INTERNATIONAL CODE COUNCIL®

2012

INTERNATIONAL CODE COUNCIL PERFORMANCE CODE®

FOR BUILDINGS AND FACILITIES

A Member of the International Code Family®

ICCPC®

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2012 ICC Performance Code® for Buildings and Facilities

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PREFACE

Introduction

Internationally, the design and regulatory community has embraced the need for a code that emphasizes performance requirements rather than prescriptive requirements. This need is not unique to the international community. As such, the ICC *Performance Code® for Buildings and Facilities* (ICCPC®), in this 2012 edition, is designed to meet this need through model code regulations that safeguard the public health and safety in all communities, large and small.

The ICC *Performance Code® for Buildings and Facilities* clearly defines the objectives for achieving the intended levels of occupant safety, property protection and community welfare. The code provides a framework to achieve the defined objectives in terms of tolerable levels of damage and magnitudes of design events, such as fire and natural hazards.

The concepts covered by this code are not intended to be any different in scope than those covered by the 2012 edition of the *International Codes®* (I-Codes®) published by the International Code Council (ICC)®. However, this code is distinctly different from the other *International Codes*, which, in many cases, direct the user to a single solution to address a safety concern for a building or facility. The ICCPC allows the user to achieve various solutions, systematically. It should be noted that the family of *International Codes*, including the *International Building Code®, International Energy Conservation Code®, International Existing Building Code®, International Fire Code®, International Fuel Gas Code®, International Green Construction Code*™ (to be available March 2012), *International Mechanical Code®, International Plumbing Code®, International Private Sewage Disposal Code®, International Property Maintenance Code®, International Residential Code®, International Swimming Pool and Spa Code*™ (to be available March 2012), *International Wildland-Urban Interface Code®* and *International Zoning Code®*, is considered to provide an acceptable solution that will comply with the ICCPC. Conversely, this code provides a procedure to address design and review issues associated with the alternative materials and methods sections of the codes cited above.

It is strongly recommended that users of this code consult the user's guide located in the second portion of this publication to gain additional insight into the provisions of this code.

The ICC *Performance Code for Buildings and Facilities* provisions provide many benefits, including the model code development process, which offers an international forum for design professionals, code officials and other interested parties to discuss performance code requirements. This forum provides an excellent arena to debate proposed revisions. This model code also encourages international consistency in the application of provisions.

Development

The first edition of the ICC *Performance Code for Buildings and Facilities* (2001) was the culmination of an effort initiated in 1996 by the ICC. This effort included two drafting committees, Fire and Building, appointed by the ICC and consisting of representatives of the three statutory members of the International Code Council at that time, including: Building Officials and Code Administrators International, Inc. (BOCA), International Conference of Building Officials (ICBO), and Southern Building Code Congress International (SBCCI). The intent was to draft a comprehensive set of performance regulations, consistent in scope with the existing model codes, but with a performance emphasis. A new edition of the code is promulgated every three years.

This code is founded on principles intended to establish provisions consistent with the scope of a performance code that adequately protect public health, safety and welfare; provisions that do not unnecessarily increase construction costs; provisions that do not restrict the use of new materials, products or methods of construction; and provisions that do not give preferential treatment to particular types or classes of materials, products or methods of construction.

Adoption

The ICC *Performance Code for Buildings and Facilities* is available for adoption and use by jurisdictions internationally. Its use within a governmental jurisdiction is intended to be accomplished through adoption by reference in accordance with proceedings establishing the jurisdiction's laws. At the time of adoption, jurisdictions should insert the appropriate information in provisions requiring specific local information, such as the name of the adopting jurisdiction. These locations are shown in bracketed words in small capital letters in the code and in the sample ordinance. The sample adoption ordinance on page xiii addresses several key elements of a code adoption ordinance, including the information required for insertion into the code text. In addition, because of the reliance of most performance-based design on proper maintenance of building and fire protection systems, it is recommended that a jurisdiction adopt this code in its entirety.

Maintenance

The ICC *Performance Code for Buildings and Facilities* is kept up to date through the review of proposed changes submitted by code enforcing officials, industry representatives, design professionals and other interested parties. Proposed changes are carefully considered through an open code development process in which all interested and affected parties may participate.

The contents of this work are subject to change both through the code development cycles and the governmental body that enacts the code into law. For more information regarding the code development process, contact the Codes and Standards Development Department of the International Code Council.

While the development procedure of the ICC *Performance Code for Buildings and Facilities* assures the highest degree of care, ICC, its members and those participating in the development of this code do not accept any liability resulting from compliance or noncompliance with the provisions, because the ICC does not have the power or authority to police or enforce compliance with the contents of this code. Only the governmental body that enacts the code into law has such authority.

Code Development Committee Responsibilities

In each code development cycle, proposal changes to this code are considered by the ICC Performance Code Development Committee.

Note that, for the development of the 2015 edition of the I-Codes, there will be two groups of code development committees and they will meet in separate years. The groupings are as follows:

Group A Codes (Heard in 2012, Code Change Proposals Deadline: January 3, 2012)	**Group B Codes (Heard in 2013, Code Change Proposals Deadline: January 3, 2013)**
International Building Code	Administrative Provisions (Chapter 1 all codes except IRC and ICC PC, administrative updates to currently referenced standards, and designated definitions)
International Fuel Gas Code	International Energy Conservation Code
International Mechanical Code	International Existing Building Code
International Plumbing Code	International Fire Code
International Private Sewage Disposal Code	International Green Construction Code
	ICC Performance Code
	International Property Maintenance Code
	International Residential Code
	International Swimming Pool and Spa Code
	International Wildland-Urban Interface Code
	International Zoning Code

It is very important that anyone submitting code change proposals understand which code development committee is responsible for the section of the code that is the subject of the code change proposal. For further information on the code development committee responsibilities, please visit the ICC web site at www.iccsafe.org/scoping.

Marginal Markings

The 2012 edition does not include any margin markings as the text has remained unchanged from the 2009 edition.

Italicized Terms

Selected terms set forth in Chapter 2, Definitions, are italicized where they appear in code text. Such terms are not italicized where the definition set forth in Chapter 2 does not impart the intended meaning in the use of the term. The terms selected have definitions which the user should read carefully to facilitate better understanding of the code.

EFFECTIVE USE OF THE ICC PERFORMANCE CODE FOR BUILDINGS AND FACILITIES

The purpose of the ICC *Performance Code® for Buildings and Facilities* (ICCPC) is to promote innovative, flexible and responsive solutions that optimize the expenditure and consumption of resources while preserving social and economic value. This approach is unique to the structure of a performance-based code.

The methodology employed in performance-based codes focuses on outcomes. In other words, a performance code approach would identify and quantify the level of damage that is acceptable during and after a fire, earthquake or other event. Generally but not in all cases, the current prescriptive code focuses on solutions that achieve a certain outcome. The difficulty is that the outcome is unclear. Therefore, when a design is proposed that is different from the prescriptive code, it is often difficult to determine whether the approach will be equivalent. There may be other more appropriate and innovative solutions available. For example, sustainability is becoming a topic of interest both nationally and internationally. This movement has driven the increased desire for the use of environmentally friendly construction techniques such as straw-bale construction, rammed earth and the increased use of recycled materials. A performance-based code creates a framework that both clearly defines the intent of the code and provides a process to understand quantitatively what the code is trying to achieve. Without this framework, the above techniques would be fairly difficult to accomplish and new methods of construction take longer to implement.

The code is organized into four major parts:

Part I—Administrative (Chapters 1-4)

Part II—Building Provisions (Chapters 5-15)

Part III—Fire Provisions (Chapters 16-22)

Part IV—Appendices (A-E)

Part I—Administrative. Part I of the document contains four chapters in which common approaches were found for both building and fire. Chapter 1 contains administrative provisions such as intent, scope and requirements related to qualifications, documentation, review, maintenance and change of use or occupancy. Also, provisions for approving acceptable methods are provided. Chapter 2 provides definitions specific to this document.

Chapter 3, Design Performance Levels, sets the framework for determining the appropriate performance desired from a building or facility based on a particular event such as an earthquake or a fire. Specifically, the user of the code can more easily determine the expected performance level of a building during an earthquake. In the prescriptive codes, the required performance is simply prescribed with no method provided to determine or quantify the level of the building's or facility's performance.

Chapter 4 deals with the topics of reliability and durability and how these issues interact with the overall performance of a building or facility over its life. This issue has always been relevant to codes and standards but becomes more obvious when a performance code requires a designer to regard buildings as a system. Reliability includes redundancy, maintenance, durability, quality of installation, integrity of the design and, generally, the qualifications of those involved within this process.

Parts II and III—Building and Fire. Parts II and III provide topic-specific qualitative statements of intent that relate to current prescriptive code requirements. As noted, Parts II and III are building and fire components, respectively. The building and fire components were not fully integrated because of concerns relating to how such a document might be used. For instance, a fire department might want to utilize the document for existing buildings or facilities but would not be able to adopt chapters dealing with issues such as structural stability or moisture. Therefore, the code is designed so that a fire department could adopt Parts I and III only. When Part II is adopted, the entire document should be adopted. Part III should always be included in the adoption of this code.

Generally, the topic-specific qualitative statements are the basic elements missing from the prescriptive codes. The statements follow a particular hierarchy, described below.

Objective. The objectives define what is expected in terms of societal goals or what society "demands" from buildings and facilities. Objectives are topic-specific and deal with particular aspects of performance required in a building, such as safeguarding people during escape and rescue.

Functional Statement. The functional statement explains, in general terms, the function that a building must provide to meet the objective or what "supply" must be provided to meet the "demand." For example, a building must be constructed to allow people adequate time to reach a place of safety without exposure to untenable conditions.

Performance Requirement. Performance requirements are detailed statements that break down the functional statements into measurable terms. This is where the link is made to the acceptable methods.

Part IV—Appendices. Part IV contains the appendices to the code document. Each of the appendices relates to specific provisions of this code and is discussed within the user's guide as applicable.

GUIDE TO THE USE OF THE ICC *PERFORMANCE CODE FOR BUILDINGS AND FACILITIES*

Procedural Steps for New Buildings

The following process is an outline for a performance-based design for an entire project or in combination with a prescriptive approach. This procedure for performance-based design extends from design preparation through issuance of a Certificate of Occupancy. The steps are as follows:

1. Preparation of a concept report in accordance with Section 103.3.4.2.1 by a qualified design professional.
2. Design preparation by a design team headed by a qualified principal design professional.
3. Coordination and verification via the principal design professional as a design team leader, with other design professionals, owners and contractors, when applicable.
4. Submit plans and supporting documents to the code official that shall identify which portions of the design are performance based and which portions are based on the prescriptive code. The submittal must include deed restrictions proposed to cover future maintenance requirements and special conditions for the life of the building.
5. Plan review is to be conducted by the code official staff when qualified for performance-based design.
   - 5.1. When staff is deemed not qualified for a proposed project, acquire qualified contract review services.
   - 5.2. Peer review is an optional approach for obtaining an additional review that is supplemental to the plan review.
6. The code official verifies that applicable prescriptive code provisions and performance-based objectives are met. When special inspections are required, ensure that documentation is complete.
7. The code official approves plans and issues a permit.
8. The holder of the permit is responsible to construct in accordance with approved plans and documents.
9. The code official ensures that qualified inspection services are provided and documented where required in accordance with the performance-based code and other applicable codes, and testing requirements are met as follows:
   - 9.1. Phase inspections [reference *International Building Code* (IBC) and other *International Codes*].
   - 9.2. Special inspection (reference IBC).
   - 9.3. Testing where required by design documents.
   - 9.4. Documentation that all requirements are met.
10. Issue Certificate of Occupancy with applicable conditions, where required by the approved design documents.

Procedural Steps for Existing Buildings

For significant remodeling, alterations and additions, the design professional shall:

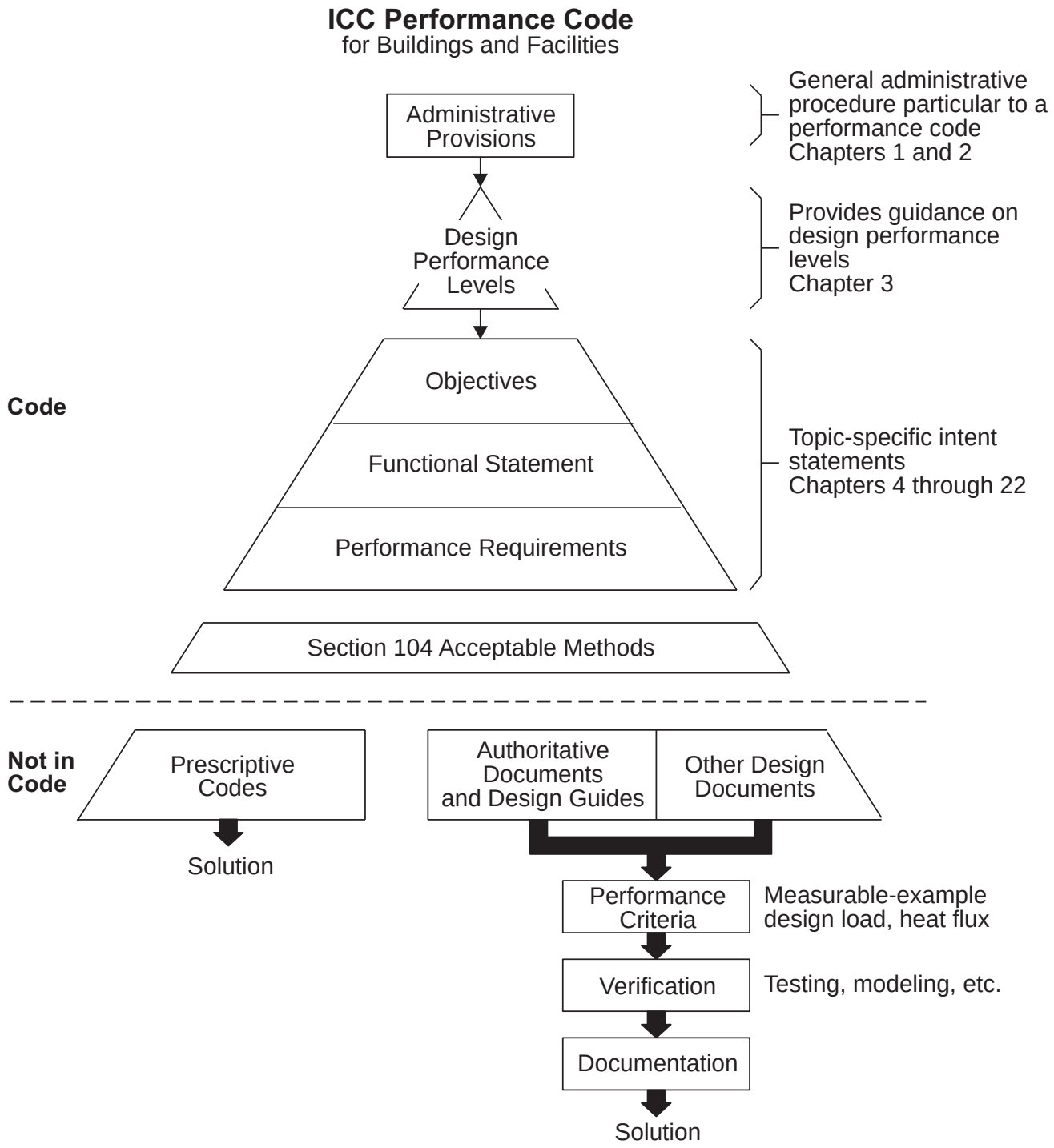
1. Examine applicable design documents, deed restrictions and maintenance requirements to determine building requirements where the original design is performance based in nature; prepare a concept report in accordance with Section 103.3.4.2.1.
2. Any features based on a performance approach need to be clearly differentiated from features of a building or facility designed using a prescriptive approach.
3. Verify compliance with the operations and maintenance manual.
4. Prepare a report specifying impact and requirements for the proposed design.
5. Prepare design documents based upon applicable performance, prescriptive or combination of code provisions and specify which codes are applicable for each portion of the design, including any steps to correct identified deficiencies.
6. Submit reports to the code official for review and acceptance, similar to procedural steps for a new building.

For change of use with no proposed physical alteration, the design professional shall:

1. Document existing building features and systems that impact fire or emergency performance.
2. Verify compliance with the operations and maintenance manual.
3. Prepare appropriate design fire scenarios pertinent to the building or facility and actual use, considering existing mitigation strategies and protection features.
4. Evaluate performance against Section 304, Maximum Level of Damage to Be Tolerated.
5. Prepare a report detailing impact; design and test systems to the objectives in Part III of this code.
6. Submit for review and approval in accordance with Chapter 1.

Flow Chart

The following chart is provided to give guidance as to how the ICC *Performance Code for Buildings and Facilities* is intended to work. Essentially, this chart walks the user through the steps of applying the code. These steps begin with understanding the administrative process and the objectives of the ICCPC and eventually determining the acceptable methods used to design, construct, test, inspect and maintain the building or facility.



LEGISLATION

The *International Codes* are designed and promulgated to be adopted by reference by legislative action. Jurisdictions wishing to adopt the 2012 ICC *Performance Code for Buildings and Facilities* as an enforceable performance-based regulation governing structures and premises should ensure that certain factual information is included in the adopting legislation at the time adoption is being considered by the appropriate governmental body. The following sample adoption legislation addresses several key elements, including the information required for insertion into the code text.

SAMPLE LEGISLATION FOR ADOPTION OF THE ICC *PERFORMANCE CODE FOR BUILDINGS AND FACILITIES* ORDINANCE NO._____

A**[N] [ORDINANCE/STATUTE/REGULATION]** of the **[JURISDICTION]** adopting the 2012 edition of the ICC *Performance Code for Buildings and Facilities*, regulating and governing the performance-based design, construction, quality of materials, erection, installation, alteration, repair, location, relocation, replacement, addition to, use or maintenance of building and/or fire protection systems in the **[JURISDICTION]**; providing for the issuance of permits and collection of fees therefor; repealing **[ORDINANCE/STATUTE/REGULATION]** No. _____ of the **[JURISDICTION]** and all other ordinances or parts of laws in conflict therewith.

The **[GOVERNING BODY]** of the **[JURISDICTION]** does ordain as follows:

Section 1. That a certain document, three (3) copies of which are on file in the office of the **[TITLE OF JURISDICTION'S KEEPER OF RECORDS]** of **[NAME OF JURISDICTION]**, being marked and designated as the ICC *Performance Code for Buildings and Facilities*, 2009 edition, as published by the International Code Council, be and is hereby adopted as the Performance Code of the **[JURISDICTION]**, in the State of **[STATE NAME]** for regulating and governing the performance-based design, construction, quality of materials, erection, installation, alteration, repair, location, relocation, replacement, addition to, use or maintenance of building and/or fire protection systems as herein provided; providing for the issuance of permits and collection of fees therefor; and each and all of the regulations, provisions, penalties, conditions and terms of said Performance Code on file in the office of the **[JURISDICTION]** are hereby referred to, adopted, and made a part hereof, as if fully set out in this legislation, with the additions, insertions, deletions and changes, if any, prescribed in Section 2 of this ordinance.

Section 2. The issuance of permits and collection of fees therefor, and each and all of the regulations, provisions, conditions and terms of the *International Codes*, ____ edition published by the International Code Council, adopted by **[JURISDICTION]** Ordinance No(s). _____ also on file in the office of the **[JURISDICTION]** shall provide enforcement, permits, plan review, inspection, fees and Certificate of Occupancy requirements where not specified in the ICC *Performance Code for Buildings and Facilities*. The **[JURISDICTION]** also establishes the following performance groups for new and/or existing use groups or specific buildings or facilities for the application of this code[1].

ALLOCATION OF USE AND OCCUPANCY CLASSIFICATIONS AND SPECIFIC BUILDINGS OR FACILITIES TO PERFORMANCE GROUPS

PERFORMANCE GROUP	USE AND OCCUPANCY CLASSIFICATION OR SPECIFIC BUILDINGS OR FACILITIES
I	
II	
III	

Section 3. That **[ORDINANCE/STATUTE/REGULATION]** No. _____ of **[JURISDICTION]** entitled **[FILL IN HERE THE COMPLETE TITLE OF THE LEGISLATION OR LAWS IN EFFECT AT THE PRESENT TIME SO THAT THEY WILL BE REPEALED BY DEFINITE MENTION]** and all other ordinances or parts of laws in conflict herewith are hereby repealed.

Section 4. That if any section, subsection, sentence, clause or phrase of this legislation is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance. The **[GOVERNING BODY]** hereby declares that it would have passed this law, and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

[1] The concept of assigning buildings or facilities to performance groups relates to the use of Chapter 3 for the determination of design performance levels. Communities may find that they have unique objectives that would require adjusting the performance groups assigned in Chapter 3 for particular buildings or facilities.

Section 5. That nothing in this legislation or in the ICCPC hereby adopted shall be construed to affect any suit or proceeding impending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing, under any act or ordinance hereby repealed as cited in Section 3 of this law; nor shall any just or legal right or remedy of any character be lost, impaired or affected by this legislation.

Section 6. That the **[JURISDICTION'S KEEPER OF RECORDS]** is hereby ordered and directed to cause this legislation to be published. (An additional provision may be required to direct the number of times the legislation is to be published and to specify that it is to be in a newspaper in general circulation. Posting may also be required.)

Section 7. That this law and the rules, regulations, provisions, requirements, orders and matters established and adopted hereby shall take effect and be in full force and effect **[TIME PERIOD]** from and after the date of its final passage and adoption.

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Part I—Administrative

CHAPTER 1

GENERAL ADMINISTRATIVE PROVISIONS

SECTION 101
INTENT AND PURPOSE

101.1 Purpose. To provide appropriate health, safety, welfare, and social and economic value, while promoting innovative, flexible and responsive solutions that optimize the expenditure and consumption of resources.

101.2 Intent.

101.2.1 Building. To provide an acceptable level of health, safety, and welfare and to limit damage to property from events that are expected to impact buildings and structures. Accordingly, Part II of this code intends buildings and structures to provide for:

1. An environment free of unreasonable risk of death and injury from fires.
2. A structure that will withstand loads associated with normal use and of the severity associated with the location in which the structure is constructed.
3. Means of egress and access for normal and emergency circumstances.
4. Limited spread of fire both within the building and to adjacent properties.
5. Ventilation and sanitation facilities to maintain the health of the occupants.
6. Natural light, heating, cooking and other amenities necessary for the well being of the occupants.
7 Efficient use of energy.
8. Safety to fire fighters and emergency responders during emergency operations.

101.2.2 Fire. Part III of this code establishes requirements necessary to provide an acceptable level of life safety and property protection from the hazards of fire, explosion or dangerous conditions in all facilities, equipment and processes.

SECTION 102
SCOPE

102.1 Building. Part II of this code provides requirements for buildings and structures and includes provisions for structural strength, stability, sanitation, means of access and egress, light and ventilation, safety to life and protection of property from fire and, in general, to secure life and property from other hazards affecting the built environment. This code includes provisions for the use and occupancy of buildings, structures, facilities and premises, their alteration, repair, maintenance, removal, demolition, and the installation and maintenance of all amenities including, but not limited to, such services as the electrical, gas, mechanical, plumbing, energy conservation and building transportation systems.

102.2 Fire. Part III of this code establishes requirements applicable to the use and occupancy of buildings, structures and facilities; and to the prevention, control and mitigation of fire, life safety and property hazards arising from this use and from the storage, handling and use of explosive, flammable and combustible materials, hazardous materials and dangerous operations and processes.

SECTION 103
ADMINISTRATIVE PROVISIONS

103.1 Objective. To achieve and maintain the level of safety intended by the code.

103.2 Functional statements.

103.2.1 Qualifications. Design professionals shall possess the knowledge, skills and abilities necessary to demonstrate compliance with this code.

103.2.2 Design document preparation. Design documents required by this code shall be prepared in adequate detail and submitted for review and approval.

103.2.3 Review. Design documents submitted in accordance with this code shall be reviewed for code compliance with the appropriate code provisions.

103.2.4 Construction. Construction shall comply with approved design documents submitted in accordance with this code, and shall be verified and approved to demonstrate compliance with this code.

103.2.5 Facilities and premises. Facilities and premises shall comply with approved design documents submitted in accordance with this code, and shall be verified and approved to demonstrate compliance with this code.

103.2.6 Equipment and processes. Equipment and processes and their installation and operation shall comply with approved design documents submitted in accordance with this code, and shall be verified and approved to demonstrate compliance with this code.

103.2.7 Materials and contents. Materials and contents shall comply with approved design documents submitted in accordance with this code, and shall be verified and approved to demonstrate compliance with this code.

103.2.8 Facility operating policies and procedures. Policies, operations, training and procedures shall comply with approved documents submitted in accordance with this code, and shall be verified and approved to demonstrate compliance with this code.

103.2.9 Supplemental enforcement. Administrative provisions of the International Code Council's family of codes regarding plan review, permit issue, inspection and enforcement shall supplement these provisions.

103.2.10 Maintenance. Maintenance of the performance-based design shall be ensured through the issuance and renewal of certificates over the life of the building.

103.2.11 Management of change. Written procedures managing change to original design documents, system processes, technology, equipment and facilities shall be established and implemented.

103.2.12 Expected emergency response. Design documents shall clearly describe the level of response expected by emergency responders.

103.3 Performance requirements.

103.3.1 Building owner's responsibility.

103.3.1.1 Design professional. The owner shall have the responsibility of retaining and furnishing the services of a design professional, who shall be in responsible charge of preparing and coordinating a complete and comprehensive set of design documents and other services required to prepare reports and other documents in accordance with this code. If the services required by this section are not provided, the use of this code is prohibited.

103.3.1.2 Principal design professional. When the project requires the services of multiple design professionals, a principal design professional shall be retained and furnished, who shall have the contractual responsibility and authority over all required design professional disciplines to prepare and coordinate a complete and comprehensive set of design documents for the project.

103.3.1.3 Peer review. The owner shall be responsible for retaining and furnishing the services of a design professional or recognized expert, who will perform as a peer reviewer, when required and approved by the code official. See Section 103.3.6.3 of this code.

103.3.1.4 Costs. The costs of all special services, including contract review, when required by the code official, shall be borne by the owner.

103.3.1.5 Document retention. The owner shall retain on the premises all documents and reports required by this code and make them available to the code official upon request.

103.3.1.6 Maintenance. The owner is responsible to operate and maintain a building, structure or facility designed and built under this code in accordance with the bounding conditions and the operations and maintenance manual.

103.3.1.7 Changes. The owner shall be responsible to ensure that any change to the facility, process or system does not increase the hazard level beyond that originally designed without approval and that all changes shall be documented in accordance with this code.

103.3.1.8 Special expert. Where the scope of work is limited or focused in an area that does not require the services of a design professional or the special knowledge and skills associated with the practice of architecture or engineering, a special expert may be employed by the owner as the person in responsible charge of the limited or focused activity. It is the intent of this code that the individual shall possess the qualification characteristics required in Appendix D.

103.3.1.9 Occupant requirements. The owner is responsible and accountable to ensure that all occupants and employees who are required to take certain actions or perform certain functions in accordance with a performance-based design possess the required knowledge and skills and are empowered to perform those actions.

103.3.2 Design professional qualifications. The principal design professional, architects, engineers and other design professionals in responsible charge of their discipline as a member of a design team shall be responsible and accountable to possess the required knowledge and skills to perform design, analysis and verification in accordance with the provisions of this code and applicable professional standards of practice. It is the intent of this code that these individuals possess the qualification characteristics as stated in Appendix D. Qualification statements shall be submitted to the code official for the principal design professional, design professionals and special experts to demonstrate compliance with Appendix D.

103.3.3 Design professionals' and special experts' responsibilities.

103.3.3.1 Principal design professional. When multiple design disciplines are involved, the principal design professional is responsible to ensure that all design elements are comprehensive and complete before submittals are made to the code official. During the code review process all designated reports, drawings and design documents necessary to demonstrate compliance with the code shall be submitted by the principal design professional. The principal design professional's responsibilities include those of a design professional.

103.3.3.2 Responsibilities. Design professionals are responsible to apply the performance requirements and acceptable methods approach in Section 104.3 for performance-based designs when using this code. This code requires design analysis and support documentation to demonstrate the design approach and to verify design objectives and compliance with this code.

103.3.3.3 Supporting documentation. Design professionals have the responsibility to provide the appropriate design analysis, research, computations and documentation to demonstrate compliance with applicable performance requirements of this code and applicable prescriptive code provisions.

103.3.3.4 Acceptable methods. Design professionals shall use authoritative documents or design guides to determine testing and verification methods for selecting

building materials that are compatible with the building systems approach selected.

103.3.3.5 References. Design professionals are responsible to document applicable design guides or authoritative documents for a performance-based design and demonstrate how these documents are utilized to substantiate design solutions to show compliance with the provisions of this code. The use of documents that are not accepted as authoritative documents or design guides requires substantiation with the code official to obtain acceptance.

103.3.3.6 Documentation of bounding conditions. The design professional shall document all bounding conditions and establish thresholds that determine when changes must be approved by the code official.

103.3.3.7 Compliance with bounding conditions. The design professional(s) shall review the completed construction elements, equipment, furnishings, processes, and contents to verify compliance with the bounding conditions and the critical design features identified in the approved design documents. The code official may require that the principal design professional file a report to verify compliance with the bounding conditions and the critical design features at the completion of the project as a condition of obtaining required certificates.

103.3.3.8 Special expert. The scope of work of a special expert shall be limited to the area of expertise as demonstrated in the documentation submitted to the code official for review and approval. Where a special expert performs functions of a design, the special expert shall assume the responsibilities of that phase of the design.

103.3.4 Design documentation.

103.3.4.1 General. The design professional shall prepare appropriate documentation for the project that clearly provides the design approach and rationale for design submittal, construction and future use of the building, facility or process.

103.3.4.1.1 Required documentation. The documentation for the project shall identify the goals and objectives; the steps undertaken in the analytical analysis; the facility maintenance and testing requirements; and limitations and restrictions on the use of the facility in order to stay within bounding conditions. When requirements for documentation are specified in applicable engineering or design guides, documentation shall be included in the design documents. Computer modeling documentation shall comply with Appendix E.

103.3.4.1.2 Extent of documentation. The level of documentation provided shall be adequate to convey the required information clearly to the involved parties and shall be commensurate with the scope and complexity of the project.

103.3.4.1.3 Verification of compliance. Documentation shall be prepared that clearly verifies that all applicable performance and all applicable prescriptive code provisions have been met.

103.3.4.1.4 Deed restriction. Design features with bounding conditions that require continued maintenance or supervision by the owner throughout the life of the building, facility or process as conditions of compliance with the objectives of this code, shall be recorded as a deed restriction until released by the code official. When required by the code official, the deed restriction shall be modified to reflect specific changes.

103.3.4.1.5 Phased and partial occupancy. The design documents shall include an evaluation of hazards and proposed resolution of associated risks during construction in advance of a request for phased or partial occupancy.

103.3.4.1.6 Emergency response capabilities. Design documentation shall clearly describe the level of response expected by emergency responders under the direct control of the owner. Emergency response capabilities, staffing levels, training requirements and equipment availability shall be documented as a bounding condition.

103.3.4.2 Reports and manuals. When required by the code official, design documentation shall include a concept report, design report and operations and maintenance manual.

103.3.4.2.1 Concept report. The concept report shall document the preliminary details of the project, identify the parties involved in the project, and define the goals and objectives to be utilized in the performance-based design analysis. The concept report shall be submitted to the code official as a means of communicating the programming and early schematic phase of a proposed project and to obtain concurrence between the code official and the project design team on the goals and objectives to be utilized in the analysis. The concept report shall address but not be limited to the following:

1. General project information, including schematic layout and site plan.
2. Definition of project scope.
3. Description of building and occupant characteristics.
4. Project goals and objectives.
5. Selected event scenarios.
6. Methods of evaluation.
7. Qualification statements for principal design professional, design professionals and special experts.
8. Proposed performance and prescriptive code usage.
9. Conceptual site and building plan.

103.3.4.2.2 Design report. The design report shall document the steps taken in the design analysis,

clearly identifying the criteria, parameters, inputs, assumptions, sensitivities and limitations involved in the analysis. The design report shall clearly identify bounding conditions, assumptions and sensitivities that clarify the expected uses and limitations of the performance analysis. This report shall verify that the design approach is in compliance with the applicable codes and acceptable methods and shall be submitted for concurrence by the code official prior to the design documents being completed. The report shall also document the design features to be incorporated based upon the analysis. The design report shall address but not be limited to the following:

1. Project scope.
2. Goals and objectives.
3. Performance criteria.
4. Hazard scenarios.
5. Design fire loads and hazards.
6. Final design.
7. Evaluation.
8. Bounding conditions and critical design assumptions.
9. Critical design features.
10. System design and operational requirements.
11. Operational and maintenance requirements.
12. Commissioning testing requirements and acceptance criteria.
13. Frequency of certificate renewal.
14. Supporting documents and references.
15. Preliminary site and floor plans.

103.3.4.2.3 Operations and maintenance manual. The operations and maintenance manual shall identify system and component commissioning requirements and the required interactions between these systems. The manual shall identify for the facility owner and the facility operator those actions that need to be performed on a regular basis to ensure that the components of the performance-based design are in place and operating properly. Furthermore, the operations and maintenance manual shall identify the restrictions or limitations placed upon the use and operation of the facility in order to stay within the bounding conditions of the performance-based design. The operations and maintenance manual shall be submitted at the time of the design documents submittal, unless the code official approves another time based upon the type of project and data needed for a composite review. The operations and maintenance manual shall address but not be limited to the following:

1. Description of critical systems.
2. Description of required system interactions.
3. Occupant responsibilities.
4. Occupant and staff training requirements.
5. Periodic operational requirements.
6. Periodic maintenance requirements.
7. Periodic testing requirements.
8. Limitations on facility operations (due to bounding conditions).
9. Report format for recording maintenance and operation data.
10. System and component commissioning requirements.

103.3.5 Design submittal.

103.3.5.1 General. Applicable design documents required in Sections 103.3.2, 103.3.3 and 103.3.4 for submittal in this code and other applicable codes under the jurisdiction of the code official shall be submitted to the code official for review. The documents shall be submitted in accordance with the jurisdiction's procedures and in sufficient detail to obtain appropriate permits.

103.3.5.2 Coordination of design documents. Design documents shall be coordinated by the principal design professional for consistency, compatibility and completeness prior to submittal. Documentation shall be provided to the code official to demonstrate compliance with the performance provisions, including acceptable methods.

103.3.5.3 Performance-based design features. The design documents shall clearly indicate those areas of the design that are performance-based and shall be provided to the code official.

103.3.5.4 Extent of documentation and references. The code official shall be provided with sufficient documentation to support the validity, accuracy, relevance and precision of the proposed methods. Copies of referenced documentation shall be made available to the code official.

103.3.5.5 Inspections, testing, operation and maintenance. The design documents shall specify when and where special inspection and testing are required, the standards of acceptance for demonstrating compliance with the design documents, and operations and maintenance requirements for future use of the building.

103.3.5.6 Management of change. The submittal shall include appropriate management of change protocol to address how changes in the design documents will be managed for construction, operation and maintenance activities.

103.3.6 Review and approval.

103.3.6.1 Procedures. Document review and approval shall be accomplished in accordance with the code official's procedures.

103.3.6.2 Review. The code official shall be responsible to perform a knowledgeable review of the proposed design project to verify compliance with this code, or the code official shall retain competent assistance to

perform the review in accordance with acceptable standards of practice.

103.3.6.3 Contract and peer review. Review may be accomplished by a contract reviewer when the reviewer is assigned by the code official. In addition, the code official may require a peer review process to review design criteria and supporting documents and design documents.

103.3.6.4 Approval. After documents and other supporting data are reviewed and approved by the code official to verify compliance with the applicable codes, permits may be issued.

103.3.7 Permits and inspections.

103.3.7.1 Permits. Prior to the start of construction, appropriate permits shall be obtained in accordance with the jurisdiction's procedures and applicable codes.

103.3.7.2 Inspection. Approved inspections shall be obtained in accordance with the design documents, jurisdiction's procedures and applicable codes.

103.3.7.3 Verification reports. Inspection, testing and related verification reports shall be filed with the code official to verify compliance with approved design documents and applicable prescriptive code provisions.

103.3.7.4 Product installation. Compliance shall be verified for materials, fabrication, manufacturer's and engineer's installation procedures by product labeling, certification, quality assurance processes and testing, as applicable, to verify compliance.

103.3.7.5 Compliance verification. At the completion of construction, the code official shall verify that inspection and testing reports demonstrate compliance with the applicable codes and approved design documents.

103.3.7.6 Operational permits. Prior to initiating facility uses and processes regulated under Part III of this code, appropriate permits shall be obtained.

103.3.8 Project documentation.

103.3.8.1 Verification of compliance. Upon completion of the project, documentation shall be prepared that verifies all performance and prescriptive code provisions have been met. When required by the code official in accordance with Section 103.3.3.6, the principal design professional shall file a report that verifies bounding conditions are met.

103.3.8.2 Extent of documentation. All approved design documents, the operations and maintenance manual, inspection and testing records, and certificates of occupancy with conditions shall be included in the project documentation of the code official's records.

103.3.8.3 Deed restrictions. Design features with bounding conditions determined by the design professional to require continued operation and maintenance by the owner throughout the life of the building as conditions of compliance with the objectives of this code shall be recorded as a deed restriction as required by the code official until released by the code official.

103.3.8.4 Technical opinion. The code official has the authority to require a technical opinion and report from an individual or organization with special expertise to identify and develop methods of protection from special hazards and to determine the acceptability of technologies, processes, products, equipment, materials and uses applicable to the design, operation or use of a building or facility. The intent of this code is that the technical opinion and report shall be prepared by a qualified individual. See Appendix D.

103.3.9 Certificates.

103.3.9.1 Certificate of occupancy. Prior to occupancy of a building, a certificate of occupancy shall be obtained from the code official.

103.3.9.1.1 Continued occupancy. A certificate of occupancy is required for the continued occupancy of a building.

103.3.9.1.2 Temporary certificate of occupancy. The code official has the authority to issue a temporary certificate of occupancy for a limited time with specified conditions, providing all life-safety items are accepted.

103.3.9.1.3 Conditional certificate of occupancy. The code official has the authority to issue a certificate of occupancy with conditions valid for a specified time period that requires continued compliance with bounding conditions and the operations and maintenance manual. Failure to maintain compliance with the conditions of the certificate of occupancy is a violation of this code.

103.3.9.1.4 Revocation and renewal. Failure of the building owner to demonstrate to the code official that the building is being operated and maintained in compliance with Sections 103.3.1.6 and 103.3.9.1 is cause to revoke or not renew a certificate of occupancy.

103.3.9.2 Certificate of compliance. Prior to use of a building, facility, process or premises subject to Part III of this code, a certificate of compliance shall be obtained from the code official.

103.3.9.2.1 Continued use. A certificate of compliance is required for the continued use or occupancy of a facility, process or equipment subject to Part III of this code throughout the life of the facility.

103.3.9.2.2 Renewal frequency. The certificate of compliance issued subject to Part III of this code shall be renewed at a frequency as determined in the design and approved by the code official.

103.3.9.2.3 Revocation and renewal. Failure of the owner to demonstrate compliance with this section is cause to revoke or not renew the certificate of compliance.

103.3.10 Maintenance.

103.3.10.1 Owner's responsibility. The owner is responsible for maintaining the building or facility in accordance with the approved documents.

103.3.10.2 Continued compliance. Compliance with the operations and maintenance manual and bounding conditions shall be verified throughout the life of the building or facility at a frequency in accordance with the approved documents.

103.3.10.3 Compliance verification. Documents verifying that the building, facilities, premises, processes and contents are in compliance with the approved design documents and are maintained in a safe manner shall be filed with the code official at a frequency approved by the code official.

103.3.11 Remodeling, addition or change/approval of use.

103.3.11.1 Analysis of change. The design professional shall evaluate the existing building, facilities, premises, processes, contents and the applicable documentation of the proposed change as it affects portions of the building, facility, premises, processes and contents that were previously designed for compliance under a performance-based code. Prior to any change that was not documented in a previously approved design, the principal design professional shall examine the applicable design documents, bounding conditions, operation and maintenance manuals, and deed restrictions.

103.3.11.2 Coordination of design. When multiple design disciplines are involved, one design professional shall be responsible to ensure that all design elements are comprehensive and complete before submittals are made to the code official. During the code review process all designated reports, drawings and design documents necessary to demonstrate compliance with the code shall be submitted by the design professional.

103.3.11.3 Change in activity or contents. Any change in activity or contents that results in an increase in hazard or risk that exceeds the bounding conditions requires an evaluation and approval. The code official shall have the authority to require a full evaluation of the design.

103.3.11.4 Additions, renovations and related construction changes. Construction activities in existing buildings, facilities, premises or processes shall be evaluated by a design professional and documented in a written report, which shall be submitted for review and approval in conjunction with the permit request. The report shall identify whether or not the proposed construction exceeds the bounding conditions, which will result in an increase in hazard or risk beyond that expected in the approved original design documents. When bounding conditions are not exceeded, the original design documents need not be revised. When bounding conditions are exceeded, the original design documents shall be revised so that compliance with this code is perpetuated.

103.3.11.5 Designs exceeding bounding conditions. Where a proposed change exceeds the bounding conditions and does not result in an increase to hazard or risk, as approved by the code official, any person authorized by the laws of the jurisdiction is allowed to prepare design documents and reports for submittal.

103.3.11.6 Change in design objectives and bounding conditions. When changes are proposed to the design objectives and bounding conditions of an existing building, facility, process or contents, a written report by the design professional shall be prepared to specify the new design objectives and demonstrate compliance with the current code.

103.3.12 Administration and enforcement.

103.3.12.1 Supplemental administrative provisions. Administrative provisions of the International Code Council's family of codes shall supplement the performance provisions for plan review, permit issuance, inspection, certificate of occupancy or compliance, and enforcement.

103.3.13 Violations.

103.3.13.1 General. It shall be unlawful for any person, firm or corporation to erect, construct, alter, extend, repair, move, remove, demolish or occupy any building, structure or facility regulated by this code, or cause same to be done, in conflict with or in violation of any of the provisions of this code.

103.3.13.2 Notice of violation. The code official shall serve a notice of violation or order on the person responsible for the erection, construction, alteration, extension, repair, moving, removal, demolition or occupancy of a building or facility in violation of the provisions of this code or in violation of a detail statement or construction documents approved thereunder, or in violation of a permit or certificate issued under the provisions of this code. Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation.

103.3.13.3 Violation. If the notice of violation is not complied with promptly, the code official has the authority to request the legal counsel of the jurisdiction to institute the appropriate proceeding at law or in equity to restrain, correct or abate such violation, or to require the removal or termination of the unlawful occupancy of the building or structure in violation of the provisions of this code or of the order or direction made pursuant thereto.

103.3.13.4 Penalties. Any person who violates a provision of this code or fails to comply with any of the requirements thereof or who erects, constructs, alters or repairs a building, structure or facility in violation of the approved design documents or directive of the code official or of a permit or certificate issued under the provisions of this code shall be subject to penalties as prescribed by law.

SECTION 104
ACCEPTABLE METHODS

104.1 Objective. To require the use of recognized authoritative documents or design guides for analysis, measurement of performance and determination of criteria used to evaluate

compliance with the performance requirements of this code. See Chapter 2 for definitions.

104.2 Functional statements.

104.2.1 Approved methodologies. Design approaches shall utilize authoritative documents and design guides to demonstrate that designs are based on applicable and valid technical and scientific methodologies.

104.2.2 Design documents. Design documents shall indicate the method by which the design and construction are to be verified and applicable systems are to be measured.

104.2.3 Testing and inspection. Testing and inspection of materials and systems shall be based upon applicable authoritative documents and design guides.

104.3 Performance requirements and acceptance method approach.

104.3.1 Construction documents. Design professionals shall utilize acceptable methods. Construction documents shall contain the design approach, analysis, research, computation and criteria for acceptance that specify the applicable design guides, and authoritative documents utilized to demonstrate that design objectives are met.

104.3.2 Design documents. Design documents shall include design verification methods that are required to demonstrate compliance with design objectives and applicable authoritative documents and design guides.

104.3.3 Individually substantiated design methods. Documents that do not meet the criteria for authoritative documents or design guides shall comply with the individually substantiated design method criteria in Appendix C.

104.3.4 Peer review. Designs that propose to use documents that do not meet the criteria for authoritative documents or design guides shall not be permitted unless approval is given by the code official. The resulting performance-based design shall undergo an independent peer review process.

CHAPTER 2

DEFINITIONS

SECTION 201
GENERAL

201.1 Scope. Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meanings indicated in this chapter.

201.2 Interchangeability. Words used in the present tense include the future; words in the masculine gender include the feminine and neuter; the singular number includes the plural and the plural, the singular.

201.3 Terms not defined in other codes. Where terms are not defined through the methods authorized by this section, such terms shall have ordinarily accepted meanings such as the context implies.

SECTION 202
DEFINED TERMS

ACCEPTABLE METHODS. Design, analysis and testing methods that have been approved for use in developing design solutions for compliance with the requirements of this code. See Section 104.

AMENITY. An attribute of, or system in, the building that provides services or functions related to the use of the building by the occupants or that contributes to the comfort of the occupants, and that is not necessary for the minimum protection of the occupants. For example, an automatic sprinkler system is not a building amenity.

ARCHITECT/ENGINEER. The individual architect or engineer who is registered or licensed to practice his or her respective design profession as defined by the statutory requirements of the professional registration laws of the state or jurisdiction in which the project is to be constructed. See Qualification Characteristics in Appendix D.

AUTHORITATIVE DOCUMENT. A document containing a body of knowledge commonly used by practicing architects or engineers. It represents the state of the art, including accepted engineering practices, test methods, criteria, loads, safety factors, reliability factors and similar technical matters. The document portrays the standard of care normally observed with a particular discipline. The content is promulgated through an open consensus process or a review by professional peers conducted by recognized authoritative professional societies, codes or standards organizations, or governmental bodies.

BOUNDING CONDITIONS. Conditions that, if exceeded, invalidate the performance-based design. These could be maximum allowable conditions such as fuel load or type and arrangement of fuel load that must be maintained throughout the life of a building to ensure that design parameters are not exceeded.

CODE. The term used in this document to refer to the ICC *Performance Code for Buildings and Facilities*. Other codes in the International Code Council's family of codes and the *National Electrical Code* are identified where used.

COMMISSIONING. The process of verifying that a system meets design, technical standards and code expectations via inspection, testing and operational functionality.

CONSULTANT. An individual who provides specialized services to an owner, designer, code official or contractor.

CONTRACT REVIEW. Plan review, as defined below, performed by a consultant who is retained by the code official for that purpose.

DESIGN DOCUMENTS. Design drawings, computations, geotechnical and other reports, specifications and related documentation that are submitted to governmental agencies for approval and for the purpose of constructing buildings and structures.

DESIGN GUIDE. A document containing a body of knowledge or information used by practicing architects and engineers that is not required to meet an open consensus requirement. It represents accepted architectural/engineering principles and practices, tests and test data, criteria, loads, safety factors, reliability factors and similar technical data.

DESIGN PROFESSIONAL. An individual who is registered or licensed to practice his or her respective design profession as defined by the statutory requirements of the professional registration laws of the state or jurisdiction in which the project is to be constructed.

ESSENTIAL FACILITIES. Buildings and other structures that are intended to remain operational in the event of extreme environmental loading from flood, wind, snow or earthquake.

FACILITY. (General Application) Includes all buildings or structures (permanent or temporary), including all fire- and life-safety systems installed therein. A facility includes interior and exterior storage areas, equipment and processes dealing with flammable and combustible substances and hazardous materials, on site. The term includes tents, membrane structures, mobile and manufactured structures, storage tanks, piers, wharves and all required access roads and areas.

FACILITY. (Only applicable to Section 702). The entire building or any portion of a building, structure or area, including the site on which such building, structure or area is located, wherein specific services are provided or activities are performed.

PEER REVIEW. An independent and objective technical review of the design of a building or structure to examine the proposed conceptual and analytical concepts, objectives and criteria of the design and construction. It shall be conducted by an architect or engineer who has a level of experience in the design of projects similar to the one being reviewed at least comparable to that of the architect or engineer responsible for the project.