

EMA'S ENGINEERING TODAY

MAY 2012

Information and Helpful Hints for School Districts and the Architects who serve them.

"Take a peek at 2012 I-codes"



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What's new in the 2012 International Codes? Changes will add First Cost, Complexity, and Maintenance



The 2012 International Codes are published, and some cities have already adopted the new codes. This has generated much discussion and conflict about the cost impact and energy savings.

When comparing energy savings, most compare 2012 to 2006 IECC rather than the 2009 codes. The Texas Legislature requires cities to adopt the IECC. At the present time the 2009 IECC is required, but one can anticipate 2012 being required by Texas and expect other cities to adopt the new codes before the state acts. If you want to have an input on this, now is the time.

There are numerous changes in each of the codes. Just a few changes are provided here to alert you to be prepared and encourage a full review. These codes apply to maintenance departments as well as architects, engineers, and contractors.

2012 International Mechanical Code

- Requires new and existing HVAC mechanical systems to be maintained in accordance with ASHRAE STD 180. This will impact school maintenance departments. It should help extend useful efficient life of HVAC systems.

2012 International Plumbing Code

- All plumbing products and materials are required to be listed by 3rd party certification agency.

2012 International Fire Code

- New requirements for photovoltaic solar cells that are on roofs.

2012 International Energy Conservation Code

- Additional mandatory requirements are included for building envelope, mechanical systems, water heating, and electrical heating and lighting.
- Additional requirements are added to select from one category for more efficient HVAC systems, reduced lighting power density, or on-site renewable energy.

- HVAC controls must include optimum start capability.
- HVAC economizer cycles are required in more climate zones. Applicable cooling capacity is lowered to units with 33,000 Btu/hr or greater. Also new is that economizer controls vary by climate zone.
- Duct insulation for indoor in unconditioned spaces is R6.
- Piping insulation thickness will be determined by fluid temperatures rather than fluid type as in 2009 IECC. This results in significant cost increase for refrigerant pipe insulation.
- Added in 2012 are requirements for commissioning/testing plan and a report. Also HVAC and lighting controls functional performance testing is new.
- Occupancy sensors are required in most spaces of more than 300ft² area.
- For on-site renewable energy option, provide 0.5 watts per square foot of conditioned area or provide at least 3% of energy requirements of mechanical systems, water heating, and lighting.

2012 International Building Code



Fire Alarm Systems: Be Prepared

"The 2012 International Codes will add about 25-30% first costs for fire alarm systems in schools."

Jason Cox of EMA.

The 2012 edition of the International Building Code includes a significant change in the requirements for Group E Occupancies (Educational facilities through the 12th grade). The previous versions of the IBC, and most other building codes, simply required a "manual fire alarm system", in the 2012 IBC version, [F] 907.2.3 Group E, adds the

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What's new in the 2012 International Codes?

requirement to initiate an “occupant notification signal utilizing an emergency voice/alarm communications system”. **Although many educational facilities have voluntarily installed voice evacuation fire alarm systems in the past, this is the first time that “voice evac” is a building code requirement for all of Group E (with over 30 occupants).** As soon as a city and other authority adopt this version of the code, this requirement will take effect. **Once adopted, this new code will increase the overall cost for a fire alarm system installation in an educational facility up to 30%.**

For questions, comments, or master planning assistance to address the 2012 I-codes, please contact EMA.
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Company Spotlight

Healthy School Environments Across Texas Conference held April 23-24 at Garland ISD's Event Center was attended by **Mike Clendenin, Gary Bristow,** and **James McClure.** For a copy of McClure's presentation, *“Preventative Maintenance for HVAC”* please contact EMA.

EMA employees **James Tate, P.E., Matt Hensley, P.E., Steven Hansen,** and **Anthony Dingler** all attended Light Fair 2012 this month in Las Vegas, Nevada. The main focus of this year's Light Fair was **LED technology.** They also visited the Light Fair product show that displayed the latest LED and other lighting technologies.

Tyler Area Chamber of Commerce partnered with Express Employment to bring the 2012 Tyler Leadership Conference live to Tyler, Texas. Speakers included Troy Aikman, Emmitt Smith, Author Patrick Lencioni and Author Dr. Bertice Berry. EMA's **Mike Clendenin, CEO** and **Jimmie Taylor, CFO** attended. About 1500 leaders attended.



Mike Clendenin, CEO (R)
and **Jimmie Taylor, CFO (L)**