For TechNotes. A Primer on Building Codes

A building code, simply stated, is the body of law or regulation used by a governmental authority as construction requirements to provide for public safety in buildings constructed within its jurisdiction. In the United States that authority over the private sector principally lies in the hands of state and local governments. The federal government exercises jurisdiction over its own construction, over manufactured housing, applies building requirements in federal occupational safety and health requirements, fair housing requirements, federal requirements for building accessibility for the disabled, and applies building safety requirements in regulation of several federal assistance programs.

Modern uniform building codes began to be developed early in the 1900's as public safety authorities in American communities and industry began to gather together to pool expertise and experience to and reconcile conflicting approaches to local building regulation. Associations of public safety professionals worked to develop consensus on a common body of regulation or "model code", which had no legal authority of its own, but that independent jurisdictions could legally adopt as local law, while still making amendments or adjustments for local needs. This approach evolved to the existence of three regionally dominant model code organizations that served the U.S. for most of the 20th century. In the 1990's, however, the maturing needs and national interests of designers, builders, materials providers and building owners led to the amalgamation of the three dominant model code organizations into a single entity, the International Code Council (ICC, or Code Council). The Code Council combined into one national organization the membership and code development support mechanisms of the three regional 'legacy' code development organizations (Building Officials and Code Administrators, or BOCA, International Conference of Building Officials, or ICBO, and the Southern Building Code Congress International or SBCCI), and publishes and supports the application of a single nationally recognized and predominantly adopted set of model building safety and fire prevention codes.

In similar fashion to its founding organizations, the Code Council develops and maintains codes through a democratic, voluntary sector consensus development process known as the Governmental Consensus Process. The ICC uses this code development process to maintain 14 separately published but technically and functionally correlated publications. The main code publications of the 14 are the International Building Code (IBC), International Residential Code (IRC) and International Fire Code (IFC). These documents reference and tie together the application of over 500 building standards developed by or for 50 independent standards publishers. These standards, developed by organizations such as ASTM International, the American Society of Civil Engineers, the National Fire Protection Association (NFPA) and Underwriters Laboratory (UL), are detailed prescriptions for sub-elements of building construction. Examples from these standards developers include specifications for strength of structural elements, design loads for building foundations, specifications for fire sprinkler and fuel storage systems, and fire rating criteria to which building materials and assemblies must conform. The building code works to both integrate and resolve incongruities in the application of

referenced standards, and to embody them in language that creates a legally enforceable building requirement.

In scope, the IBC and IFC incorporate requirements that address all commercial and residential construction. The IRC is limited to one and two family dwellings up to three stories in height, and directly incorporates all referenced standards for the convenience and efficiency of that high-volume area of construction. Other individual but developmentally integrated code documents separately address building related governance such as energy conservation, mechanical systems (including heating ventilation and air conditioning), plumbing, fuel gas systems, private sewage systems, property maintenance, regulation of existing buildings, zoning and construction and management of properties in the Wildland Urban Interface. Each of the codes is updated every 18 months, with a major republication every 36 months. The codes are amended in an public process that involves recruitment and receipt of recommendations for code amendment, a public hearing on each proposal before a technical committee, publication of committee findings, solicitation and receipt of written public comment on committee actions, and a public hearing at which public testimony is presented and a vote on final action is taken to determine whether each proposed or amended change will be incorporated in the next release of the code. During the code development process members of the public, regardless of profession, industry, affiliation or membership status, may propose amendments and present evidence on code amendments. To insulate the result from financial interests, however, the Governmental Consensus Process reserves voting on final action to representatives of local, state and federal government agencies that exercise a role in adopting or enforcing building codes. As a matter of note, the Governmental Consensus Process is consistent with the requirements of the National Technology Transfer and Advancement Act (P.L. 104-113) in terms of requirements for federal government recognition of voluntary sector standards.

As discussed here, the fundamental purpose of building codes is the welfare of the public through the protection of life and health in the built-environment. Codes are written to stipulate minimum requirements for structural safety, mitigation against natural hazards, environmental controls, emergency access, fire protection and accessibility and resources for first-responders. As minimum requirements, building codes represent the integration of multiple and sometimes competing values, always first honoring the principal purpose of protecting public expectations for safety in the buildings in which we live, work, conduct business, worship, shop and recreate. The codes are living documents that also embrace and forward constantly developing and maturing objectives such as accessibility, property protection, energy conservation, as well as newer objectives such as resistance to terrorism and carbon neutrality. The process is methodical and deliberative and - because carried out through a series of democratic processes – does not favor the impatient. Once public acceptance of changes to the model code is achieved, however, features of the building code work to serve the public interest for decades to come. Cooperation and coordination between community planners and code officials would serve to advance the goals of both.

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