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ENGINEERING NEWSLETTER



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December Building Code Council Meetings

The next regularly scheduled meetings of the NC Building Code Council will be held on December 13 and 14, 2010

The meeting scheduled for Monday, December 13 at NC Dept. of Insurance, 322 Chapanoke Road, Raleigh, NC 27603 is as follows:

9:00 a.m.	Work Session
1:00 p.m.	Public Hearing (B-Items from September meeting)
1:30 p.m.	Appeal Hearing (Linda Sharp vs. Kitty Hawk)

The Council Meeting on Tuesday, December 14th will be held at 9:00 at the Wake County Commons Building, 4011 Carya Dr., Raleigh, NC 27610. The agenda will include the continuation and final action on the 2012 NC Energy Code, the 2012 NC Residential Code and Townhouse Sprinkler Requirements.

Adhered Masonry Veneer Evaluation Published

The Evaluation Services Section has published an evaluation entitled *Adhered Masonry Veneer (AMV)* at the request of code enforcement officials particularly concerned about water penetration problems associated with the many stone veneers on the market. The evaluation can be found at

http://www.ncdoi.com/OSFM/Engineering/engineering_evaluations.asp

If you have any questions about this document, please contact Bob Speed at bob.speed@ncdoi.gov or 919-661-5880 x 224.

Nightclub or Restaurant? Sprinklers or Not?

The effective date for new sprinkler requirements for A-2 occupancies is fast approaching. Are you up to date on when the use of an A-2 building or space will fall into the category where sprinklers are required at an occupant load of 100 instead of 300? Although defined as nightclubs by the code, these facilities might not always look like the traditional nightclub. Sometimes, it might look like a restaurant or even a community center. The Evaluation Services Section has published a White Paper entitled *Sprinkler Requirements for Nightclubs*. The White Paper can be found at http://www.ncdoi.com/OSFM/Engineering/engineering_wpt.asp . If you have any questions about this document, please contact Susan Gentry at susan.gentry@ncdoi.gov or Richard Strickland at richard.strickland@ncdoi.gov .

Low-E Glazing White Paper Published

The Evaluation Services Section has published a White Paper entitled *Low-E Glazing*. The paper was developed in response to questions concerning energy efficient windows, including how to identify them, understanding the code requirements for them, and potential issues with them. The paper includes explanations of the properties of energy efficiency for glazing as well as illustrations of those properties.

For more information, you can find the White Paper on the Engineering Website at http://www.ncdoi.com/OSFM/Engineering/engineering_wpt.asp. If you have questions about this document, please contact Helen DiPietro at helen.dipietro@ncdoi.gov or call her at 919-661-5880 x 263.

Free 2009 ICC Energy Conservation Code

For your convenience, the 2009 ICC Energy Conservation Code has been posted at <http://www.energycodes.gov/blasts/2009iecc.html> . Following the Committee meeting on November 9, this is the document currently under consideration by the Building Code Council for adoption with NC amendments. The committee's work on this document will be discussed by the Building Code Council at their next meeting on December 14, 2010.

Recently Posted Web Interpretations

The following interpretations have been posted since the last Newsletter edition. You can find these interpretations on the Engineering Website located at http://www.ncdoi.com/OSFM/Engineering/CodeServices/engineering_codeservices_in_terpretations_search3.asp

2009 Residential Code Web Interpretation

R807.1 Attic Access Net Clear Opening Clarification
R301 Cob Construction

2009 Building Code Web Interpretation

3410.3.2 Applicability of the NC Fire Code to the Evaluation of Existing Buildings

DOI Required to Review Plans for Community Colleges

In response to recent reports that designers and owners are being told incorrectly, the Engineering Division is reiterating that GS 58-31-40 requires plans for any building owned by city, county or school districts where the new or added building area is 20,000 square feet or more must be reviewed and approved by the NC Dept of Insurance Plan Review Section prior to issuance of construction permits by the local jurisdiction. This includes plans for Community Colleges.

Table 104.1 in the 2009 NC Administrative Code confirms this North Carolina law and also lists other building occupancy classifications that must have plans reviewed by NCDOT. The commentary printed below Table 104.1 addresses several frequently asked questions about required reviews.

If there are any questions regarding Table 104.1 or plan submittal requirements for Community Colleges, please call 919-661-5880 and contact Tim Morrison at extension 228, or Beverly Lott at extension 230.

Did You Catch These 2009 Code Changes?

Beginning with this edition of the Engineering Newsletter, we will highlight “little changes” in the 2009 codes from the previous code edition that have the potential for big impact if not enforced properly. We understand that there are so many changes in each code edition that it is difficult to know about and remember them all. The following are two that have recently come to our attention as often being overlooked by designers and code enforcement officials.

- Toilet Rooms in Rated Corridors (2009 NCBC Table 715.4): The 2006 NCBC Table 715 Note c allowed a toilet room to open directly into a rated corridor without the use of a rated door if, among other things, the walls around the toilet room were rated as the corridor was rated. In the 2009 NCBC, Note c was removed as was consistent with the IBC. The 2009 NCBC now requires that the partition separating the toilet room from the corridor be rated as required for the remainder of the corridor, including opening protectives.
- Classroom Door Closers (2009 NCBC Section 715.4.7): The 2006 NCBC Section 715.3.7 Exception 2 allowed the closers on some fire rated classroom doors in Group E occupancies to be eliminated. In the 2009 NCBC, that exception was removed as was consistent with the IBC. All doors in fire rated corridors in schools must now include closers.

2012 NC Fire Code to Address Building Lockdown Plans

The 2012 NC Fire Code has added provisions in Chapter 4 that will require all building lockdown plans to include fire safety provisions as required per Section 404.3.3.1. These provisions will address instructions for lockdown initiation that will include occupant notification, accountability, recall or cancellation of lockdown procedures and communication and coordination with other agencies.

The plan will also address training procedures for employees and occupants including requirements for lockdown drills. Lockdown drills will be in addition to any fire drills required in Table 405.2.

This change will require coordination with other public safety agencies and any schools, colleges or other facilities that establish lockdown plans. Fire code officials are encouraged to review these regulations prior to the September 1, 2011 enforcement date of the 2012 NC Fire Code. Early notification and coordination with facilities establishing lockdown plans will assure a smooth transition in the application this important procedure.

Messages from the Q-Board Staff

North Carolina Inspection Responsibilities

General Statute 160A-411 requires that every incorporated municipality in North Carolina take steps to ensure that the NC Building Codes and Fire Prevention Code are enforced within their territorial jurisdiction. This requirement has applied to cities of all sizes since at least 1985, but based on recent information it has, in some cases, been overlooked.

The General Statute does allow the city to create a joint inspection department with another unit of local government to share costs or to contract inspections out to an appropriate entity, such as another city or the county in which the city is located. However, nothing requires the county which contains a particular city to agree to perform inspections in that city.

City leadership should ensure that there is a written plan for ensuring the building and fire inspections are performed, as the city has the ultimate responsibility for doing so. Further, if city leadership is aware that, despite a valid contract, the inspections are not being performed they must take action to rectify the situation.

Keep in mind that enforcement of the Building and Fire Codes is a life safety issue and important to the welfare of the citizens of North Carolina. Should you require any assistance in ensuring these requirements are being met, please contact the staff of the Office of State Fire Marshal at (919) 661-5880.

Inactive Certificates

If you plan to allow one or more of your certifications to lapse, either because of changed job responsibilities or because tightening budgets restrict access to Continuing Education classes, please remember to notify the Qualification Board staff. It is far easier to have us list one or more of your certificates as inactive for a time than to have staff question if you are performing inspections without valid certification.

Remember that lack of continuing education is grounds for removing your certification. The Qualification Board has taken very seriously complaints involving inspectors continuing to inspect without active certification. **Do not let this happen to you!** If you find that you've fallen behind and need classes to catch up, call and we can help you find courses to fulfill the requirements. There is also a new listing of CE courses on-line at:

http://www.ncdoi.com/OSFM/Engineering/COQB/engineering_cogb_CE_Class_Listing.asp

If your certification has lapsed, you received a letter of notification; however, you can also check on-line at our website to be certain that you are listed as an active inspector for your jurisdiction and that all appropriate certifications are listed.

Draft Updates to the Spray Polyurethane Foam Insulation Evaluation

The following interpretations and clarifications have been informally rendered recently regarding Spray Polyurethane Foam Insulation. These recent interpretations of topics addressed in the evaluations will be reflected in future official revisions to the NCDOL evaluation papers on SPFI. Revised evaluation papers will likely be posted in early 2011. If you have questions about any of these interpretations or on the evaluations that are currently posted, please contact Bob Speed at bob.speed@ncdoi.gov or by phone at 919-661-5880 x 224.

1. Fuel Burning Heat Producing Appliances

As of January 1, 2011, the comparative test protocols, under which the limitation on fuel burning heat producing appliances existed, will no longer be valid. Updated test protocols under the 2009 edition of AC377 are considered stringent enough to lift the ban on fuel burning heat producing appliances in attics or crawl spaces with SPFI installed under Specific Approval. Fuel burning heat producing appliances should be allowed in these spaces provided:

1. The evaluation report on the SPFI has been updated to comply with the 2009 edition of AC377,
2. The evaluation report on the SPFI has no language specifically prohibiting fuel burning heat producing appliances in the space,
3. Listing of the appliance allows installation in the space,
4. Clearance from the appliance to combustibles associated with the appliance listing must be maintained, and
5. Outside combustion air must be provided in unvented spaces.

2. Embedment of Electrical Wiring in SPFI

Few tests are available on electrical wiring embedded in SPFI, and the few tests that are available are all on single cables. These tests consistently show that single cables embedded in SPFI remain within safe temperature ranges. No test data is available on multiple cables bundled together in SPFI; however, tests on multiple cables passing through a wall plate fire stopped with spray foam indicate overheating of the cables is possible. Consequently, bundled cables should be de-rated in accordance with the North Carolina Electrical Code. Bare conductors should not be embedded in SPFI, and switch boxes, receptacle boxes, and junction boxes should be masked to prohibit intrusion of SPFI into the boxes during installation.

3. Acceptable Test Protocols

Uncoated SPFI or SPFI coated with an intumescent coating may qualify under Specific Approval in lieu of providing a prescriptive thermal barrier or prescriptive ignition barrier. When NFPA 286 tests are used to qualify the product without a thermal barrier, the acceptance criteria in Section R315.4 of the Residential Code must be applied and the test duration shall be 15 minutes. UL 1715 with the acceptance criteria specified therein may also be used to assess alternates to thermal barriers. Storage in the attic or crawl space is allowed if the SPFI complies with these protocols. For alternates to ignition barriers, the modified NFPA 286 test protocol and acceptance criteria in Appendix X of AC377 shall be used for attics and should be used for crawl spaces. Alternates to ignition barriers in crawl spaces may also be qualified under Appendix C of AC377. When qualified under either Appendix X or Appendix C of AC377, storage is not allowed in the attic or crawl space.

4. Evaluation Reports Specifying Multiple Options as Alternates to a Prescriptive Thermal Barrier or Prescriptive Ignition Barrier Including Both Uncoated SPFI and Intumescent Coatings on the SPFI

Some of the more recent ICC-ES evaluation reports contain multiple options for intumescent coatings along with an option to use the bare foam with no coating. Unfortunately, these reports do not adequately explain under what circumstances the coating may be deleted. When in receipt of a report worded in this manner, NCDOL recommends the code enforcement official request the manufacturer provide a letter from ICC-ES clarifying the intent of the report. In the absence of this letter, an intumescent coating should be applied to the SPFI (Revision 1).

Building Official's Preliminary Information about Coastal Insurance Premium Credit Plan

We expect that local building officials will soon be contacted by the public regarding the mitigation (or credit) plan associated with the "Beach Plan". This article is intended to get you up to date on what is coming down the pike. No decision has been made concerning who will be allowed to perform the evaluations, but training will be provided to those who are selected once the decision is made. Additional information will be provided through other media outlets in the coming months.

Paragraph (d1) of North Carolina General Statute §58-36-15 requires the North Carolina Insurance Rate Bureau to create a schedule of property insurance premium credits for homeowners located in the 18 coastal counties listed below who comply with a wind hazard mitigation program. The schedule of credits and the wind mitigation program have been submitted to the Commissioner of Insurance, Wayne Goodwin, and approved. Policies covering wind and hail damage written for dwellings in the affected counties with an effective date of May 1, 2011 are eligible for the premium credits. Condominiums, mobile homes, tenant policies, and homes while under construction are excluded from the program.

Counties included in the program are:

Brunswick, New Hanover, Pender, Onslow, Jones, Carteret, Pamlico, Craven, Beaufort, Hyde, Tyrrell, Washington, Dare, Chowan, Perquimans, Pasquotank, Camden, and Currituck.

Four pathways of mitigating wind hazards are provided under the plan to qualify a policy for credits:

1. A house with a hip roof automatically qualifies a dwelling for credit.
2. Opening protection complying with ASTM E 1886 and ASTM E 1996 qualifies a dwelling for credit. Storm shutters, various opening coverings, and impact resistant glazing tested to these standards are acceptable. Self-adhering films applied to glazing are not acceptable. Under certain conditions, the North Carolina Residential Code accepts plywood and OSB as an alternate to the code specified opening protection. However, plywood or OSB opening protection is not included as a qualifier for insurance credit.
3. A home designated by the Institute for Business and Home Safety (IBHS) as Fortified for Safer Living® qualifies for credit. Fortified for Safer Living® is a program over and above the building code created by IBHS to mitigate a number of natural and man made hazards, including hurricane induced wind damage. This program must be implemented during the planning and design phases for a new home. Included in the program are site and home plan review by an IBHS project manager, implementation of design comments by a Registered Design Professional, and inspection by IBHS approved personnel during construction. For more information contact IBHS at http://www.disastersafety.org/text.asp?id=fortified_living .
4. Existing homes may be qualified under the IBHS Fortified for Existing Homes® program. Evaluation of the home by an IBHS certified evaluator, review by an

IBHS engineer, implementation of the engineer's recommendations, and verification that the recommendations have been implemented are required under this program. There are three levels of compliance under the program, Gold, Silver, and Bronze. The amount of the premium credit is dependent on the level of compliance. Bronze certification focuses primarily on preventing water intrusion resulting from wind damage through the roof, soffits, and roof ventilation openings. Silver certification focuses primarily on opening protection, gable end construction, and connection of porches and car ports. Providing continuous load paths from the roof to the foundation is the primary focus of Gold certification. For more information contact IBHS at <http://www.disastersafety.org/text.asp?id=ffeh> .

Homeowners should contact their insurance company to request credits. Credits will not be applied until after May 1, 2011. A detailed description of the mitigation program and the credit schedule is available in the North Carolina Rate Bureau document P-10-10 located at <http://www.ncrb.org/ncrb/CircularLetters/PropertyCirculars/tabid/89/Default.aspx>

IBHS is responsible for administering both of their programs, while the homeowners or their insurance companies are responsible for contacting them at the above links to request evaluations. There will be a fee for evaluations. Local building inspection departments are responsible only for verifying compliance with the building code and have no responsibility for the credits at this time. Compliance with the building code does not necessarily qualify a dwelling for insurance credits.

If you have any questions about the responsibilities of the building official in these credit evaluations, please contact Bob Speed at 919-661-5880 x 224 or bob.speed@ncdoi.gov .

The
Staff of the
Engineering Division
Wish all of our Subscribers
A Very Merry Christmas
And
A Happy New Year.