear feet of highway are covered or destroyed by construction, maintenance, utility, permit or other work, they must be replaced, before ending work each day, with standard pavement markings, or with temporary pavement markings as included in the MUTCD.

§ 212.408. Impact attenuators.

The design and application of temporary impact attenuators must comply with the *Roadway Construction Standards* (Department Publication 72M) for concrete median barrier and other obstructions.

§ 212.409. Travel lane rumble strips.

Temporary bituminous rumble strips may be used in the travel lanes to provide an audible warning to alert drivers of a potentially dangerous situation including a median crossover, lane reduction and congested area. Recommended rumble strip designs are available from

the Bureau of Highway Safety and Traffic Engineering. When used, the rumble strip patterns must extend onto the shoulder whenever possible to discourage drivers from making erratic maneuvers in an attempt to bypass or avoid the rumble patterns.

§ 212.410. Delineators.

The application of delineators must comply with the *Signing and Marking Standards* (Department Publication 111M).

§ 212.411. Flaggers.

(a) *Helmet.* In addition to the requirements of the MUTCD, flaggers shall wear a protective helmet.

(b) *Mechanical flaggers.* Mechanical flaggers or mannequins, which look and act somewhat like flaggers, may not be used to alert, slow or stop traffic.

§ 212.412. Flagger signaling devices.

A red flag shall only be used to control traffic in emergencies when a Stop/Slow Paddle (R21-10) is not available or at intersections where a single flagger is used within an intersection.

§ 212.413. Portable traffic-control signals.

Portable traffic-control signals may be used to control one-lane, two-way traffic. They may also be used for other special applications such as a highway or street intersection with a temporary haul road or equipment crossing. The design and application of portable traffic-control signals must conform with the applicable requirements of the Department's certificate of approval issued to the manufacturer for portable traffic-control signals, and with any special requirements defined in the TTC Plan. For these applications, it may be desirable to use traffic-actuated or manual control to compensate for unbalanced traffic flows.

§ 212.414. Emergency work.

(a) *General.* Emergency work may be initiated without prior compliance with the traffic-control provisions specified by this subchapter, provided the foreman or lead worker implements all available safety measures, and the traffic control is brought into compliance with this subchapter as soon as possible. The foreman or lead worker may use flares as attention-getting and warning devices.

(b) *Utility work.* Emergency repair for utility work may be initiated under this section or repair to a utility facility undertaken under Chapter 459 (relating to occupancy of highways by utilities) to repair damage resulting from a vehicle crash or collision with the facility, a failed component or storm damage. Utility service connections or disconnections unrelated to a vehicle crash, a failed component, or storm damage must otherwise comply with this subchapter.

(c) *Expediting emergency work.* Emergency work may be completed without installation of work zone traffic-control devices required by this subchapter, if one of the following conditions is met:

(1) Review of the condition indicates that the emergency work can be completed in less time than it would take to install the temporary traffic-control devices, and the work or condition would not create a significant potential hazard.

(2) Temporary traffic control has been set up and it is found that additional traffic-control devices are desirable,

but that it would take longer to obtain and install additional traffic-control devices than it would to complete the work.

§ 212.415. Type D Arrow Panels.

Type D Arrow Panels shall only be used on vehicles during short-term stationary, short duration or mobile operations.

§ 212.416. Shadow vehicles.

When used with a truck-mounted attenuator (TMA), the shadow vehicle must be loaded to a weight recommended by the manufacturer of the TMA.

§ 212.417. Flashing warning lights.

If used, flashing warning lights may not be used in a series unless the spacing between successive flashing lights is at least 250 feet.

§ 212.418. Good management principles.

Agencies administering highway construction, utility work and maintenance operations shall mandate the application of the following good management principles:

(1) Keep the temporary traffic-control zones as short as practical to avoid long stretches with no work activity.

(2) Minimize lane restrictions.

(3) Remove all traffic-control devices as soon as practical after the construction, maintenance or utility operation is complete.

§ 212.419. Special controls in work zones.

(a) *General.* Special signing required in 75 Pa.C.S. §§ 3326, 3365, 4309, 6123 and 6123.1 will be in addition to the traffic-control devices required by the MUTCD and shall be installed in accordance with this section.

(b) *Application.* Signing under this section is discretionary in the following work zones:

(1) Short duration work, where the operation will be completed in less than 1 hour.

(2) Mobile operations, where the work moves intermittently or continuously.

(3) Stationary work where the daily duration of the construction, maintenance or utility operation is less than 12 hours and all traffic-control devices are removed from the highway at the completion of the daily operation, including all advance warning signs.

(4) Work along highways other than expressways or freeways where the normal speed limit is 45 miles per hour or less.

(5) Work in response to emergency work or conditions such as a major storm.

(c) *Work Zone—Turn on Headlights Sign (R22-1).* The Work Zone—Turn on Headlights Sign (R22-1) shall be erected as the first sign on each primary approach to the work zone, generally at a distance of 250 to 1,000 feet prior to the first warning sign. On high-speed roadways including all expressways and freeways, the larger advance distances should be used. If work begins at or near a border to this Commonwealth, the R22-1 signs should be installed within this Commonwealth.

(d) *Active Work Zone When Flashing Sign (W21-19).* The Active Work Zone When Flashing Sign (W21-19) shall be erected as close as practical to the beginning of the active work zone.

(1) The sign should not be erected within a transition or at a location where workers are put at risk when they may need to turn the light on and off.

(2) When a construction, maintenance or utility project has more than one active work zone and the active work zones are separated by a distance of more than 1 mile, signs for each active work zone shall be erected.

(3) The W21-19 signs shall be installed on temporary sign posts or on Type III barricades, and a white Type B high-intensity flashing light must be attached to the upper portion of each W21-19 sign. The light shall be activated only when workers are present, and deactivated when workers are not anticipated during the next 60 minutes.

(e) *End Active Work Zone Sign (W21-20)*. The End Active Work Zone Sign (W21-20) shall be erected immediately at the end of each active work zone, except this sign is not necessary if either the End Road Work Sign (G20-2a) or the End Work Area Sign (G20-3) is installed at the end of the active work zone.

(f) *Work zones on expressways or freeways*. When the work zone is on an expressway or freeway, appropriate signs and lights identified in subsections (c), (d) and (e) at on-ramp approaches to the work zone shall be installed.

(g) *Portable changeable message sign*. A portable changeable message sign (PCMS) may be used in lieu of the R22-1, W21-19 or W21-20 signs.

(h) *Speed display sign*. In Interstate highway work zones with a project cost exceeding \$300,000, a speed display sign shall be installed on each mainline approach to the work zone to inform motorists of their speed.

(1) The speed display sign must display the motorist's speed in miles per hour in numerals at least 18 inches in height.

(2) As an alternative, a portable changeable message sign (PCMS) may be equipped with radar and programmed to display vehicles speeds.

(3) PCMSs may also flash appropriate messages such as "YOU ARE SPEEDING" or "SLOW DOWN." The signs shall be placed 1/2 to 1 mile in advance of the physical work zone.

Subchapter F. TRAFFIC CONTROLS FOR SCHOOL AREAS

Sec. 212.501. School zone speed limits.

§ 212.501. School zone speed limits.

(a) *Establishment*. A 15 miles per hour school zone speed limit may be established in a school zone during the normal hours that walking students are arriving at or leaving school, under 75 Pa.C.S. § 3365(b) (relating to special speed limitations).

(1) To establish a school zone, local authorities shall be responsible to prepare and submit a drawing showing the locations where students walk along or across roadways that are adjacent to school property, the hours that students are going to or from school and the proposed limits for the school zone to the Department for approval.

(2) The Department is responsible for approving the establishment of all school zones, including the locations and hours of operation, except local authorities shall be responsible for approving school zones at the following locations:

(i) On local highways when the municipality has received municipal traffic engineering certification under Chapter 205 (relating to municipal traffic engineering certification).

(ii) On State-designated highways when the municipality has entered into an agreement with the Department thereby transferring to the local authorities the authority to install traffic-control devices without specific Department approval.

(iii) On highways in cities of the first and second class, except not on expressways.

(3) The duration of a 15 miles per hour school zone speed limit should be only long enough to include the time that walking students routinely arrive at or leave school.

(b) *Posting*. A school zone speed limit shall be posted on official traffic-control devices as follows:

(1) At the beginning of the school zone speed limit, one of the following signs or groups of signs shall be posted either on the right side of the roadway or over the roadway:

(i) A Speed Limit Sign (R2-1) with the appropriate school zone speed limit, with a School Panel (S4-3) mounted above the Speed Limit Sign (R2-1) and a When Flashing Sign (S4-4) mounted below the Speed Limit Sign (R2-1), with two flashing speed limit sign beacons.

(ii) A Speed Limit Sign (R2-1) with the appropriate school zone speed limit, with a School Panel (S4-3) mounted above the Speed Limit Sign (R2-1) and a Restricted Hours Panel (R10-20A) mounted below the Speed Limit Sign (R2-1).

(iii) A School Speed Limit When Flashing Sign with a blank-out "15" and flashers as illustrated in the *Traffic Signal Design Handbook* (Department Publication 149M).

(2) An End School Zone Sign (S5-2) shall be posted on the right side of the roadway to define the end of the school zone speed limit.

(3) The limits of a school zone may extend beyond the school property lines to improve the sight distance or to encompass a school crosswalk, except that the length of the zone may not be greater than 1,600 feet.

Subchapter G. TRAFFIC CONTROLS FOR BICYCLE FACILITIES

Sec. 212.601. Shared road facilities.

§ 212.601. Shared road facilities.

Where there is a need to warn motorists to watch for bicyclists traveling along the highway, the Share the Road Sign (W15-3) sign may be used instead of the Bicycle Warning Sign (W11-1) and the Share the Road Plaque (W16-1) as provided in the MUTCD.

Subchapter H. SPECIAL EVENTS

Sec. 212.701. Processions, assemblages and special activities.

§ 212.701. Processions, assemblages and special activities.

(a) *Criteria*. The closure or partial closure of a highway for a procession, assemblage or a special activity, may be permitted on local roadways by local authorities and on State-designated highways by the Department if the following criteria are satisfied:

(1) *Conventional highways and expressways*.

(i) An alternate route, which is not more than 5 miles longer or five times greater in length than the normal travel distance, is established to detour traffic around any closed routes, except an alternate route is not required if one of the following exists:

(A) The highway to be closed is not a numbered traffic route and is primarily used by local drivers who are familiar with the alternate route.

(B) The highway is only partially or periodically closed and police control can safely maintain traffic on the remainder of the highway.

(C) The highway closing is for less than 20 minutes and excessive traffic backup will not occur during the closing.

(ii) The local authorities provide adequate detour signing or police controls for the rerouting of traffic along the alternate route if required.

(iii) The highway closure or partial closure will not adversely affect adjacent properties.

(iv) A review of previous, similar closures shows no substantial problems or citizen complaints.

(2) *Freeways.*

(i) The freeway has a minimum of two lanes to move traffic in each direction of flow.

(ii) If a procession, it will orderly and uniformly move along the highway and will be easy to control and regulate by police officers.

(iii) If a procession or assemblage, it will use a maximum of one lane of the highway and police officers can safely maintain traffic on the remainder of the highway.

(iv) Delays for traffic entering or leaving the highway at ramps will not be more than 5 minutes and uniformed police officers will control all delayed traffic.

(v) The Secretary and the Commissioner of the State Police have determined that the procession, assemblage or special activity is in the National, State or regional interest or has National, State or regional significance and can be conducted with greater safety for motorists and procession or special activity participants by using the freeway.

(b) *Use of State-designated highways.* The Department may issue a permit for a procession, assemblage or special activity on a State-designated highway if the criteria in subsection (a) and the following requirements are satisfied:

(1) On conventional highways and expressways, the district executive may issue a permit for processions, assemblages or special activities. The permit request must be made in writing by the sponsor, and be received by the district executive at least 3 weeks before the proposed event. The request must include the following items as applicable, a copy of which the sponsor must also submit to the Commissioner of the State Police:

(i) A map of the proposed routing showing all State Route (SR) numbers and the names of all highways, including terminal points for the special activity.

(ii) The known or anticipated number and type of vehicles or pedestrians that will be in the event.

(iii) The purpose, the proposed date and rain date and the time and duration.

(iv) A statement that the sponsor will agree to reimburse the Commonwealth for all costs for police escort and traffic-control services.

(v) A copy of the letter sent from the sponsor of the event to each municipality in which the event is to occur, requesting permission to allow the event.

(vi) A copy of a letter from each municipality in which the event is to occur indicating the following:

(A) Approval of the municipality allowing the sponsor to conduct the event.

(B) A statement that the municipality will agree to fully indemnify, save harmless and, if requested, defend the Commonwealth, Commonwealth departments and their officers, agents and employees from and against claims, suits or actions for injury, death or property damage arising from or because of the acts or omissions of the sponsor, its officers, agents or employees.

(vii) A statement that the sponsor will fully indemnify, save harmless and, if requested, defend the Commonwealth, Commonwealth departments, and their officers, agents and employees from and against claims, suits or actions for injury, death or property damage arising from or because of the acts or omissions of the sponsor, its officers, agents or employees. The sponsor shall also name the Department as an additional insured on its liability policies. The liability insurance policies must be occurrence based and the insurance certificate must indicate that the insurance is occurrence based.

(2) On freeways, the Secretary may issue a permit for processions, assemblages or special activities. The permit request must be made in writing by the sponsor, and be received by the Secretary at least 3 weeks before the proposed partial highway closure. The request must include the following items as applicable, a copy of which the sponsor also submits to the Commissioner of the State Police:

(i) A map showing the location of the assemblage or the proposed routing of the procession or special activity.

(ii) The known or anticipated number and type of vehicles or pedestrians that will be in the event.

(iii) The estimated speed of travel of the procession or special activity.

(iv) The purpose, the proposed date and rain date, and the time and duration.

(v) The reasons the special event should use a freeway, including the safety aspects to both motorists and procession participants.

(vi) A statement that the sponsor of the procession will agree to reimburse the Commonwealth for all costs for police escort and traffic-control services.

(vii) A statement that the sponsor of the special event will fully indemnify, save harmless and, if requested, defend the Commonwealth, Commonwealth departments and their officers, agents and employees from and against claims, suits or actions for injury, death or property damage arising from or because of the acts or omissions of the sponsor, its officers, agents or employees. The sponsor shall also name the Department as an additional insured on its liability policies. The liability insurance policies must be occurrence based and the insurance certificate must indicate that the insurance is occurrence based.

(c) *Use of local roadways.* Requests to close a local roadway for a procession, assemblage or special activity must be made in writing to the local authorities at least 3 weeks before the anticipated road closure. If the procession, assemblage or special activity also requires the closure of State-designated highways, the request must be made in writing to the local authorities at least 2 months before the anticipated road closure.

CHAPTER 217. (Reserved)

§§ 217.1—217.4. (Reserved).

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