

## 2015 I-Code Highlights

### ***International Building Code***

- Fire service access elevators in high rises are required to be able to accommodate a 24"x84" stretcher (size unspecified in the 2012 code). (Section 403.6.1; G53-12)
- The smoke compartment size for Group I-2 hospitals (now referred to as Group I-2 Condition 2) was increased from 22,500 square feet to 40,000 square feet. (Sections 308.4 and 407.5; G76 and G257 - 12)
- The provisions for I-2 nursing homes (now referred to as Group I-2 Condition 1) have been revised to reflect the current design considerations where such facilities are moving away from the traditional institutional model to a residential/household model. This includes provisions for cooking, shared living spaces and corridor layouts. (Sections 308.4 and 407; G65, G66, G73 and G257 - 12)
- Group E educational occupancies and emergency centers like 911 call centers that are located in tornado areas with wind speeds of 250 mph in the Midwest are required to have storm shelters. The design and construction provisions as well as the wind speed map are found in the referenced standard ICC 500 Standard for the Design and Construction of Storm Shelters. (Section 423; G94 and G95-12)
- Where Group S-2 parking garages are located within 3 feet of Group R-2 apartment buildings, an exception has been added which allows protected openings in the walls where previously the code did not allow openings due to fire separation distance considerations. (Section 705.3; FS20-12)
- The exception for the enclosure of elevator lobbies has been clarified to stipulate that opening protection at the hoistway opening is not required where the lobby enclosure provides the necessary opening protection to protect the adjacent spaces on the floor. (Section 709.4; FS37-12)
- Horizontal duct transitions between vertical ducts are not required to be in a shaft enclosure provided the duct penetration at each shaft is properly protected with a damper. (Section 717.1.1; FS100-12)
- Smoke dampers are no longer required where fully ducted HVAC systems penetrate smoke barriers in hospitals. (Section 717.5.5; FS114-12)
- The common path of travel and exit provisions in Chapter 10 have been reorganized to provide enhanced usability and clarity. (Chapter 10; E1 and E127-12)
- The occupant load for all mercantile occupancies has been reduced to a minimum load based on 60 square feet per occupant for all floors. This results in a more realistic occupant load versus the 30 value that was previously required for first floor spaces. (Table 1004.1.2; E18-12)
- An exception to the exit enclosure requirements has been added which allows interior unenclosed exit stairways within code complying atriums which are separated from the adjacent spaces as required by the atrium provisions. (Section 1023.2; E139-12)
- The accessibility provisions of Chapter 11 have been updated to include requirements for recreations facilities such as sports/exercise activity areas, amusement rides and pools. (Section 1110; E209, E211, E212, E213 and E216-12)

- The roofing provisions have been expanded and updated to include photovoltaic provisions which are correlated with industry practice. Included are new provisions for roof dead, live and snow drift loads for such systems. (Sections 1502, 1507.17 and 1607.12.5; S2, S3, S19, S21, S47 and S72 – 12)
- The concrete provisions have been updated to coordinate with the provisions of the referenced standard, ACI 318. Included are revisions to the concrete anchorage provisions. (Section 1905; S203 and S340-12)
- Comprehensive provisions for wood/plastic composite and plastic lumber used in deck construction have been added to the code. (Section 2612; FS198-12)

#### ***International Energy Conservation Code***

- Overall energy conservation levels of the 2012 IECC are maintained while at the same time an alternative path for residential energy compliance which provides greater flexibility which is likely to lower construction costs has been added. It is called the Energy Rating Index Compliance Alternative. (Section R406; RE188-13)
- Two new chapters for existing buildings which are undergoing repairs, alterations or changes of occupancy have been added for both residential and commercial buildings. (Chapters C5 and R5; CE4-13)

#### ***International Existing Building Code***

- Chapter 34 of the IBC entitled Existing Structures was deleted from the IBC and replaced with a reference to the IEBC in Section 101.4. All repairs, alterations and changes of occupancy must now comply with the IEBC. (Chapters 4 and 14; G201 – 12)
- The structural prescriptive compliance provisions of Chapter 4 for alterations have been revised to require specific design considerations for wall anchorage for unreinforced masonry walls and unreinforced masonry parapets. (Section 403; G216 and G217 – 12)
- The accessibility prescriptive compliance provisions of Chapter 4 have been updated to coordinate with the Americans with Disabilities Act (ADA) for primary function areas, stairs and escalators, performance areas and toilet rooms. (Section 410; G238, G241, G242 and G243 – 12)
- Operable windows which undergo replacement are required to be equipped with window opening control devices to provide window fall protection for children. Such devices must comply with ASTM F2090. (Sections 702.4 and 702.5; EB15-13)
- The Level 1 and Level 2 alteration provisions related to accessibility for performance areas, dwelling and sleeping units, toilet rooms, amusement rides and primary function areas have been updated to coordinate with the Americans with Disabilities Act (ADA) for primary function areas, stairs and escalators and performance areas. (Sections 705 and 806; EB18, EB19, EB20, EB21 and EB22 – 13)
- The Level 3 alteration provisions for structural concrete and masonry wall anchors and unreinforced masonry parapets have been expanded to include Seismic Design Category C. (Section 907; EB9 and EB10 – 12)
- The change of occupancy provisions have been revised to trigger the application of Chapter 10 where there is not a corresponding change of occupancy but rather a

change in use for which there is a fire protection threshold requirement in Chapter 9 of the IBC. (Chapter 10; EB53-12)

### ***International Fire Code***

- Crowd manager provisions have been added to the code which require the manager to be trained and their responsibilities defined. (Section 403.12.3; F24 and 25 -13)
- Emergency power system and generator provisions have been revised to include load transfer criteria, load duration and uninterruptable power sources where required by the manufacturers instructions. (Section 604.1; F53-13)
- Solar photovoltaic power system provisions have been revised to provide clarity with respect to Group R-3 buildings. (Section 605.11; F62, F64, F69, F72, F74 and F352-13)
- In order to limit grease accumulation in kitchen hoods, cleaning of the hoods is now required to comply with the standards of the International Kitchen Exhaust Cleaning Association. (Section 609.3.3.2; F91-13)
- New provisions for automatic water mist suppression systems have been added to the code. (Section 904.11; F144-13)
- Prescriptive location provisions for smoke alarms near cooking appliances have been added to the code. (Section 907.2.11.3; F359-13)
- The smoke and heat removal provisions were revised to identify their application as a smoke removal function for fire-fighting operations after control of the fire has been achieved by the automatic sprinkler system. (Section 910; F195 and F196-13)
- Carbon monoxide detection provisions were updated to include requirements for detectors in Group E occupancies based on numerous reports of CO incidents in schools from 2005 through 2012. The provisions were also relocated from the emergency alarm section to a stand-alone section. (Section 915; F180, F182 and F360-13)
- Historic buildings are now required to comply with the fire protection plan requirements of NFPA 914. (Section 1103.1.1; F213-13)
- In sprinklered existing buildings, the fire safety requirements have been revised to allow previously fire resistance rated elements which are no longer required to be rated under the current code to no longer have to be maintained as rated assemblies, subject to approval of the code official. (Section 1103; F212-13 Part I and EB26-13)
- New minimum provisions for construction in existing hospitals have been added in order to raise the level of life safety for buildings that may not have been built under contemporary codes. These provisions are intended to be correlated with the federal requirements for such facilities. (Section 1105; F236 – F241 and F243-13).
- A new appendix entitled "Construction Requirements for Existing Ambulatory Care Facilities" has been added to provide jurisdictions with minimum fire and life safety regulatory provisions for these relatively new types of facilities. These provisions are intended to be correlated with the federal requirements for such facilities. (Appendix K; F344-13)
- A new appendix entitled "Requirements for Firefighter Air Replenishment Systems" has been added to the code. Included are criteria to be used to determine their application and the design, installation and testing criteria. (Appendix L; F346-13)

- A new appendix entitled "High-Rise Buildings – Retroactive Automatic Sprinkler Requirements" which, if adopted, would require high rises as defined in the IBC to be retrofitted with sprinklers in accordance with a schedule to be determined by the fire code official but not to exceed 12 years from the adoption of the code. (Appendix M; F347-13)

#### ***International Fuel Gas Code***

- Condensate pumps located in attics, crawl spaces and other uninhabited spaces must now be connected to the appliance served in order to shut down the appliance upon failure of the pumping system. (Section 307.6; FG5-12)
- The provisions for protecting concealed piping from penetration by nails, screws and other fasteners were rewritten to address pipe and tubing that is parallel to framing members as well as perpendicular. (Sections 404.7.1 - 404.7.3; FG15-12)
- The provisions for appliance connection were revised to address listed gas hose connectors for outdoor appliances and also provide specific installation requirements for commercial cooking appliance connectors. (Sections 411.1 and 411.1.1; FG24-12)
- New text was added to address sidewall vents that discharge towards adjacent buildings. (Section 503.8; FG30-12)

#### ***International Green Construction Code*** **2014 CYCLE ON-GOING**

#### ***International Mechanical Code***

- Ventilation for medical facilities (ambulatory care and hospitals) will be required to comply with ASHRAE 170 instead of the provisions of Chapter 4 for natural or mechanical ventilation. (Section 407; M36-12)
- The ventilation requirements for residential occupancy Groups R-2, R-3 and R-4 which are three stories and less above grade plane have been completely revised to be coordinated with the provisions in ASHRAE 62.2. (Section 403; M42-12)
- The provisions for commercial kitchen hoods were completely reorganized and separated based on general provisions versus related sections for Type I and Type II hoods. The flow and structure of the text is more logical and user friendly. (Section 507; M101-12)
- The hazardous exhaust provisions were clarified for the following topics: redundant (backup) exhaust equipment; duct manifolds from different fire areas; recirculation prohibitions; and the requirement for system independence. (Section 510; M113, M114, M116 and M117-12)
- Comprehensive provisions for ground source heat pump loops systems have been added to the code. Included are provisions for piping, tubing, joints and connections, valves, installation and tests. (Section 1210; M188-12)

#### ***International Plumbing Code***

- An exception to the requirement for public toilet facilities has been added to the code for tenant spaces intended for "quick transactions" such as takeout dining establishments of 300 square feet or less in area. (Section 403.3; P35-12)

- The weighted average of lead content used in drinking water pipe and fittings has been reduced to a “lead-free” value of not more than 0.25 percent lead. This provision meets the new requirements of the Federal Reduction of Lead in Drinking Water Act that went into effect in 2014. (Section 605.2.2; P112-12)
- New innovative provisions for the replacement of underground sewers with minimal disruption for pipes up to six inches in diameter via the “pipe bursting method” have been added to the code. (Section 717; P159-12)
- The storm drainage provisions of Chapter 11 have been substantially revised relative to the size of roof drainage systems. Research has shown that ponding of water can increase the pressure in the drainage system to the point where piping failures can occur. (Chapter 11; P211, P217, P218, P219 and P221-12)
- Chapter 13 Gray Water Recycling Systems has been replaced with a broader new chapter entitled Nonpotable Water Systems. It includes updates to the gray water provisions and new requirements for rainwater harvesting systems and systems utilizing reclaimed water for nonpotable applications. These provisions are correlated with the International Green Construction Code. (Chapter 13; P11-12)
- Requirements related to subsurface landscape irrigation systems that were previously found in the Gray Water Recycling Systems Chapter was updated and relocated to a new chapter entitled Subsurface Landscape Irrigation Systems. These provisions are correlated with the International Green Construction Code. (Chapter 13; P11-12)

***ICC Performance Code***

**4 CODE CHANGES ALL DISAPPROVED**

***International Private Sewage Disposal Code***

**NO CODE CHANGES SUBMITTED**

***International Property Maintenance Code***

- A new definition for “Cost of Such Demolition or Emergency Repair” has been added in order to properly enforce the provisions of the code. (Section 202; PM1-13)
- Sign requirements necessary to identify the location of the fire department sprinkler connection have been added to the code. (Section 704.1.2; PM14-13)
- Prescriptive location provisions for smoke alarms near cooking appliances have been added to the code. (Section 704.2.1; PM15-13)

***International Residential Code***

- FEMA’s post-disaster flood investigations have resulted in provisions that require Coastal A Zones to meet the requirements for coastal high hazard areas (Zone V). In addition, a factor of safety of one foot of additional freeboard has been added to the elevation requirements. (Section R322; RB180 and RB181 – 13)
- The minimum footing size tables and figures have been expanded to more accurately provide details and contemporary footing sizes for snow load areas up to 70 psf, larger floor and roof tributary areas and greater floor-ceiling heights. (Figures R403.1(1) and R403.1.3 and Tables R403.1(1) – (3); RB211 and RB212 -13)

- The wood floor, ceiling and roof rafter span tables for Southern Pine have been revised to reflect the lower allowable spans as certified by the American Lumber Standards Committee Board of Review. Depending on the joist spacing, size and grade, some of the allowable spans have been reduced by as much as 2'-9". (Chapters 5 and 8; RB250-13)
- The wood deck provisions have been significantly expanded to provide additional prescriptive design and construction details for all facets of decks, including the decking, joists, beams, posts and connections. (Section R507; RB264-13)
- A new section and figure for rim board design and details have been added to the code as an energy saving construction practice that allows insulation to be used in conjunction with the rim boards. (Section R602.7.2 and Figure R602.7.2; RB288-13)
- The simplified wall bracing provisions in the code have been expanded to include three story buildings as well as buildings located in areas where the design wind speed is 130 mph and Wind Exposure Category C. (Section R602.12 and Table R602.12.4; RB324 and RB325-13)
- The masonry construction provisions have been consolidated into a single location versus the multiple locations in previous editions. New provisions for Autoclaved Aerated Concrete masonry and requirements for the re-use of masonry units have been added to the code. (Section R606; RB332-13)
- The exterior wall covering and attachment provisions have been reorganized and clarified. Included are provisions for two new siding materials: insulated vinyl siding and polypropylene siding. (Section R703.3 and Table R703.3(1); RB385, RB387 and RB392 – 13)
- Three new sections have been added which include prescriptive design and details for cladding attachment over foam sheathing which is either attached to wood or cold formed steel framing or attached to masonry or concrete. (Sections R703.15 - R703.17; RB389 - RB391 – 13)
- The roof underlayment and ice barrier provisions have been consolidated since they apply to many different types of roof coverings. This clearly identifies in a single location the key differences in requirements for roof coverings. (Sections R905.1.1, R905.1.2, Tables R905.1.1(1), (2) and (3); RB435-13)
- New provisions for photovoltaic roof shingles, including allowable roof slope, underlayment requirements and attachment have been added to the code. (Section R905.16; RB446-13)
- Provisions for rooftop mounted photovoltaic systems have been added to the roofing chapter of the code. Included are provisions for installation, wind resistance, fire classification and the listing and labeling of the systems. (Section R907; RB447-13)
- An alternative path for residential energy compliance which provides greater flexibility which is likely to lower construction costs has been added. It is called the Energy Rating Index Compliance Alternative. (Section N1106; RE188-13)
- A new section for energy compliance for existing buildings which are undergoing repairs, alterations or changes of occupancy have been added. (Section N1106; CE4-13)
- New provisions for condensate cleanouts and pump interlocks have been added to the code in order to minimize damage and mold due to failure of condensate drains and

- pumps in concealed locations. (Sections M1411.3.3 and M1411.4; RM21 and RM23 – 13)
- The return air provisions have been completely re-written to remove outdated provisions, resolve interpretive issues and clarify the intent of the section. (Section M1602; RM57-13)
  - Chapter 23 has been comprehensively revised and re-titled to Solar Thermal Energy Systems. This includes revisions for seismic bracing, heat transfer fluids, labels and relief valves. This chapter now includes references to three solar standards for solar collectors and solar thermal systems promulgated by the Solar Rating and Certification Corporation (SRCC Standards 100, 300 and 600). (Chapter 23; RM77, 79, 82 and 84 to 93 -13)
  - The weighted average of lead content used in drinking water pipe and fittings has been reduced to a “lead-free” value of not more than 0.25 percent lead. This provision meets the new requirements of the Federal reduction of Lead in Drinking Water Act that went into effect in 2014. (Section P2905.2.1; RP102-12)
  - Comprehensive provisions for straw bale and straw clay innovative building systems have been added to the appendix. Both building techniques include prescriptive provisions for one story buildings. (Appendices R and S; RB471 and RB473 – 13)

#### ***International Swimming Pool and Spa Code***

- The comprehensive provisions of this code which regulates swimming pools and spas are now mandatory as a referenced code from both the IBC and IRC. This code replaces the non mandatory provisions previously in Appendix G of the IRC and the limited scope provisions previously in Section 3109 of the IBC. (IBC Section 3109, IRC Section R324.1; G193-12 and RB465-13)
- Comprehensive provisions for safety signs for ladders, diving and entrapment have been added to the code. (Section 705; SP64-13)

#### ***International Wildland-Urban Interface Code***

- Test criteria necessary to determine “ignition resistant” building materials has been added to the code. (Section 503.2; WUIC2-13)

#### ***International Zoning Code***

**NO CODE CHANGES SUBMITTED**

#### ***Referenced Standards in all the 2015 I-Codes***

- The I-Codes rely heavily on updated technical content found in the over 1400 standards referenced in Codes. Over 900 standards have been updated and incorporated by reference in the 2015 I-Codes. (ADM62-13)