



Introduction to Model Codes

Concern for safety in buildings has been recorded in the laws of some of the most ancient civilizations. The regulation of building construction in the United States dates from the early settlement of North America. Construction laws developed and became more complex as the surrounding cities grew and experienced the threats and consequences of disease, fire and structural collapse.

In the early 1900s, special interest groups, such as the insurance industry (which was concerned with the mounting losses of life and property due to fire), joined others with similar concerns to develop a model law, or guide document, that could be adopted by a legislative body to reduce those losses. The result was the development and production of a model code that was offered to states and local governments for their voluntary enactment as law. The model code was promulgated by the National Board of Fire Underwriters, later to become the American Insurance Association, and was intended to be a foundation on which the legislative body could create its own regulations. The document, or any portion thereof, could be adopted by a specific reference to it in the legislation based on the perceived needs of that legislative body. Similarly, the legislative body could, in the preparation of the law, designate the application of the code to a certain class or classes of structures or to certain building uses. The model code was simply a document that a legislative body could utilize to the extent that they found necessary or desirable.

This first model code gained widespread popularity among legislative authorities by providing an accessible source of comprehensive, contemporary and respected technical requirements without the difficulties and expense of investigation, research, drafting and promulgation of individual local codes. Additionally, at approximately 10-year intervals, a new edition of the model code was produced. This allowed governments to reflect current construction technology and keep their building code requirements up to date.

Beginning in 1915, code enforcement officials, or those municipal officials charged with the responsibility of enforcing building code laws, began regular regional and national meetings to discuss their common problems and concerns. From these meetings came the formation of three organizations of code enforcement officials: Building Officials Conference of America, now known as Building Officials and Code Administrators (BOCA) International, Inc.; International Conference of Building Officials (ICBO); and Southern Building Code Congress International, Inc. (SBCCI). These three organizations created the International Code Council (ICC).

While legislative bodies are not obligated to adopt a model code and may write their own code or portion of a code, studies conducted by the federal government have indicated that more than 97% of U.S. cities, counties and states that adopt codes choose building and fire codes created by the three building safety groups that make up the ICC. BOCA, ICBO and SBCCI have more than 190 years of collective experience developing codes. ICC Codes are used across America and around the world. A code has no legal standing until it is adopted as law by a legislative body. When it is adopted as law, the code's original formal status is restricted to the geographic boundaries of that legislative body's political jurisdiction. All owners of property within the boundaries of the jurisdiction are required to comply with the enacted building code.

In cases where a code has not been adopted in a jurisdiction, the codes have assumed an authoritative status for building designers. Engineers and architects are licensed by the state to practice their profession and have a duty to be aware of the building features and elements that are a threat to the public and to the building user. The codes, then, are utilized by design professionals for their design in such geographical areas, even though the codes may not be universally adopted as law.

Building Codes

The regulation of building construction in the United States is accomplished through a document known as a building code. This document is adopted by a state or local government's legislative body, then

enacted to regulate building construction within a particular jurisdiction. A building code is a collection of laws regulations, ordinances or other statutory requirements adopted by a government legislative authority involved with the physical structure and healthful conditions for occupants of buildings. The purpose of a building code is to establish the minimum acceptable requirements necessary for protecting the public health, safety and welfare in the built environment. These minimum requirements are based on natural laws, on properties of materials, and on the inherent hazards of climate, geology and the intended use of a structure (or its “occupancy”).

The primary application of a building code is to regulate new or proposed construction. Building codes only apply to an existing building if the building undergoes reconstruction, rehabilitation or alteration, or if the occupancy of the existing building changes to a new occupancy as defined by the building code.

The term “building code” is frequently used to refer to a family of codes, such as the International Codes, that are coordinated with each other to address specific scopes of technical application. This set of codes generally consists of four documents: a building code, a plumbing code, a mechanical code and an electrical code.

Why Have a Building Code?

Codes protect public health, safety and welfare

- Building codes provide protection from tragedy caused by fire, structural collapse and general deterioration in our homes, schools, stores and manufacturing facilities.
- Safe buildings are achieved through proper design and construction practices and a code administration program that ensures compliance. Home and business owners have a substantial investment that is protected through complete code enforcement.

Codes keep construction costs down

- The International Codes provide uniformity in the construction industry. This uniformity permits building and materials manufacturers to do business on a larger scale — statewide, regionally, nationally or internationally. Larger scale allows cost savings to be passed on to the consumer.

Codes provide consistent minimum standards in construction

- Codes establish predictable and consistent minimum standards, that are applied to the quality and durability of construction materials, a practical balance between reasonable safety, and cost to protect life and property. The term “minimum requirements” means that construction meets the criteria of being both practical and adequate for protecting the life, safety and welfare of the public.
- Inspection during construction is the only way to independently verify that code compliance has been achieved. An average of 10 inspections are conducted to homes, offices or factories to verify conformity to minimum standards.

Codes contribute to the well-being of the community

- The preservation of life and safety, as well as the maintenance of property values over time, are a direct result of the application and enforcement of model building codes.
- The conservation of energy contributes to intelligent use of resources and provides the consumer with cost savings.

Local and State Codes

Development of local and state codes varies considerably in degree and procedures. Almost all local and state codes in America are based on the International Codes or model codes, particularly for engineering provisions.

State codes can be developed in a variety of ways. Some states adopt a particular edition of a model code, leaving administrative matters to local jurisdictions. Others start with a model code and revise and administer a separate code only for state-funded buildings. Still others may require a special code for certain occupancies, such as schools and assembly buildings.

Local codes also are diverse in the extent to which the base model code is amended. Most local amendments are limited to administrative provisions, which are subject to change to meet other local regulations regarding implementation of ordinances. Engineering provisions are among the least amended, with a common reason for amendments related to unique site conditions that affect foundation design or applied wind and snow loads.

There are still large cities that have had the advantage of a large professional population willing and able to provide advice on customizing nationally recognized codes and standards for local use. The list of these cities shrinks each year as the International Codes and national standards become more detailed in scope.

Local and state amendments to technical provisions in International Codes and national standards should be avoided and opposed in every case. A concern with a provision thought to be incomplete or improper should be addressed through the code development process and procedure made available to all by the International Code Council.

Involvement by Technical Organizations

Many representatives of professional organizations participate in codes and standards activities at local, state and national levels. Most of them will have members that also hold national membership, which presents an opportunity to promote the support of model codes and national technical standards.

Trade associations that represent suppliers of construction materials are another type of organization most likely to have significant participation in all codes and standards activities.

Standards

A standard is “a prescribed set of rules, conditions or requirements concerned with the definition of terms; classification of components; delineation of procedures; specification of dimensions, materials, performance, design or operations; descriptions of fit and measurement of size; or measurement of quality and quantity in describing materials, products, systems, services or practices.” There are thousands of standards in existence, dealing with an endless array of consumer products, manufacturing methods, quality of materials and procedures for various operations and processes. Of concern to the model code process are those standards that play a key role in institutionalizing construction practices and procedures across the United States. A standard, in conjunction with a criterion that is the quality or quantity required by the building code as measured by that standard, can simplify the model code text and utilize the considerable expertise of those participating in specialized standards-writing activities. Any group of manufacturers, associations, consumers, users or agencies can cooperatively develop a standard for its own purposes and reasons. Only when the standard is developed in accordance with definitive rules of procedure and consensus does the standard obtain the stature appropriate and necessary for regulatory use in model codes. Additionally, a standard to be utilized by a model code must measure quantity or quality appropriate for regulation by the code.

For various reasons, an owner may utilize a standard and specify a criterion for performance of a building element over and above that which the applicable code requires. This is common and reflects a key fundamental aspect of a model code—a statement of minimum performance requirements and characteristics, with the protection of the public health, safety and welfare as its primary intent.

Referenced Standards

Since not all standards are intended to be utilized by a model code, a model code must state the standards which are applicable and also when they are applicable. This is accomplished through a specific reference in the code to a given standard which clearly identifies when and how the standard is to be utilized. For example, a code will require that a building element be able to perform to a certain criterion and then reference a standard for use in measuring the performance of any proposed system intended to accomplish that performance.

The International Code Council has established a policy governing referenced standards that requires such standards to comply with the following requirements:

1. The need for the standard to be referenced shall be established.
2. A standard or portions of a standard intended to be enforced shall be written in mandatory language.
3. The standard shall be appropriate for the subject covered.
4. All terms shall be defined when they deviate from an ordinarily accepted meaning or a dictionary definition.
5. The scope or application of a standard shall be clearly described.
6. The standard shall not have the effect of requiring proprietary materials.
7. The standard shall not prescribe a proprietary agency for quality control or testing.
8. The test standard shall describe, in detail, preparation of the test sample, sample selection or both.
9. The test standard shall prescribe the reporting format for the test results. The format shall identify the key performance critical for the element(s) tested.
10. The measure of performance for which the test is conducted shall be clearly defined in either the test standard or in code text.
11. The standard shall not state that its provisions shall govern whenever the referenced standard is in conflict with the requirements of the referencing code.
12. The preface to the standard shall announce that the standard is promulgated according to a consensus procedure.
13. The standard shall be readily available.
14. The standard shall be developed and maintained through a consensus process such as ASTM or ANSI.

The model codes place great reliance on the use of standards produced in the private sector. Each standard is specifically identified in the code text with the manner and scope of required conformity to the standard. Assume, for example, that the code requires a reinforced concrete structural element to be designed in accordance with the ACI 318 uniquely identifies the standard *Building Code Requirements for Reinforced Concrete*, which is published by the American Concrete Institute (ACI). This standard is also listed in the code as one of the referenced standards.

A code-referenced standard may, and frequently does, reference other standards which are intended to be used in conjunction with the primary standard. References to a secondary standard by another standard are acceptable, provided that all such references are unambiguous and clearly reflect the requirements for code compliance. Similarly, the secondary standard may contain a reference to another standard. This tiered system of standards usage has proven very effective in accomplishing the use of relevant standards while minimizing confusion and the need to duplicate the effort expended by participants in the voluntary standards-writing processes.

Standards referenced in this tiered manner are regulations which are as binding as if all of the standards' test were to appear word-for-word in the code text itself. If all of the standards that are referenced in the code and applicable through standards references were to be reprinted and appear in the code, the code would be several thousand pages in length. The advantage of this manner of utilizing referenced standards is that the code is kept to a volume that is manageable, concise and up-to-date.

In summary, a code will specify the use of a standard to define the measurement of a performance feature of a building element or system. A specified and referenced standard, in conjunction with a code-established criterion, defines the performance level required by the code as measured by the standard.

American National Standards Institute (ANSI)

ANSI is a private, not for profit membership organization founded in 1918 to coordinate the development of voluntary standards in the United States. It was founded by five professional and technical societies and three agencies of the federal government.

The role of ANSI is to encourage development of standards and develop procedures that provide criteria, requirements and guidelines for coordinating and developing consensus for American National Standards. The goal is the development of a single, consistent set of national voluntary standards by a variety of technical groups, trade associations and professional societies. ANSI does not develop the standards it accepts, however. The writing of the standards is done by accredited standards developers, such as American Society of Civil Engineers (ASCE) American society for Testing and Materials (ASTM), American Welding Society (AWS), American Society of Mechanical Engineers (ASME), National Fire Protection Association (NSPA) and Underwriters Laboratories Inc. (UL).

Many of these standards are referenced in building codes. The private-sector standards system, however, is much larger reaching than building codes. ANSI lists more than 10,000 approved standards promulgated by more than 260 accredited standards developers. Such standards are used extensively for design, manufacture, application and procurement.

Conclusion

The construction code system in the United States relies on the voluntary cooperative efforts of those persons and organizations within the private sector of the construction community. All of the organizations have developed a model comprehensive regulatory system that is legally responsive to both public needs and technological developments. The standards system in the United States and the use of standards in model codes places the cumulative scientific, engineering and industrial knowledge of the United States at the fingertips of participants in the construction community. The code enforcement official accepts with confidence the measurement methods and practices dictated by these standards. Code enforcement officials can then direct their attention to the criteria for application of these standards to accomplish the objectives of the code to enhance and preserve the public health, safety and welfare in the built environment of the United States.

Who needs BUILDING CODES?

We all do — whether in our homes, offices, schools, stores, factories, or places of entertainment. We rely on the safety of structures that surround us in our everyday living. The public need for protection from disaster due to fire, structural collapse, and general deterioration underscores the need for modern codes and their administration.

HOW RELIABLE ARE THEY?

Most aspects of building construction — electrical wiring, heating, sanitary facilities — represent a potential hazard to building occupants and users. Building codes provide safeguards. Although no code can eliminate all risks, reducing risks to an acceptable level helps.

WHAT IS A BUILDING CODE?

Practically, it is the government's official statement on building safety. Technically, it is a compendium of minimum safety standards arranged in a systematic manner (codified) for easy reference. It embraces all aspects of building construction — fire, structural, plumbing, electrical, and mechanical.

public safety

WHAT IF I WANT TO DO A BUILDING PROJECT MYSELF?

Building departments have pamphlets and brochures explaining, in detail, how to obtain permits and design and construct a safe building. Inquire within your local community.

WHY SHOULD CODES APPLY TO MY OWN HOUSE?

For several reasons:

- * For your personal safety, and that of your family, and the guests invited into your home.
- * To ensure the economic well-being of the community by reducing potential spread of fire and disease.
- * For the conservation of energy.
- * To protect future home purchasers who deserve reasonable assurance that the home they buy will be safe.

Local building departments provide a wide range of services beyond the usual plan review and building inspection process. These range from the administration of planning or zoning laws to housing maintenance inspection, nuisance abatement, and a number of other related or ancillary duties. Visit your local building department and get acquainted with the people who make it work.

Support BUILDING SAFETY!

For more information about building codes and local requirements, contact your local building department below:

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building CODES

HOW DO THEY
HELP YOU?



building codes HOW DO THEY HELP YOU?

The regulation of building construction is not a recent phenomenon. It can be traced through recorded history for more than 4,000 years. Through time, people have become increasingly aware of their ability to avoid the catastrophic consequences of building construction failures.

In early America, George Washington and Thomas Jefferson encouraged the development of building regulations to provide for minimum standards that would ensure health and safety. Today, most of the United States is covered by a network of modern building regulations ranging in coverage from fire and structural safety to health, security, and conservation of energy.

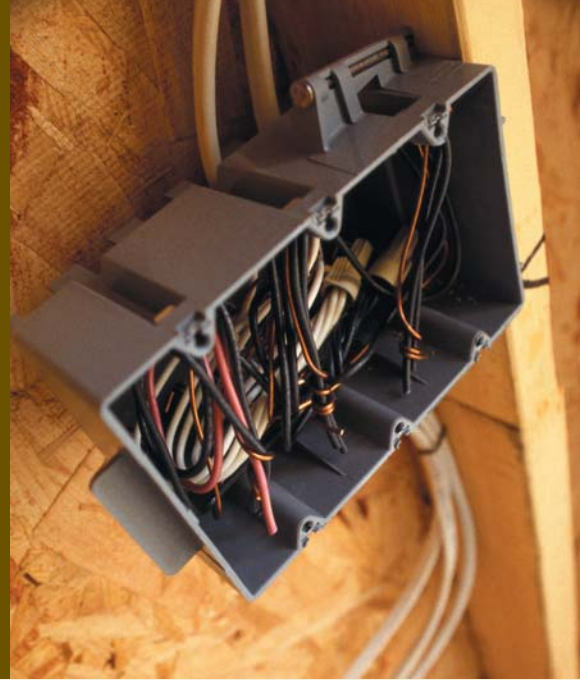
Public safety is not the only byproduct afforded by modern codes. Architects, engineers, contractors, and others in the building community can take advantage of the latest technological advances accommodated by these codes with viable savings to the consumer.

For codes to be effective, an understanding and cooperative relationship must exist between building officials and the groups they serve — homeowners, developers, urban planners and designers, and others in the construction industry. Codes must therefore be responsive to the government's need to protect the public. They must provide due process for all affected and keep pace with rapidly changing technology. These communities can work together to develop and maintain codes.

During the early 1900s, model building codes were authored by the code enforcement officials of various communities with key assistance from all segments of the building industry. Now, model codes are the central regulatory basis for the administration of programs in cities, counties, and states throughout the United States. They simply represent a collective undertaking, which shares the cost of code development and maintenance while ensuring uniformity of regulations so that the advantages of technology can be optimized.

Building safety code enforcement has historically been accomplished by defraying the costs of administration through a system of fees relating to a specific project — a system that is self-supporting. These fees are generally less than one percent of the overall cost of the building project. Public protection is thus obtained in a cost-effective manner with the entire process, from plan review to field inspection, carried out in a professional manner. The system is so well developed that the true complexity of the process is obscure to many. It is for the purpose of creating awareness of this important public service that this pamphlet is provided.

For further information, contact your local building department.



the simple PERMIT PROCESS

TALK TO YOUR LOCAL CODE OFFICIAL

Your code official wants your project to be a success and will help you avoid potential problems that could cost you time and money. You will be asked some basic questions (What are you planning to do? Where?), advised of any requirements, and, if necessary, referred to other departments for their approval. The code official will provide you with the resources and information needed for compliance with the applicable building codes. You will then receive an application for a building permit.

SUBMIT APPLICATION

At this stage you will document the “Who, What, When, Where, and How” of the job, along with any sketches or plans of the proposed work.

REVIEW PROCESS

In a brief amount of time, the code official will review your plans and determine if your project is in compliance with local requirements. If your plans meet these requirements, a permit is issued. If not, the code official may suggest solutions to help correct the problem.

RECEIVE PERMIT

Now that you have been approved for a permit, you have legal permission to start construction. A fee, based on the size of the job, is collected to cover the cost of the application, the review, and the inspection process. An experienced code official is available to you should you have any questions concerning your project. You should consider your code official as an ally who will help you make your project a success. Separate permits are typically required for electrical, plumbing, and heating or air-conditioning work.

JOB-SITE VISITS

On-site inspections will be required to make certain the work conforms to the permit, local codes, and plans. Again, you will have access to the expertise of the code official to help you with questions or concerns regarding the project and to minimize potentially costly mistakes. The code official will let you know approximately how many inspections may be needed for your project. Usually, a one- or two-day notice is needed when requesting visits.

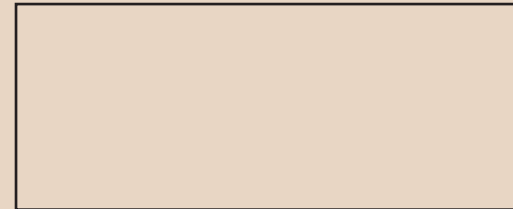
FINAL APPROVAL

The code official will provide documentation when construction is complete and code compliance is determined. You will then have the personal satisfaction of a job done right. Enjoy your new surroundings with the peace of mind and the knowledge that they meet the safety standards in your community.

It takes everyone in a community to keep our homes, schools, offices, stores, and other buildings safe for public use. Your safe construction practices help protect you, your family, your friends, and your investment. Be sure to get your local code official involved with your project, because the building department is an important ally, from start to finish.

support BUILDING SAFETY!

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benefits of BUILDING PERMITS



the benefits of BUILDING PERMITS

By reading this brochure you've already taken the first step toward protecting the outcome and investment value of your construction project and guarding against a lawsuit or injury. The following information describes simple steps you can take to obtain a building permit and how permits can work for you. You'll be surprised at how easy the whole process is.

The truth is, building permits are very beneficial to you and your community. By working with expert code officials, you will benefit from their knowledge of building codes to ensure your construction project is built right, will be safe, and will last. Read on to discover the "Benefits of Building Permits."

WHAT'S A BUILDING PERMIT?

A building permit gives you legal permission to start construction of a building project in accordance with approved drawings and specifications.

WHEN DO YOU NEED A PERMIT?

The best way to find out if you need a permit is to call your local building department. Discuss your plans with the code official before beginning construction

to determine whether you need a permit. Even if a permit is not needed, the code official will answer construction questions and may provide valuable advice.

PERMITS ARE USUALLY REQUIRED FOR THE FOLLOWING:

- * New buildings
- * Additions (bedrooms, bathrooms, family rooms, etc.)
- * Residential work (decks, garages, fences, fireplaces, pools, water heaters, etc.)
- * Renovations (garage conversions, basement furnishings, kitchen expansions, reroofing, etc.)
- * Electrical systems
- * Plumbing systems
- * HVAC (heating, ventilating, and air-conditioning) systems

Your home or business is an investment. If your construction project does not comply with the codes adopted by your community, the value of your investment could be reduced. Property insurers may not cover work done without permits and inspections. If you decide to sell a home or building that has had modifications without a permit, you may be required to tear down the addition, leave it unoccupied, or make costly repairs.

A property owner who can show that code requirements were strictly and consistently met—as demonstrated by a code official's carefully maintained records—has a strong ally if something happens to trigger a potentially destructive lawsuit.

Your permit also allows the code official to protect the public by reducing the potential hazards of unsafe construction and ensuring public health, safety, and welfare. By following code guidelines, the completed project will meet minimum standards of safety and will be less likely to cause injury to you, your family, your friends, or future owners.



build
smart

investment



The Impact of Building Codes on Property Insurance

Purpose

The International Building Code and other International Codes can have a positive impact on property insurance. This paper will educate decision makers on how adopting the I-Codes can improve the cost and availability of property insurance for their communities.

Key Words

- Property loss reduction
- Reduced insurance costs
- Improved building safety
- Building code adoption, implementation and enforcement

Background

Natural disasters such as hurricanes, tornadoes, tropical storms, hail, earthquakes and wild fires can have a devastating effect on the built environment and the economy. Studies of various catastrophes graphically demonstrate that effective building code enforcement greatly reduces associated loss. According to *Best's Review*, losses attributable to Hurricane Andrew would have been 30 to 40 percent lower if Florida communities had strictly enforced existing building codes. A study by Factory Mutual Insurance Group illustrates that effective enforcement of building codes in those affected Florida communities would have reduced damage to buildings by up to 55 percent.

Post-disaster assessments of many communities showed a direct relationship between building failures, the codes adopted, the resources directed toward implementation and enforcement, and the services available to support those codes. To reinforce this relationship between loss reduction and code adoption and enforcement, the Insurance Services Office, Inc. (ISO), working with the Insurance Institute for Property Loss Reduction (now the Institute for Business and Home Safety) and tapping the expertise of the three model code groups (now the ICC), developed the Building Code Effectiveness Grading Schedule (BCEGS) in 1995.

About the BCEGS

The purpose of the BCEGS is to review the available public building code enforcement agencies, and to develop a building code effectiveness classification for insurance information and rating purposes. ISO assesses building code adoption and enforcement activities in a particular community, with special emphasis on mitigation of losses from natural disasters. Communities

with well-enforced, up-to-date codes would be expected to experience a reduction in loss, and in return, receive better insurance rates. This “better building/less loss” relationship provides an incentive for communities to adopt contemporary codes and rigorously enforce them, especially as the codes relate to windstorm and earthquake damage. The end result is safer buildings, less damage and lower insured losses from catastrophes.

The BCEGS program assigns each municipality a grade or classification of 1 (exemplary commitment to building code enforcement) to 10 (essentially no adopted codes). ISO develops advisory rating credits that apply to ranges of BCEGS classifications (1-3, 4-7, 8-9, 10), and provides insurers BCEGS classifications, BCEGS advisory credits and related underwriting information. Insurers use these in assessing risk and applying rate credits. This program was phased in over a five-year period, from 1996 to 2001. At present, all communities have been graded. ISO has begun re-grading communities based on code adoption and implementation activities that have occurred since the initial grading period.

A summary of the ISO classification and grading process is as follows:

- Each community is evaluated based on how it administers codes, reviews plans and conducts field inspections. Administration includes, among other things, whether the code is up-to-date, resources devoted to training and certification of code officials, contractor licensing, and records of code official certifications and training.
- Relevant information is provided to ISO by the code official. ISO field representatives conduct an on-site evaluation and assign a classification of 1 to 10 to the community. If the community has different codes and programs for different building types, a separate classification can be issued for each building type.
- ISO files rate credits to be applied to loss costs for personal and commercial property coverage in each community. Once state regulators approve or acknowledge the filings and they become effective, insurers that have given ISO filing authorization can automatically apply the credits.
- A community is reevaluated in five years, or sooner if requested, due to an enhancement in their code program.

When ISO evaluates a community, the classification automatically applies to any building receiving a certificate of occupancy on or after the date of classification. That classification remains with the building regardless of what happens with any future re-classification.

Issue Identification

Because the insurance industry, communities and their elected officials, the construction industry and the general public are all affected, the results of reclassification are critical. A community’s classification or grade can be downgraded due to lack of initiative in adopting more contemporary codes, the availability and use of comprehensive support services for those adopted codes, and how they implement and enforce those codes. For example, one California community has reported that lack of action regarding adoption of a new state building code was the key factor in their ISO classification being changed from 3 to 7 during a recent reclassification. Such a downgrade adversely affects construction, and in turn, the economy of

the community and its citizens. In a worst-case scenario, erosion in a community's grade could shut down all new construction. In communities located in states with preemptive legislative authority to adopt building codes, the lack of action, or incorrect action, by the state affects each community on an individual basis, as well as the state at large.

The negative impacts of a higher (less exemplary) ISO grade or classification are:

- Increased risk of injuries and loss of life, property losses, and economic and social disruption from natural disasters.
- The loss of any possibility of insurance rate reduction on buildings constructed after the new classification.
- Loss of pride and decreased morale in the code enforcement department.
- Less support of state or local decision makers from the construction community and the public at large.

If a community or state has been enforcing an older model building code and has not yet adopted the International Building Code, it is at risk of receiving a higher grade or less desirable grade when reclassified.

Discussion

Clearly the insurance industry, construction community and state and local decision makers understand the link between loss of life and property, and the adoption, effective implementation and enforcement of construction codes. The BCEGS reinforces that link by rewarding communities that invest in a more robust building regulatory program, which is the focal point of this program and encompasses much more than the code that is adopted. It includes the entire program to support building safety – not on paper as evidenced by a code document but in practice as evidenced by safe, well-maintained buildings and the building department staff that enforce those codes on behalf of the elected officials and their constituents.

The importance of code provisions should not be minimized: codes must have sensible technical requirements, but also need to be usable, enforceable, cost effective, updated regularly, sensitive to acceptance of new technology, coordinated, reliable, trusted and based on a long history of success. The ISO process looks beyond the technical provisions of the adopted code to address all that takes place in the design, construction, inspection, approval and use of buildings. Given two scenarios – one with a code document that cannot be easily implemented and has no enforcement or support services, and another that can be easily implemented, has support services and is enforced; construction under the latter scenario is more likely to yield success. In short, the realization of safe buildings involves much more than simply looking at words in a code book and how they are developed.

For this reason the ISO process, and any other rational assessment of codes, is focused on the end result – safe buildings – and all code activities that can help achieve that end. This includes training and education for those in the related construction and code communities, certification of contractors and code officials, the level of plan review and construction inspection, the

availability of an evaluation program to facilitate the timely acceptance of new more effective building technology, a program to accredit testing laboratories and quality assurance agencies that play a vital role in code compliance, and all other activities conducted to ensure that code requirements are met at initial occupancy and throughout the life of the building.

All communities in the United States have been classified and rated by ISO and are now undergoing a re-classification process. As noted, a community's grade is based not only on the code adopted, but on the many factors that influence building safety at occupancy and during its life. When considering updating existing codes, communities need to look not only at the code requirements but also the usability and coordinated nature of all the adopted codes. Communities also must consider the resources needed to implement and enforce the codes and the support services available to augment those local efforts. State agencies with preemptive authority to adopt codes need to consider these issues, actively consult with the communities in the state and adopt a code that will improve the classification of communities within the state.

Conclusions

- The Building Code Effectiveness Grading Schedule can influence adoption and implementation of building codes. It has a direct impact on new construction, as well as the potential loss of life, property and economic viability associated with natural disasters affecting the built environment of each community as well as each state and the nation.
- The grading or classification of a community is based on much more than the code adopted. To look only at technical requirements of existing codes and codes to be adopted excludes many other factors that will impact building safety and could adversely affect the grading of a community. Not upgrading to the latest codes has similar consequences.
- A community's grading is also based on the usability of the code, the support services for the code and the ability of the community to enhance and maintain the professionalism and capabilities of those implementing and enforcing the code. The International Codes have an existing support structure, eliminating the need for each community or state to fund development and maintenance of that support structure.
- Building safety entails more than technical provisions in the code. The realization of a safe building is the result of a usable and understandable code, informed designers and builders, and capable and trained plan reviewers and effective field inspection by competent individuals supported by robust support services.
- Most communities in the United States that adopt codes use those developed and supported by the ICC. Those communities are more likely to retain or upgrade their existing classification by adopting the 2003 International Codes, with comprehensive support services to facilitate implementation and enforcement.

The "Industry Opinion" section of the ICC Newsletter exposes readers to multiple viewpoints—some you may agree with and others you may not. Our goal is to present you with information. We leave it to you to form your own opinion.

This month, we're presenting a thought-provoking trio

of articles that vary widely in perspective on how codes and standards are developed. Ron Nickson, vice president of building codes for the National Apartment Association/National Multi-Housing Council Joint Legislative Program, addresses the differences between the ICC and the National Fire Protection Association's

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Consensus Codes—Does It Matter?

By Ron Nickson

Does the process an organization uses to develop its model building code matter? Is one method really superior to another? Should an apartment owner/developer care whether the codes being adopted are developed by government consensus, true consensus or an ANSI-approved process?

The short answer is yes. The method does matter, as much as the outcome. The entire issue centers on who gets to vote. To understand why, you need to understand the difference between the ICC's "government consensus" method and the National Fire Protection Association's (NFPA) process, which it calls "true consensus." Understanding the key differences between these code development methods is the first step to understanding why National Apartment Association (NAA)/NMHC have chosen to support the ICC codes over the NFPA.

The Long Answer

In the ICC's government consensus process, the final vote is controlled by public building and fire officials from local communities across the country. As impartial officials, they have no vested interest in any specific building product. Their primary concern is to identify the minimum standards necessary to safeguard the public's health, safety and general welfare. Their day-to-day experiences provide them with first-hand knowledge of what is important and provides them with a better understanding of the true impact the building codes will have on their local

community.

While the ICC relies on the code officials for the final vote, its two-step open hearing procedure allows anyone to speak for or against a proposal. In the first step, the ICC benefits from the collective expertise of code officials, industry representatives, and technical experts sitting on committees listening to testimony at hearings. In the second step, the committee recommendations are sent to the ICC code official members for ratifications and a final vote. This final vote serves as an unbiased filter for processing code changes. The committee recommendations can be challenged by anyone present for a floor vote. In a floor vote, every member, including the industry representatives present, is allowed to vote. A successful floor vote on a challenge to a committee recommendation creates, in effect, an automatic challenge to the item for consideration at the second and final hearing. Additionally, anyone can challenge a committee recommendation at the final hearings.

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ICC Set of Comprehensive Codes Developed Under the 'Government Consensus' Process

International Building Code
 International Fire Code
 International Residential Code
 International Plumbing Code
 International Mechanical Code
 International Property Maintenance Code
 International Energy Conservation Code
 International Fuel Gas Code
 International Zoning Code
 International Sewage Disposal Code
 International Code Council Electrical Code

(Editor's Note: This article is reprinted with permission from Units magazine, published by the National Apartment Association.)

Consensus Codes

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The final vote, however, is conducted only by the building and fire officials present. Items that are not challenged are voted as a block by the code officials at the final hearing. Items that are challenged are discussed at the final meeting and then voted on by the code officials. This system provides industry participants, including apartment owners and developers, with multiple opportunities to challenge provisions and present data in support of their positions, with the final decision being made by impartial code officials.

Another View

In contrast, the NFPA's true consensus is based on the American National Standards Institute (ANSI) procedure, which require balanced committees with representation from the various interests. Though one doesn't have to be a member to serve on a committee, the balanced committees requirement allows all dues paying members to vote on issues, including members who have a vested interest in specific products. The NFPA process lacks the third-party building code filter of the ICC process. In addition, the NFPA procedures permit "instructed" votes, which means members can arrive at meetings with instructions on how to vote on issues without any consideration of the technical merit or discussion at the meeting.

With the exception of the committee responsible for developing the new NFPA building code, discussion at NFPA committee deliberations is controlled, and non-committee members are required to seek permission in advance to speak at a meeting. The chairman of the committee can, and in many cases does, use this rule to limit outside participation. In contrast to the ICC two-step process, in the NFPA process all proposals go first to the committees. The committees meet twice to act on proposals, which are then forwarded to the membership for action. However, unlike the ICC process where the membership vote at the annual meeting is the final vote, in the NFPA process the membership vote is not the final action on any proposal. The final vote is taken by the Standards Council in a closed meeting.

Although the NFPA process is more closed and susceptible to vendor manipulation, the NFPA is trying to convince local governments that their code process is superior; that their true consensus or ANSI-approved is better than the ICC's government consensus. Upon further examination, however, it is clear that this argument is a red herring. Each process has its good and bad points. The most important element of either process is that the ICC and NFPA enforce the rule under which they operate. This is especially important in the NFPA process

because of the vendor interest and procedures permitting instructed votes.

Even without the differences in the process, however, NAA/NMHC would still support the ICC codes over the to-be-developed NFPA building codes because the ICC codes are the only comprehensive set of national model codes designed to work together as a package.

The ICC codes replace the codes previously published by the Building Officials and Code Administrators International, Inc. (BOCA), International Conference of Building Officials (ICBO), and Southern Building Code Congress International (SBCCI) and they are very favorable to the apartment industry. While they are not perfect, they have removed many of the restrictive provisions found in the previous regional codes.

Another important component of the ICC codes are their accessibility provisions. The ICC accessibility provisions have been designed to comply with the Americans With Disabilities Act Accessibility Guidelines (ADAAG) and the U.S. Department of Housing and Urban Development (HUD) Fair Housing Accessibility Guidelines (FHAG).

In addition, HUD has approved the codes (International Building Code 2000, with 2001 Supplement) as a safe harbor for complying with the FHAG. And the ICC codes are easier to use because they have mainstreamed the accessibility provisions throughout the code. For example, the accessibility provisions related to means of egress are in the means of egress chapter and not in a separate accessibility section. The ICC accessibility provisions have also been harmonized to comply with the ADAAG provisions.

The ICC codes include many provisions important to apartment construction. The most important are the sprinkler design options, including extra heights and areas, permitted with the installation of an NFPA 13R sprinkler system. They are very extensive and in many cases offset the installation cost of the sprinkler system. This is especially true in areas in which the SBCCI and ICBO building codes are now being used. The only design options permitted under these codes required the installation of an NFPA 13 sprinkler system, which costs about double that of an NFPA 13R sprinkler system. Many of the design options apply to small and large buildings and they will become increasingly important in the 2003 edition of the IBC where sprinklers will be required in almost all occupancy including all apartments.

The IBC provisions for open-end corridors resolve code issues concerning corridors designed with open exte-

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NFPA Standard

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ing debate on the measure, Schaitberger noted that future generations will look back on approval of the 1710 standard as a watershed event for the fire service, just as President Abraham Lincoln's Gettysburg Address changed the course of history. Schaitberger quoted Lincoln to make his point. "You cannot escape the responsibility of tomorrow by evading it today...I think those words say it all," he adds.

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The IAFF dominated the meeting. IAFF District vice presidents, state presidents, and senior staff operated as whips on the floor, in a sophisticated operation that won praise even from the IAFF's harshest critics. On every vote to amend or defeat 1710 and on the final passage vote, thousands of IAFF hands rose in the air in unison to stake out—and win—the IAFF's position.

Following the vote on 1710, in an address to the IAFF members who came from every corner of the U.S. and Canada to support the standard, Schaitberger recalls, "I have never been so proud of this union and our members. We operated as a team. We called, you came, and because we are right on this issue, we were victorious." The gathering of IAFF members in Anaheim set a record for the largest meeting of IAFF members at any event in the 84-year history of the union.

On the final day before the NFPA vote, Schaitberger,

accompanied by ICHIEFS President Brown, took his tireless campaign for 1710 into the heart of the opposition, when he spoke with the Western Fire Chiefs, who were among the last holdouts against 1710. They also spoke at the meetings of many NFPA interest sections, laying out the IAFF's reasons for promoting the breakthrough guidelines.

Topic on Tour

Well before arriving in California, the IAFF played a key role in the campaign for the new standard. The Anaheim vote was the culmination of more than six years of determined work by the International, hundreds of local affiliates, and thousands of rank-and-file members to pass a comprehensive standard governing professional fire departments.

It was also the end stage of an IAFF strategy that was formulated last September to make sure that 1710 made it to the floor for a vote, and that the International mobilized as many votes as possible. With the full support of the entire executive board, the International dedicated significant resources to its multi-level campaign, and worked tirelessly to build internal support for 1710. Last October, Schaitberger and General Secretary-Treasurer Vinnie Bollon hit the road for a six-city, five-

Consensus Codes

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rior exit stairs. Artificial restrictions on many things have been removed, most importantly, the removal of the restriction on the number of floors in parking garages under residential occupancies.

In contrast the NFPA codes, which are still under development, will be a compilation of codes developed by several organizations including: NFPA, the International Association of Plumbing and Mechanical Officials (IAPMO), the American Society of Heating and Air-Conditioning Engineers (ASHRAE), and the Western Fire Chiefs (WFC). The NFPA set of codes will not be as complete and comprehensive as the ICC codes, and they will not have all of the ICC codes' accessibility provisions. Most important, they will not have HUD's endorsement as a safe harbor for designing in accordance with FHAG.

The 18-month development cycle for the NFPA building code is also a major problem. Whereas the ICC took five years, including several drafts and two full code

cycles, to develop the International Building Code, NFPA will be publishing the first edition of the NFPA building code after 18 months and with only one code development cycle. Because of the truncated procedure and the rush to make a code available, the NFPA building code will not have the detailed review that has been completed with the ICC Codes. Even now, as we go into the final months before publication, the first real draft of the code has not been released and many of the technical code provisions have not been resolved.

For these various reasons, NAA/NMHC have thrown their support behind the ICC codes. Local apartment firms are encouraged to support the adoption of these codes at the local level and to actively oppose the adoption of the soon-to-be-published NFPA codes.

Ron Nickson is vice president of Building Codes for the NAA/NMHC Joint Legislative Program.

Natural Disaster Mitigation

By Cheryl Runyon, *Senior Fellow*

Natural disasters cannot be prevented but casualties and damage can be minimized through sustained and managed disaster mitigation. Mitigation—an ongoing effort to reduce the effect that disasters have on people and property—can take the form of keeping homes away from floodplains, engineering bridges and buildings to withstand earthquakes, including the latest wind safety provisions in building codes, and enforcing building codes to protect property from hurricanes and high winds. The implementation of a disaster mitigation program and the adoption of the most current comprehensive and coordinated International Building Codes developed by the International Code Council (ICC) are policy decisions that state and local governments must address to protect public health and safety. This report addresses protecting public health and welfare through a combination of strong building codes and active enforcement as a means of disaster mitigation.

The Federal Emergency Management Agency (FEMA) found that approximately 75 percent of U.S. communities are not participating in disaster mitigation activities; in fact, nearly half the U.S. communi-

The International Code Council (ICC) codes are comprehensive, coordinated, and represent the most up-to-date, functional set of codes governing building construction. The adoption and enforcement of these codes can improve safety and create safer, more energy-efficient, and more durable homes and buildings.

ties in high-risk coastal areas have done nothing to mitigate a potential disaster. Although some locations naturally are more prone to natural disasters—such as California (earthquakes) and south Texas and south Florida (hurricanes)—fires, floods and tornadoes can hit anywhere. Every local government can (and should) take proactive disaster mitigation measures as several states and communities learned in 1999, when the rains resulting from Hurricane Floyd caused severe flooding, even in inland towns and communities.

A Decade of Expensive Natural Disasters

The 1990s produced several costly natural disasters that harmed local scenery, economies and housing. During the past 10 years, FEMA alone has spent \$25 billion to help people repair and rebuild their

communities after natural disasters. This figure does not include the billions of dollars in insurance claim payments, lost revenues from businesses, lost employee wages, and the millions of dollars spent by other federal agencies to assist victims of natural disasters.

After Hurricane Hugo struck South Carolina in 1989, a post-hurricane survey of damages indicated that many roofing materials were poorly attached, resulting in flattened buildings (see sidebar). Hurricane Andrew then led off a decade of disasters, causing \$25 billion to \$30 billion in damages and leading to the deaths of 28 people in Florida and Louisiana in 1992. The insurance industry estimated that 25 percent to 40 percent of insurance claims for Andrew-based losses were due to slipshod construction practices. After hurri-

cane Fran and Bertha slammed North Carolina with a one-two punch in 1996, structural engineers found widespread cases of shoddy workmanship in construction.

Physics of a Hurricane

“Roofs are the Achilles heel of homes in hurricane-prone areas from Maine to Texas,” according to John Tibbets of the South Carolina Sea Grant Consortium.

As strong winds strike a building, the air flow is diverted, swirling over and around the structure. Hurricane winds speed up around corners and edges, creating suction that pulls on building materials like a super-powerful vacuum hose. Fierce gusts and suction pressure are a dangerous combination that can yank off tiles and shingles and peel a roof like an orange. Tiles and shingles that are carried off by high winds can crash into windows in other houses and buildings.

Window shutters, if they fail, allow wind to rush into buildings and wreak havoc. If a window or door is lost during a hurricane, the winds push through the gap in the building, increasing air pressure and causing another break in the structure at its weakest point—usually the roof. Next, a dual wind force pushes the roof off from within while it also pries the roof off from outside. After the shingles or tiles are gone, the plywood and rafters are exposed. If the plywood is not nailed securely to the rafters (sometimes roofers miss the rafters), it flies away, and the roof bracing is gone. Sometimes the gables (the flat ends of the pitched roof) are not fastened to the walls. When the wind hits an unbraced gable, it can pull loose and allow the wind inside the building and the rafters can fall over. If the gables are not attached to the walls and the walls are not tied down to the slab, the house can collapse like a house of cards.

The 1999 hurricane season brought a bumper crop of disasters that led to 17 federal disaster declarations, surpassing the 1985 record. Hurricane Floyd caused 13 of the 17 major disaster declarations; 220 counties in 13 states were designated to receive federal assistance. In all, 42,973 homes sustained some degree of damage from Floyd, and 11,779 homes were destroyed or heavily damaged. Five injuries and 79 deaths were attributed to Floyd, and 4 million people were evacuated in Florida, Georgia, North Carolina and South Carolina.

Hurricane forecasters at Colorado State University predict the increase in storm activity seen during the past five years (the five most intense consecutive storm seasons on record), will perhaps continue for the next 20

years. In July 2001, the National Ocean and Atmospheric Administration's Hurricane Research Division reported that the increase in the number of hurricanes seen in recent years is likely to continue, possibly for decades.

Strong Codes Mean Smarter Buildings

Whether or not the increase in disasters is a lasting natural phenomenon, one thing is clear—more people are moving into harm's way and then expecting state, local and federal assistance when their homes and businesses are damaged or destroyed at the whim of Mother Nature. "People just like to live along the water's edge," says former Woods Hole (Mass.) Oceanographic Institution scientist Graham Giese.

As more homes and businesses are constructed in high-hazard areas and as demands for frills—such as complicated roofs with numerous angles and pieces—increase, stronger building codes and enforcement of those codes are required to reduce the overall financial burden after a natural disaster. Although people are aware that they are at risk from recurrent hurricanes, floods or other events, they often do not truly understand the magnitude of their risk.

How can state legislators and local officials act to protect citizens and their investments in the community? Most important, perhaps, is the fact that policymakers no longer can afford to be complacent. Simply because a hurricane or other natural disaster has not hit a state or a certain part of the state for a number of years does not mean that it will not happen eventually. For example, a major hurricane did not strike south Florida for more than 20 years, until 1992's Hurricane Andrew; builders who moved to south Florida from other parts of the country often were constructing buildings in climatic conditions they did not understand. As a result, the area's construction quality declined, and building code enforcement was lax. The insurance industry estimated that 25 percent to 40 percent of insurance claims for Andrew-based losses were due to slipshod construction practices.

Seeing Is Believing

Although building safety is taken for granted by most people, building safety awareness helps to instill the importance of stronger building codes.

The city of Tampa, Fla., built a model house that displays building code applications and provides a unique method of explaining building codes to the public. The house "describes, shows and talks about building safety." The model house displays four different rooms—living room, kitchen, bedroom and bathroom—and is fully functional with a gas fireplace, running water, windows and smoke detectors. A cut-away wall displays regulation-based construction requirements that address hurricane strapping, bracing and connection. The living room fireplace has a safety valve for the gas connection and a chimney flue complete with fire stopping. The kitchen sink and the bathroom lavatory have counter outlets with ground-fault circuit-interrupter (GFCI) receptacles. Bathroom plumbing emphasizes water conservation through use of a 1.6 gallon toilet. The attic has roof trusses, truss strapping and lateral braces. Energy conservation is demonstrated with blown-in fiberglass insulation and with batt insulation.

The house allows building inspectors to interact with the public to educate them about how to properly insulate their homes and protect them from hurricanes. The house is displayed at trade shows, community events, schools, building conferences and other special events.

With hindsight, some policy actions may result in negative repercussions during the next major event. After Hurricane Andrew, then-Governor Lawton Chiles (Fla.) suspended contractor licensing requirements for 120 days; this allowed unlicensed contractors to operate scams and cheat homeowners. A significant percentage of homes in the Miami-Dade area were rebuilt or repaired by unlicensed contractors under minimal oversight by government inspectors. If another major hurricane hits the area, homes may not fare well.

State and Local Policy Responses

Because the public memory is short, the wake of a natural disaster provides a brief political opportunity to implement new standards. “After a storm is the only time that John Q. Public says, ‘I don’t want this kind of destruction to happen again,’ ” reminds Jeff Robinson, a Florida shutter manufacturer.

*Some states
have
strengthened
their building
codes to
prepare for
future natural
disasters.*

After helping to pay part of the \$16 billion repair bill from Hurricane Andrew, the Florida Legislature directed state officials to survey public facilities in 1993 to determine which could withstand an intense tropic cyclone or a hurricane. In 11 counties, only 2 percent of facilities had adequate structural safety for a hurricane-prone area. State law now requires new schools to construct storm-resistant “pods” that meet tougher guidelines. Construction of these pods could take many years, however; school districts now are resisting the directive as an “unfunded mandate.”

Florida’s Statewide Building Code

The Florida Legislature adopted The Statewide Unified Building Code (HB 219) during its 2000 legislative session. According to Paul Rodriguez, chairman of the Florida Building Commission, “This is the toughest building code in the country. It is only appropriate that the state most vulnerable to hurricanes takes the boldest step to make our homes less susceptible to the damage caused by high winds.”

The legislation, effective July 1, 2001, establishes a statewide minimum standard for new construction and replaces 450 local codes. The Florida Building Code was produced by a coalition of building code experts, including the Florida Building Commission, the Southern Building Code Congress International and building code professionals who volunteered their time. The new regulations blend several codes—the *International Fuel Gas, Mechanical and Plumbing, Standard Building*, and *International Building* codes—to meet

the state's need to face its environmental challenges. The parent codes are the result of efforts by the International Code Council (ICC) to develop a single national building code with the goal to improve public safety in the built environment.

The bill's sponsor, Representative Lee Constantine, admits, "No one got everything they wanted." As the sponsor, he found himself refereeing and reconciling the concerns of almost 80 special interests to achieve passage of the legislation. Homebuilders think the code is too restrictive, while insurance companies want it strengthened even more. Construction manufacturers want to be assured that their products will meet code guidelines. Some local building code officials in Miami-Dade and Broward counties are unhappy that a state code will preempt their local codes.

Rick Dixon, executive director of the Florida Building Commission, voiced his support for the final product. "Florida can now move forward with a single minimum code that unifies all building design and construction regulations into a single code and provides expanded authorities and enforcement tools for local governments. We look forward to the improved effectiveness these reforms will provide in our rapid growth environment."

Who Develops Model Building Codes?

Three organizations—the Building Officials and Code Administrators (BOCA), the International Conference of Building Officials (ICBO) and the Southern Building Code Congress International (SBCCI)—came together in 1994 to develop a single set of codes under the International Code Council umbrella. The organizations decided that, rather than using three regional model building codes, the country needed a single national building code. The ICC formed a series of committees composed of code enforcement officials from throughout the United States, other regulators and the home building industry, architects, engineers and designers. The single family of comprehensive and coordinated model construction codes has been through public review and comment, discussion, formal comment and a final approval process. The codes address fires and other hazards, plumbing, sewage disposal, zoning, property maintenance, energy conservation, and electricity for residential and all other types of construction. Revised codes are published every three years to accommodate technological innovations and other necessary changes to address public safety and well-being.

When Governor Jeb Bush signed the bill, he brought into focus the reason for the legislation. "This new law improves the safety of Floridians during hurricanes. The construction of better-built homes will ensure Florida is a better prepared state." Constantine is proud of what the Legislature approved—"... a single educational system, a single accountability system and a single interpretation."

Texas Approves Statewide Residential Code

The Texas Legislature approved the adoption of the ICC *International Residential Code* as the municipal resident building code for one- and two-family dwellings in the state. The bill became effective Sept. 1, 2001; cities will have until Jan. 1, 2002, to make the transition and begin enforcing the new code. Senator Ken Armbrister and Representative Allan Ritter sponsored SB 365. Says Representative Ritter, "I believe that the adoption of the

*Statewide
building
codes are
supported by
home build-
ers, architects,
contractors
and building
code officials.*

International Residential Code will improve the homebuilding industry in Texas. The use of a single code throughout the state will lead to consistent code enforcement, higher quality construction, and less confusion in the construction process. I believe this bill will result in more affordable and safer homes.” The bill had the support of the Texas Association of Builders, the state Municipal League, the Texas Society of Architects, the Hispanic Contractors’ Association, the National Association of Home Builders, and members of the insurance and building officials associations.

Other State Action

Other states also are examining their building codes. The South Carolina Code Council adopted the 2000 International Codes as construction guidelines in May 2000. Utah’s Uniform Building Code Commission approved the adoption of the ICC *International Building Code*, the *International Residential Code* and the *International Energy Conservation Code*; implementation is scheduled for Jan. 1, 2002. The adoption of the ICC codes was supported by a coalition of public officials and industry organizations, including homebuilders, architectural and engineering groups, utilities, building owners and managers, and public safety officials. Utah previously adopted the *International Plumbing Code*, the *International Mechanical Code* and the *International Fuel Gas Code*. The state Fire Prevention Board is considering adoption of the *International Fire Code*. The Georgia Board of Community Affairs adopted the *International Building Code*, the *International Residential Code* and the *International Fire Code* on Sept. 12, 2001; the *International Codes* will update the state standard codes effective Jan. 1, 2002. The New York and North Carolina building code councils are considering the adoption of the ICC’s family of codes for their states, and Virginia also has expressed an interest in adopting the International Codes.

Pennsylvania approved legislation in November 1999 (after six years of negotiations) to create the state’s first state building code. In addition to the previous lack of a statewide code, about half of Pennsylvania’s 2,600 communities had no local building codes. The state law supersedes any existing municipal codes that were less stringent; more stringent codes will remain in effect.

Other states also are addressing disaster mitigation to reduce the effects of future natural disasters to homes and businesses. Maine is moving toward local beach management plans to prevent erosion during development. Connecticut is promoting public education—through municipal officers and real estate agents—to homeowners who are new to the area.

Other states—California, Florida, North Carolina and Rhode Island—have laws that require natural hazards be taken into account when developing or revising a comprehensive local zoning and development plan.

States that are regularly affected by tornadoes and high winds are offering incentives to homeowners, local governments and schools to create “safe rooms” to withstand strong winds. (A safe room is a concrete and steel reinforced room—approximately 8 feet by 6.5 feet with 6-inch-thick walls and a steel door—built in a new or existing above-ground structure that provides greater protection from severe storms and tornadoes.) A 1999 Iowa law allows counties and cities to determine whether shelters are needed for mobile home parks. Iowa also offers grants to homeowners and local governments as part of its Tornado Shelter-Safe Room Initiative to develop underground or in-ground tornado shelters. The program, developed to limit the injuries and deaths from severe weather events, offers safe room construction and installation grants to residents (\$3,500) and to local governments (\$5,000) in one-third of its counties that have been affected by recent tornadoes and severe wind storms. Arkansas also reimburses homeowners up to \$1,000 for construction of safe rooms or in-ground shelters.

In many states, critical local community structures—hospitals, fire and police stations, government buildings and schools—are being built to tougher standards to ensure they can function after a disaster.

Local governments also are responding to the need for building codes.

- In Freeport, N.Y., building codes now require hurricane straps to make houses more hurricane resistant.
- In New Hanover County, N.C., residential building codes now require new construction to be built several feet above the 100-year flood elevation.
- Salt Lake City, Utah, passed a bond measure to allow schools to be built to a higher seismic standard than currently is required to withstand a potential earthquake.
- Seattle, Wash., has developed an expedited process to grant a building permit to retrofit homes that could be destroyed during an earthquake.

Other states are addressing natural disaster mitigation through beach management, zoning, development plans, public education and financial support for "safe rooms."

- On New York's Long Island, where coastal erosion or flooding threatens \$3 billion to \$10 billion worth of property and infrastructure damage, the government is assessing the area's vulnerability to natural hazards. New York is developing a geographic information system (GIS) database of historical and current coastal events. The database will provide town planners with area profiles to better plan for hazard mitigation.

Additional mitigation policy measures are discussed in the sidebar on this page.

The Need for Active Code Enforcement

In response to natural disasters, state and local governments are beginning not only to adopt stronger building codes, but also to provide requirements for the necessary training of inspectors and to increase the penalties for code violations.

Additional Mitigation Policy Measures

Additional efforts can be made to reduce future hurricane damage. State and local governments can take a number of policy measures, such as:

- Requiring retrofitting of current structures;
- Improving the strength of existing buildings (including emergency shelters);
- Establishing floodplain zoning restrictions and other measures to reduce construction in hazardous areas;
- Revisiting and toughening existing building codes and enforcement requirements so that new structures have a better chance of surviving high winds and floods;
- Requiring testing and approval of building products to ensure that materials can withstand hurricane-force winds and other pressure;
- Improving transportation routes for evacuations; and
- Conducting public education campaigns aimed at constituents and home owners that both explain these regulatory efforts and encourage initiatives by the building industry and homeowners.

By establishing training requirements and testing for government inspectors (and a funding mechanism to allow hiring enough inspectors), state and local policymakers will ensure that the building codes they adopt will be applied and enforced. "In many coastal areas, the housing industry is almost unregulated, either because the counties don't have codes or they lack enforcement," according to Tim Reinhold of South Carolina's Clemson University.

Part of the problem that faces inspectors is that major changes have occurred in the homebuilding industry. Contractors who once built one house at a time now have become schedulers for 25 to 30 subcontractors who work independently; gaps may be left in struc-

tures where there should be overlaps and seals. Inspectors who visit a site on a particular day may miss an important construction component because the subcontractor responsible for that piece of the work has not yet been to the job site.

Conclusion

State legislators will want to be aware of state, federal and local emergency response plans in order to communicate recent developments to their constituents. Policymakers also will want to seek input from their constituents regarding 1) methods to strengthen homes, businesses and public buildings to withstand natural disasters and 2) how taxpayers will pay for these additional measures. In return, state legislators can explain to their constituents that protecting their homes and businesses against natural disasters must begin as a personal responsibility. The following checklist outlines initial steps that policymakers might want to consider as they develop their responses to mitigate natural disasters.

Basic Community Preparedness Disaster Mitigation Checklist	
Some Steps Public Officials Can Take	Some Key Messages from Public Officials to Constituents
<ul style="list-style-type: none">• Meet with your local emergency manager and review your community's contingency and emergency plans.• Review the insurance coverage on all public buildings.• Schedule an informal "tabletop" exercise with state and local emergency management staff to simulate an emergency.• Review your community's school disaster preparedness plan.• Work with communities and other officials to develop protocols for mutual aid arrangements, joint response and community education. Encourage participation in the development of the International Codes.	<ul style="list-style-type: none">• Make Homes Disaster Resistant: Install hurricane shutters on windows, put straps and reinforced bracing on roofs, reinforce garage doors, raise electrical appliances and outlets, install sewage backflow valves, and trim dead or weak branches from around the house to reduce damage caused by hurricanes, high winds and flooding.• Purchase Flood Insurance: Many policies have a 30-day activation period before they take effect. Flood insurance is the only form of assistance that can reimburse homeowners for their losses from floods that result from hurricanes. Many homeowners do not realize that floods are not covered in their existing insurance policies.• Develop Family Disaster Plans and Keep a Disaster Supply Kit: Every community should have a disaster plan, and every family should have an emergency supply kit and a personal disaster plan. The plans should give particular attention to relatives with special needs, small children and pets.

State Legislative Reports

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What can a Jurisdiction expect from the adoption of the I-Codes?

General Expectations

- As a stakeholder in the ICC, a jurisdiction can exercise its right to vote on ICC code development matters and organizational policy as well as actively participate in the process through its appointed delegates within the building safety department, fire department, and other departments which exercise construction, health and energy code enforcement regulatory activities.
- Parochial modifications to the I-codes can be brought before all other ICC member delegates to be considered for national adoption, reflecting the jurisdiction's contribution to fire and life safety wherever the I-codes are adopted.
- Eligibility for membership in a not-for-profit, public benefit organization of professional fire and construction code enforcement officials, owned and controlled by its member jurisdictions.
- A comprehensive, coordinated and contemporary set of codes. Adoption of the I-Codes eases the administrative burden on the building department's code development and maintenance functions while enhancing consistent code enforcement, public safety and affordability.
- The I-Code system provides for the preservation of current code provisions which are unique to the jurisdiction and which have a proven record of public fire and life safety. The city has sole administrative authority to adopt and amend its codes, preserving local control of code content.

Economic Expectations

- The I-Codes help create a more attractive development climate for businesses location since I-Code design/build requirements are familiar to out of state developers. Streamlined Building Safety Department operations would eliminate unnecessary delays in the construction timetable.
- Adoption of the I-Codes is the first step toward achieving a more favorable ISO rating. Beyond code adoption, ISO looks deeper into a jurisdiction's use and administration of the code. ICC has over 30 years of experience with training code officials and municipal personnel who work with inspectors. ICC can help your jurisdiction manage a vigorous implementation of the codes to further improve the ISO rating.
- I-Code adoption provides greater economic opportunity for resident designers, manufacturers, developers and the building trades when competing for business in surrounding communities. Knowledge of the I-Codes can be utilized in 50 states, Washington, D.C., Puerto Rico, the Architect of the U.S. Capitol, Department of Defense, General Services Administration, National Park Service, U.S. Department of State, U.S. Forest Service, Veterans Administration, National Bureau of Prisons and thousands of local jurisdictions throughout the U.S.

Building Safety Department

- The I-codes will streamline the fire and life safety and building regulatory system by bringing consistency, compatibility and uniform codes enforcement applications through common interpretation, education and code information services.
- By relying on the 200 years of accumulated code development experience that ICC brings to its model codes, your jurisdiction can divert valuable staff resources from major code development activities. Building safety and fire department staff can submit code changes to the ICC code development process as do other members and interested parties, thus sharing the experience and wisdom the jurisdiction has accumulated over the years with other cities, states and local jurisdictions and vice-versa. Member building and fire safety code officials can participate in the final vote in the code development cycle.
- The resources of the ICC staff can, in essence, expand the staff of the building safety department. An ICC staff of more than 350 professionals dedicated to maintaining and enhancing the most exhaustive and technologically sophisticated construction codes in the world will be an available resource to fire and building code officials and to its code users. In addition, plan review services are available through ICC which can assist during periods of peak demand.
- Uniform education and certification programs can be utilized nationally, providing a pool of trained professionals who have demonstrated their competency in code knowledge and application. The City can draw from this pool to meet staffing demands.
- Certification also provides an advantage to current staff through the mobility needed to be employable should they desire to continue in some code enforcement capacity upon retirement. This mobility aids in staff retention and morale by providing a mechanism for long-term career planning.

Services

- Utilize the resources of a staff of more than 325 professionals dedicated to the highest levels of member service.
- The resources of over 50,000 members are available for operational and administrative assistance.
- Plan review services can be provided when needed.
- A vast array of code support publications and architectural and engineering references, many of which are in electronic format for cutting and pasting into reports. The ASTM and UL Standards found in the IBC are published in single documents to eliminate the need for small design shops to purchase and maintain costly standards documents.
- For products, methods and technologies not fully addressed by the codes, any jurisdiction can rely on International Evaluation Service (IES) which will assure design professionals and code enforcement officials that products being specified meet the intent of the code for their application in building systems.
- ICC will bring professional development services to the community for initial and ongoing training to facilitate the transition. Code users will be able to quickly become familiar with code updates once the initial differences in format are learned.
- Your jurisdiction can use ICC certification services to demonstrate professional competency in code knowledge and application without the burden of utilizing inhouse staff.
- ICC can develop and administer contractor licensing exams, releasing valuable local resources to be utilized in other areas of department operations.



Building Codes and the Americans with Disabilities Act

The International Building Code can help state and local governments comply with the Americans with Disability Act Accessibility Guidelines (ADAAG).

Background

The Americans with Disability Act (ADA) of 1990 recognizes and protects the civil rights of people with disabilities. The law was modeled after earlier landmark laws prohibiting discrimination on the basis of race and gender. It covers a wide range of disabilities, from physical conditions affecting mobility, stamina, sight, hearing and speech, to conditions such as emotional illness and learning disorders. The ADA addresses access to the workplace (Title I), state and local government services (Title II), and places of public accommodation and commercial facilities (Title III). It also addresses telecommunications services for people with hearing and speech impairments (Title IV) and provides instructions to federal agencies that enforce the law (Title V). Regulations issued under the different titles by federal agencies, including the U.S. Department of Justice (DOJ) and the U.S. Department of Transportation (DOT), set requirements and establish enforcement procedures.

What Federal Law Requires

Under Titles II and III of the ADA, the U.S. Architectural and Transportation Barriers Compliance Board (ATBCB or Access Board) develops and maintains accessibility guidelines for buildings, facilities and transit vehicles. The Access Board also provides technical assistance and training on the guidelines. ADAAG is the basis of standards issued by DOJ and DOT to enforce the law. The building guidelines cover places of public accommodation, commercial, state and local government facilities. Regulations issued by DOJ and DOT contain standards based on ADAAG and also provide important information on which buildings and facilities are subject to the standards. It is important that the regulations be used along with the design standards they contain or reference.

Coordinating with the Accessibility Guidelines

The Access Board follows a common federal regulatory development process that includes public comment. ATBCB established advisory committees to help update its accessibility guidelines and routinely coordinates with private sector standards organizations. Coordination enhances accessibility coverage and improves harmonization between ADAAG and industry standards.

The Access Board has been an active participant on the committee that develops the ICC/American National Standards Institute (ANSI) A117.1 Standard, *"Accessible and Usable Buildings and Facilities."* A major objective of the Access Board and the ICC/ANSI A117 Committee is to harmonize ADAAG and the Standard. The ICC committee will incorporate the revised ADAAG changes into the Standard when it is published.

The Access Board also participates in I-Code and ICC Standards development activities, including the development of the IBC. The IBC includes provisions affecting accessibility such as: mainstreamed accessible elements, accessible means of egress and scoping provisions for the ICC/ANSI A117.1 Standard. When the revised ADAAG is published and adopted by DOJ, adopting the IBC will provide a unique opportunity for states to have accessibility standardized and integrated into the building code

Satisfying the Law through the International Building Code

Title III of the ADA authorizes DOJ to certify that state laws, local building codes, or similar ordinances meet or exceed ADAAG. Title III applies to public accommodations and commercial facilities, including most private businesses and non-profit service providers.

Examples of covered businesses are:

restaurants	stadiums	health care facilities
banks	grocery stores	medical offices
movie theaters	convenience stores	

In many cases, these facilities are also subject to accessibility requirements established under state or local building codes. To facilitate compliance with federal, state and local laws, the ADA authorizes DOJ, upon request from state or local officials, to certify that state or local accessibility laws meet or exceed the requirements of the ADA. To comply with the federal law, each state can individually develop, adopt and implement its own accessibility requirements and apply to the DOJ for acceptance.

Soon, state-wide adoption of the IBC will greatly simplify compliance with ADAAG. ICC will seek a determination from DOJ that the IBC satisfies federal law. With DOJ's determination, states adopting the IBC will automatically be in compliance.

Advantages of State Certification via the IBC:

1. Compliance is easier. All the federal, state and local requirements are covered by a single, readily available document. Rather than searching state and/or local codes and the federal regulations for the requirements, architects and builders only have to refer to a single certified code;
2. Accessible design is part of each floor plan -- not an afterthought. Architects and builders can provide accessibility in the most cost-efficient manner. The cost of compliance in the early stages of design and construction is minimal. However, the cost of providing

accessibility after construction is completed can be significant;

3. Conflicts are resolved. By resolving conflicts between state and/or local and federal laws, certification lets builders and architects focus on building; and
4. Legal challenges are minimized. In a legal challenge brought under the ADA, facilities that comply with the certified code will constitute as rebuttal evidence of compliance with Title III of the ADA.

Conclusion

The IBC is the only model building code available that can help state and local governments comply with the ADA. Adopting the IBC will simplify the burden of complying with the federal law.

NEW YORK STATE: BUILDING A CASE FOR STANDARDS

by Robert C. Thompson, R.A., A.I.A.

A new era for New York State began on July 3rd, 2002. Overshadowed by media coverage being given to the decline in the stock market and the cry to industry leaders to follow standard accounting procedures [amidst the Enron, Arthur Anderson, and WorldCom collapses], New York State adopted a new generation of standards for the built environment. The purpose of this paper is to address the how the new standards for New York are expected to result in a healthier economy and safer environment.

The standards I am referring to in the broad sense include the International Code Council's (ICC) International Family of Codes that New York State used as the base document for its new generation of building standards. These base documents include almost 1,200 individual reference standards promulgated by 88 reference standards organizations of private industry and governmental agencies.

The argument for standardization is compelling. The history of the benefits of standardization is irrefutable. Order and prosperity in a civilized society has a strong correlation with a system of standards and predictable expectations. Whether we look at fire protection systems standards for a building, or the accessibility standards for persons with disabilities, the message is clear. Standards do foster a healthier and more prosperous society. The message of this paper is not to convince the reader of the importance of building standards in a general manner, but rather I am presenting the messages of industry leaders who make the case that future building development in New York State looks very promising due to the adoption of a new generation of codes and standards. Furthermore, since building codes represent given expectations for performance, as do individual private industry or governmental standards, I will be referring to codes and standards simply by using the term **standards**.

This paper gives you a glance at a milestone achieved by New York State. As a society we cry out for adherence to standards since we believe they will improve our quality of life and economic security. In New York, tools for measuring the future performance of building systems take the form of national and international compliance standards.

Several years ago you may remember the commercial whose catch phrase was "Where's the Beef? Well, the beef, or maybe better said in New York's case is, what was the motivation for making a change? The answer in New York State to that question was supported by private industry and government agencies. It had as much to do with life-safety as it did with economic benefits. This paper takes a glance at a sampling of the information gathered that supports the assertion that Standards Do Mean Business.

COSTS & BENEFITS

The actions of adopting a new generation of standards bring New York into closer alignment with those standards used by surrounding states. For nearly 50 years New York State maintained its own code. This resulted in New York State being isolation from the rest of the nation and international body of thought. New York was out of the mainstream of national thought expressed by other regional building codes and standards. This became particularly evident when researching the thoughts of national developers.

Based upon data gathered, it is anticipated that regulated parties will recognize building development savings in the range of 5% to 15%. This is the result of performance requirements that provide regulated parties more alternatives to arrive at the most cost-effective solution while, at the same time, protecting the occupants and users of the building.

The new generation of codes and standards significantly reduces residential and commercial construction costs in New York State. Many corporations that build across the United States, most notably the May Company, Ace Hardware, Georgia Pacific, McDonald's, Target, and State Farm, were contacted to

compare construction costs in New York to states that use a model building code. While the range of savings varies (in buildings that are used by more people, multi-storied, etc., the savings are greater), we chose for our rough analysis an unweighted average savings of 10%. Based on the dollar volume of construction that would be affected, it was projected that New Yorkers could save approximately \$350 million of commercial construction each year.

There is also a considerable amount of savings to be realized in residential construction (single family and multi-family). The Builder's Association estimates that there is approximately \$3 billion in annual residential construction. Depending on the type of single family home built, industry estimates the average savings will be approximately 13%. Multi-family housing construction stands to save approximately 6%.

The following information reflects conversations and correspondence with nationally recognized developers and code consultants. This information is presented to illustrate how the design and construction industry will be impacted by the recent adoption of new standards.

A. Statement of a Large Developer of Department Stores

A representative of a large developer of department stores states that the median cost to build a department store under the a model code [the current New York State Uniform Fire Prevention and Building Code adopted July 3rd, 2002 reflects the performance requirements of a model code] will be approximately \$1,750,000 less than if the same building were built under the former New York State Uniform Fire Prevention & Building Code. This representative further commented that antiquated requirements imposed by the former code did not provide an additional level of safety.

B. Statement of the U.S. Department of Energy

New York remains at the forefront of energy-efficient construction practices by adopting one of the most progressive state energy codes.

The New York Energy Conservation Construction Code (ECCC) capitalizes on recent advances in energy efficient technologies and building practices. With the adoption of these standards, it is expected that New Yorkers will save up to \$80 million per year in energy costs. It will protect New York's air quality by reducing carbon dioxide emissions by 517,000 tons per year and acid rain-causing sulfur dioxide by 493 tons per year.

Under the direction of the New York State Department of State, the agency responsible for reviewing and adopting state building codes, the ECCC was developed under an extensive multi-group partnership. The collaborative process involved the New York State Department of State (DOS), the New York State Energy Research and Development Authority (NYSERDA), the New York Energy Code Technical Subcommittee, the U.S. Department of Energy (DOE), Pacific Northwest National Laboratory (PNNL), the Building Codes Assistance Project (BCAP), design and building professionals, and other stakeholders. This group crafted a code that will benefit taxpayers, businesses, building owners, and renters for years to come.

The ECCC requires minimum standards of energy efficiency in new residential and commercial buildings. And, as outlined by New York law, the incremental cost of the ECCC demonstrates a 10-year simple payback when compared to the previous energy code that was adopted in 1979 and last updated in 1992.

C. Statement of a National Chain of Retail Outlet Stores

The head of the Design and Construction group of a national chain of retail outlet stores based in Minneapolis stated that the former requirements of the New York Code [prior to July 3, 2002] resulted in additional costs of \$319,000 to \$355,000 per outlet store built in New York. These costs are eliminated as a result of the New York's new standards. These costs occurred because of the former requirements for:

(1) 3 hour rated walls between sales floor and storage rooms depending upon the storage occupancy classification, (2) vestibules or corridors to be the means of accessing a stair, (3) taking all stairs to the roof, (4) draft barriers above all ceilings, (5) 2 hour walls between parking ramps and stores and signs requiring restricted use of elevators. The head of this Design and Construction group recommended that New York adopt nationally accepted standards in order to remain competitive at the national level.

D. Statement of a National Code Consulting Firm

A principal for a national Code consulting firm stated that he was not aware of any cost analysis that had been done that compared the cost of doing work in New York to the cost of doing work in other states. Based on his experience in working with the New York building standards, he said he would expect cost savings if a building code based on a model code were adopted in New York, since this would create a more predictable environment for construction development and lessen regional barriers (state to state) as well as barriers within the state.

E. Statement From a National Fire Protection and Engineering Firm

The president of a national fire protection and engineering firm compared construction costs under the former New York State Uniform Fire Prevention & Building Code to costs under model building codes. This firm has served on dozens of projects involving the construction of retail department stores in New York State. These types of buildings are commonly two or three levels in height and approximately 150,000-250,000 square feet in gross floor area. The following code issues are among the many issues which must be addressed in constructing these buildings: degree of fireproofing of structural members, protection of escalator openings, construction of separation wall between department store and adjacent mall, protection of openings in firewalls, communication to parking levels, ventilation of stairs and shafts, construction of stock room and receiving area walls, fire stopping of noncombustible plenum spaces, and need for standpipes. It is very common for a project of two or three stories in height equaling approximately 200,000 square foot in area to have to deal with 60-80% of the listed items. Based on the construction cost for a department store ranging from \$45 to \$60 per square foot, the cost related to the listed items will be in a range of \$4 to \$12 per square foot. When utilizing a 200,000 square foot building, this range represents a cost to the project of \$800,000 to over \$2,400,000. Therefore, assuming a medium range for these numbers, for a 200,000 square foot building that would normally cost \$11,000,000 to construct, the construction penalty to build under the New York State Uniform Fire Protection and Building Code equates to \$1,600,000. The president of this national fire protection and engineering firm further stated that in his opinion, complying with the former New York State Uniform Fire Prevention & Building Code does not provide an additional level of safety. He further stated that many of the requirements contained in this code have long been removed from model Codes as well as other nationally recognized standards because they are unnecessary and their removal does not result in increased fire losses. In addition, these requirements are not deemed necessary by major insurers that pay for fire losses. The President of this firm further stated that the current technologies provided in the model codes do ensure an amount of safety equal to the New York's former code. However, the model code methods are now recognized as "state of the art" and are much more compatible with the construction techniques utilized today as well as more respectful of operational aspects of these types of buildings. He concludes that although his analysis only concerned one type of building, similar type of savings are achievable for many types of buildings.

F. Statement of a Subsidiary Company of a National Real Estate Development Firm

The president of a subsidiary company of a national real estate development firm, which has been developing rental apartment communities across the country for over twenty years, supports adoption of a new standards based on the International Family of Building Codes. This company develops an average of 8,000 apartment units each year under the various building code jurisdictions in America. It has previously developed 494 apartment units in the state of New York, and has begun construction of 549

apartment units in Brookhaven, NY.

The president of this company states that the former New York State Uniform Fire Prevention & Building Code is a prescriptive code that prevents the flexibility found in performance based codes, such as the International Codes. He states that performance based codes allow the use of modern materials and assemblies that perform in a manner that protects the general health, safety, and welfare of the population while at the same time providing economic feasibility for development. The President stated that the former New York State Uniform Fire Prevention & Building Code provides less public protection and negatively affects the economic feasibility of development. He further stated that his company has passed on many development opportunities in New York State because complying with the former New York State Uniform Fire Prevention & Building Code is cost prohibitive.

The president then summarized what he viewed as the three most onerous requirements related to residential, multi-family construction found in the Uniform Code. These are issues relate to wood frame construction, plumbing materials, and fire limits.

Wood frame construction is not allowed over two stories under the former New York State Uniform Fire Prevention & Building Code. The International Building Code (IBC) allows wood frame construction up to four stories. Residential buildings in New York over two stories must be constructed of masonry or other non-combustible construction. This adds \$8.00 to \$10.00 per square foot to the cost of an apartment. The average size of a modern apartment is 1,000 square feet and the minimum number of apartments in a typical development is 200. The extra cost to build a typical development under the Uniform Code is therefore from \$1.6 to \$2.0 million.

The president stated that the former New York State Uniform Fire Prevention & Building Code prescribes the type of pipe for plumbing materials in contrast to the IBC, which would allow plastic pipe for water, sewer and drainage so long as it meets certain performance requirements. The President states that metal water piping and metal sewers from buildings to the main sewer can add \$200 to \$400 to the cost of an apartment, and that multiplied by the number of apartments in a community could result in a large sum. He further stated that plastic pipe performs better than metal or iron piping, and that the smooth, non-porous bore, plastic composition and chemically welded joints significantly reduce clogged lines and sediment buildup, as well as preventing bacteria buildup, oxidation, rusting and leaks. He believes that plastic piping is a better material than metal and costs less to install.

Wood frame construction is not permitted within fire limits under the provisions of the former New York State Uniform Fire Prevention & Building Code. Within fire limits, all buildings must be of masonry or non-combustible construction. Fire limits go back to the days when fire sprinklers were in their infancy and only firemen and their equipment controlled fires. Fire limits were established when firehouses were remotely located or poor planning had resulted in inadequate access to the fire sites. Modern building and zoning codes have provisions that make the restrictions related to new construction and fire limits obsolete. Model codes do not recognize the concept of fire limits.

The President of this company concluded that its market studies indicated that there is pent up demand for new rental housing in the State of New York, but the former New York State Uniform Fire Prevention and Building Code in conjunction with restrictive local laws makes the development of new rental housing in New York unfeasible in many cases.

G. Statement of Senior Vice President of a Publicly Traded Real Estate Company

The senior vice president of a publicly traded real estate company stated that the cost added (no value added) in designing and constructing under the former New York State Uniform Fire Prevention & Building Code is real and definable. Of the nearly 4,000 apartment homes his company has completed in New York, the cost of construction in New York State is higher by \$9.00 per square foot or 16% on the average. He believes that the safety of structures constructed under model codes is uncompromised.

Records of his company indicate that it has experienced only three fires in its apartment houses in the past three years, all of which were resident induced and accidental. No loss of life or injury resulted from these fires. The vast majority of his company's apartment homes have been constructed under the umbrella of model codes. The senior vice president concluded that New York State should adopt a building code which is model code based. He stated that the record shows that doing so would not result in degradation of quality or life safety and that the benefits of doing so would be many, including reduced cost, timely and concise decisions regarding Code questions, and an excellent safety record already proven.

H. Statement of the Regional Vice President of the Third Largest Multi-Family Builder in the United States

The regional vice president of the third largest multi-family builder in the United States states that the former New York State Uniform Fire Prevention & Building Code adds cost without benefit of value. He believes that the most restrictive requirements in the Code are: (1) the two story height limitation on type 5a (wood frame) construction, (2) the prohibition of CPVC and PVC water and sanitary drainage piping, and (3) the ½" drywall overlay on corewall required to meet the NY State "hose stream test". He notes that these requirements do not relate to nationally accepted model building codes and therefore multiply the costs associated with construction. He calculated increased costs on a typical 20 million-dollar project to be in the neighborhood of 8-10%, which would add approximately \$6,000 to \$8,000 per apartment unit depending on the community's size. He notes that over the course of the last 5 years, his company has only developed one community in the state of New York, due, in large part, to the economic burden of the former New York State Uniform Fire Prevention & Building Code. He stated that the adoption of a building code based on a model building code would lower the cost burden of multi-family construction, **resulting in increased feasibility to build within the state of New York.**

Renovation of Downtown Properties for Villages, Towns, and Cities

There is overwhelming support for these standards from village, town and city development corporations, all of whom have hundreds of thousands of undeveloped square feet space in their downtown business districts. For example, the city of Syracuse has reported 674,720 square feet of space in 42 downtown buildings that cannot be utilized due to older standards. Buffalo reports that 40%, approximately 214,698 square feet, of their downtown upper story space suitable for residential development cannot be used because of the standards. White Plains has approximately 2 million square feet currently undeveloped, the highest amount in the country. While a number of factors influence the ability to use this space, the most frequently cited obstacle to redevelopment is the older standards. The adoption of new standards on July 3rd is expected to encourage development of vacant space.

Reduction in New Homeowner and Business Owner Insurance Premiums

In addition to reduced construction costs, there are also significant reductions that will be seen in insurance premium costs. The insurance industry had completed a preliminary analysis of the former New York State Uniform Fire Prevention & Building Code and found it is not comparable to many areas of the various national model codes. The industry informed New York that unless it adopted new standards, it is likely that no New York municipality will receive a rating better than an 8 or 9 (on a scale of 1-10, with 10 representing no recognized protection). However, if New York were to adopt a model code, its rating would be significantly lower, resulting in lower new homeowner and business owner insurance premiums. Using similar states premium reduction as models, the Insurance Department estimates new homeowner and business owner premiums could be reduced by as much as 10%. This savings represents a total statewide savings of approximately \$3.5 million per year.

Summary:

Governmental and industry leaders throughout the nation provided information that supports the

expectation that the standards New York State adopted on July 3, 2002 will lead to a healthier economy and more vibrant business environment throughout the state. Speaking of the former New York State Uniform Fire Prevention & Building Code, New York State's Governor George Pataki said: "Our current building code has become outdated, holding back development and construction throughout the State and placing New York at a competitive disadvantage with neighboring states. A model building code and energy code will bolster construction and create new jobs across the state while ensuring our homes and workplaces are safe." New York State's Secretary of State Randy A. Daniels, added that the adoption of the new standards for New York "reflects current technology, products and safety standards. The code will encourage both new development and rehabilitation of existing buildings, which is key to revitalizing our downtowns."

Standards are living documents that change as advances in technology proceed. New York State is committed to the continued progress and development of standards. New York [The Empire State] recognizes that progressive standards promote at the local, regional, national, and global levels a more vibrant economy. But most importantly, for the built environment, progressive standards safeguard the health safety and welfare of occupants and users of structures.



New York City Code Adoption Website

The New York City Code Adoption website contains links information that can be helpful in many code adoption situations.

[Click Here](#)



A Complete Building Safety System – Not Just Codes

Building safety depends on more than codes and standards. Building safety results from providing trained professionals with resources and ongoing support necessary to stay current with the latest advancements in the building safety field. More cities, counties and states in the United States have used ICC's comprehensive package of building and fire safety services than any other.

ICC's building safety system is well equipped to meet the needs of any jurisdiction with code interpretations, education, personnel certification, plan review, building product evaluations, code commentaries, handbooks and more. ICC offers targeted and customized services for the professional development of code enforcement officials, fire officials, architects, engineers, builders, plumbers, contractors and building owners and managers. The ICC building safety system is founded on the participation of building and fire safety officials, the building design and construction industry, and its members for code development and revisions.

International Codes™: Comprehensive, Coordinated and Contemporary

The International Codes (I-Codes)™, ICC's family of building and fire safety codes, provide safeguards for people at home, at school and in the workplace. The I-Codes are a complete set of coordinated, comprehensive and contemporary building and fire safety codes adopted by jurisdictions across America and used as the basis for other countries' building codes.

The I-Code family includes the following:

- International Building Code®
- International Residential Code®
- International Plumbing Code®
- International Mechanical Code®
- International Fire Code®
- International Energy Conservation Code®
- International Property Maintenance Code®
- International Existing Building Code®
- International Fuel Gas Code®
- ICC Performance Code for Buildings and Facilities®
- International Private Sewage Disposal Code®
- International Urban-Wildland Interface Code®
- International Zoning Code®

The I-Codes combine the strengths of the legacy codes without regional limitations. They are a single set of codes that are effective, efficient and meet government, industry and public needs.

The ICC governmental consensus development process allows input from all interested individuals and parties. The final determination of code provisions is left in the hands of public safety officials who, with no vested financial interest, can legitimately represent the public interest.

Code Resources

ICC invests considerable resources to support the I-Codes. ICC provides the end users the appropriate support services in order to successfully implement and enforce the codes.

Commentaries on the I-Codes assist the users of the codes in understanding the background and application of the codes to building design, construction and approval activities. For example, the commentary on the *International Building Code*® provides application examples, explanatory material, code development history, a comparison with the previous edition, illustrations and a bibliography of additional reference material in two volumes of over 1700 pages.

Supporters / Widespread Support

The following is a partial list of national organizations that support the adoption of the ICC International codes:

- U.S. Department of Energy (DOE)
- U.S. Federal Emergency Management Agency (FEMA)
- U.S. Department of Housing and Urban Development (HUD)
- American Gas Association (AGA)
- American Institute of Architects (AIA)
- American Institute of Building Design (AIBD)
- American Planning Association (APA)
- American Seniors Housing Association (ASHA)
- Building Owners and Managers Association (BOMA)
- Institute for Business & Home Safety (IBHS)
- Insurance Building Code Coalition (IBCC)
- National Apartment Association (NAA)
- National Association of Home Builders (NAHB)
- National Multi Housing Council (NMHC)
- Northwest Wall & Ceiling Bureau (NWCB)
- Northern California Drywall Contractors Association (NCDCA)
- Technical Services Information Bureau (TSIB)
- Western Wall & Ceiling Contractors Association (WWCCA).

ICC Membership

Members are the greatest asset of ICC. Providing quality services to I-Code users is a high priority for ICC. The organization offers several membership categories and an extensive system of regional offices, chapters and key relationships with officials at the state and local levels of government. Code enforcement and fire officials, designers, architects, construction professionals, corporate representatives and others involved in the development and maintenance of our built environment are all valued members of ICC.

ICC members have a voice in code development and enforcement issues throughout the U.S. For instance, Governmental Member Units are given multiple votes (according to population) regarding code changes as well as election of council officials and other issues decided at ICC's Annual Business Meeting. All members, regardless of membership category, receive valuable benefits. These benefits include toll-free numbers for access to service in ICC locations throughout the U.S., complimentary monographs and other publications regarding proposed revisions to ICC codes and unlimited use of all ICC administrative, computer, technical and educational support services. Members also receive valuable discounts on ICC publications, software, videos and related code support products and service. The ICC has over 300 local chapters across North America and around the globe to help members stay up-to-date on both local and national building safety issues. The ICC also offers free code training on an annual basis for chapter members.

Professional Development Services

ICC's Professional Development Services (PDS) provides many services to assist cities, counties, states and the federal government in providing education and training programs for their employees and constituents.

The technical curriculum for the codes is comprehensive. More than 150 courses are available in various lengths and delivery modes; targeted to entry-level, intermediate-level and advanced-level code professionals. The Professional Development Department provides timely curriculum based on recent editions of each code. Transition programs are available which are designed to assist jurisdictions with the adoption of the I-Codes.

ICC offers symposiums on contemporary issues in the code enforcement workplace. These symposiums allow participants to interact, discuss issues important to their jurisdictions, learn strategies for effective program implementation and exchange up-to-the-minute information on current techniques and trends.

ICC Campus On-Line provides a continuous opportunity for the busy professional to obtain basic knowledge about codes and information to enhance knowledge and skills. ICC Campus On Line currently offers over 60 courses. Approximately 7,000 students have registered and more than 2,500 courses have been delivered in all 50 states and 22 foreign countries. ICC Campus On-Line can customize its curriculum for any governmental unit or discipline.

The ICC Building Official Institute consists of four days of training which addresses building department personnel management, financial management, new technologies, media policy and public information and legal aspects of code administration.

A video series teaching Residential Inspection is available to provide a visual and straightforward demonstration of residential inspection . This series is widely used by states and local jurisdictions to train new inspectors.

Code Officials have the opportunity to complete an academic degree program in a nontraditional delivery format. ICC partners with community colleges across the country such as Red Rocks Community College in offering an Associates of Applied Science Degree available via the Internet. This degree has a strong code enforcement component and is transferable toward a Bachelor Degree with the University of Phoenix.

Virtual Seminars are also offered and are “attended” right from the office. The audio is delivered over the telephone. Using a speakerphone allows several individuals to participate and provides the feel of a talk-radio program.

Certification

Certification ensures that competent building and fire safety individuals are involved in the critical building approval process. It also ensures that a level of professionalism is available to attract a continually increasing level of competence and professionalism into the building code community. Over the past three decades, ICC has developed the nation's most robust and recognized certification credential for code administration professionals. Through ICC, professional certifications are available which are specific to state, regional and national codes and standards throughout the U.S. To date, 500,000 certifications have been issued to 54,000 individuals in one or more of 65 areas of expertise including 500 master code officials, the highest designation recognized in this profession. Currently, 20 states recognize the benefits of such certifications and require them as a condition for service.

Technical Services

ICC staff provide code interpretations to facilitate the approval of building designs. . Over 100,000 telephone interpretations are addressed each year. In addition, approximately 5,000 informal ICC staff opinions are issued each year with a one-week turnaround. Formal interpretations can be requested at any time and are processed through a committee primarily composed of code officials.

ICC provides comprehensive plan reviews for designers and code officials. ICC technical staff provides plan review worksheets and a comprehensive and professional report outlining any code deficiencies in the proposed plans. Plan reviews are typically completed within three weeks of submittal. On a more limited basis, ICC provides technical consulting for portions of projects where staff will meet face-to-face during the concept phase of the project and provide guidance on code compliance prior to formalization of the final plans and specifications.

ICC Evaluation Service

ICC Evaluation Service (ICC ES) provides assurance that building products and technology meet building code provisions. The activities of ICC ES are undertaken in a way that supports the exercise of the code official's approval authority. This eliminates the time and effort associated with each state or local agency designing an evaluation method and then performing the evaluation independently. The ICC ES evaluation report provides a benchmark for all parties throughout the U.S. to rely upon when considering new and alternative building technology.

The introduction of new construction technology does not usually coincide with the publication of new building safety codes and standards. Consequently, ICC ES provides an "alternative materials, design and methods of construction" as basis for acceptance of new building technology that is not specifically covered in the codes and standards.

An ICC ES evaluation report provides the supporting rationale for and a statement of compliance with the U.S. model building codes (2000 or 2003 International, 1999 BOCA National, 1999 Standard and 1997 Uniform) along with any special conditions of use or limitations. An ICC ES evaluation report provides documentation and assurance of the degree to which a product or building technology meets the model building codes. The report helps the code official consider approval of the technology in an informed and timely manner. As a result, it reduces the burden on the technology proponent and fosters the timely deployment of the technology.

ICC ES has issued over 1500 evaluations of new building technologies and software with respect to code compliance. These evaluations have been performed for many companies and facilitate the acceptance of new products by the building design, construction and code communities throughout the U.S. To facilitate international cooperation, ICC ES also participates as a member of the World Federation of Technical Assessment Organizations.

International Accreditation Service

The term "approved agency" is used throughout the model codes to refer to an agency "regularly engaged in conducting tests or furnishing inspection services" when "such agency has been approved by the Administrative Authority". That administrative authority can be a Federal, state or local code official, fire marshal, mechanical inspector or a number of other entities. Implementation of this provision of the code requires each such authority to adjudge the capabilities of third party testing, inspection and fabrication agencies. The efforts of those agencies are fundamental to the process of code compliance that the administrative authority is entrusted to ensure.

The International Accreditation Service (IAS) assesses and monitors the acceptability of testing laboratories, calibration laboratories, inspection and quality control agencies and fabricator inspection programs for manufacturers using specific materials (e.g. steel, concrete, wood) to certain standards contained in the model codes and international

standards associated with conformity assessment. IAS eases the need for each authority to conduct ongoing investigations on these agencies.

The IAS is fully accredited to carry out this function and can certify testing laboratories, quality assurance agencies, fabricators and others who are integral to the conformity assessment equation worldwide. That expertise can be brought to bear in deployment and enforcement of any Federal, state or local code and can bolster the level of conformity to the adopted codes and continued building safety. IAS provides the basis for seamless and transparent interaction among state and local government and with foreign countries on the subject of testing, quality assurance and fabrication. Follow up inspections, evaluations and re-assessments by IAS ensure that administrative authorities using the codes do not have to perform these functions nor burden the building design and construction community.

To facilitate trade with other countries and help ensure importation of safe products into the U.S. market, IAS has mutual recognition agreements with foreign organizations. IAS is a member of the International Laboratory Accreditation Cooperation, Inter-American Accreditation Cooperation the Asia Pacific Laboratory Accreditation Cooperation and the National Cooperation for Laboratory Accreditation in the U.S.

International Involvement

ICC is also involved in international laboratory certification and evaluation services. ICC has an international program that is intended to foster increased communication with other countries on building construction regulations. The international program assists other countries in the development, adoption and deployment of building regulations. It also educates them on how the “U.S. system” works. ICC occasionally hosts foreign delegations of building industry technologists or government officials. ICC facilitates foreign delegations’ review and understanding of the U.S. building regulatory system. ICC’s work addressing “inquiries to the U.S.” enables ICC to be the information resource for other countries on the U.S. building code system. This promotes good will and facilitates the acceptance and use of products, designs, personnel and other U.S. programs in those countries.

Here to Help

Building safety in a community begins with adopting a proven set of building safety codes. But, it takes much more than a set of codes to protect the public. It requires qualified professionals to implement the day-to-day application of the codes. It also requires proven infrastructure to provide the resources and training necessary to keep the building safety professionals up-to-date with the latest building safety requirements and enforcement practices. ICC provides these services to the code enforcement community. Call us today for more information on how the ICC can partner with you to help make your community a safer place to live, work and play.

Web Site – www.iccsafe.org

The ICC web site is an invaluable tool for code users. It provides the latest code news, offers an active selection of code specific bulletin boards, a section for posting or finding jobs in the building safety field and extensive information on code publications, products, seminars, certifications, membership, and more.

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or call 888-ICC-SAFE (888-422-7233)

ONE CODE ... a concept whose time has come.

By: David S. Collins, FAIA

Architects are often critical of regulations that affect buildings. It seems to be almost universally accepted that regulations restrict design, even though fundamentally they are just another aspect of the design process that must be considered and incorporated to make a project successful.

After many years of effort, the 2000 edition of the *International Building Code* (IBC) is currently the only model code from which to choose if a community wishes to adopt the most contemporary model building code.

Though the National Fire Protection Association (NFPA) is in the process of developing a model building code, it will not be available to consider for adoption until late in 2002. The dilemma facing many organizations and jurisdictions, including the American Institute of Architects (AIA), at this time is that they are being asked to make a tough choice, to support adoption of the IBC or wait for the new NFPA building code. In response to this, the American Institute of Architects (AIA) has recently moved forward with a program to support adoption of the ICC International Code Series, which includes the IBC and its companion codes, as they most closely follow AIA's policies and provide a better environment for safety in buildings today.

HISTORY

Building regulations originated almost 4,000 years ago in the Babylonian Code of Hammurabi. That code decreed death for a builder if a house he constructed collapsed and killed the owner. Since that time almost all civilizations have developed some form of construction regulations or codes. The origins of the codes we use today can be traced to the great fires that swept large American cities in the 1800's. Cities, in attempts to abate such large tragedies developed their own building or municipal codes. Over the ensuing years, municipal codes were refined and enforcement officials joined together in private organizations to create what we now know as "model codes."

By depending on these privately developed codes, the United States is unique; code writing is a governmental function in most countries. Because the US Constitution grants police powers to the states, and some states allow local jurisdictions to write their own codes, multiple codes and standards has evolved addressing the broadest range and narrowest details of construction. As early as 1973, AIA began suggesting the concept of "one code," at a time when various states and local communities developed their own codes although adoption of model codes was increasing throughout the country.

Through the 1970's, '80's and '90's, the US saw a significant increase in national and multi-national and international architectural and business interests. Materials suppliers increasingly became nationwide operations; the business climate was no longer local. Interest within the industry for a single model code increased in response to these trends. The AIA and construction industry groups began to lobby more strongly for a single unified family of codes. It was during this period that the Building Officials and Code Administrators, International (BOCA), International Council of Building Officials (ICBO), Southern Building Code Congress International (SBCCI), and the National Fire Protection Association (NFPA) also began work to harmonize their codes. Some success was achieved through such cooperative ventures as the Council of American Building Officials (CABO) Board for the Coordination of the Model Codes (BCMC). Reports by BCMC

were developed on numerous topics, such as means of egress, high hazard occupancies, etc., and gained wide acceptance in some of the codes.

In the early 1990s there were several changes that occurred that significantly strengthened the concept of a single unified set of codes; one was a political change in the climate of code development with the adoption of the Americans with Disabilities Act as federal legislation, others were the North American Free Trade Agreement, and the creation of the “common code format.” AIA was instrumental in the development of the new format; which was adopted by the three model codes aligning the technical sections of the model codes, the first major step toward a single code. While some detailed technical requirements continued to vary from code to code, the new format went a long way toward allowing the code user to better understand where to find requirements on a particular subject.

Three of the model code groups (BOCA, ICBO and SBCCI) agreed to create the International Code Council (ICC) with the ultimate goal of jointly developing the “international” family of codes. As part of the process, they agreed to cease publication of their individual codes (National, Uniform and Standard). NFPA was also invited to become an active participant in ICC, but discussions to formally involve them were not successful then, and appears impossible even now.

In September of 1999, final changes for the first edition of the *International Building Code* (IBC) were voted upon by the members of BOCA, ICBO and SBCCI. This historic event saw record attendance at the first joint conference for all three groups and drew accolades from FEMA and AIA for bringing our long hoped for goal of “one code” to fruition.

NOT ONE CODE?

On August 31, 1999, NFPA and the International Association of Plumbing and Mechanical Officials (IAPMO) announced plans to develop a “comprehensive set of consensus codes and standards,” including a building code.

Numerous organizations under the leadership of AIA, and the Building Owners and Managers Association (BOMA), joined together to establish the “get-it-TOGETHER” coalition, whose sole objective was to persuade ICC and NFPA to cooperate rather than compete in developing codes. Several overtures were made though ultimately, to no avail. The ICC continues with development of the “I” codes (as they are commonly referred to), and NFPA/IAPMO are continuing work on their own to develop building, mechanical and plumbing codes (NFPA 5000 and IAPMO’s *Uniform Mechanical and Plumbing Codes*).

Inevitably disagreements between ICC and NFPA arise in communities that are considering adoption of the set of “I” codes, and just as inevitably the decision is made in the political arena. However, there are technical safety issues that should be explored prior to making any decision between the two rival code development groups. This is made more complicated and difficult to comprehend because NFPA has yet to publish a building code. Although NFPA does publish several codes and standards that are widely accepted and used as references in the “I” codes.

NFPA-101, *Code for Safety to Life from Fire in Buildings and Structures* (Life Safety Code) published by NFPA has been a significant part of the regulatory environment for many years. The NFPA also publishes other design and construction standards which are referenced in the IBC. Primary examples are NFPA-13, which governs the design and installation of fire sprinklers, and NFPA-70, the *National Electric Code*.

WHAT CAN HAPPEN

California is a good case study of the vagaries that can occur as part of the state and local code adoption process. Many California agencies proposed adoption of the 2000 IBC as the new state building code. Other agencies proposed adoption of the 2000 *Uniform Plumbing and Mechanical Codes* published by IAPMO. A third state agency wanted the 2000 *Uniform Fire Code* published by The Western Fire Chiefs Association. Because these codes are independently developed the state recognized that there is an overwhelming need to coordinate the codes. Complicating matters is the fact that California has traditionally made substantial local amendments, in such areas as access for persons with disabilities, hospital regulations and seismic design, requiring additional coordination.

The recent decision in California to keep the 1997 edition of the *Uniform Building Code* and delay adoption of more current codes was based on the relative strengths of the constituent groups from each publisher. Taking the worst political stance, each agency chose to stay with the codes with which it was most familiar rather than base its decision on the merits of each to protect public safety. The relative merits of these codes have been the subject of unproductive partisan debates.

WHICH ONE?

So, if a strictly political decision on which code to use in each jurisdiction is to be avoided, how should the decision be made? How do design professionals and public bodies determine which is the best code to adopt? In the fall of 1999, AIA established a Codes Task Group to examine AIA's policies and determine what, if anything, should be changed in the policies because of the entry of NFPA/IAPMO into the building code market. The Task Group's report, endorsed by the AIA Board, indicated that it is still in the best interest of this country to have a single set of codes that are "comprehensive, contemporary and coordinated," and developed following a consensus process. In addition, the Task Group included a list of endorsed codes that fit within the parameters of AIA policies.

COMPREHENSIVE

The three model codes organizations (BOCA, ICBO AND SBCCI), and now ICC publish documents which are specifically targeted at all issues of physical construction. The comprehensive nature of these codes requires them to include various standards and testing methodologies that are established elsewhere. NFPA's standards for the design and installation of various fire safety systems, and the ASTM standards for manufacture or production and testing of materials and their performance are perhaps the most widely referenced, but others such as ASCE structural standards are also widely referenced. NFPA will likely have similar references in their codes.

In addition to the IBC, the ICC's "T" codes include the *International Mechanical, Plumbing, Residential, Energy Conservation, Property Maintenance* and other codes. ICC is also in the process of developing the International Performance Code and an International Existing Structures Code. NFPA predominately publishes the standards for various fire-related systems (such as NFPA 13, the standard for the installation of automatic sprinkler systems) and some occupancy criteria in the Life Safety Code. None of NFPA's current standards comprehensively regulate building code issues. NFPA's documents currently do not include criteria for building materials, nor structural standards.

COORDINATED

In order to have a workable set of comprehensive codes, they must also be technically coordinated. California is suffering from its decision to use codes from different publishers because of the difficulty coordinating these codes. Varying definitions of terms alone can create an administrative nightmare. One major exception is NFPA's *National Electrical Code*, which because it is nearly universally adopted and used can be readily integrated into virtually any code adoption. Similarly, NFPA 13 is widely adopted and referenced in all of the codes.

By contrast to NFPA's proposed building code and IAPMO's mechanical and plumbing codes, the *International Building Code* is fully correlated with the other "I" codes and the referenced standards, including the *National Electrical Code* (NFPA 70). It also relies upon the common code format, which allows anyone familiar with the content of the current codes such as architects and engineers to instantly be familiar with its organization and logic. NFPA has deliberately chosen to not use the common code format, preferring to develop their code and then format it as the Standards Council dictates, adding to the confusion for those who are attempting to follow its development.

CONTEMPORARY

Technological changes and creative new solutions to design problems are constantly being addressed by regulatory agencies. Advances in standards and testing methodologies and engineering procedures also are part of changes and updates to codes. Natural and man-made disasters also cause codes to change. Major jurisdictions typically adopt the most contemporary codes to allow the use of the technological advances. AIA's policy calls for use of these latest standards in order to reflect the most accurate and effective means of determining appropriate levels of public safety in construction.

CONSENSUS

NFPA touts its "true consensus" process based on their acceptance as an accredited standards writing organization by American National Standards Institute (ANSI). Consensus in this context refers to a method of decision making involving participation, testimony and voting by concerned parties. The ICC process allows broad participation in code writing and in testimony regarding code revisions, but it restricts the final vote to those who are public enforcement officials. Conceivably these public servants have the least potential conflict of interest when voting for code provisions. ICC's Board of Directors also reviews appeals from final action prior to publication of their codes. The NFPA process allows all members to participate in an advisory vote, but reserves the final decision to a very limited number of individuals on its Standards Council.

AIA policy describes a consensus organization as:

- groups representing broad experience and balanced viewpoints;
- includes periodic reviews;
- allows challenge procedures for all who may dissent;
- provides opportunities for all affected parties to participate; and
- pays careful attention to opinions, including minority opinions.

There are clearly flaws and weaknesses in both ICC and NFPA systems, but their similarities seem to far outweigh their differences. The pool of experts participating in the development of both codes is nearly identical. The nature of the physical phenomena and human activities they regulate

are identical. There is an overwhelming desire within the industry to not have two parallel code development processes.

AIA's POSITION

The AIA Board of Directors charged their Codes and Standards Task Group with examining the impact the two codes have on AIA's policies. The recommendations of the Task Group in December of 1999, and reconfirmed in February of 2001, were to support the ICC International Code Series because they provide the single family of codes that are comprehensive, coordinated and contemporary and are developed following a consensus process. NFPA and IAPMO's documents do not meet the tests of these criteria. In addition to meeting these criteria, AIA policy calls for adoption of the most current and up-to-date codes. AIA chapters across the United States have taken active roles in the review and adoption of the ICC International Codes. Efforts by the fire service in many communities have opposed the adoption of the more modern code; simply calling for a delay until the NFPA building code is finished, without regard to the impact delay may have on their communities.

Both the ICC and NFPA processes involve most, if not all, the parties at interest; those having technical expertise, design experience and regulatory experience, to help develop the model codes. Either code will likely establish standards that can be judged as equally safe. The minute differences between codes may generate heated debates, but the actual differences lie in how different people view risk, not an effort to create weak codes or merely to promote one product or construction process over another.

Given the fact that the processes and the goals and criteria are so similar why are two sets of codes being developed? Why is each code organization trying so hard to portray its code development process as distinctively different and better than the other? An obvious conclusion is that the two primary organizations involved in code development are publication houses, which are supported principally by the sale of documents. The advantages to be gained by successfully promoting the adoption of one code versus another are enormous for the successful publisher.

CONCLUSION

The adoption of the 2000 ICC International Codes, with 2001 amendments is being actively considered by many states. AIA and its chapters as well as other organizations are active in support of this effort. In the next year or two will see enforcement of these codes in several states. Some have already taken steps in that direction with the inclusion of the International Mechanical and Plumbing Codes, which were developed as part of the mid '90s editions of the three model codes. How the regulatory climate in the United States evolves over the next three to five years may be controlled by politics or a logical examination of the merits of the codes. AIA continues to provide information to local officials regarding the appropriateness of regulations to protect the public and the furtherance of a single code for the United States.

David S. Collins, FAIA is a practicing architect in Cincinnati, Ohio, with more than 25 years of experience in design issues relating to codes, code development and code application. He is active in both the ICC and NFPA code development process, serving on ICC's International Existing Building Code Development Committee and NFPA's Technical Coordinating Committee for NFPA's Building Code. Dave currently manages AIA's Codes Advocacy Program.



ICC Energy Statement

Importance of Energy Codes

The International Code Council® (ICC) fully supports legislation that promotes energy efficiency in the built environment. Energy-efficient buildings have far-reaching benefits for consumers, the environment, and the economy. According to the U.S. Department of Energy (DOE), energy-efficient buildings improve the lives of Americans by saving consumers money, lessening the demand on fossil fuels, decreasing the need to build new power generation capacity, and reducing pollution. Energy codes are broadly recognized as a cost-effective means of achieving energy efficiency in new and existing buildings. States can ensure that minimum levels of energy efficiency are met in buildings by adopting and effectively implementing national model building energy codes. ICC has been a leader for over 25 years in the development of model energy codes that provide a viable alternative to each state and local agency developing and adopting its own unique energy code.

Development of the International Energy Conservation Code® (IECC)

In response to the Energy Crisis of 1973, model energy codes were developed to help the U.S. achieve more effective utilization of energy. Model energy codes were developed to address the design of energy-efficient buildings and the installation of energy efficient mechanical, lighting, and power systems. In 1976, ICC's legacy organizations developed the Model Code for Energy Conservation in New Building Construction (MCEC). In 1983, the MCEC was renamed and revised as the Model Energy Code (MEC). Using the MEC as its foundation, ICC developed the IECC in 1998. The IECC meets U.S. energy and environmental needs by fostering improved utilization of fossil fuel and nondepletable resources in new buildings. As an alternative for one and two family dwellings, the International Residential Code® provides prescriptive energy provisions that can be easily implemented and are consistent with IECC provisions.

DOE Support

The IECC is certified by DOE under Federal law and is the most up-to-date fully supported nationwide model building energy efficiency code. In 2001, DOE made a formal determination that the 2000 edition of the IECC would improve energy efficiency in residential buildings. DOE actively participates in ICC's code development process and has been involved in developing proposals for all editions of the IECC and its predecessor the MEC. The National Energy Policy Act, signed into law by President Bush in 1992, determined that the 1992 MEC was cost effective for residential construction and required states to determine if it was appropriate to revise their energy codes to meet or exceed the standard. Subsequently, DOE determined that the 1993 MEC, 1995 MEC, 1998 MEC, and the 2000 IECC provide the most cost-effective residential standards.

Referencing the IECC and IRC

ICC is committed to providing an open and inclusive process for the development of building codes that promote energy efficiency through affordability. Approximately 97% of cities, counties, and states that adopt building and safety codes are using documents published by ICC. Energy provisions incorporated into a comprehensive and compatible family of building codes increase energy efficiency and provide cost savings in residential and commercial buildings. The IECC has residential *and* commercial building property provisions and can be referenced as a benchmark for performance evaluation for both types of building properties. To ensure that the latest technology is incorporated into the International Codes® (I-Codes), ICC's code development process is on an 18-month cycle. For that reason, ICC strongly recommends that references to the IECC and IRC should pertain to the most recent editions.

Experiences with the Adoption and Implementation of the I-Codes (conover 08-18-03 draft 4)

Purpose

The purpose of this document is to present experiences that state and local officials have had with the adoption and implementation of the 2000 edition of the *International Codes* of the International Code Council (ICC).

Background

When the U.S. was initially settled local government developed their own building codes to protect the public health and life safety. As the country grew more cities found they needed codes and each had to develop their own provisions. About 100 years ago national organizations, such as the American Insurance Association and American Society of Mechanical Engineers, began to develop model documents that could be used to regulate the design, construction, and use of buildings and their systems. Model codes to cover building construction were an integral part of the move to develop model building regulatory documents; eliminating the need for each state or local agency to develop and maintain their own. These model codes were developed and maintained by the Building Officials and Code Administrators International (BOCA), International Conference of Building Officials (BOCA), and Southern Building Code Congress (SBCCI) and have been available for adoption by state and local government for many years. During the 20th Century many state and local agencies passed legislation and ordinances covering building design, construction and use and as a result adopted one of these model codes.

According to a 1988 study by the Federal Trade Commission, approximately 97% of the U.S. cities, counties and states that adopt building codes had adopted one of the model codes published by these organizations. As the model codes were updated state and local government would adopt later editions of the model codes. In addition those adopting and implementing the model codes continued to rely on the robust support infrastructure available from the model code organization that published the model code. Builders, designers, code officials, manufacturers and others involved in the design, construction and operation of buildings have wanted one model code in the U.S. instead of three. They have also wanted one organization to develop and implement the service and support programs that the users of a singular code would need.

In 1994 the three model code organizations formed the ICC with one goal: to publish one complete package of model codes by 2000 to replace the three model codes and provide a robust infrastructure of programs to support that code. This goal has been realized and on February 1, 2003 the three model code organizations fully consolidated as the ICC. Now, for the first time, the U.S. has one complete family of model codes that are coordinated under one open process by a singular organization augmented with a well-established and robust infrastructure.

Had the ICC not achieved the above goal and the three model codes continued to be updated, state and local government would have simply updated to the new edition of the codes as they had for many years. With the formation of the ICC and replacement of the three model codes with the ICC *International Codes* (I-Codes) state and local government considering adoption of the I-Codes have asked for information on the experiences of those who have already adopted the I-Codes. That information is presented below.

Approach

The ICC contacted state and local agencies that have adopted and implemented the I-Codes and asked them to provide their experiences with changing from their current model code to the I-Codes and the application and use of the support infrastructure for the I-Codes. The ICC also asked them for any formal studies or analyses that were done to facilitate their adoption of the I-Codes. Responses were received from a number of state and local agencies and are summarized below. Appendix A contains the actual responses.

Summary of Experiences

Based on the responses from state and local government the following summary statements can be made.

- States with direction or authority to adopt a statewide preemptive code (e.g. one that is applicable throughout the state) want a single set of codes from one organization. This had been the case with the three model code groups. This continues to be the case with the ICC and as such facilitates the adoption of the I-Codes by states that have adopted one of the three model codes in the past.
- Just as state and local laws and rules referenced one of the model code organizations, these state and local laws recognize the ICC as the successor organization to the three model code groups. This facilitates an easy transition from one of the three model codes to the I-Codes with a minimum of legislative activity and confusion.
- A state code may have had limited preemptive authority with local government free to adopt other codes and/or amend the state code. This has created a lack of uniformity and lead to inconsistent interpretation. These were cited as key reasons for the use of a single set of code documents statewide and the ICC addressed with the I-Codes.
- Adoption of the I-Codes has occurred with little need to address localized conditions through code amendments. Where a state has unique and localized climatic or geographic conditions the I-Codes provide the format and guidance for addressing those unique state and local conditions directly in the codes.
- Publications available from the ICC have made it easy to compare the prior adopted model code to the new I-Codes; easing the transition to the new I-Codes.
- Resources provided by the ICC in support of training for local code officials has been instrumental in the distribution of technical information and providing a seamless transition from the existing codes to the I-Codes. State and local government and those impacted by the codes are accustomed to training from the model code groups and continuation of those efforts by the ICC has a positive impact on successful implementation of the I-Codes.
- Other entities involved in building design and construction, such as home builder associations, are supportive of the I-Codes and as such are available to provide training and support on their implementation. Such groups are also more informed about the I-Codes and make it easier to implement and enforce them.
- Economic impact statements prepared as part of state adoption processes supported the adoption of the I-Codes.
- Ad hoc committees with representatives of many interests including local communities, builders, design professionals, material suppliers and building owners have rigorously assessed how to update their codes and supported the adoption of the I-Codes.
- The need for interpretive bulletins by state agencies adopting the I-Codes has been remarkably low. One state who adopted the I-Codes in 2001 as its first statewide preemptive code has only needed to issue three interpretive bulletins on the I-Codes.
- State amendments have been incorporated into the I-Codes with the assistance of the ICC, resulting in one complete code document for an adopting state. Having all the state requirements in one book has lessened the burden on code users.
- Where states have proposed adoption of the I-Codes no adverse comment from the public was received concerning their adoption.
- Many interested and affected parties participated in the development of the I-Codes so when they are proposed for state or local adoption there is little concern about or action to amend the provisions in the codes.
- Representatives of state and local government are very active in the development of the I-Codes; participating heavily at the code hearings. This makes it easier for state and local government to accept, adopt and enforce the I-Codes.

Appendix A

Arkansas

The Arkansas Fire Code includes the 2000 editions of the IBC, IFC, and IRC. When the state started the State Fire Code revision process the NFPA 5000 was far from being ready. There were some in the fire service that made some comments about waiting on the NFPA 5000. The code officials expressed concern about not knowing what that code would be when it was finished and it would take longer to review and compare the codes. Additionally, code officials expressed concerns about getting an updated code as soon as possible. As most of the local agency ISO ratings under the building code effectiveness grading system (see related ICC paper on ISO BCEGS) were coming due it was imperative that localities maintain the most up to date code possible for that review. The local homebuilders were a big help in securing adoption of the I-Codes and arranged for staff from their national association to assist with the adoption process before the applicable state committees. The American Institute of Architects support of the I-codes also helped to secure support for the I-Codes by the architects in the State.

ICC staff were a big help during the adoption process and did a lot to work with the State Fire Marshal. They also helped in communications with others in State Government. There were no formal studies conducted to assess the new codes compared to the previous codes that were based on the Standard Codes of SBCCI, although the document from SBCCI that compared the 1999 SBC to the 2000 IBC was used extensively and was quite helpful.

The Arkansas Department of Health has started working on IMC and the IPC. Representatives from IAPMO worked with the state to secure adoption of the UMC and the IPC. Staff of the state HVACR Division has been active on committees through SBCCI and ICC and being familiar with the I-Codes as well as the U-Codes could address any differences in the codes and support system for those codes.

Michigan

Michigan adopted the 2000 editions of the International Building, Residential, Mechanical and Plumbing Code in 2001. These codes comprised the first statewide adoption of codes in Michigan. In December 1999, the Michigan legislature adopted changes in the State Construction Code Act to require the use of a single set of codes for statewide implementation. The statute included a reference to codes published by the International Code Council.

In June of 2002, Michigan adopted the 2003 draft edition of the International Existing Buildings Code as the Michigan Rehabilitation Code for Existing Buildings.

Prior to this change in law, the state codes were based on the BOCA National Codes. Local units of government were permitted to adopt nationally recognized model codes and were additionally permitted to amend these codes within certain parameters. These adoptions led to a variety of editions and combinations of codes being administered in and about the state, including various editions of the Uniform Building, Mechanical and Plumbing Codes and the BOCA National Building, Mechanical and Plumbing Codes. The lack of uniformity and consistent interpretation were cited as key reason for the use of a single set of code documents statewide.

Throughout the adoption process, the focus was upon adoption of the I-codes with a minimum number of amendments to address specific state legislative mandates and unique climatic and geological conditions that exist in Michigan. These included enhancements of the snow load maps along Lakes Michigan and Superior to address the lake effect snowfall and to respond to the frost depth conditions in Michigan.

To facilitate the uniqueness of adoption of the first statewide code, the state prepared Code Matrixes to assist code officials, building owners, contractors and design professionals in the transition from the previous state code to the new I-codes. Publications such as the "Overview of the International Building Code" provided additional assistance in the transition.

The level of training offered to local code officials through statewide and local inspector organizations was instrumental in the distribution of technical information and providing an understanding of the differences in the existing codes and the I-codes. The use of educational tools and the ability to follow the code adoption process has been extremely valuable to local code officials in understanding the codes. Recognizing the need to partner with other interested and affected parties Michigan Home Builders Association provided training on the Residential Code to its members following the adoption of the codes.

With respect to the process used to update the codes in Michigan, ad hoc committees are appointed by the Director to review the codes and make recommendations on adoption. These committees include representatives of local communities, builders, design professionals, material suppliers and building owners. Each committee reviews in depth the code and any proposed amendments. Upon completion of the ad hoc committee work, public hearings are held to offer the public an opportunity to comment on the committee proposals. Following the public hearing, formal rules are submitted for legislative review and formal adoption. An Economic Impact statement is developed for each code, to assess the impact on the public and government.

Throughout the course of the adoption process and during the time the code is in effect, we track areas that pose difficulty in application and enforcement. For each issue, a technical bulletin is written where appropriate to address the specific issue and provide a resolution. These bulletins are reviewed upon updating of the codes to assure we have provided clear and concise guidance in the next edition of the codes. It is interesting to note that to date only 3 technical bulletins have been issued since the implementation of the codes in 2001. These include: Residential Attic Loads on Roof Trusses, Residential Shower Floor Liner Pitch, Basement Emergency Escape and Rescue Opening. In each case the bulletin was provided to offer clarification of unique issues.

It is important to note that we are currently in the process of updating the codes to the 2003 edition of the I-codes, including, Building, Residential, Mechanical, Plumbing and Existing Building Codes. These codes include references to the International Property Maintenance and Fire Codes.

The Michigan versions of the codes were published in a joint venture with ICC to incorporate the text of the codes and the Michigan amendments into one document. This has lessened the burden on code users by having one document to work from.

New Jersey

New Jersey is in the final stages of the adoption process of the IBC/IRC. For the most part the adoption has been uneventful. The public comment period expired on February 16, 2003 and all of the comments received were in reference to code sections that the state proposed to amend. No comments were made in opposition to the code adoption in general.

New York

The state of New York adopted all of the I-Codes effective July 2002 and is already looking at adopting the 2003 editions of the I-Codes in 2004. The State as well as the Code Council charged with making changes to the code is very supportive of ensuring that the state building construction standards are maintained and remain current. The City of New York, which has developed and implemented its own code is also considering use of the I-Codes.

Mr. Joseph F. Sauerwein, Chief Fire Marshal, Town of Brookhaven, NY provided the following experiences. He had extensive involvement in two of the Technical Sub-committees that were formed to assist in the transition process to the new codes. This included development of certain enhancements to the code that were felt absolutely necessary for the state. As a code-user/enforcer, he is very pleased with how the transition has gone from the "home-grown" NYS codes to the ICC-based codes. The original statewide code was initiated after a tragic multiple loss of life fire in/about 1981. While that code had the

greatest of intentions and did, in fact, serve the state reasonably well for some years, it became outdated, difficult to use, illogically arranged and far less than efficient, with more than it's fair share of confusion.

When those in the building code community, particularly on Long Island, first started discussing the proposed switch to a model code-based fire & building code, there was a significant amount of discussion, generally among Fire Marshals. It quickly became clear that the only sensible route would be to move toward a model code that encompassed, integrated and coordinated its building & fire codes.

Mr. Sauerwein has an NFPA member since 1985 and still believes that NFPA has an invaluable role to play with many of the complex, technical aspects of the built environment, including, to a great degree the subjects covered in NFPA 1 and NFPA 101. The Town of Brookhaven continues to use many of their Standards. He points out that three and one-half years after NYS first decided to adopt the ICC family of codes the NFPA still had not finalized their building code. He believes that the opportunity presented by NYS was responsible for NFPA even venturing as far as it has with development of a building code.

Going beyond the code text, he indicated that technical support by the model code organization is very important to facilitating its adoption and implementation. He reported that the level of support we have received from various individuals in ICBO & BOCA (two of the members of the ICC and now through consolidation fully a part of the ICC) was absolutely delightful! He reported he generally gets a reply from any of them within 1 or 2 business days, sometimes taking as "long" as 4 days! Conversely he reports on another organization who never returns phone calls and never has anyone available from their support staff on the first call. He reports that they have had him hanging in mid-stream for over two years on an issue with one of their standards because they are not able to get a consensus from their committee! Their response at this time is "they have no idea what they're going to do to answer the question". He feels that is simply not acceptable.

He feels the transition from the former code to the ICC-based codes, with NYS enhancements, has gone as well as it could. Perhaps the biggest difficulty was and remains, the slow response of the design community. While there was more than adequate notice to all users and potential users in NYS, it appears that more than a few design professionals have been slow to obtain the new codes and avail themselves of the numerous training opportunities that have been offered by not only the ICC, but by their own professional organizations! He has received frantic calls from code users such as a principal of a design firm, asking where they could get the "new code books" and were they going to be available in electronic format.

The code enforcers, while truly acknowledging that there are significant differences with the new code, also have mentioned that there are far fewer inconsistencies, contradictions and, very importantly, fewer "gaps" ie: areas not addressed. Some find the new code "difficult" to work with, but much of that is likely based upon the fact that there are substantial changes and less gray areas, open to individual interpretation, coupled with new technology and methodology that was previously merely "not permitted".

Notwithstanding the foregoing, virtually all the enforcement personnel in the Town of Brookhaven have completed the state-mandated training and many have participated in additional training sponsored by various groups and all with staff from ICC.

He concludes by saying that while the "new" ICC-based codes now in use in New York State may not be perfect, they clearly are coordinated and comprehensive, supplemented with professional training assistance and technical support, and are improving efficiency by allowing newer design methodology at lower cost, yet still insuring the high level of life safety our residents and fire fighters need and deserve.

Ohio

The transition to the ICC Codes was made easier because the Board of Building Standards (the Board) had adopted the Ohio Mechanical Code and the Ohio Plumbing Code based upon the International Mechanical Code and the International Plumbing Code, respectively, in a previous update cycle. Effective 1 March 1998, the Board used the 1996 BOCA National Building Code, the 1996 IMC, and the

state felt like a new edition of the old codes was not reviewed as much as it should have been). The state feels that states that have yet to update their codes will benefit as industry buys into the ICC as the national code.

Tennessee

The City of Murfreesboro adopted the 2000 IBC and IFC (along with the whole family of I-Codes) in January 2002, with an effective date of March 1, 2002. These codes replaced the 1994 Standard Codes of SBCCI. While a bigger change than from the 1999 Standard Codes to the 2000 I-Codes it was still surprisingly easy.

The SBCCI has a number of comparisons that compare different editions of the SBC/SFC to the 2000 IBC/IFC. They used these as a starting point to help understand the differences between their existing code and the codes under consideration. The city formed a task force of building department representatives from the county and from each city in the county. We divided up sections of the code to study and settled on common amendments we would all make. This process took about three months. The bulk of the discussion and amendments were administrative in nature, with the exception of the stair riser heights in the IRC. Then the task force met with the homebuilders association and got their support through participation at one of their general membership meetings. The building official of the county and the building official from Murfreesboro are both board members of the county homebuilders association, and maintain a good relationship with them on a regular basis. This cooperative relationship was very helpful.

The thing that helped the city most in making the transition was to set the effective date out in the future, so that the designers knew in plenty of time about the new code and could avoid redesigns and the city had adequate time to train its staff on the new codes.

Texas

In 1997 Fort Worth started working on the adoption of the IPC. There was much opposition by local groups loyal to another code. While all opposition was documented as coming from local groups, it was quite clear that the arguments against the IPC and perhaps funding for the opposition was coming from another source. The city received support documents from the ICBO staff, as well as some private documents from another consultant who provided some of their unpublished reports for use by the city.

It took a year to complete the IPC adoption process. After that, the IMC was adopted with little resistance. The adoption of the International Building and Fire codes was simplified due to committee experience with ICBO and attendance to the IBC and IFC drafting conferences by city building department staff. Obtaining copies and the usage of the SBCCI 96 Commentary, BOCA 96 Commentary and the ICBO 97 Handbook provided useful insight as to the thought process of each code group which made the understanding of the IBC much easier. It also helped in creating local amendments to those codes. This process consumed a lot of city staff time attending meetings and personal time, weekends and nights, doing research and getting prepared. Where staff of other cities are not able to participate and absorb the information during the drafting process of the codes, the city suggests getting the latest three Commentaries on each of the model codes (National, Standard and Uniform) and keep them as a reference document.

From the standpoint of having enforced the Uniform Building Code of ICBO, the IBC addressed some issues like occupancy separation between a gas station canopy and the retail space that made it easier to apply the code. Expanding the old B-2 uses into many different Use Groups, which actually occurred during the Common Format process the three model code groups implemented, broadened the Change of Use provisions. What use to be a change from a B-2 warehouse to a B-2 factory, takes on a new emphasis as an S warehouse to an F factory.

However, understanding that bringing the uses back together into a mixed non-separated use building, actually broadened the concept of grouping uses together while appropriately addressing the hazards of

each use. In addition the sprinkler provisions have certainly been enhanced in the IBC. The city believes that the IBC provides a different approach to the life safety issue than the UBC. After gaining an understanding of the IBC the city believes it provides a clearer aspect to the safety concept associated with each use.

After adoption the city presented many classes with their local design professionals at no charge. This has helped in the rollover process from the old to the new codes. Having presentations made by staff or experienced Building Officials of the same code group who have experienced the adoption process associated with the I-Codes and who can provide a short technical explanation of different ideas meshed into a single code document is also recommended. Fort Worth has been in such a boom mode with respect to development that changing codes has not slowed it down. The new code has not affected development other than having to explain to the design community how to adjust their designs to the new requirements.

Carrollton Texas had also been using the Uniform Building Code. They report that the transition to the IBC and other I-Codes was smooth and simple. They worked with other localities in Texas to coordinate their amendments so all localities would have the same amendments. Issues such as rain gutters and termite protection were areas amended in the codes but 99+% in the codes did not need to be changed. This regional coordination of amendments greatly helped designers and builders who do work across local borders. The jurisdictions in the region did determine that if they adopted the NFPA 5000 document they would have had to make so many amendments that the amendments would have been larger than the 5000 code and they would have ended up with essentially a home grown Texas code.

There were no objections to their adoption of the I-Codes and they have found the level of service from ICC transparent compared to what they received from the model code groups. They have also found that the ICC is far more responsive in that there are now many more staff to serve them and offices of the ICC to call for assistance.

Virginia

Virginia adopted the ICC codes for plumbing, mechanical and fuel gas in 1997. Code official and client groups in Virginia whole heartily endorsed and to this date support the ICC family of codes, plus the NEC, to comprise the 2002 set of statewide building and fire prevention codes.

Virginia has used the BOCA codes since 1973 as a family of codes and has been a leader in code development since 1973 having one of the largest groups of code officials that include enforcers from fire prevention, property maintenance and construction who participate representing their localities and state government and the interest of all Virginians. Virginia code enforcers are active on code committees, ad-hoc committees and service on federal sponsored committees such as ADAAG.

Because of this activity and involvement, it has been quite easy to transition from the BOCA to the ICC codes. In fact Virginia code changes receive approval by the old BOCA and now the ICC membership 70% of the time. Our attendees number around 100 to 150 at all code hearings whether they are at the annual meeting or the mid-year code hearings.

In fact 85% of the ICC codes reflect requirements that were in the BOCA codes and Virginia has had such a strong presence at the ICC code hearings that even the new seismic requirements and other regional code requirements for termites have been influenced by Virginia's code enforcers.

Training, education and support services have been exemplary and without interruption to date. We expect no drop in service for interpretations, training, code reviews, certification programs, etc. We have 3 statewide code associations in Virginia who receive free training at their annual meetings. The Department of Housing and Community Development provides comprehensive in-house training and train-the-trainer programs using the ICC codes for all disciplines that are required to have ICC certificates to enforce the state codes.

Virginia is scheduled to adopt the 2002 state codes March 17th and implement them by either July 1st or Aug. 1st to enable DHCD to do statewide training. The state will then embark in the fall of 2003 and through 2004 to review the 2003 codes that will include the existing building and performance codes to then adopt the 2005 state building and fire codes by early 2005 thus putting Virginia back into the desired 3 year update cycle. Virginia is also looking at filing the 2002 or 2005 codes for equivalency with HUD/DOJ for accessibility and also ADAAG and CMS for health care facilities.

Virginia has a long history with its Uniform Statewide Building Code and Statewide Fire Prevention Code that provides for a high level of life and property safety yet at a affordable cost for continued development and growth. It is this balance that is made possible by the USBC that is mandatory and can only be changed by our Board that prides itself with adding only as few amendments as possible.

Wisconsin

The state is encountering budget deficits and growing pains associated with the implementation of the four ICC codes (IBC, IECC, IMC, IFGC) the state adopted. Because the state is going from a "homegrown" code to a "model" code, the transition to the I-Codes tended to be somewhat laborious with respect to comparisons and analysis. The state also spent a good deal of time researching the organizations themselves and the code development process used. That included state agency attendance at every day of every IBC (2000) hearing starting with the working draft. Although the state expected considerable difficulty, the process used ended up generating a great deal of support. By taking adoption slowly the state felt that would help the state and users of the codes better understand the codes and that it could generate additional support for adoption of the codes. The state created several advisory councils and created specialty councils to match up with the code committee breakdowns (i.e. structural, means of egress, etc.) used by the ICC. This allowed a correlation by subject matter between those in the state and the ICC staff and committees. The state also created the Wisconsin Commercial Building Code Council (WCBCC) which is more of an "umbrella" council that the other councils and committees bounced information through.

Even before the creation of advisory committees, the state started with a few administrative decisions:

- * Be more involved at the national level
- * Limit the "change to a model code" to the IBC
- * No plan to go to model building code for multi-family dwellings or 1 & 2 family dwellings
- * Keep specialty councils small and populate only with experts
- * Don't change the way the game is played in Wisconsin
- * The state would be "the" interpreters of the codes adopted
- * Keep the Wisconsin modifications to the model at a minimum
- * Empathize with concerns about "change"

Although the state limited the population on the specialty councils, the WCBCC was populated by a wide range of building code users. Included were members representing owners (3), designers (2), contractors (2), construction labor (1), building official enforcement (2), fire official enforcement (2) and the insurance-ISO folks (1). That well rounded group helped reduce the possibility that the specialty groups had not gotten too self focussed (i.e. tunnel vision) and had considered all aspects.

The state started with the IBC. The laborious and open nature of the process led to such support, that several other advisory councils ended up recommending the use of the IECC, IMC & IFGC. The comfort that was created also led to a recommendation by one of the Governor appointed advisory councils, a recommendation that the state also use the IBC for Multi-family dwellings.

The state surveyed large groups of our users a couple of times to make sure they were on the right track. Both times the survey was "unannounced" and took place at one of the biggest Commercial Code training sessions of the year (put on by the UW). The first was in Feb. 1998, before the WCBCC had been created and the second was in Feb. 2001, right before preparations to proceed to public hearings. The survey helped the state identify groups that needed more information or special handling and it also

helped to stir up interest within the various code user groups that are so enthusiastic about the commercial building code and the built environment in Wisconsin.

Because the enforcement folks were one group most resistant to change, the state put together a task group that could discuss and provide suggestions on implementation issues and concerns of the enforcement partners. The group included 10 representatives from municipal (big and small) building code enforcers and one fire chief. The state was also able to work with code users to develop training and implementation plans that would help prepare those not directly within the state agency responsible for the code adoption and implementation.

One problem area was created relative to the ICC/NFPA break. One of the first of the "other codes" that were chosen to be a model was the fire code. The discussion revolved around NFPA 1 or the IFC. When the split occurred, the emotional ties that some had to NFPA seemed to get in the way of the technical aspects and what the state had perceived as the code that would work best with the IBC, the IFC. After the ICC and NFPA split, the emotion ultimately spilled over to the IBC after NFPA made the decision to develop a building code. The (at that time) further NFPA Building Code (now NFPA 5000) generated a great deal of concern and there was a push by some to "delay", even though we had already put forth a great deal of time and effort into the IBC. Ultimately, we chose to drop the IFC as one of the codes to use, and went with NFPA 1 (as one would expect it had to be substantially modified) as the model fire prevention code for the state.

One lasting problem with that is due to a strategy that was used. That being the we/they mentality that supposedly existed between the building officials and the fire officials. It was ironic that Wisconsin did not have the same we/they situation that seemed to exist in some of the other areas across the nation. The Wisconsin Safety and Buildings Division has served both the BO's & FO's since 1914 and state laws (referred to as the Safe Place Statutes") from back in 1912/13 required the state to consider the firemen when writing the building code. Because of the we/they strategy, situations were created, generated, or fabricated in a manner that lasting hard feelings were possibly created. The feelings ultimately led to a subtle fracture such that the responsibility for the fire code and other codes, plus the administering of the program were moved to another Division of the state agency responsible for the building code.

There were numerous studies and comparisons but many may no longer be available. Even if they could be found, they may not be very usable to those outside of Wisconsin because the state was comparing the IBC (and the others I-Codes) to the Wisconsin Commercial Building Code. Being home grown and written, similarities were more difficult to identify than if the state had been using one of the previous model codes. Also because the state was so deliberate, many of the comparisons were to "the working draft, or the first draft, or etc., and may not be valid when compared to the IBC (2000).



Sorting Fact From Fiction About ICC-NFPA

By Sara Yerkes

Much has been written and said about what is happening between ICC and NFPA. Unfortunately, much of it is

inaccurate and misleading.

Organizations with missions to protect the public have a moral obligation to abide by the principles that created them. ICC believes in abiding by those principles and stating our arguments factually. Not-for-profits are publicly accountable to not distort the facts and have a responsibility to protect the public's trust. I hope this article will clarify some of what has been written about the ICC code development process and what led us to the present.

4

The Merger

Let's start with a look at the recent past. The leadership of the three model code organizations was motivated and encouraged by many in the building industry who believed it would be in the public's best interest, as well as to the professional advantage of architects, engineers and other professionals, to provide uniformity in the building and construction requirements.

In 1994, the three model code organizations, BOCA, ICBO and SBCCI, set aside their individual interests and established the International Code Council. ICC was created with a single goal, as stated in its mission: "to promulgate a comprehensive and compatible regulatory system for the built environment, through consistent performance-based regulations that are effective, efficient and meet government, industry and public needs."

In 1999, the first set of comprehensive and coordinated codes for the built environment was issued. States and local jurisdictions nationwide are updating their building code requirements from the predecessor documents to the 2000 edition of the International Codes. The three model code organizations are no longer producing their respective codes.

True Consensus

This is a term frequently used by NFPA. NFPA, at best, has very limited experience in structural construction, and does not have the services nor expertise required to support the adoption, implementation and enforcement of a building code. NFPA defends its document by saying that when its code is complete it will be the only building code available that will have been developed under true

consensus and under a process accredited by The American National Standards Institute (ANSI). Let's clarify some facts.

What does NFPA mean by "true" consensus? The dictionary defines consensus as "an opinion or position reached by a group as a whole." So, if a group reaches consensus, it would mean it has reached a decision agreeable to the majority of the parties. Perhaps "true" consensus is what happened in Anaheim when opponents of the then proposed NFPA 1710 were left standing at the microphones after they were denied an opportunity to speak because the discussion on the motion was called to closure . . .

The ICC has an open process of code development. This means that all the meetings are open to the public. The results from the meetings are available for any member of the public to review and comment.

The ICC code development process is inclusive. Anyone may submit a code change proposal and participate in the ICC code development process.

The ICC code development process is a balanced process that permits all views and opinions to be taken into consideration ensuring a balanced outcome. The committee members represent general interests (consumers, code officials, other government regulatory agencies), user interests (academia, building owners, design professionals, insurance companies), and producer interests (builders, contractors, manufacturers, testing laboratories). To ensure a fair representation, not more than one-third of each committee is to be made up of members representing either the user or producer interests.

In the development of regulatory standards, consensus may be taken to mean "that of general opinion." In due process, general opinion is taken to mean the majority eligible to vote. In the governmental process a duly elected official representing a city council, county commission or board of supervisors represents his/her constituents and votes accordingly. There is no personal or corporate vested interest and one could state that a public official controlled process offers both a less complex and more responsive system.

Codes and standards developers whose volunteers and members have an economically vested interest in the requirements of the codes or standards face the challenge of demonstrating that those parties do not dominate the codes and standards development process. The American National Standards Institute (ANSI) accredits such processes. The ANSI system serves to control abuse of interested parties in the development processes. In the ICC governmental consensus process, control over vested

interests is protected by public safety officials whose only interest is in the protection of the public safety, not in the sale of products or technology.

The ANSI accreditation requires mandating a balance of interests on standards developing committees—this is but one method of assurance. There are other methods that fall outside the criteria prescribed by ANSI that offer as sound an assurance of the objectivity of outcome as one accredited by ANSI.

The ICC code development process incorporates a number of checks and balances to ensure the final codes are the highest quality documents. Before a code change is made, it will have been reviewed at several open meetings, over an extended period of time, with the results of each meeting published for public comment. The system also allows anyone not satisfied with a final decision on a code change the opportunity to appeal an action. The ICC Board reviews the appeal and renders its decision based on whether due process was provided.

The Preferred Code Set

The "Inside the Beltway" article in the July/August 2001 NFPA Journal says that many Federal agencies are reviewing the second draft of NFPA 5000. This statement cannot be accurate. The second draft of the NFPA 5000 was supposedly not available for review until August 7, 2001, according to the news release entitled, "NFPA Building Code Moves Forward," issued by the Association. For the Federal agencies to review a draft document would be premature.

The consensus process requires that all comments and proposals to a document be appropriately reviewed and considered. Therefore, for the Federal agencies to review a draft would serve no purpose other than to seek their input to a working document, but definitely should not result in a decision to reference or adopt such an unfinished document. The fact is that those Federal agencies are reviewing the 2000 edition of the International Building Code (IBC), which was published last year in final form, and was developed by organizations that have been producing construction codes following the governmental consensus process throughout the last century.

ICC has publicly stated that it has no objection to the Federal agencies or any other entities reviewing NFPA 5000 when that code is published in final form. This is the logical approach, as the final document may look completely different from the first or even second draft. However, for NFPA to request that their draft document be compared against the IBC is not in the public's best interest, as it only serves the purpose of delaying critical decisions that address the public's health and safety.

NFPA says that the Federal agencies have not "grabbed the IBC and run with it." It would be naïve for an organ-

ization to believe that's the way the Federal government conducts business. Administrative Law governs the power and procedures of administrative agencies, including rule-making, adjudication and judicial review of agency actions.

Most agencies follow an informal or notice-and-comment process called rulemaking. It is a three-step process: a notice of proposed rule is published in the *Federal Register*. There is normally a comment period, and after review of the public comments, the agency publishes a final rule in the *Federal Register*. In formal rulemaking there is an opportunity for persons to testify and be cross-examined, much like a trial. Due process ensures the government follows the proper procedures when making decisions that will affect economic or public interest activities. The rulemaking process can take anywhere from several months to many years to complete.

Traditionally, code adoptions happen at the local level. In a Federal system like ours, the central government decides issues that concern the country as a whole such as national security, making treaties with other nations, taxation, and such. Community planning, schools and building codes, for example, are local issues.

So, when reading what is being written, or listening to what is being reported out there, you should be cognizant that there are always two sides to a story. When in doubt, check the facts. One thing I can tell you today without a doubt is that the U.S. has the best building codes in the world. Think of the earthquakes that leave thousands of people displaced and destroy thousands of homes worldwide. Think of Seattle . . . minimum property damage, no loss of life. These are facts.

The fact is that 97% of the jurisdictions in the U.S. that have adopted and enforce a building code use one of the three model codes, or have a code based on one of those model codes, and most are in the process of upgrading to the International Codes.

The fact is that ICC founding members—BOCA, ICBO, and SBCCI—have 190 years of collective experience in the development of building codes. ICC does not need to predict or speculate. We let the facts speak for us.

To stay current on the nationwide adoption of the International Codes visit the ICC website at www.intlcode.org.

Re: NYC Adoption Meeting

On Friday, June 13, Ron Piester of the NYS DOS and I met with Patricia Lancaster, AIA, Commissioner of the Department of Buildings (DOB) and with Marzio Penzi, Asst. Commissioner, Bureau of Electrical Control. Mr. Penzi orchestrated the DOB adoption of the NEC last year and has been assigned the responsibility for overseeing the process of amending the Building Code of the City of New York (BCCNY).

1. Mayor's Advisory Commission "Report on the Adoption of a Model Building Code." This document is available on the NYC website: <http://www.nyc.gov/buildings>. I would encourage you to read this Report as it includes some very useful information that should be transmitted to jurisdictions that are considering adoption of NFPA 5000. In particular we should insure that the right people in the City of Chicago get a copy of this Report.

Of particular interest is Section 8.2 Assessment Forms. In these forms, the Advisory Commission members rated the components of the IBC and 5000 compared to the existing BCCNY. Each of the ratings of various elements are listed. General comments are included. Very interesting results that our Board, CEO and PP can use. Here are the elements that were rated and the ratings (converted to percentages):

1. How would you rate the **organization** of the IBC?

IBC = 90% 5000 = 60%

2. How would you rate the **legibility** of the IBC?

IBC = 84% 5000 = 52%

3. How would you rate the **comprehensiveness** of the IBC?

IBC = 84% 5000 = 57%

4. How would you rate the IBC's **availability to users**?

IBC = 71% 5000 = 46%

5. How would you rate the IBC's **ease of understanding**?

IBC = 88% 5000 = 57%

6. How does the IBC code development process compare with the existing Building Code (BCCNYC) in terms of methodology and updating flexibility?

IBC = 86% 5000 = 47%

7. How similar or consistent is the IBC's **classification and use of terminology** to the existing Building Code?

IBC = 64% 5000 = 45%
8. How does the IBC compare to the existing Building Code in terms of its **use of reference standards**? (The DOB considers the least use of reference standards to yield the highest rating)

IBC = 78% 5000 = 62%
9. How would you rate the cost of construction and maintenance of buildings, following the IBC as compared with the existing NYC Building Code? (The DOB considers lesser cost and lesser maintenance to yield the higher ratings).

IBC = 68% 5000 = 51%
10. How much of an **improvement in technology** does the IBC introduce as compared to the existing Building Code?

IBC = 90% 5000 = 68%

A second set of elements were rated using different scale descriptors:

1. How would you rate the ease with which the IBC could be adapted to the special conditions and requirements of New York City?

IBC = 88% 5000 = 37%
2. How would you rate the advantages, which would result to NYC, in the event of its adoption of the IBC?

IBC = 78% 5000 = 37%
3. How would you rate the IBC's universality of acceptance and any advantages from the application of such Code in other jurisdictions of the United States?

IBC = 91% 5000 = 25%
4. How would you rate the performance history of the IBC?

IBC = 75% 5000 = 33%
5. How do you consider the support services provided by the ICC, which would be available to NYC in the event of its adoption of the IBC?

ICC = 85% NFPA = 46%

6. How would you rate the training that would be provided by the ICC?

ICC = 85%

NFPA = 46%

Considering that there were several pro-NFPA people on the Commission that voted for the 5000 without regard to merit, these are impressive numbers. If those members had been neutral, and voted evenly between the two codes, our numbers would have gone up and NFPA's would have gone down. With no one "biased" toward the ICC on the Commission or during the Public Hearing, as were the fire, plumbing and mechanical union representatives, we did very well. It should be noted that at the Public Hearing, most of the pro-NFPA comments were from NFPA/IAPMO/ASHRAE reps. We purposely did not make comments at the Hearing since such comments seemed to me to be gratuitous and self-serving. We relied on broad-based, grass-roots support from BOMA, AIA and new organizational friends that we made in the City throughout the process; much more effective than the self-serving testimony from NFPA's partners.

It should be noted that the Commission members made their judgments based predominantly on the presentations given by ICC and NFPA. Dottie Harris and Ron Piester were very persuasive proponents and our documentation was also persuasive. In the "Report," Robert Thompson's (NYS DOS) research, "Building a Case for Standards" was summarized. We also included the State of Oregon Code Review Committee final report which was also summarized in the "Report." The ICC/BCCNY Comparison Study was a key document that was delivered in record time last year was also a "clincher." This document relied on two NYC contractors, NYS DOS volunteers and ICBO staff for its development. Our ability to deliver an extremely detailed and crucial document on time to the DOB and Commission gave proof of our ability to respond in a timely manner to an impossible request; without that document we would not be making this report.

Our efforts over the past year which resulted in the Commission's recommendation to the Mayor to utilize the I-codes is a two-edged sword, however. As evidenced by the "Report," we were able to gain support by creating assurances that ICC can and will provide resources and assistance to NYC during and following the adoption process phase, which has now begun. In reality, there has been little support or commitment by ICC to date. Without the NYS Department of State staff through its Director, George Clark, and ICBO's efforts, we could not have prevailed. The ICC CEO at that time would not commit to financial or personnel resources for this project and made no effort to be visible in the City. Fortunately there were subordinates and at least one Board member who saw the potential that NYC would have for ICC and did the necessary work behind the scenes to initiate and support efforts in the City. Further, we were very fortunate, through introductions made by George Clark, Jim Burns and Dan Caffrey of NYS DOS, to obtain the assistance of Desmond Burke, a BOMA/NY member who has tirelessly advocated the ICC through an extensive network of key City contacts at considerable risk to his reputation and work in the City. By linking us with the top governmental affairs consultant in the City, Catherine Giuliani, we have been able to work behind the scenes to arrive at our present location on the journey.

While there is cause for celebration, I mention the negative aspects of this project not to point fingers but to try to be clear that we cannot continue to neglect NYC or depend on DOS, one staff person, and volunteers if we want to see a “return” on the “investment” we have made to date. DOB has made it clear that there are vocal opponents that will continue to be in a position of influence during the next phase of the process. These NFPA supporters will do everything they can to try to block the use of the I-codes in the City. If there is any sign of weakness with regard to the elements listed in the Analysis above, these opponents will be quick to exploit them. If there is not immediate and profound support at the Board and executive staff level for the expectations we have put forth in the name of ICC, all the work that has been done publicly and behind the scenes will be lost. These expectations can be extrapolated from the Assessment questions and also from the document that was given to the Mayoral Commission (see attachment: “What Can NYC Expect from ICC”).

Next Phase

From the Executive Summary of the “Report:”

“...the Commission recommends that the adoption of the IBC, either by integrated language or amendment, over the existing Building Code or the NFPA 5000. The commission also recommends the same code development process successfully utilized for the development and adoption of the New York City Electrical Code. In this inclusive development process, integrated language or amendments are developed through the use of consensus-building technical committees under the guidance of the Department of Buildings.

This process also involves the use of “Blue Print” legislation. In this scenario, a series of local laws are contemplated, the first of which sets forth a revised administrative code with a mandate for future technical standard development and adoption. Once fully completed, the local laws mandate the continued updating of the Building Codes’ administrative and technical standards. The Commission suggests a development timeframe of 18 months for the code development process and initial local law submission.”

For the DOB, this means drafting integrated code language over the next 18 months and presenting legislation to the City Council whether the code adoption work is completed or not. Of course, the administrative provisions must be submitted as part of the Bill, which will essentially state that the 2003 IBC (as the base document) is to be adopted and the Bill will specify the date of adoption. This is a “Blueprint Bill” which sets a reasonable time goal for completion of the text of the BCCNY.

To accomplish this, a “Managing Committee” (MC) currently consisting of 20 members representing the entire spectrum of interest groups, including many of the members of the (former) Mayoral Commission, has been formed (including ICC opponents). This MC will receive the recommendations of the Technical Committees (TCs) and its Sub-committees (TSCs), as needed and any Technical Experts, as needed, which will be responsible for developing the integrated code provisions. The MC will submit recommendations to the DOB Commissioner which will ultimately have to be approved

by the City Council. The decision as to what provisions of the IBC are retained, what provisions of the BCCNYC are retained and what synthesis might occur between the two thus will have to be approved at all levels to and including the City Council.. A protocol has been established in which failure to achieve consensus on a code provision after two attempts will result in the provision being shunted to an Arbitration Team which will negotiate and rework the provision and submit it to the Commissioner. Should arbitration fail, the default will be to the current BCCNY language. This should insure that the overall process does not get bogged down by unresolved issues in the TSCs and TCs.

To date, the following TCs have been formed and the IBC Chapters they will review are listed below:

Administration/Enforcement	IBC Ch. 1, 2, 17, 32
Construction Requirements	IBC Ch. 3 – 7, 12, 13, 14, 31
Fire Protection	IBC Ch. 7, 8, 9, 14, 15, 27
Egress	IBC Ch. 10
Accessibility	IBC Ch. 11
Structural/Foundation	IBC Ch. 16 – 26
Existing Buildings	IBC Ch. 34
Mechanical/HVAC/Boilers	IBC Ch. 38 + IMC
Residential	IRC
Plumbing	IBC Ch. 29
Elevators/Conveyors	IBC Ch. 30
Construction Safety/Demolition	IBC Ch. 33

What needs to be done by ICC for this next phase of the adoption process?

1. Deliver the updated IBC/BCCNY Comparison Study for use by TCs and TSCs.
2. ICC presentation at MC inaugural meeting on June 23rd to detail the services we will provide to the TCs, TSCs, MC and DOB.
 - a. Code books
 - b. Publications
 - c. Technical assistance
 - d. Certification and licensing services

- e. Evaluation services
 - f. Other member services
3. Provide ICC member resource persons for each of the Technical Committees noted above. While this role has not been carefully defined yet, the scope would include providing code history, intent, interpretation, and consultation. It could involve suggesting resource publications, such as Commentaries, Handbooks, etc. It certainly would involve being a “coordinator” for ICC to interface with the TSs and TSCs. This person would not necessarily have to be the only one to assist, but would be responsible to provide whatever personnel and/or technical resources they might need to do their jobs. This will be a key element of our work in NYC; we made a strong case for our members’ ability to provide technical support and now we get to prove that it was not just rhetoric.
 4. A resolution/directive from the Board that ICC members, jurisdictions, staff and financial resources will be made available for this next phase rather than the informal, voluntary scrambling that has characterized the past year. This does not preclude informal, voluntary assistance but also does not leave the responsibility and accountability for this project in question.
 5. Continued contractual utilization of our governmental affairs representative in NYC to insure that the many City agencies are coordinated behind our efforts to win the support of the City Council
 6. Retain a NYC public relations consultant to assist ICC Marketing Department in keeping the adoption process in the forefront of public information and enlisting the support of local industry via all media for a positive response by the City Council and to ameliorate efforts by opponents to derail the process.
 7. Maintain relationships with key organizations and individuals who have the ability to use their influence on our behalf. These particular efforts are difficult to predict and plan for but are essential if ICC is to be seen as a partner with certain segments of the industry, specifically developers, building owners, fire safety directors, the fire prevention bureau, and the unions. By supporting the construction industry’s charitable activities we are seen in a much different light than we are portrayed by our detractors. For example, by being involved with the construction industry awards dinner recently, we assisted the unions in their commitment to City charities. To be visible as a major supporter of union charitable activities makes it difficult for NFPA supporters to criticize us as an outside organization which has no ties to the City and is only there to make money and take jobs away from plumbers and pipe fitters. It doesn’t hurt us to have our picture taken with the Archbishop who is a big supporter of the unions and vice versa. What we don’t have right now is the ability to capitalize on this by making sure these activities are conveyed to the industry and to the general public (see #4 and #5 above). While it demands financial resources to do this, the good will it promotes is well worth the investment.

8. Continue an active presence in construction industry activities by attendance at their meetings, providing speakers, giving awards and plaques to those who support us so that their efforts on our behalf gain positive notoriety for them, etc. Insure that our CEO has ample opportunities to speak at their meetings to show our respect for them and for the City rather than as an “outside” interloper that is not “connected” locally.
9. Provide training on the I-codes to future I-code users at their monthly, quarterly and annual meetings by our BEST instructors who tailor their presentations to the audience rather than take the arrogant position that we know what they need and impose our particular cookie-cutter method of doing things. For those that missed this lesson, New York State is the prime example of why one organization was successful there and another was not.
10. Provide collaboration with the DOB to assist them in streamlining their operational activities. This has been the source of the greatest criticism by code users in the City and the main impetus to bringing in a model code. We have begun the effort to demonstrate that our members, specifically Clark County, have been successful in accomplishing this locally and NYC can do the same. Ron Lynn graciously traveled to NYC to brief the DOB and we have had two occasions to bring key real estate development and building owners/managers to Clark County where Ron has shown them how it can be done and taken them to time-sensitive construction projects where they could personally observe how it works. This kind of effort from major jurisdiction building officials is extremely effective. NFPA can’t do it.
11. Provide professional assistance to the DOB in its desire to obtain assistance with contractor licensing as well as staff and consultant certification. This could be very good for ICC revenue as well as meet a need that DOB cannot meet on its own.
12. Develop a “sister city” alliance with NYC, much like the very effective work of WABO with the state of NY. WABO was totally selfless in their work to bring NY State into the ICC fold. We need the same kind of effort by a large jurisdiction to partner with NYC. To this end I will be asking Ron Lynn if Clark County/Las Vegas would be willing to step up to the plate (again and again). It would not hurt to have more than one major city get involved in this way.
13. Take the initiative to invite key NYC DOB staff and key industry individuals to attend the ABM this year. Last year we were able to gain incredible support from some of the most respected and connected individuals from the construction industry at Fort Worth. This is an outstanding opportunity for our members, not just staff, to demonstrate our code development process and to network with people who can make a difference for ICC in NYC both in formal meetings and informal gatherings.

There is probably more that could be listed, but this should give some perspective as to the scope of the efforts we need to undertake to be successful in NYC. The key to this is a definitive commitment at the top rather than a reactive effort by a few low-level staff, even though this has worked to date. To attempt to continue on this course will not work; it will be insufficient to meet the challenge we face there. Our opponents have not given up and will not roll over. They see us as having won a battle but not the war. They have financial resources that we cannot match. But if we have the resolve and the commitment to do what is necessary, they will not prevail because we have the interests of the City as our top priority. To further gain their trust, we need NYC to see this commitment. Then we can invite them to become an integral part of ICC, not just another customer or client.

Respectfully submitted,

Mike Clemens
ICC New York Representative



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