

## GG271-14

202 (New), 901, 901.1, 901.2 (New), 902.1, 902.1.1, 902.1.2, 902.1.3, 903.1, 903.2 (New), 903.3 (New), 903.1.1, 903.4.1 (New), 903.1.2, 903.5.1 (New), 903.6 (New), 903.6.1 (New), 903.6.2 (New), 903.7 (New), 904.1, 904.2, 904.2.1 (New), 904.3

**Proponent:** Brenda Thompson, Clark County Development Services, Las Vegas, NV, Chair, Sustainability, Energy and High Performance Code Action Committee (SEHPCAC)

Revise as follows:

### CHAPTER 9 COMMISSIONING, INSPECTIONS, OPERATIONS AND MINTENANCE

#### SECTION 901 GENERAL

**901.1 Scope.** The provisions of this chapter are intended to facilitate contain the pre- and post-certificate of occupancy commissioning, inspection, operation and maintenance requirements for of buildings and building sites, including constructed in accordance with this code in a manner that is consistent with the intent of other provisions of this code, and to further that goal through the education of information for building owners and maintenance personnel with regard to related best operating and maintenance requirements management practices.

**901.2 Operations and maintenance.** Buildings, structures and building sites and parts thereof shall be operated and maintained in accordance with the code applicable at the time of construction. The requirements of this chapter shall not provide the basis for removal or abrogation of fire protection or safety systems and devices in existing buildings or structures or on existing building sites.

#### SECTION 902 APPROVED AGENCY

**902.1 Approved agency.** An approved agency shall be qualified, demonstrate competence and provide all of the information necessary for the code official to determine that the agency meets the applicable requirements. The code official shall be permitted to be the approved agency. The registered design professional in responsible charge and the engineers of record involved in the design of the project shall be permitted to act as the approved agency provided those personnel meet the qualification requirements of this section to the satisfaction of the code official.

**902.1.1 Independence.** An approved agency shall be objective, competent and independent from the contractor responsible for the work being inspected. The agency shall also disclose possible conflicts of interest so that objectivity can be confirmed.

**902.1.2 Equipment.** An approved agency shall have adequate equipment to perform the required commissioning. The equipment shall be periodically calibrated in accordance with manufacturer's specifications.

**902.1.3 Personnel.** An approved agency shall employ experienced personnel educated in conducting, supervising and evaluating tests, inspections and commissioning.

#### SECTION 903 COMMISSIONING

**903.1 General.** Where application is made for construction as described in this section, the construction documents shall indicate that the registered design professional in responsible charge or approved agency shall perform commissioning during construction and after issuance of the certificate of occupancy as required by this code and Table 903.1. Where Table 903.1 specifies that commissioning is to be done on a periodic post-certificate of occupancy basis, the registered design professional in responsible charge shall provide a schedule of periodic commissioning with the submittal documents that shall be reviewed and *approved* by the *code official*.

~~The approved agency shall be qualified and shall demonstrate competence, to the satisfaction of the *code official*, for the commissioning of the particular type of construction or operation. The registered design professional in responsible charge and engineers of record involved in the design of the project are permitted to act as the approved agency provided those personnel meet the qualification requirements of this section to the satisfaction of the *code official*. The approved agency shall provide written documentation to the *code official* demonstrating competence and relevant experience or training. Experience or training shall be considered relevant where the documented experience or training is related in complexity to the same type of commissioning activities for projects of similar complexity and material qualities.~~

**Add new test as follows:**

**903.2 The commissioning process.** The commissioning process shall consist of a sequence of activities, each with acceptance criteria as applicable, and shall conform to industry commissioning standards.

**903.3 The commissioning plan.** A commissioning plan shall be developed by a registered design professional or approved agency for all systems to be commissioned or inspected and shall include all of the following:

1. An overview of the commissioning process developed specifically for the project.
2. The roles and responsibilities for the commissioning and inspection providers throughout the project. The responsibilities shall delineate the duties of the commissioning providers, inspectors and other agencies.
3. Documentation of communication channels including the distribution of the commissioning plan, logs and reports during the design and construction process.
4. A detailed description of commissioning process activities, a schedule of activities, and the list of operations, systems and assemblies that will be commissioned or inspected. Performance criteria shall be included where not shown on the construction documents.
5. Project design documentation and submittal review procedures and reports.
6. Inspection checklists and testing forms, issues and resolution log, and commissioning and inspection process information.
7. The procedures to follow where commissioning evaluation does not meet the project requirements.
8. Required reports including format, approvals and distribution.

**Revise as follows:**

**903.4 903.4.1 Pre-certificate of occupancy commissioning report requirement.** The approved agency shall keep records of the pre-certificate of occupancy commissioning required by Table 903.1. The approved agency shall ~~furnish~~ issue logs and commissioning reports to the owner or the owner's authorized agent and the registered design professional in responsible charge and, upon request, to the *code official*. Reports shall indicate that work was or was not completed in conformance to *approved* construction documents. Discrepancies shall be brought to the ~~immediate~~ attention of the contractor for correction. Where discrepancies are not corrected, they shall be brought to the attention of the owner or the owner's authorized agent, ~~code official~~ and to the registered design professional in responsible charge and, where requested, to the *code official*, prior to the completion of that phase of the work. Prior to the issuance of a Certificate of Occupancy, a final pre-certificate of occupancy commissioning report

shall be submitted to and accepted by the building owner or the owner's authorized agent and, where requested, to the code official.

**Add new text as follows:**

**903.4.1 Pre-certificate of occupancy commissioning report.** The pre-certificate of occupancy commissioning report shall include the following:

1. Performance of commissioned operations, equipment, systems and assemblies.
2. Issue logs including itemization of deficiencies found during testing and commissioning required by this section that have not been corrected at the time of the preparation of this report.
3. Deferred tests that cannot be performed at the time of report preparation because of climatic or other conditions.
4. Climatic and other conditions required for performance of the deferred tests and a plan for their completion.

~~**903.4.2 903.5 Post-occupancy report requirement-Final commissioning report.**~~ The commissioning activities included in the commissioning plan, including delayed testing, shall be accomplished and documented before project completion. Equipment, systems and assemblies repaired or replaced and adjustments to calibration and stings, shall be documented in final sequence of operation and in the systems manual. This documentation shall be provided to and accepted by the building owner or the owner's authorized agent and ~~Post-occupancy commissioning shall occur as specified in the applicable sections of this code. A post-occupancy commissioning report shall be provided to the owner within 30 months after the Certificate of Occupancy is issued for the project and shall be made available to the code official upon request.~~

**Add new text as follows:**

**903.5.1 Final commissioning report.** A final commissioning report shall be submitted to the owner or the owners authorized agent prior to project completion and shall include the following:

1. A copy of the final commissioning plan, including functional and performance test procedures used during the commissioning process and measurable criteria for test acceptance.
2. A copy of the final *owner's project requirements, basis of design*, and design and submittal reviews as required by the commissioning plan.
3. The results of all evaluations, start-up data, functional and performance tests, and reports by suppliers, contractors, inspectors, and commissioning providers. Reports demonstrating compliance with the requirements of Table 903.1 shall be included.
4. Issue logs and disposition of all deficiencies found during testing, including details of corrective measures used or proposed.
5. A resolution plan approved by the owner or the owner's authorized agent identifying the issues that are unresolved or incomplete at the end of the project.

**903.6 Systems manual.** A complete systems manual shall be submitted to the owner or the owner's authorized agent prior to project completion. Materials in Item 1 to Section 903.6.2, except final record documents that are not yet available, and materials in Items 2 and 3 to Section 903.6.2, shall be provided. At least one copy of the systems manual shall be in the possession of the owner or the owner's authorized agent and at least one additional copy shall remain with the building throughout the life of the facility.

**903.6.1 Updates.** The systems manual shall be updated and maintained by the owner or the owner's authorized agent for the life of the building such that the building information is current.

**903.6.2 Required information.** The cover sheet for the systems manual shall indicate that at least one copy of the manual shall be in the possession of the owner or the owner's authorized agent and at least

one copy shall remain with the building throughout the life of the facility. The systems manual shall include the following:

1. Facility design and construction, including:
  - 1.1 Owners project requirements or current facility requirements and basis of design available for the project.
  - 1.2 Construction record documents in accordance with Section 903.7.1, including specifications and approved submittals.
2. Facility, systems and assemblies information including:
  - 2.1 Manufacturer's operation and maintenance data for installed equipment systems and assemblies.
  - 2.2 Warranties and certificate of occupancy.
  - 2.3 Contractor and supplier listing and contact information.
3. A facility operations guide, including an operating plan, building and equipment operating schedules, setpoints and ranges, sequences of operation, system and equipment limitations and emergency procedures.
4. Where training is provided, training plans, materials and records shall be provided.
5. A final commissioning report in accordance with Section 903.5.1.

**903.7 Record documents.** The cover sheet of the record documents for the project shall clearly indicate that at least one copy of the record documents shall be in the possession of the owner or the owner's authorized agent and at least one copy shall remain in the building. The building owner shall file a letter with the code official certifying the receipt of the record documents and building systems manual and commissioning documents at the completion of the project. The record documents shall include all of the following:

1. Copies of the approved construction documents, including plans and specifications.
2. Record plans, specifications, approved submittals and coordination drawings indicating the actual locations of equipment, systems and assemblies such as piping, ductwork, valves, controls, equipment, access panels, electrical equipment, plumbing equipment, lighting and other operating components and systems where they are visible or concealed, or are installed in locations other than those indicated on the approved construction documents.
3. For sites that have previously been a brownfield, or required environmental corrective action, remediation or restoration at the federal, state or local level, copies of engineering and institutional control information shall be provided.
4. Building operations and maintenance documents in accordance with Section 904.

**Revise as follows:**

**TABLE 903.1  
COMMISSIONING AND INSPCETION PLAN REQUIREMENTS**

CONSTRUCTION OR SYSTEM REQUIRING VERIFICATION	PRE OCCUPANCY	POST-OCCUPANCY	METHOD	OCCURRENCE		SECTION/ REFERENCED STANDARD
				Pre-certificate of occupancy	Post-certificate of occupancy	
<b>Chapter 4: Site Development and Land Use</b>						
Natural resources and base line conditions of building site	X	None	Inspection and report	With permit submittal	None	401.2
Landscape irrigation systems	X	None	Field inspection and commissioning testing and report	Installation and testing	None	404.1, 405.1.1
Topsoil and vegetation protection	X	None	Field inspection and report	Installation of measures, prior to other	None	405.1.1

CONSTRUCTION OR SYSTEM REQUIRING VERIFICATION	PRE OCCUPANCY	POST-OCCUPANCY	METHOD	OCCURRENCE		SECTION/ REFERENCED STANDARD
				Pre- <u>certificate of occupancy</u>	Post- <u>certificate of occupancy</u>	
measures; setbacks from protected areas				site disturbance		
Imported soils	X	None	Field inspection and report	With permit submittal; after all-fill operations complete	None	405.1.3
Soil restoration and reuse	X	None	Field inspection and report	<u>During</u> preparation and replacement of soils	None	405.1.4
Stormwater management system operation	None	X	Field inspection <u>and</u> report	<u>During construction</u>	<u>24 months See maintenance plan</u>	403.1
Erosion and sediment control	X	X	Field inspection <u>and</u> report	<u>During construction activities</u>	<u>Periodic for 24 months See maintenance plan</u>	405.1.1
Hardscape and shading provided by structures and vegetation	X	X	Field inspection and report	<u>During construction and installation</u>	<u>24 months See maintenance plan</u>	408.2
Vegetative roofs	X	X	Field inspection and report	<u>During installation of protective membranes, base materials, soils and vegetation</u>	<u>24 months See maintenance plan</u>	408.3.2
Site lighting	X	None	<u>Commissioning testing and report</u>	<u>During installation and testing</u>	None	409
<b>Chapter 5: Material Resource Conservation and Efficiency</b>						
Moisture control (Section 507.1)						
1. Foundation sub-soil drainage system.	X	None	Field inspection and <u>report verification</u>	Periodic inspection for entire sub-soil drainage system	None	507.1 and IBC Ch 18
2. Foundation waterproofing	X	None	Field inspection and <u>report verification</u>	Periodic inspection for the entire foundation	None	507.1 and IBC Ch 18
3. Foundation dampproofing	X	None	Field inspection and <u>report verification</u>	Periodic inspection for the entire foundation	None	507.1 and IBC Ch 18
4. Under slab water vapor protection	X	None	Field inspection and <u>report verification</u>	Periodic inspection for entire slab footprint	None	507.1, IBC Ch 19 and ASTM E 1643
5. Flashing at: exterior windows, doors, skylights, wall flashing and drainage systems	X	None	Field inspection and <u>report verification</u>	Periodic inspection for not less than 25 percent of all flashing locations.	None	507.1 and IBC Ch 14

CONSTRUCTION OR SYSTEM REQUIRING VERIFICATION	PRE OCCUPANCY	POST-OCCUPANCY	METHOD	OCCURRENCE		SECTION/ REFERENCED STANDARD
				Pre- <u>certificate of occupancy</u>	Post- <u>certificate of occupancy</u>	
6. Exterior wall coverings	X	None	Field inspection and <u>report verification</u>	Periodic inspection for not less than 25 percent of exterior wall cladding systems.	None	507.1 and IBC Ch 14
7. Roof coverings, roof drainage, and flashings	X	None	Field inspection and <u>report verification</u>	Periodic inspection for not less than 25 percent of roof covering, roof drainage and flashings.	None	507.1 and IBC Ch 15
<b>Chapter 6: Energy</b>						
Energy consumption, monitoring, targeting and reporting						
a. Monitoring system	X	None	<u>Commissioning inspection, and verification and report</u>	During construction and prior to occupancy	None	603, 610.5
b. Calibration	X	X	<u>Commissioning testing and review and evaluation or test reports</u>	During <u>testing and commissioning</u>	Annually where <u>required in maintenance plans</u>	603, 610.5
<u>c. Dynamic window systems and automatic shading systems</u>			<u>Commissioning plan review and field inspection and report</u>	<u>Periodic inspection during construction</u>	None	
Mechanical systems completion – all buildings						
a. Air system balancing – provide the means for system balancing	X	None	<u>Commissioning inspection and report verification</u>	During construction and prior to occupancy	None	611.1.2.1 and through reference to IECC
b. Hydronic system balancing – provide means for system balancing	X	None	<u>Commissioning inspection and report verification</u>	During construction and prior to occupancy	None	611.1.2.2 and through reference to IECC
c. Mechanical system manuals – construction documents to require O&M systems manual	X	None	<u>Commissioning verification of construction documents</u>	Plan review	None	611.1.5.2
Mechanical systems – buildings over 5,000 square feet total building floor area						
a. Commissioning required and noted in plans and specifications	X	None	<u>Commissioning verification of construction documents</u>	Plan review	None	611.1
b. Documentation of required commissioning outcomes	X	None	<u>Commissioning verification with the building owner or owner's authorized agent</u>	<u>During construction and subsequent to completion of all commissioning activities</u>	None	611.1
c. Preparation and availability of a	X	None	<u>Commissioning verification with the</u>	Between plan review and	None	611.1.1

CONSTRUCTION OR SYSTEM REQUIRING VERIFICATION	PRE OCCUPANCY	POST-OCCUPANCY	METHOD	OCCURRENCE		SECTION/ REFERENCED STANDARD
				Pre- <u>certificate of occupancy</u>	Post- <u>certificate of occupancy</u>	
commissioning plan			RDP or <u>commissioning agent</u>	commissioning initiation		
d. Balance HVAC systems (both air and hydronic)	X	X	HVAC system installer, <u>TAB</u> /contractor or <u>and</u> <u>commissioning agent provider</u>	After installation of HVAC systems and prior to occupancy	<u>Where required in maintenance plans TBD</u>	611.1.2
e. Functional <u>and</u> performance testing of HVAC equipment	X	X	HVAC system installer/contractor <u>and</u> or <u>commissioning agent provider</u>	<u>During construction,</u> after installation of HVAC systems and prior to occupancy	<u>Where required in maintenance plans TBD</u>	611.1.3
f. Functional <u>and</u> performance testing of HVAC controls and control systems	X	X	HVAC system installer/contractor <u>and</u> or <u>commissioning agent provider</u>	After installation of HVAC systems and prior to occupancy	<u>Where required in maintenance plans TBD</u>	611.1.3.2
g. Preparation of preliminary commissioning report	None	X	HVAC system installer/contractor <u>and</u> or <u>commissioning agent provider</u>	<u>Prior to final inspection</u> None	<u>None</u> Subsequent to commissioning	611.1.4
h. Acceptance of HVAC systems and equipment/system verification report	None	X	Building owner or <u>owner's authorized agent</u>	<u>Letter verifying receipt of the commissioning report</u> None	<u>None</u> Letter verifying receipt of the commissioning report	611.1.4.1
i. Preparation and distribution of final HVAC system completion— Documentation that construction documents require drawings, manuals, balancing reports and commissioning report be provided to the owner or <u>owner's authorized agent</u> and that they have been provided	None	X	RDP, contractor <u>and</u> or-commissioning authority	<u>Before project completion</u> None	<u>None</u> 90-days after final certificate of occupancy	611.1.5
<b>Chapter 6: Lighting</b>						
Auto demand reduction control system functionality	X	X	<u>Commissioning and functional testing</u>	Final inspection	<u>None</u> 18-24 months	604.4
Plug load controls	X	None	<u>Commissioning and functional testing</u>	Final inspection	None	608.6
Connection of appliances to switched receptacles	—	X	Field inspection	None	18-24 months	608.6
Specified transformer nameplate efficiency rating	X	None	Field inspection	Final inspection	None	608.8.1.1

CONSTRUCTION OR SYSTEM REQUIRING VERIFICATION	PRE OCCUPANCY	POST-OCCUPANCY	METHOD	OCCURRENCE		SECTION/ REFERENCED STANDARD
				Pre-certificate of occupancy	Post-certificate of occupancy	
Verification of lamp	X	X	Field inspection	Final inspection	18-24 months	608.10
Verification of ballast	X	None	Field inspection	Final inspection	None	608.10
Lighting controls						
a. Installation	X	None	Field inspection	Post-installation	None	608.11
b. Calibration	X	X	System installer/contractor and/or-commissioning provider agent	Post-installation prior to final inspection	18-24 months Where required in maintenance plans	611.3.3
<b>Chapter 7: Water Resource Conservation, Quality and Efficiency</b>						
Appliances	X	None	Inspection	—	None	702.6
Hot water distribution	X	None	Field testing and commissioning verification	Prior to final inspection	None	702.8
Cooling tower performance	—	X	Field testing and commissioning verification	Prior to final inspection	None	703.7.7
Metering	X	None	Field testing and commissioning verification	Prior to final inspection	None	705.1.1
Rainwater system water quality	None	X	Field testing and verification	None	None 707.15.1	707.15.1
Gray water system water quality	None	X	Field testing and verification	None	None 707.15.1	708.13.8
Soil percolation test	X	None	Field inspection and report	Prior to installation of gray water irrigation system	None	708.14.2
<b>Chapter 8: Indoor Environmental Quality and Comfort</b>						
Building construction, features, operations and maintenance facilitation						
Air-handling system access	X	X	Field inspection and commissioning verification	During construction and prior to occupancy	None 18–24 months	802.2
Air-handling system filters	X	X	Field inspection and commissioning verification	During construction and prior to occupancy	None 18–24 months	802.3
HVAC systems						
Temperature and humidity in occupied spaces	—	X	Field inspection and commissioning verification	Prior to project completion	None 18–24 months	803.2
Specific indoor air quality & pollutant control measures						
Listing, installation and venting of fireplaces and combustion appliances	X	—	Field inspection and verification	During construction and prior to occupancy	—	804.1
Sound transmission						
Mechanical and emergency generator equipment located outside buildings or located where	X	None	Field testing and verification	See Section 807.5.1	None	807.5.1



CONSTRUCTION OR SYSTEM REQUIRING VERIFICATION	PRE OCCUPANCY	POST-OCCUPANCY	METHOD	OCCURRENCE		SECTION/ REFERENCED STANDARD
				Pre- <u>certificate of occupancy</u>	Post- <u>certificate of occupancy</u>	
exposed to exterior environment.						
HVAC background sound	×	None	Field testing and verification	See Section 807.5.2	None	807.5.2

For SI: 1 square foot = 0.0929 m<sup>2</sup>

## SECTION 904 BUILDING OPERATIONS AND MAINTENANCE DOCUMENTATION

### Delete without substitution:

**904.1 General.** Building operations and maintenance documents in accordance with Section 904.3 shall be submitted to the owner prior to the issuance of the Certificate of Occupancy. Record documents shall be in accordance with Section 904.2. The building owner shall file a letter with the *code official* certifying the receipt of record documents and building operations and maintenance documents. At least one copy of these materials shall be in the possession of the owner and at least one additional copy shall remain with the building throughout the life of the structure.

**904.2 Record documents.** The cover sheet of the record documents for the project shall clearly indicate that at least one copy of the materials shall be in the possession of the owner. Record documents shall include all of the following:

1. Copies of the *approved* construction documents, including plans and specifications.
2. As-built plans and specifications indicating the actual locations of piping, ductwork, valves, controls, equipment, access panels, lighting and other similar components where they are concealed or are installed in locations other than those indicated on the *approved* construction documents.
3. For sites that have previously been a *brownfield*, or required environmental corrective action, remediation or restoration at the federal, state or local level, copies of engineering and institutional control information shall be provided.
4. A copy of the Certificate of Occupancy.

### Revise as follows:

**904.1 904.3 Building operations and maintenance documents.** The building operations and maintenance documents shall consist of manufacturer's information, specifications and recommendations, programming procedures and data points, narratives, and other means of illustrating to the owner how the building, site, equipment and systems are intended to be installed, maintained and operated.

**904.2 Required information.** The following information shall be included in the operations and maintenance documents, materials, as applicable to the specific project:

1. Directions to the owner or occupant on the manual cover sheet indicating that at least one copy of the materials shall be in the possession of the owner or occupant.
- 2.1. Operations and maintenance manuals for equipment, products and systems installed under or related to the provisions of Chapter 4 including, but not limited to, the following, as applicable:
  - 1.1 2.1 Vegetative shading, vegetative roofs and Natural resource protections and setbacks.
  - 2.2 Water-conserving landscape and irrigation systems.
  - 2.3 Stormwater management systems.
  - 2.4 Permanent erosion control measures.
  - 1.2 2.5 Landscape or tree management plans.

- ~~23.~~ Operations and maintenance documents for materials, products, assemblies and systems installed under or related to the provisions of this code for material resource conservation in accordance with Chapter 5 including, but not limited to, the following, as applicable:
  - ~~3.12.1~~ Care and maintenance instructions and recommended replacement schedule for flooring, including, but not limited to, carpeting, walk-off mats and tile.
  - ~~3.22.2~~ Care and maintenance instructions for natural materials including, but not limited to, wood, bio-based materials and stone.
  - ~~3.32.3~~ Available manufacturer's instructions on maintenance for:
    - ~~3.3.4 2.3.1~~ Exterior wall finishes.
    - ~~3.3.2~~ Roof coverings.
    - ~~3.3.32.3.2~~ Exterior doors, windows and skylights.
  - ~~3.4 2.4~~ Information and recommended schedule for required routine maintenance measures, including, but not limited to, painting and refinishing.
- 43. Operations and maintenance documents for equipment, products and systems installed under or related to the provisions of this code for energy conservation in accordance with Chapter 6 including, but not limited to, the following:
  - 4.13.1 Heating, ventilating and air-conditioning systems including:
    - 4.1.13.1.1 Recommended equipment maintenance schedule and procedures.
    - 4.1.23.1.2 Air filters and fluid filters, including recommended replacement schedule and materials.
    - 4.1.3 Time clocks, including settings determined during commissioning.
    - 4.1.4 Programmable controls and thermostats, including settings determined during commissioning.
  - 4.23.2 Domestic hot water systems including performance criteria and controls.
  - 4.33.3 *Building thermal envelope* systems including:
    - 4.3.13.3.1 Glazing systems inspection schedule.
    - 4.3.23.3.2 Performance criteria for replacements and repairs.
    - 4.3.33.3.3 Information and recommended schedule on required routine maintenance measures, including but not limited to, sealants, mortar joints and screens.
  - 4.13.1 Electrical and lighting systems including:
    - 4.1.1 Technical specifications and operating instructions for installed lighting equipment.
    - 4.1.23.1.1 Luminaire maintenance and cleaning plan.
    - 4.1.33.1.2 Lamp schedule, recommended re-lamping plan, and lamp disposal information.
    - 4.1.4 Programmable and automatic controls documentation, including settings determined during commissioning.
    - 4.1.5 Occupant sensor and daylight sensors documentation, including settings determined during commissioning.
  - ~~4.2~~ Automatic demand reduction systems.
- ~~5.4.~~ Operations and maintenance documents for equipment, products and systems installed under or related to the provisions of this code for water conservation in accordance with Chapter 7, including, but not limited to the following:
  - ~~5.1~~ Domestic fixtures.
  - ~~5.2~~ Water-regulating devices including faucets and valves, and water heating systems maintenance procedures.
  - ~~5.3~~ Irrigation and rainwater and gray water catchment.
- ~~6.5.~~ Operations and maintenance documents for equipment products and systems under or related to the provisions of this code for indoor environmental quality in accordance with Chapter 8, including, but not limited to, the following:
  - ~~6.15.1~~ Humidification/dehumidification systems maintenance.
  - ~~6.25.2~~ Green cleaning products, procedures and techniques.
  - ~~6.3~~ Recommended window cleaning schedule.
  - ~~6.4~~ Ventilation controls.
  - ~~6.5~~ Floor finishes.
  - ~~6.6~~ Fireplaces and combustion appliances.

## SECTION 202 DEFINITIONS

**BASIS OF DESIGN.** A document that records the concepts, calculations, decisions and product selections used to meet the owner's project requirements and to satisfy applicable regulatory requirements, standards and guidelines. The document includes both narrative descriptions and lists of individual items that support the design process. Also see the definition of owner's project requirements.

**OWNER'S PROJECT REQUIREMENTS.** A written document that details the functional requirements of a project and the expectations of how it will be used and operated. These include project goals, measurable performance criteria, cost considerations, benchmarks, success criteria and supporting information.

**Reason:** This proposal was submitted by the ICC Sustainability Energy and High Performance Code Action Committee (SEHPCAC). The SEHPCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance International Codes with regard to sustainability, energy and high performance as it relates to the built environment included, but not limited to, how these criteria relate to the International Green Construction Code (IgCC) and the International Energy Conservation Code (IECC). This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. In 2012 and 2013, the SEHPCAC has held six two-day open meetings and 50 workgroup calls, which included members of the SEHPCAC as well as any interested parties, to discuss and debate proposed changes and public comments. Related documentation and reports are posted on the SEHPCAC website at: <http://www.iccsafe.org/cs/SEHPCAC/Pages/default.aspx>.

Chapter 9 is revised for clarification of commissioning, inspection, and operations processes. The report detail items in chapter 6 and chapter 9 are combined to provide clarity and completeness. With these changes all the commissioning report requirements are in one chapter. The revisions particularly to Table 903.1 also separate the pre-certificate of occupancy requirements and the operation phase testing and reporting as is currently performed in the industry.

The changes to Section 904 remove the redundancies with Section 903 and Table 903.1.

The proposed new definitions for "basis of design" and "owner's project requirements" are derived from ASHRAE 202.

A separate companion proposal related to the commissioning requirements of Chapter 6 has also been submitted by the SEHPCAC.

**Cost Impact:** Will increase the cost of construction.

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GG271-14 : CHAPTER 9-THOMPSON1094