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C-TRAC
Meeting # 8
Topic: IgCC Chapter 8: Indoor Environmental Quality
Wednesday August 18, 2010, 3 – 5:30 pm

PARTICIPANTS IN ATTENDANCE

Utilities Green Building Team

Amanda Sutton – Green Building Program Coordinator
Felix Lee – Green Building Code Project Manager
Gary Schroeder – Energy Services Engineer – Commercial GB Code Review

Facilitator

Susanne Durkin-Schindler

C-TRAC Members

Company	Representative
Aller Lingle Massey Architects PC	Brad Massey
Beaudin-Ganze Consulting Engineers	Corey Rhodes
BHA Design	Angela Milewski
Institute for the Built Environment	Josie Plaut
Greg D. Fisher, Architect	Greg Fisher
Architecture West	Steve Steinbicker
PSD	Pete Hall

Building Officials

Jurisdiction	Representative
City of Longmont	Chris Allison
City of Fort Collins	Russell Hovland

Members of the Public

Kendol Gustafson

Key Points:
Public Comment

- Fort Collins needs to be careful about regulating the deconstruction of homes and buildings. Boulder regulated this and didn't have the infrastructure in place to deal with it.

Indoor Environmental Quality - Gary Schroeder

Section 802 - Building Construction Features, Operations and Maintenance Facilitation

This section requires that the building is constructed in a way that makes it easy to manage the air quality system. This includes air handling system access, durability and cleanability of air handling surfaces, air handling system filter design, and insulation materials above suspended ceilings and in air plenums.

Committee Comments:

- The City has been regulating the type of insulation that can be used above suspended ceilings and air plenums. Builders have found products that meet the air velocity rating and have no airborne materials that can be used in these spaces.

- Not many new buildings are being built with insulation in the plenums. It is more of a retrofit that is used for noise reduction purposes.

- These items all seem to make sense and could be inspected and enforced.

- Access is an important issue. In many buildings the air handling units are in places that can be difficult to access which is a problem when that equipment needs to be serviced.

Section 803 - HVAC Systems:

This section outlines requirements for the HVAC system both pre and post construction including construction phase requirements, temperature and humidity, Isolation of pollution sources and ductless system and filters. The pre construction aspect is not included in ASHRAE. However, LEED does require the protection of the duct work during construction.

803.1- Construction Phase Requirements

This section requires the protection of ductwork and HVAC equipment during construction and maintaining a certain level of indoor air quality during construction for workers.

Committee Comments:

- The term "during construction" is vague. When would this requirement take effect? When the building envelope is complete? When the air handlers are in place?

- Sealing the duct work during construction makes sense for a green building code.

- The indoor air quality during construction seems like it is more of an OSHA type requirement. This would be difficult for the building department to enforce because they are not out on the site everyday to see what the worker conditions are like.

- Regarding protecting duct openings (IGCC 803.1.1 & 803.1.2.2) it was suggested to just adopt SMACNA guidelines. This may also cover having non-porous surfaces in ductwork.

The committee agrees that protecting duct work from dust and contaminants makes sense for the code. It does not make sense to require indoor air quality preservation during construction in the code.

803.2 - Temperature and humidity

This section requires that the temperature and humidity in occupied spaces complies with ASHRAE 55.

Committee Comments:

- The requirements in ASHRAE 55 are fairly complex and may be over the top to include in code.

- This would be a difficult item to enforce and most systems are designed to stay within the parameters of ASHRAE 55.

- Making this section code could limit innovation in the future for clients who are using innovative designs that may not meet the ASHRAE 55 requirements.

The committee agrees to take this section out of the green building code.

803.4 - Isolation of Pollution Sources

This section requires that print, copy and janitorial rooms and repair garages that are enclosed in a space greater then 200 sq. ft. are fully enclosed and separately ventilated.

Committee Comments:

- Need to define what a copy room is. By volume of printed materials? Size of copy machine?

- Garages and airplane hangers should not be lumped together with copy rooms because there are hazardous materials found in those places. The mechanical code covers janitorial closets and garages.

- There may be a potential for loopholes in the code. A person could just spread copiers out in order to get away from having to comply with code. May need to require that given size/number of copiers require dedicated copy room with dedicated exhaust and ventilation.

- This requirement is talking about larger copy rooms and may not impact most office spaces.

- This could be part of the educational piece of the green building program.

- The 2009 mechanical code requires that copy and printing room have a dedicated exhaust fan.

The committee agrees that rooms that are dedicated copy rooms or janitorial closets should be separately ventilated from the rest of the building. This is covered in the 2009 I-codes.

804.3 - Building flush out

The IgCC requires that buildings be "flushed out" after all furnishings are installed for a minimum of 14 days. The building may be occupied after the first 7 days.

Committee Comments:

- Delaying the move in time for building occupants is a concern.

- LEED has an equation that addresses the volume of space. That should be included in this.

- It all comes down to scheduling. It can be difficult to schedule this time into the planning process. This has been giving most LEED projects problems.

- Could this process be performed with the building occupied?

- Cost could also be a factor. If the building is being flushed out when it is occupied and it is -10 degrees outside, the costs of running that system for 14 days is going to be expensive.

- Flushing out the building can have a big, positive impact on IAQ. It is still valuable to do even if the building is occupied.

- If a building has naturally ventilated spaces, it becomes more difficult to flush out. Don't want to limit people from building naturally ventilated spaces in the future.

- How does someone enforce this requirement? Air balancing is already required so the building flush out could be added onto that requirement. What would the consequences be for non-compliance? Who is responsible for re-setting the outside air after flush-out is complete?

- This is something that would need to be done after occupancy. Would a temporary C.O. need to be given until this requirement is met?

- Should this requirement be an element of commissioning?

- VOC testing could be done as a performance path for the building. This may be difficult due to the emissions from furniture and other occupant related materials.

Section 805 - Asbestos use prevention.

This requirement prohibits the use of asbestos containing materials in the building. While many asbestos containing building materials have been banned in the U.S. some asbestos containing, legal building materials are in the market. This requirement would prohibit the use of any building material that contains asbestos.

Committee Comments:

- How are asbestos-containing materials labeled? The EPA does not require manufactures to label asbestos-containing products. How would this requirement be enforced if there is no labeling?

- Some drywall joint compounds contain asbestos but are not labeled as such, making it difficult to enforce.

Staff needs to do additional research to determine what common building materials may contain asbestos and how those are labeled. Some of this information may be available in MSDS sheets. State also has information. That information may help determine the level of regulation.

Section 806 - Material Emissions

This section outlines VOC and formaldehyde emissions limits for materials such as compressed wood, paints, sealants, adhesives, architectural coatings, etc.

Committee Comments:

- The fewer pollutants that are put into the building in the first place, the less the building has to be flushed out and the better the indoor air quality.

- Many materials naturally contain urea formaldehyde which makes it difficult to find some products where the urea formaldehyde is removed. It may be better to say no added urea formaldehyde.

- It would be difficult to track all of the materials that are outlined in the IgCC. It would be beneficial to regulate the high-volume items such as paints, tile adhesives, and floor finishes.

- Durability and maintenance are important for exterior materials. Low VOC is not the only thing that should be looked at.

- Office furniture should not be included in this requirement. That is up to the occupant and not the builder.

- There are some non-urea formaldehyde products that are more expensive and harder to get than others. It may be good to require that the high volume items in a building, wallboards, doors, etc. be urea formaldehyde free. Staff needs to determine if the emission limits in the IgCC are available on products.

- Staff needs to determine how this requirement would be enforced. Some commercial projects do not have detailed specs. This may require additional education for contractors and designers.

- There are a lot of products used in a building. How would this be monitored? It would be easier to target the high volume items as requirements for code.

The committee agrees that it is important to have a requirement on material emissions at some level in the green building code. Staff needs to determine what that level is based on research on product availability and enforceability. Need to define high volume items.

Section 807 - Sound Transmission

This section requires that buildings and tenant spaces comply with sounds transmission requirements including exterior sound, interior sound, and mechanical and emergency generator equipment and system sound.

Committee Comments:

- An acoustical engineer may be able to provide some insight into the best practices for building design and noise management.

- This is an area of concern for a lot of buildings and building tenants. It is a very technical area. Situations do exist where the need for noise reduction is apparent.

- Many variables exist depending on the location, tenant preference and sensitivity, and use of the building.

- Sound transmission testing can vary depending on who is doing the test. It may make more sense to require a certain STC rating for wall assemblies, ceiling tiles, etc.

- This is an important aspect of green building because it relates directly to occupant comfort.

- Mechanical rooms and systems should be insulated to reduce noise and be designed and built with occupant comfort in mind.

More information is needed to determine how sound transmission should be addressed in the green building code.

Homework:

Review Chapter 9: Operations and Maintenance in the IgCC.

NEXT MEETING

September 1st– C-TRAC Meeting #9:

3-5:30 p.m. City of Fort Collins Streets Facility