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FOREWORD

Draft Addendum 90.1am – Publication Draft. The project committee feels that this rewritten version of Section 4 makes clear the different treatments given to additions and alterations to existing buildings.

Addendum 90.1am (I-P and SI Editions)

SECTION 4:

4 ADMINISTRATION AND ENFORCEMENT

4.1 Compliance Requirements

4.1.1 New *Buildings*. New *buildings* shall comply with either the provisions of Sections 5, 6, 7, 8, 9, and 10, or Section 11.

4.1.2 Existing Buildings. Additions to - existing buildings shall comply with either the provisions of Sections 5, 6, 7, 8, 9, and 10, or Section 11 as described in Section 4.1.2.1. ...- Alterations of existing buildings shall comply with either the provisions of Sections 5, 6, 7, 8, 9, and 10, or Section 11, as described in Section 4.1.2.2, provided, however, that nothing in this standard shall require compliance with any provision of this standard, if such compliance will result in an increase in the annual energy consumption of the building.

4.1.2.1 Additions to Existing Buildings. An extension or increase in floor area or height of a building outside of the existing building envelope shall comply with the provisions of Sections 5, 6, 7, 8, 9, and 10, applicable to *building envelope*, heating, ventilating, air-conditioning, *service water heating*, power, lighting, and other *systems* and *equipment*. Alternatively, *additions* shall comply with the provisions of Section 11. -

Exceptions to 4.1.2.1:

(a) When HVAC or *service water heating* to an *addition* are provided by existing HVAC or *service water heating systems* and equipment, such existing *systems* and *equipment* shall not be required to comply with this standard. However, any new *systems* or *equipment* installed must comply with specific requirements applicable to those *systems* and *equipment*.

(b) When an addition to an existing building cannot comply by itself, trade-offs will be allowed by modification to one or more components of the existing building. Modeling of the modified components of the existing building and the addition shall employ the procedures of Section 11; and, the addition shall not increase the energy consumption of the existing building plus the addition beyond the energy that would be consumed by the existing building plus the addition if the addition alone did comply.

4.1.2.2 Alterations to Existing Buildings. Portions of a building envelope, heating, ventilating, air-conditioning, service water heating, power, lighting, and other systems and equipment that are being replaced shall comply with the applicable requirements of Sections 5, 6, 7, 8, 9, and 10 as provided in 4.1.2.2.1 through 4.1.2.2.6. -

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Exceptions to 4.1.2.2:

(a) a building that has been specifically designated as historically significant by the adopting authority or is listed in “The National Register of Historic Places” or has been determined to be

eligible for listing by the U.S. Secretary of the Interior, need not comply with these requirements.

(b) where one or more component of an existing building or portions thereof is being replaced, the annual energy consumption of the comprehensive proposed design shall not be greater than the annual energy consumption of a substantially identical design, using the same energy types, in which the individual components comply with the applicable requirements of Sections 5, 6, 7, 8, 9, and 10 as provided in 4.1.2.2.1 through 4.1.2.2.6, and such compliance is verified by a *design professional*, by the use of any calculation methods acceptable to the *authority having jurisdiction*.

4.1.2.2.1 Envelope Alterations. *Alterations* to the *building envelope* shall comply with the requirements of Section 5 for insulation, moisture control, air leakage, and *fenestration* applicable to those specific portions of the building that are being altered.

Exceptions to 4.1.2.2.1: The following *alterations* need not comply with these requirements provided such *alterations* will not increase the energy usage of the building:

- (a) installation of storm windows over existing glazing,
- (b) replacement of glazing in existing sash and frame provided the *U-factor* and *solar heat gain coefficient (SHGC)* will be equal to or lower than before the glass replacement,
- (c) alterations to roof/ceiling, wall, or floor cavities, which are insulated to full depth with insulation having a minimum nominal value of R-3.0/in. (R-0.02/mm),
- (d) alterations to walls and floors without framing cavities,
- (e) replacement of a roof membrane where either the roof sheathing or roof insulation is not exposed or, if there is existing roof insulation below the roof deck,
- (f) replacement of existing doors that separate conditioned space from the exterior shall not require the installation of a vestibule or revolving door, provided however, that an existing vestibule that separates a conditioned space from the exterior shall not be removed, and
- (g) replacement of existing fenestration, provided, however, that the area of the replacement fenestration does not exceed 25% of the total fenestration area of an existing building and that the *U-factor* and *solar heat gain coefficient (SHGC)* will be equal to or lower than before the fenestration replacement.

4.1.2.2.2 Heating, Ventilation, and Air Conditioning Alterations. New HVAC equipment as a direct replacement of existing HVAC equipment shall comply with the specific minimum efficiency requirements applicable to that equipment including but not limited to: air conditioners and condensing units, heat pumps, water chilling packages, packaged terminal and room air conditioners and heat pumps, furnaces, duct furnaces, unit heaters, boilers, and cooling towers.

Exceptions to 4.1.2.2.2: Compliance shall not be required

- (a) for *equipment* that is being modified or repaired but not replaced provided that such modifications and/or repairs will not result in an increase in the annual energy consumption of the equipment using the same energy type, or
- (b) where a replacement or *alteration* of *equipment* requires extensive revisions to other *systems*, *equipment*, or elements of a *building*, and such replaced or altered equipment is a like-for-like replacement, or
- (c) for a refrigerant change of existing *equipment*, or
- (d) for the relocation of existing *equipment*.

4.1.2.2.3 Service Water Heating Alterations. Building service water heating equipment installed as a direct replacement for existing building service water heating equipment shall comply with the requirements of Section 7, applicable to being replaced.

4.1.2.2.4 Power Alterations. Building electrical *systems* that are replaced shall comply with the requirements of Section 8, applicable to those specific portions of the *building* and its electrical *systems* that are being replaced.

4.1.2.2.5 Lighting Alterations. The replacement of lighting *systems* in any building space shall comply with the lighting power density requirements of Section 9, applicable to that space. New lighting *systems* shall comply with the applicable lighting power density requirements of Section 9. Any new-*control devices* as a direct replacement of existing *control devices* shall comply with the specific requirements of Sections 9.2.1.2(a) and 9.2.1(c).

Exception to 4.1.2.2.5: *Alterations* that replace less than 50% of the *luminaires* in a *space* need not comply with these requirements provided that such *alterations* do not increase the installed interior lighting power.

4.1.2.2.6 Other Equipment Alterations. *Alterations* to other *building equipment* or *systems* shall comply with the requirements of Section 10 applicable to those specific portions of the *building* and its *systems* that are being altered. Any new *equipment* subject to the requirements of Section 10 that is installed in conjunction with the *alteration* as a direct replacement of existing *equipment* or *control devices* shall comply with the specific requirements applicable to that *equipment* or *control devices*, provided, however, that compliance shall not be required for the relocation or reuse of existing equipment.

4.1.2.3 Changes in Space Conditioning. Whenever unconditioned or semi-heated spaces in a building are converted to conditioned spaces, such conditioned *spaces* shall be brought into compliance with all applicable requirements of this standard that would apply to the *building envelope*, heating, ventilating, air-conditioning, *service water heating*, power, lighting, and other *systems* and *equipment* of the *space* as if the building were new.

4.2 Administrative Requirements. Administrative requirements relating to permit requirements, enforcement by the *authority having jurisdiction*, locally adopted energy standards, interpretations, claims of exemption and rights of appeal are specified by the *authority having jurisdiction*.

4.3 Compliance Documents

4.3.1 General. Compliance documents are those plans, specifications, engineering calculations, diagrams, reports, and other data that are approved as part of the permit by the *authority having jurisdiction*.

4.3.2 Construction Details. Compliance documents shall show all pertinent data and features of the *building, equipment, and systems* in sufficient detail to permit a determination of the compliance by the *building official* and to indicate compliance with the requirements of this standard.

4.3.3 Supplemental Information. Supplemental information necessary to verify compliance with this standard, such as calculations, worksheets, compliance forms, vendor literature, or other data, shall be made available when required by the *building official*.

4.4 Labeling of Materials and Equipment

4.4.1 General. Materials and *equipment* shall be labeled in a manner that will allow for a determination of their compliance with the applicable provisions of this standard.

4.4.2 Fenestration. The *U-factor, SHGC* and air leakage rate for all manufactured *fenestration* products shall be identified on a permanent nameplate installed on the product by the manufacturer. Alternatively, when fenestration products do not have such nameplate, the installer or supplier of such fenestration shall provide a signed and dated certification for the installed fenestration listing the *U-factor, SHGC* and air leakage rate.

4.4.3 Doors. The *U-factor* and the air leakage rate for all manufactured *doors* installed between conditioned space, semi-heated space, unconditioned space, and exterior space as outlined in Section 5.1.1 shall be identified on a permanent nameplate installed on the product by the manufacturer. Alternatively, when doors do not have such nameplate, the installer or supplier of any such doors shall provide a signed and dated certification for the installed doors listing the *U-factor* and the air leakage rate.

4.4.4 Building Envelope Insulation. The *rated R-value* shall be clearly identified by an identification mark applied by the manufacturer to each piece of *building envelope* insulation. Alternatively, when insulation does not have such an identification mark, the installer of such insulation shall provide a signed and dated certification for the installed insulation listing the type of insulation, the manufacturer, the *rated R-value*, and where appropriate, the initial installed thickness, the settled thickness, and the coverage area.

4.4.5 Mechanical Equipment. Mechanical equipment that is not covered by the National Appliance Energy Conservation Act of 1987 shall carry a permanent label installed by the manufacturer stating that the equipment complies with the requirements of ASHRAE Standard 90.1.

4.4.6 Packaged Terminal Air Conditioners. Packaged terminal air conditioners and heat pumps with sleeve sizes less than 16-in. (0.41-m) high and 42-in. (1.05-m) wide shall be factory labeled as follows: *manufactured for replacement applications only: not to be installed in new construction projects*.

4.4.7 Transformers. The energy-efficiency level shall be identified on a permanent nameplate installed on the *transformer* by the manufacturer.

4.5 Alternate Materials, Methods of Construction, or Design. The provisions of this standard are not intended to prevent the use of any material, method of construction, design, equipment, or *building* system not specifically prescribed herein.

4.6 Inspections. All building construction, *additions*, or *alterations* subject to the provisions of this standard shall be subject to inspection by the *building official*, and all such work shall remain accessible and exposed for inspection purposes until approved in accordance with procedures specified by the building official. Items for inspection include at least the following:

- (a) wall insulation after wall insulation and vapor retarder are in place but before concealment,
- (b) roof/ceiling insulation after roof/ceiling insulation is in place but before concealment,
- (c) slab/foundation wall after slab/foundation wall insulation is in place but before concealment,
- (d) *fenestration* after all glazing materials are in place,
- (e) mechanical *systems*, *equipment*, and insulation after installation but before concealment, and
- (f) electrical *equipment* and *systems* after installation but before concealment.

4.7 Referenced Standards. The standards referenced in this standard and listed in Section 12 shall be considered part of the requirements of this standard to the prescribed extent of such reference. Where differences occur between the provisions of this standard and referenced standards, the provisions of this standard shall apply. Informative references are cited to acknowledge sources and are not part of this standard. They are identified in Informative Appendix E.

4.8 Normative Appendices. The normative appendices to this standard are considered to be integral parts of the mandatory requirements of this standard, which, for reasons of convenience, are placed apart from all other normative elements.

4.9 Informative Appendices. The informative appendices to this standard and informative notes located within this standard contain additional information and are not mandatory or a part of this standard.

4.10 Validity. If any term, part, provision, section, paragraph, subdivision, table, chart, or referenced standard of this standard shall be held unconstitutional, invalid, or ineffective in whole or in part, such determination shall not be deemed to invalidate any remaining terms, parts, provisions, sections, paragraphs, subdivisions, tables, or charts of this standard.

4.11 Manuals. Operating and maintenance information shall be provided to the building owner. This information shall include, but not be limited to, the information specified in 6.2.5.2 and 8.2.5.2.

4.12 Other Laws. The provisions of this standard shall not be deemed to nullify any provisions of local, state, or federal law. Where there is a conflict between a requirement of this standard and such other law affecting construction of buildings, precedence shall be determined by the authority having jurisdiction.