International Building Code

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The **International Building Code** (**IBC**) is a model building code developed by the International Code Council (ICC). It has been adopted for use as a base code standard by most jurisdictions in the United States.[1][2] It may also be used in Abu Dhabi, the Caribbean Community, Colombia, Georgia, Honduras, Afghanistan and Saudi Arabia.[*citation needed*] The IBC addresses both health and safety concerns for buildings based upon prescriptive and performance related requirements. The IBC is fully compatible with all other published ICC codes. The code provisions are intended to protect public health and safety while avoiding both unnecessary costs and preferential treatment of specific materials or methods of construction.[3]

Contents

History

Since the early twentieth century, the system of building regulations in the United States has been based on model building codes developed by three *regional* model code groups. The codes developed by the Building Officials Code Administrators International (BOCA) were used on the East Coast and throughout the Midwest of the United States. The codes from the Southern Building Code Congress International (SBCCI) were used in the Southeast. The codes published by the International Conference of Building Officials (ICBO) were used primarily throughout the West Coast and across a large swath of the middle of the country to most of the Midwest.

Although regional code development had been effective and responsive to the regulatory needs of local U.S. jurisdictions, by the early 1990s it had become obvious that the country needed a single coordinated set of national model building codes.[*citation needed*] Therefore, the nation's three model code groups decided to combine their efforts, and in 1994 formed the International Code Council (ICC) to develop codes that would have no regional limitations.

After three years of extensive research and development, the first edition of the International Building Code was published in 1997. A new code edition has since been **released every three years** thereafter.[3] The code was patterned on three legacy codes previously developed by the organizations that constitute ICC. By the year 2000, ICC had completed the International Codes series and ceased development of the legacy codes in favor of their national successor. The word "International" in the names of the ICC and all three of its predecessors, as well as the IBC and other ICC products, despite all 18 of the company's board members being residents of the United States, reflects the fact that a number of other countries in the Caribbean and Latin America had already begun to rely on model building codes developed in the United States rather than developing their own from scratch.[*citation needed*] Thus, ICC from its inception was well aware that it was writing model codes for an international audience.

Legacy codes

- *BOCA National Building Code (BOCA/NBC)* by the Building Officials Code Administrators International (BOCA)
- *Uniform Building Code (UBC)* by the International Conference of Building Officials (ICBO)
- *Standard Building Code (SBC)* by the Southern Building Code Congress International (SBCCI)

Competing codes and final adoption

The National Fire Protection Association, initially joined ICC in a collective effort to develop the International Fire Code (IFC). This effort fell apart at the completion of the first draft of the document. Subsequent efforts by ICC and NFPA to reach agreement on this and other documents were unsuccessful, resulting in a series of disputes between the two organizations. After several failed attempts to find common ground with the ICC, NFPA withdrew from participation in development of the International Codes and joined with the International Association of Plumbing and Mechanical Officials (IAPMO), the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) and the Western Fire Chiefs Association to create an alternative set of codes. First published in 2002, the code set named the **Comprehensive Consensus Codes**, or **C3**, includes the *NFPA 5000* building code as its centerpiece and several companion codes such as the National Electrical Code, NFPA 101 Life Safety Code, Uniform Plumbing Code, Uniform Mechanical Code, and NFPA 1. Unlike the IBC, the NFPA 5000 conformed to ANSI-established policies and procedures for the development of voluntary consensus standards.

The NFPA's move to introduce a competing building standard received strong opposition from powerful trade groups such as the American Institute of Architects (AIA), BOMA International and the National Association of Home Builders (NAHB). After several unsuccessful attempts to encourage peaceful cooperation between NFPA and ICC and resolution of their disputes over

code development, a number of organizations, including AIA, BOMA and two dozen commercial real estate associations, founded the *Get It Together* coalition, which repeatedly urged NFPA to abandon code development related to NFPA 5000 and to work with ICC to integrate the other NFPA codes and standards into the ICC family of codes.

Initially, under Governor Gray Davis, California had adopted the NFPA 5000 codes as a baseline for the future California Building Code, but in 2003, Davis was recalled from office and Arnold Schwarzenegger was elected to replace him. Upon taking office, Schwarzenegger rescinded Davis's directive, and the state adopted the IBC instead. Adopting NFPA 5000 would have caused a disparity between California and the majority of other states which had adopted the IBC. With IBC's adoption, the legacy that ICBO had started in California and headquartered in Whittier, California continues.[4]

Overview

A large portion of the International Building Code deals with fire prevention. It differs from the related International Fire Code in that the IBC addresses fire prevention in regard to *construction and design* and the fire code addresses fire prevention in regard to the operation of a completed and occupied building. For example, the building code sets criteria for the number, size and location of exits in the design of a building while the fire code requires the exits of a completed and occupied building to be unblocked. The building code also deals with access for the disabled and structural stability (including earthquakes). The International Building Code applies to all structures in areas where it is adopted, except for one and two family dwellings (see International Residential Code).

Parts of the code reference other codes including the International Plumbing Code, the International Mechanical Code, the National Electric Code, and various National Fire Protection Association standards. Therefore, if a municipality adopts the International Building Code, it also adopts those parts of other codes referenced by the IBC. Often, the plumbing, mechanical, and electric codes are adopted along with the building code.

The code book itself (2000 edition) totals over 700 pages and chapters include:

- Building occupancy classifications
- Building heights and areas
- Interior finishes
- Foundation, wall, and roof construction
- Fire protection systems (sprinkler system requirements and design)
- Materials used in construction
- Elevators and escalators
- Already existing structures
- Means of egress (see below)

Use of the term **International**: "Calling it 'international' keeps it from being called the 'U.S. Building Code.' explains Bill Tangye, SBCCI Chief Executive Officer. "Some U.S. Model codes

are already used outside the United States. Bermuda uses BOCA, and Western Somoa uses ICBO."[5]

Means of egress

The phrase "means of egress" refers to the ability to exit the structure, primarily in the event of an emergency, such as a fire. Specifically, a means of egress is broken into three parts: the path of travel to an exit, the exit itself, and the exit discharge (the path to a safe area outside). The code also addresses the number of exits required for a structure based on its intended occupancy use and the number of people who could be in the place at one time as well as their relative locations. It also deals with special needs, such as hospitals, nursing homes, and prisons where evacuating people may have special requirements. In some instances, requirements are made based on possible hazards (such as in industries) where flammable or toxic chemicals will be in use.

Accessibility

"Accessibility" refers to the accommodation of physically challenged people in structures. This includes maneuvering from public transportation, building entry, parking spaces, elevators, and restrooms. This term replaces the term "handicapped" (handicapped parking, handicapped restroom) which is generally found to be derogatory. Accessibility can also include home automation type systems.

Existing structures

Building code requirements generally apply to the construction of new buildings and alterations or additions to existing buildings, changes in the use of buildings, and the demolition of buildings or portions of buildings at the ends of their useful or economic lives. As such, building codes obtain their effect from the voluntary decisions of property owners to erect, alter, add to, or demolish a building in a jurisdiction where a building code applies, because these circumstances routinely require a permit. The plans are subject to review for compliance with current building codes as part of the permit application process. Generally, building codes are not otherwise retroactive except to correct an imminent hazard. However, accessibility standards – similar to those referenced in the model building codes – may be retroactive subject to the applicability of the Americans with Disabilities Act (ADA) which is a federal civil rights requirement.

Alterations and additions to an existing building must usually comply with all new requirements applicable to their scope as related to the intended use of the building as defined by the adopted code (e.g., Section 101.2 Scope, International Building Code, any version). Some changes in the use of a building often expose the entire building to the requirement to comply fully with provisions of the code applicable to the new use because the applicability of the code is use-specific. A change in use usually changes the applicability of code requirements and as such, will subject the building to review for compliance with the currently applicable codes (refer to Section 3408, Change of Occupancy, International Building Code – 2009).

Existing buildings are not exempt from new requirements, with the IBC publishing a Building Code for existing buildings. Existing Building Codes are intended to provide alternative approaches to repair, alteration, and additions to existing buildings. At minimum, this ensures that any new construction maintains the current level of compliance or are improved to meet basic safety levels.[6]

Although such remedial enactments address existing conditions, they do not violate the United States Constitution's ban on the adoption of ex post facto law, as they do not criminalize or seek to punish past conduct.[*citation needed*] Such requirements merely prohibit the maintenance or continuance of conditions that would prove injurious to a member of the public or the broader public interest.[*citation needed*]

Many jurisdictions have found the application of new requirements to old, particularly historic buildings, challenging. New Jersey, for example, has adopted specific state amendments (see New Jersey's Rehabilitation Subcode)to provide a means of code compliance to existing structures without forcing the owner to comply with rigid requirements of the currently adopted Building Codes where it may be technically infeasible to do so. California has also enacted a specific historic building code (see 2001 California Historic Building Code). Other states[*which?*] require compliance with building and fire codes, subject to reservations, limitations, or jurisdictional discretion to protect historic building stock as a condition of nominating or listing a building for preservation or landmark status, especially where such status attracts tax credits, investment of public money, or other incentives.

The listing of a building on the National Register of Historic Places does not exempt it from compliance with state or local building code requirements.[*citation needed*]

Updating cycle

Updated editions of the IBC are published on a three-year cycle (2000, 2003, 2006, 2009, 2012, 2015, 2018, 2021...). This fixed schedule has led other organizations, which produce referenced standards, to align their publishing schedule with that of the IBC, such as the NEC and California Building Code (2005, 2008, 2011, 2014, 2017...).[*citation needed*]

Referenced standards

Model building codes rely heavily on referenced standards as published and promulgated by other standards organizations such as ASTM (ASTM International), ANSI (American National Standards Institute), and NFPA (National Fire Protection Association). The structural provisions rely heavily on referenced standards, such as the Minimum Design Loads for Buildings and Structures published by the American Society of Civil Engineers (ASCE-7) and the Specification for Structural Steel Buildings by the American Institute of Steel Construction (ANSI/AISC 360).

Changes in parts of the reference standard can result in disconnection between the corresponding editions of the reference standards.

Copyright controversy

Many states or municipalities in the United States of America adopt the ICC family of codes.

In the wake of the Federal copyright case *Veeck v. Southern Building Code Congress Int'l, Inc.*,[7] the organization Public Resource has published a substantial portion of the enacted building codes on-line, and they are available as PDFs.[8]

ICC building codes

- International Building Code (IBC)
- International Residential Code (IRC)
- International Fire Code (IFC)
- International Plumbing Code (IPC)
- International Mechanical Code (IMC)
- International Fuel Gas Code (IFGC)
- International Energy Conservation Code (IECC)
- ICC Performance Code (ICCPC)
- International Wildland Urban Interface Code (IWUIC)
- International Existing Building Code (IEBC)
- International Property Maintenance Code (IPMC)
- International Private Sewage Disposal Code (IPSDC)
- International Zoning Code (IZC)
- International Green Construction Code (IgCC)
- International Swimming Pool and Spa Code (ISPSC)