

**Comments Provided to DPS on
Proposed Amendments to IgCC
Chapters 12**

Chapter 12 - Referenced Standards

Appendix A – Project Electives SECTION A101 GENERAL A101.1 Scope. The provisions of this appendix are designed to offer conservation practices that achieve greater benefit than the minimum requirements of the International Green Construction Code™ (IgCC™). A101.2 Intent. This appendix shall provide a basis by which a jurisdiction can implement measures to increase natural resource conservation, material resource conservation, energy conservation, water conservation and environmental comfort and mitigate impacts of building site development.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: No action required

2011 ASHRAE 189.1 CORRELATION: None

SECTION A102 APPLICABILITY AND CONFORMANCE A102.1 General. Project electives shall be applicable to building, structures and building sites constructed under the provisions of this code. A102.2 Required number of and selection of project electives. The jurisdiction shall indicate the number of project electives required in the blank provided in the row that references Section A102.2 in Tables A104, A105, A106, A107 and A108. Each project constructed in the jurisdiction shall be required to comply with this number of project electives. A total of not less than this number of project electives shall be selected by the owner from each table. Selected project electives shall be applied as mandatory requirements for the project. Selected project electives shall be communicated to the code official by means of checking the appropriate boxes in the tables and providing a copy of the tables, or by inclusion of a list of selected project electives, with the construction documents.

PROPOSED ACTION: DGS recommends that DPS require 20% of the total number of electives be attained for Tables A104, A105 and A106; 0% for Table A107; and 30% for Table A108.

RATIONALE / IMPACT: None of the electives listed in Table A107 are readily achievable given the current state of water resource technology. In addition, several electives are regulated by other AHJ's, therefore identifying a minimum number of electives in this category is premature.

2011 ASHRAE 189.1 CORRELATION: None

SECTION A103 DEFINITIONS A103.1 Definitions. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein. Refer to Chapter 2 of this code for general definitions. DESIGN LIFE. The intended service life or the period of time that a building or its component parts are expected to meet or exceed the performance requirements. GEOTHERMAL ENERGY. Renewable energy generated

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from the interior of the Earth and used to produce energy for heating buildings or serving building commercial or industrial processes. PROJECT ELECTIVE. The minimum total number of project electives that must be selected and complied with as indicated in Section A102.2 and Tables A104, A105, A106, A107 and A108. SERVICE LIFE. The period of time after installation during which a building or its component parts meets or exceeds the performance requirements. VOCs, TOTAL (TVOCs). Sum of the concentrations of all identified and unidentified volatile organic compounds between and including n-hexane through n-hexadecane (i.e., C 6 C 16 as measured by gas chromatography/mass spectrometry total ion-current chromatogram method and are quantified by converting the total area of the chromatogram in that analytical window to toluene equivalents.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: No action required

2011 ASHRAE 189.1 CORRELATION: None

SECTION A104 SITE PROJECT ELECTIVES

A104.1 Flood hazard area project elective. Where Section 402.2.1 is not listed in Table 302.1 as a mandatory requirement, and in specific flood hazard areas if Section 402.2.2 is not a mandatory requirement, projects seeking flood hazard area project electives in accordance with Section A102.2 shall comply with one of the project electives identified in Sections A104.1.1 through A104.1.3.

A104.1.1 Flood hazard area preservation. Where less than 25 percent of a building site is located within a flood hazard area, buildings and building site improvements shall be located on portions of the building site that are located outside of the flood hazard area. The building site shall not be filled or regraded to raise the elevation of the site to remove areas from the flood hazard area.

A104.1.2 Flood hazard area minimization. Where 25 percent or more of a building site is located within a flood hazard area, the lowest floors of buildings that are located within the flood hazard area shall be not less than 1 foot (305 mm) above the design flood elevation as established by the International Building Code, or not less than the height, as established by the jurisdiction, above the design flood elevation, whichever is higher. The placement of fill on a building site shall not be used to achieve the required height above the design flood elevation.

A104.1.3 Flood hazard area, existing building. Where additions, alterations, or repairs are made to an existing building located in a flood hazard area, and the cost of the work equals or exceeds 40 percent of the market value of the structure before the improvement or repair is started, the entire building shall be brought into compliance

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with the flood-resistant construction requirements in the International Building Code for new buildings and structures.

PROPOSED ACTION: Delete

RATIONALE / IMPACT: Regulated by FEMA, MDE and DPS

2011 ASHRAE 189.1 CORRELATION: 5.3.1.2

A104.2 Wildlife corridor project elective. Site development that restores a wildlife corridor, connecting wildlife corridors on adjacent lots, shall be recognized as a project elective.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 5.3.1.2

A104.3 Infill site project elective. The development of a building site that is an infill site with a new building and associated site improvements shall be recognized as a project elective.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A104.4 Brownfield site project elective. The development of a building site that is a brownfield site with a new building with associated site improvements shall be recognized as a project elective. The development shall be in accordance with the following:

Phase I and II Environmental Assessment and, as necessary, the documentation of the site remediation plan and completion of the plan, as approved by the jurisdictional agency in charge of environmental regulations. 2. Where contamination levels are above risk-based standards for intended reuse and remediation is required, building and site development shall provide effective remediation approved by the local, state or federal government agency which classified the site as a brownfield, by one of the following:

2.1. The effective remediation is completed in the manner described in the remediation plan approved by the agency which classified the site as a brownfield.

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2.2. A remediation commensurate with the initial approved plan which the agency approves upon completion by issuing a letter stating that no further remediation action is required.

3. The brownfield site project elective fully accomplishes the applicable state and local brownfields program cleanup goals, with all supporting documentation as required by the state, tribal or other responsible authority.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: Chapter 5

A104.5 Site restoration project elective. Previously developed sites that restore 25 percent or more of the nonbuilding footprint building site area with native or adaptive vegetation shall be recognized as a project elective.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A104.6 Mixed-use development project elective. Development of a mixed-use building shall be recognized as a project elective. The building shall be in accordance with all of the following:

1. It shall have not less than two stories.
2. Eight or more dwelling units of Group R-1 or R-2 occupancy shall be located above the first story.
3. The first story shall contain one or more of the following occupancies: A-1, A-2, A-3, B, M, Group E daycare, or Group R-2 live/work units.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

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A104.7 Changing and shower facilities project elective. Where a new building is less than 10,000 square feet (929 m² in total building floor area, providing changing and shower facilities in accordance with Section 407.2 shall be recognized as a project elective. A104.8 Long-term bicycle parking and storage project

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A104.8 Long-term bicycle parking and storage project elective. The development of a new building and associated site improvements where additional long-term bicycle parking is provided in accordance with all of the following shall be recognized as a single project elective:

1. Provide long-term bicycle parking that is twice the number of parking spaces required by Table 407.3;
2. Provide spaces in accordance with Section 407.3.2; and
3. Locate not less than 90 percent of long-term bicycle parking within a building or provide the parking with a permanent cover including, but not limited to, roof overhangs, awnings, or bicycle storage lockers.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 10.3.2.4.1

A104.9 Heat island. Project electives related to heat island impact shall comply with Sections

A104.9.1 through A104.9.4. Compliance with multiple electives shall be recognized.

A104.9.1 Site hardscape project elective 1. In climate zones 1 through 6, as established in the International Energy Conservation Code, the development of a new building and associated site improvements where a minimum of 75 percent of the site hardscape is in accordance with one or any combination of options in Sections 408.2.1 through 408.2.4, shall be recognized as a project elective.

A104.9.2 Site hardscape project elective 2. In climate zones 1 through 6, as established in the International Energy Conservation Code, the development of a new building and

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associated site improvements where a minimum of 100 percent of the site hardscape is in accordance with one or any combination of options in Sections 408.2.1 through 408.2.4, shall be recognized as a project elective.

A104.9.3 Site hardscape project elective 3. In climate zones 7 and 8, as established in the International Energy Conservation Code, the development of a new building and associated site improvements where a minimum of 50 percent of the site hardscape is in accordance with one or any combination of options in Sections 408.2.1 through 408.2.4, shall be recognized as a project elective.

A104.9.4 Roof covering project elective. In climate zones 4 through 8, as established in the International Energy Conservation Code, the development of a new building with roof coverings in accordance with Section 408.3,

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 5.3.2

SECTION A105 MATERIAL RESOURCE CONSERVATION AND EFFICIENCY

A105.1 Waste management project elective. Projects seeking a waste management project elective shall comply with Section 503.1, except that the nonhazardous construction waste materials required to be diverted from landfills shall be increased by 20 percent. Where another percentage is indicated by the jurisdiction in Table 302.1, projects seeking this credit shall increase diversion by 20 percent above the percentage indicated in Table 302.1.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 9.3.1

A105.2 Construction waste landfill maximum project elective. Projects seeking a construction waste landfill maximum project elective in accordance with Table A105 and Section A102.2 shall comply with Section 503.1 except that not more than 4 pounds (1.814 kg) of construction waste, excluding hardscape, per square foot (0.0929 m² of building area shall be disposed of in a landfill. Building construction waste and hardscape waste shall be measured separately.

PROPOSED ACTION: Adopt as written

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RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 9.3.1.1

A105.3 Material selection project electives. Each of the following shall be considered a separate material selection project elective. The project electives are cumulative and compliance with each item shall be recognized individually.

Compliance with this project elective shall require compliance with Section 505.2, except that buildings and structures shall contain used, recycled content, recyclable, bio-based and indigenous materials that comply with Sections 505.1 through 505.2.5 such that the aggregate total materials compliant with those sections constitute at least 70 percent of the total building products and materials used, based on mass, volume or cost, used singularly or in combination.

Compliance with Item 1 except that such materials shall be used for at least 85 percent of the total mass, volume or cost of materials in the project.

PROPOSED ACTION: Adopt with the following modification: Compliance with this project elective shall require compliance with Section 505.2, except that buildings and structures shall contain used, recycled content, recyclable, bio-based and/or indigenous materials that comply with Sections 505.1 through 505.2.5 such that the aggregate total materials compliant with those sections constitute at least 70 percent of the total building products and materials used, based on mass, volume or cost, used singularly or in combination.

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 9.4.1

A105.4 Building service life plan project electives. Projects seeking a building service life plan project elective shall comply with this section. The building service life plan (BSLP) in accordance with Section A105.4.1 shall be included in the construction documents.

A105.4.1 Plan and components. The building service life plan (BSLP) shall indicate the intended length in years of the design service life for the building as determined by the building owner or registered design professional, and shall include a maintenance, repair, and replacement schedule for each of the following components. The maintenance, repair and replacement schedule shall be based on manufacturer's reference service life data or other approved sources for the building components. The manufacturer's reference service life data or data from other approved sources shall be included in the documentation. Structural elements and concealed materials and assemblies. Materials and assemblies where replacement is cost prohibitive or impractical. Major materials and assemblies that are replaceable. Roof coverings. Mechanical, electrical and plumbing equipment and systems. Site hardscape.

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PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 10.3.2.3

A105.5 Design for deconstruction and building reuse project elective. Projects seeking a design for deconstruction and building reuse project elective shall be designed for deconstruction of not less than 90 percent of the total components, assemblies, or modules to allow essentially the entire building to be reused. Design for deconstruction shall be documented on the building's plans and construction documents.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None A105.6 Existing building reuse project elective. The development of a building site on which an existing building is already located and in which not less than 75 percent of the existing core and shell of the structure will be reused shall be recognized as a project elective.

PROPOSED ACTION: Modify to incorporate a sliding scale based on size of structure to be retained. Renumber to "A1010.x" to correspond with Chapter 10 Existing Buildings.

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A105.7 Historic building reuse project elective. The development of a building site on which an existing building is already located and in which not less than 75 percent of the existing core and shell of a locally or nationally designated historic structure will be reused shall be recognized as a project elective.

PROPOSED ACTION: Modify to incorporate a sliding scale based on size of structure to be retained. Renumber to "A1011.x" to correspond with Chapter 11 Historic Buildings.

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

SECTION A106 ENERGY CONSERVATION, EFFICIENCY AND EARTH
ATMOSPHERIC QUALITY A106.1 zEPI reduction project electives. Project electives for

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buildings pursuing performance-based compliance in accordance with Section 601.3.1 shall be in accordance with the portions of Table A106 that reference Section A106.1, Equation 6-1 and the calculation procedures specified in Section 602.1.2.1.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 7.4 and 7.5.3

A106.2 Mechanical systems project elective. Buildings seeking a mechanical systems project elective in accordance with Sections A102.2 and A106 shall comply with Sections A106.2.1 through A106.2.5. A106.2.1 Prescriptive path. The building shall be designed prescriptively in accordance with Section 601.3.2.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 7.4.3

A106.2.2 Mechanical equipment. Mechanical equipment shall comply with Sections A106.2.2.1 through A106.2.2.4 to achieve the mechanical systems project elective.

A106.2.2.1 Heating equipment. For heating equipment, the part-load efficiency of the equipment shall be not less than 10 percent greater than the part-load efficiencies shown in the applicable tables of the International Energy Conservation Code, or ASHRAE 90.1, or the equipment shall be ENERGY STAR qualified, as applicable.

A106.2.2.2 Cooling equipment. For cooling equipment, the part-load efficiency of the equipment shall be not less than 10 percent greater than the part-load efficiencies shown in the applicable tables of the International Energy Conservation Code, or ASHRAE 90.1, or the equipment shall be ENERGY STAR qualified. A106.2.2.3 Ground source heat pumps. Ground source heat pumps shall meet the provisions of Table A106.2.2.3 based on the applicable referenced test procedure. A106.2.2.4 Multi-stage ground source heat pumps. The efficiency of multi-stage ground source heat pumps shall meet the provisions of Table A106.2.2.3 based on the applicable referenced test procedure. TABLE A106.2.2.3

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 7.4.7.3

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A106.2.3 Duct insulation. Ducts shall be insulated to R-8 or greater where located in unconditioned spaces and R- 11 minimum where located outside of the building structure. Where located within a building envelope assembly, the duct or plenum shall be separated from the building exterior or unconditioned or exempt spaces by R-8 insulation or greater.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 7.4.3.8 A106.2.4 Duct system testing. Duct systems shall be leak-tested in accordance with the SMACNA HVAC Air Duct Leakage Test Manual and shall have a rate of air leakage (CL) less than or equal to 4 as determined in accordance with Equation 4-5 of the International Energy Conservation Code. A106.2.4.1 Documentation. Documentation shall be furnished by the designer demonstrating that representative sections totaling not less than 50 percent of the duct area have been tested and that all tested sections meet the requirements of Section A106.2.4.

PROPOSED ACTION: Modify to incorporate a sliding scale to acknowledge additional percentage for duct tested.

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A106.2.5 Service water heating equipment. The efficiency of the service water heating equipment shall be not less than 10 percent greater than the efficiencies shown in the International Energy Conservation Code and ASHRAE 90.1 or the service water heating equipment shall be ENERGY STAR qualified.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 7.4.4

A106.3 Service water heating project elective. Buildings seeking a service water heating project elective in accordance with Sections A102.2 and A106.3 shall comply with Sections A106.3.1 through A106.3.3.

A106.3.1 Prescriptive path. The building shall be designed prescriptively in accordance with Section 601.3.2.

A106.3.2 Occupancy. The building shall be designed to serve one of the following occupancies:

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Group A-2, restaurants and banquet halls;
Group F, laundries;
Group R-1, boarding houses (transient), hotels (transient), motels (transient);
Group R-2 buildings;
Group A-3, health clubs and spas; and
Group I-2, hospitals, mental hospitals and nursing homes.

A106.3.3 Service water heating efficiency. The efficiency of the service water heating equipment shall be at least 10 percent greater than the efficiencies shown in the International Energy Conservation Code and ASHRAE 90.1 or the service water heating equipment shall be ENERGY STAR qualified.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 7.4.4

A106.4 Lighting system efficiency project elective. Buildings seeking a lighting system efficiency project elective in accordance with Sections A102.2 and A106.4 shall comply with Sections A106.4.1 through A106.4.3. A106.4.1 Prescriptive path. The building shall be designed prescriptively in accordance with Section 602.3.1. A106.4.2 Interior lighting system efficiency. The interior connected lighting power shall be 10 percent less than the allowance determined in accordance with Section C405.5 of the International Energy Conservation Code. A106.4.3 Exterior lighting system efficiency. The exterior connected lighting power shall be 10 percent less than the allowance determined in accordance with Section C405.6 of the International Energy Conservation Code.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 7.4.6

A106.5 Passive design project elective. Buildings seeking a passive design project elective in accordance with Sections A102.2 and A106.5 shall comply with Sections A106.5.1 and A106.5.2. A106.5.1 Performance path. The building shall be designed using the performance path in accordance with Section 601.3.1. A106.5.2 Passive design provisions. The simulation of energy use performed pursuant to Section 602 shall document that not less than 40 percent of the annual energy use reduction realized by the proposed design has been achieved through passive heating, cooling, and ventilation design, as compared to the standard reference design. Passive heating and cooling shall use strategies including, but not limited to, building orientation, fenestration provisions, material selection, insulation choices, overhangs, shading

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means, microclimate vegetation and water use, passive cooling towers, natural heat storage, natural ventilation, and thermal mass.

PROPOSED ACTION: Modify to incorporate a sliding scale starting at a lower threshold.

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A106.6 Renewable energy system project electives. Buildings seeking a renewable energy system project elective or electives shall be equipped with one or more renewable energy systems in accordance with Section 610.1 that have the capacity to provide the percent of annual energy used within the building as selected in Table A106. Capacity shall be demonstrated in accordance with Section 610.1.1 or 610.1.2.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 7.1 SECTION A107 WATER RESOURCE CONSERVATION AND EFFICIENCY A107.1 Indoor water use. This section contains project electives related to indoor water use. A107.2 Onsite waste water treatment project elective. Where projects are intended to qualify for an onsite waste water treatment project elective in accordance with Section A107.2, all waste water from the building shall be treated to meet the quality requirements appropriate for its intended use and as required by law.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 6.4

A107.3 Alternate onsite nonpotable water for outdoor hose connections project elective. Where projects are intended to qualify for an alternate onsite nonpotable for outdoor hose connections project elective in accordance with Section A107.3, sillcocks, hose bibs, wall hydrants, yard hydrants, and other outdoor outlets shall be supplied by non-potable water. Such outlets shall be located in a locked vault or shall be operable only by means of a removable key.

A107.3.1 Signage. Each outlet shall be provided with signage in accordance with Section 706.2. A107.4 Alternate onsite nonpotable water for plumbing

PROPOSED ACTION: Adopt as written

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RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: Chapter 6

A107.4 Alternate onsite nonpotable water for plumbing fixture flushing water project elective. Where projects are intended to qualify for an alternate onsite nonpotable water for plumbing fixture flushing project elective in accordance with Section A107.4, nonpotable water shall be used for flushing water closets and urinals.

A107.4.1 Water quality. Nonpotable water for water closet and urinal flushing shall meet minimum water quality requirements as established for indoor flushing applications by local codes and regulations. Where chlorine is used for disinfection, the nonpotable water shall contain not more than 4 mg/L of chloramines or free chlorine. Where ozone is used for disinfection, the nonpotable water shall not contain gas bubbles having elevated levels of ozone at the point of use.

A107.4.2 Filtration required. Nonpotable water utilized for water closet and urinal flushing applications shall be filtered by a 100 micron or finer filter.

A107.4.3 Signage. The entries to rooms having water closets or urinals that are supplied with nonpotable water shall be provided with signage in accordance with Section 706.2.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: Chapter 6

A107.5 Automatic fire sprinkler system project elective. Where projects are intended to qualify for an automatic fire sprinklers system project elective in accordance with Section A107.5, automatic fire sprinkler systems shall be supplied with nonpotable water from an onsite rainwater collection system. Such rainwater collection system shall comply with Section 707. The requirements of Sections A107.5.1 and A107.5.3 shall apply to the fire sprinkler system and the onsite rainwater collection system.

A107.5.1 Emergency power. An emergency power system complying with Chapter 27 of the International Building Code shall be provided for powering the pump and controls for the onsite rainwater collection system.

A107.5.2 Source volume indication. The fire command center for the building shall be equipped with a device that indicates the volume of nonpotable water contained in the collection reservoir. The indicator shall be approved and shall be in compliance with NFPA 72.

A107.5.3 Quality of water used for fire suppression. The required quality and treatment of the nonpotable water stored and used for fire suppression shall be determined by authority(s) having jurisdiction. A107.6 Alternate onsite nonpotable water to fire pumps.

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PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A107.6 Alternate onsite nonpotable water to fire pumps project elective. Where projects are intended to qualify for an alternate onsite nonpotable water to fire pumps project elective in accordance with Sections A107.6, one or more fire pumps shall be located within 200 feet (60 960 mm) of a non- potable water collection system of sufficient quality, pressure, and capacity for fire pump applications and the fire pumps shall be connected to such source of nonpotable water. The connections shall be in accordance with Section 403.3.2 of the International Building Code. A107.6.1 Quality of water used for fire suppression. The required quality and treatment of the nonpotable water stored and used for fire suppression shall be determined by the authority having jurisdiction. A107.6.2 Signage. Fire pumps connected to a nonpotable water supply shall have signage in accordance with Section 706.2 provided at the building's fire command center and at each fire pump. A107.7 Alternate onsite nonpotable water for industrial

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A107.7 Alternate onsite nonpotable water for industrial process makeup water project elective. Where projects are intended to qualify for an alternate onsite nonpotable water for industrial process makeup water project elective in accordance with Section A107.7, industrial processes requiring makeup water shall utilize nonpotable water except where the process requires potable water for proper functioning. A107.7.1 Signage. Rooms containing process equipment supplied with nonpotable water shall be provided with signage in accordance with Section 706.2.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A107.8 Alternate onsite nonpotable water for cooling tower makeup water project elective. Where projects are intended to qualify for an alternate onsite nonpotable water for cooling tower makeup water project elective in accordance with Section A107.7, nonpotable water shall be utilized for cooling tower makeup water in accordance with the requirements of Section 706.3.

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PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

A107.9 Gray water collection project elective. Where projects are intended to qualify for a gray water collection project elective in accordance with Section A107.8, waste water from lavatories, showers, bathtubs, clothes washers, and laundry trays shall be collected for reuse onsite in accordance with Section 708.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

SECTION A108 INDOOR ENVIRONMENTAL QUALITY AND COMFORT

A108.1 VOC emissions project electives. Sections A108.2 through A108.5 shall be considered to be separate project electives. The electives shall be cumulative and compliance with each project elective shall be recognized individually. A108.2 Flooring material project elective. Where projects are intended to qualify for a "flooring material" project elective, all flooring installed within the interior of the building shall comply with Section 806.4 or shall be one or more of the following flooring materials that are deemed to comply with VOC emission limits:

1. Ceramic and concrete tile
2. Clay pavers
3. Concrete
4. Concrete pavers
5. Metal
6. Organic-free, mineral-based

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 8.4.2.3

A108.3 Ceiling materials project elective. Where projects are intended to qualify for a "ceiling materials" project elective, all ceiling systems shall comply with Section 806.5 or shall be one or more of the following ceiling systems that are deemed to comply with VOC emission limits:

1. Ceramic tile

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2. Clay masonry
3. Concrete
4. Concrete masonry
5. Metal
6. Organic-free, mineral-based

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 8.4.2.6

A108.4 Wall materials project elective. Where projects are intended to qualify for a "wall materials" project elective, all wall systems shall comply with Section 806.5 or shall be one or more of the following wall systems that are deemed to comply with VOC emission limits: 1. Ceramic tile 2. Clay masonry 3. Concrete 4. Concrete masonry 5. Metal 6. Organic-free, mineral-based

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 8.4.2.6

A108.5 Total VOC limit project elective. Where projects are intended to qualify for a "total VOC limit" project elective in accordance with a minimum of 50 percent of all adhesives and sealants, architectural paints and coatings, flooring, acoustical ceiling tiles and wall systems and Insulation shall have a Total Volatile Organic Compounds (TVOCs) emission limit of $\leq 500 \text{ ug/m}^3$. The test methodology used to determine compliance shall be from CDPH/EHLB/Standard Method V.1.1. The emissions testing shall be performed by a laboratory that has the CDPH/EHLB/Standard Method V.1.1 test methodology in the scope of its ISO 17025 Accreditation.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: 8.4.2.1.2

A108.6 Views to building exterior project elective. Where projects are intended to qualify for a "views to building exterior" project elective in accordance with Section A108.6, not less than 50 percent of the net floor area shall have a direct line of sight to the exterior through clear vision glazing. A total of not less than 45 square feet (4.18 m²) of clear vision glazing in the exterior wall or roof shall be visible. The direct line of sight shall

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originate at a height of 42 inches (1067 mm) above the finished floor of the space, shall terminate at the clear vision glazing in the exterior wall or roof, and shall be less than 40 feet (12 192 mm) in length. Exception: Where the direct line of sight is less than 25 feet (7620 mm) in length, a total of not less than 18 square feet (1.67 m²) of clear vision glazing in the exterior wall or roof shall be visible.

PROPOSED ACTION: Adopt as written

RATIONALE / IMPACT: Good practice

2011 ASHRAE 189.1 CORRELATION: None

PROPOSED ELECTIVES Indoor Environmental Air Quality – Proposed Elective

PROPOSED ACTION: Adopt the following project elective

RATIONALE / IMPACT: Good practice; language taken directly from ASHRAE 189.1

2011 ASHRAE 189.1 CORRELATION: 8.3.1.5

Building Entrances. All building entrances shall employ an entry mat system that shall have a scraper surface, an absorption surface, and a finishing surface. Each surface shall be a minimum of the width of the entry opening, and the minimum length is measured in the primary direction of travel.

Exceptions: 1. Entrances to individual dwelling units. 2. Length of entry mat surfaces is allowed to be reduced due to a barrier, such as a counter, partition, or wall, or local regulations prohibiting the use of scraper surfaces outside the entry. In this case entry mat surfaces shall have a minimum length of 3 ft (1 m) of indoor surface, with a minimum combined length of 6 ft (2 m).

Scraper Surface. The scraper surface shall comply with the following: a. Shall be the first surface stepped on when entering the building. b. Shall be either immediately outside or inside the entry. c. Shall be a minimum of 3 ft (1 m) long. d. Shall be either permanently mounted grates or removable mats with knobby or squeegee-like projections. **Absorption Surface.** The absorption surface shall comply with the following: a. Shall be the second surface stepped on when entering the building. b. Shall be a minimum of 3 ft (1 m) long, and made from materials that can perform both a scraping action and a moisture wicking action.

Finishing Surface. The finishing surface shall comply with the following: a. Shall be the third surface stepped on when entering the building. b. Shall be a minimum of 4 ft (1.2 m) long, and made from material that will both capture and hold any remaining particles or moisture.

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Innovation in Design – Proposed Elective

PROPOSED ACTION: Adopt the following project elective

RATIONALE / IMPACT: Promote sustainable strategies and resource conservation techniques not addressed elsewhere in the Code but worthy of consideration; language taken from LEED 2009 with minor modifications for this Code.

2011 ASHRAE 189.1 CORRELATION: None

Innovative Strategies: Innovative strategies are those that are not addressed by any other requirement of this Code. Only those strategies that demonstrate a comprehensive approach and have significant, measurable environmental benefits are applicable. Credit may be granted for strategies that demonstrate innovation in design or exemplary performance.