ICCPC®

2015
INTERNATIONAL CODES®

INTERNATIONAL Code Council Performance Code®

FOR BUILDINGS AND FACILITIES

A Member of the International Code Family®

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2015 ICCPC®

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2015 ICC Performance Code® for Buildings and Facilities

First Printing: May 2014

ISBN: 978-1-60983-475-3 (soft-cover edition)

Date of First Publication: May 30, 2014

PRINTED IN THE U.S.A.

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 2015 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 2015 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®, International Mechanical Code®, International Plumbing Code®, International Private Sewage Disposal Code®, International Property Maintenance Code®, International Residential Code®, International Swimming Pool and Spa Code™, 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 3 years.

This code is founded on principles intended to establish provisions consistent with the scope of a performance code that adequately protects 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 International Code Council maintains a copyright in all of its codes and standards. Maintaining copyright allows ICC to fund its mission through sales of books, in both print and electronic formats. The ICC *Performance Code for Buildings and Facilities* is designed for adoption and use by jurisdictions that recognize and acknowledge the ICC's copyright in the code, and further acknowledge the substantial shared value of the public/private partnership for code development between jurisdictions and the ICC.

The ICC also recognizes the need for jurisdictions to make laws available to the public. All ICC codes and ICC standards, along with the laws of many jurisdictions, are available for free in a non-downloadable form on the ICC's website. Jurisdictions should contact the ICC at adoptions@iccsafe.org to learn how to adopt and distribute laws based on the ICC *Performance Code for Buildings and Facilities* in a manner that provides necessary access, while maintaining the ICC's copyright.

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 through both 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* ensures the highest degree of care, the 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 (Letter Designations in Front of Section Numbers)

In each code development cycle, proposed changes to this code are considered at the Committee Action Hearings by the applicable ICC Code Development Committee, whose action constitutes a recommendation to the voting membership for final action on the proposed change. The provisions of this code are the responsibility of several code development committees. The committee responsible for a section of this code is noted by the bracketed letter in front of that section. For example, proposed changes to code sections that have [BS] in front of them (e.g., [BS] 501.1) are considered by the appropriate IBC – Structural Code Development Committee during the time that the IBC – Structural Code Development Committee meets to consider code change proposals at the code development hearings.

The letter classifications corresponding to the code development committee responsible for hearing code change proposals for that section are as follows:

[A] = Administrative Code Development Committee;

[BE] = IBC – Means of Egress Code Development Committee;

[BF] = IBC – Fire Safety Code Development Committee;

[BG] = IBC – General Code Development Committee;

[BS] = IBC – Structural Code Development Committee;

[CE] = Commercial Energy Conservation Code Development Committee;

[F] = International Fire Code Development Committee;

[M] = International Mechanical Code Development Committee; and

[P] = International Plumbing Code Development Committee.

For the development of the 2018 edition of the I-Codes, there will be three groups of code development committees and they will meet in separate years. Note that these are tentative groupings, and subject to change by the ICC. Please consult the ICC website Code Development page at iccsafe.org/cs/codes/Pages/default.aspx for the latest information. These tentative groupings are as follows:

Group A Codes (Heard in 2015, Code Change Proposals Deadline: January 12, 2015)	**Group B Codes (Heard in 2016, Code Change Proposals Deadline: January 11, 2016)**	**Group C Codes (Heard in 2017, Code Change Proposals Deadline: January 11, 2017)**
International Building Code – Fire Safety (Chapters 7, 8, 9, 14, 26) – Means of Egress (Chapters 10, 11, Appendix E) – General (Chapters 2-6, 12, 27-33, Appendices A, B, C, D, K)	Administrative Provisions (Chapter 1 of all codes except IRC and IECC, administrative updates to currently referenced standards, and designated definitions)	International Green Construction Code
International Fuel Gas Code	International Building Code – Structural (Chapters 15-25, Appendices F, G, H, I, J, L, M)	
International Existing Building Code	International Energy Conservation Code	
International Mechanical Code	International Fire Code	
International Plumbing Code	International Residential Code – IRC-B (Chapters 1-10, Appendices E, F, H, J, K, L M, O, R, S, T, U)	
International Private Sewage Disposal Code	International Wildland-Urban Interface Code	
International Property Maintenance Code		
International Residential Code – IRC-Mechanical (Chapters 12-24) – IRC-Plumbing (Chapter 25-33, Appendices G, I, N, P)		
International Swimming Pool and Spa Code		
International Zoning Code		

Note: Proposed changes to the **ICC *Performance Code*** will be heard by the code development committee noted in brackets [ ] in the text of the code.

As noted, code change proposals submitted for this code will be assigned to one of several code change committees, which could be considered during the 2015 (Group A) or 2016 (Group B) code change cycle. For example, Section [A] 102.1 is the responsibility of the Administrative Code Development Committee, as denoted by the [A]. Therefore, any proposed change to Section [A] 102.1 will be considered by the Administrative Code Development Committee, during the 2016 Committee Action Hearings.

Another example is Section [BG] 802.1, which is designated as the responsibility of the IBC-General Code Development Committee, which will consider code change proposals during its committee action hearings in 2015 (Group A).

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, please visit the ICC website at www.iccsafe.org/scoping.

Marginal Markings

The 2015 edition does not include any margin markings as the text has remained unchanged from the 2012 edition.

Italicized Terms

Selected terms set forth in Chapter 2, Definitions, are italicized where they appear in code. 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 that 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. 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 new 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.