

21st Century Building Codes & Ordinances

Impact of IBC

Federal Legislation

Sustainability Rating Systems



Manufacturing Buildings



Energy Equipment



Commercial Buildings

Damage Engineering INSIGHTS

commercial • energy • habitational • manufacturing

Be it heavy or light commercial, or even manufacturing rebuilds, building codes and ordinances can significantly impact the repair cost and downtime. Many changes have taken place in the building codes and ordinances you routinely deal with—expect the change process to accelerate with a drive for widespread adoption of the International Building Code (IBC).

- Legacy regionalized model codes, such as those written specifically for the southeastern and western states, are phasing out.
- It will be a dynamic process and the changes needed to adopt one set of model codes will take time, providing substantial advantages for all industries.

Federal legislation and initiatives are driving energy, pollution, and efficiency improvements, and cities and municipalities are adopting Sustainability Rating Systems, most commonly LEED®. It will take additional time for all of these driving forces to be absorbed in the enforceable codes, which to be binding must be adopted at the local level.

One can expect equipment and building component changes as manufacturers and vendors change their product lines in anticipation of new minimum requirements.

The International Code Council, developer of the IBC, is bringing together various codes typically written by a number of code organizations to create a single set of codes, and envisions nationalizing and expanding the current topics:

- Building
- Fire
- Plumbing
- Mechanical
- Fuel gas
- Energy conservation
- Wildland-urban interface
- Existing building
- Property maintenance
- Performance for buildings and facilities
- Private sewage disposal
- Zoning

In the United States, the National Electrical Code (NEC), or NFPA 70, remains the standard for the safe installation and usage of electrical wiring and apparatus, and has not yet been incorporated into the IBC.

Douglas G. Peterson & Associates, Inc., Multidiscipline Damage Engineers,™ routinely investigates the necessary code requirements during repairs of buildings and equipment. Call us to assist you in dealing with code compliance issues. Our multidisciplinary expertise is an asset in habitational, commercial, and manufacturing sites.

Multidiscipline Damage Engineering

examples of how some of the changes in model codes will impact engineering challenges routinely encountered on damage sites:

Structural Damage Engineering

Cold-formed steel framing has become common because of code requirements.

Hot rolled structural shapes are as their name indicates rolled hot and they anneal as they cool. Cold-formed steel framing is shaped cold. The “cold working” changes the microstructure and enhances the physical properties of cold-formed steel—particularly strength. Unfortunately unlike hot-rolled steel, cold-formed steel loses strength properties if the heat from a fire is hot enough to anneal it.

MEP (Mechanical, Electrical, and Plumbing) Damage Engineering

The Montreal Protocol has driven code changes that have changed the availability of replacement equipment and even refrigerants, making refrigeration equipment older than 10 to 12 years routinely obsolete.

Federal legislation is driving efficiency improvements that will similarly drive obsolescence of the affected equipment well into the future.

Fire Protection Damage Engineering

The 2009 International Existing Building Code may require supplemental automatic sprinkler systems in high-rise building repair situations, dependent on the scope of the alterations and repairs being performed. Typically, when the work area exceeds 50% of the floor, the entire floor will need updated sprinkler systems.

Sustainability Damage Engineering

The LEED® Rating System is designed conceptually to always stay ahead of the adopted building codes. Version 3 was adopted on April 27, 2009. Among a variety of changes, it raises the bar on energy requirements and provides geographic area specific bonus credits. Expect Version 3 to work its way into more and more city and municipality codes.

Cause Cost Downtime

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