"Ryan Dexter"
<rdexter@qualtim.com>
09/16/2005 04:18 PM

To <Mo.Madani@dca.state.fl.us>
cc <ALH@rbsc.net>, <JHerring@a1truss.com>
bcc
Subject STRUCTURAL DESIGN TABLE 1607.1 MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS

Mo-

At the request of WTCA Member Raymond Building Supply, attached is a Declaratory Statement request from the WTCA Florida Executive Committee Chair John Herring. Please advice us when this is going to be on the agenda for the Building Commission to discuss.

Thanks in advance for your time.

Sincerely,

Ryan

DCA05-DEC-176
FILING AND ACKNOWLEDGEMENT
FILED, on this date, with the designated Clerk, receipt of which is hereby acknowledged.
Paula P. Ford 9/20/05
Paula P. Ford Date
Commission Clerk

**Ryan Dexter**
Staff Engineer
Wood Truss Council of America
One WTCA Center
6300 Enterprise Lane
Madison, WI 53719
rdexter@qualtim.com
608/310-6744 (direct)
608/213-1527 (cell)
608/274-4849x144
608/274-3329 (fax)
www.woodtruss.com

**The Voice of the Wood Truss and Component Manufacturing Industry**

-----Original Message-----
**From:** Mo.Madani@dca.state.fl.us [mailto:Mo.Madani@dca.state.fl.us]
**Sent:** Wednesday, September 14, 2005 4:46 PM
**To:** Lee Hadsock
**Subject:** Re: STRUCTURAL DESIGN TABLE 1607.1 MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS

Lee, for further clarification on this subject you may submit a Dec. Statement. Last day to submit request for Dec. Statement from the Commission is Friday of this week.

Thanks
Mo

"Lee Hadsock"
<ALH@rbsc.net>

To<Mo.Madani@dcastate.fl.us>

DCP05-DEC-176
FILING AND ACKNOWLEDGEMENT
FILED, on this date, with the designated Clerk, receipt of which is hereby acknowledged.
Commission Clerk
Date

Florida Chapters

# FLORIDA EXECUTIVE COMMITTEE

***United for the Future of Framing***

**September 16, 2005**

There was a "Declaratory Statement" from last January concerning the bottom chord live load (BCLL) of roof trusses (see *Appendix A*). The January 2004 Declaratory Statement states that "the design live load for the bottom chord of metal-plate-connected wood trusses must be at a minimum of 10 psf." But it says nothing to directly address the Petitioner's question regarding concurrency. We are requesting a Declaratory Statement on concurrency.

The code language in the new 2004 FBC regarding bottom chord live loads leaves the issue open to interpretation. The submitted code change regarding the application of truss bottom chord non-storage and storage loads has been accepted through the ICC code change process for both the IRC and IBC (S14-03/04) and is included in the 2004 Supplement (see *Appendix B*). This change is part of the 2006 International Codes and will become part of your state code when adopted. This language was the original intent of the code. S14-03/04 is based on the Uniform Building Code (UBC) interpretation of special loads in section 1607.3.4 "Special loads" which references Table 16-B, item #4 "Ceiling framing (live load) for all uses except over stages" along with footnote 4 (see UBC 1997, pages 2-2 and 2-26).

> *"Does not apply to ceilings that have sufficient total access from below, such that access is not required within the space above the ceiling. Does not apply to ceilings if the attic areas above the ceiling are not provided with access. This live load need not be considered as acting simultaneously with other live loads imposed upon the ceiling framing or its supporting structure."*

This interpretation does not diminish the minimum load considerations per Table 1607.1. The 10-psf non-storage load is considered as a separate load case. The 10-psf load in attics without storage is for the purpose of allowing occasional access to the space. Non-concurrency with other live loads is appropriate for this circumstance, since it is rare for all maximum live loads to occur at once and there is sufficient conservatism in the design of trusses to accommodate a rare circumstance. In addition, to require the access load to be concurrent would also imply that the design of walls and foundations should take into consideration the additional live load, which they do not.

Another good reference is ANSI/TPI 1-2002, *National Design Standard for Metal Plate Connected Wood Trusses*. TPI 1 is referenced specifically within the FBC in Chapter 35. According to Section R802.10.2 of the FBC-Residential and Sections 2306.1 and 2319.17.2.1.1, metal plate connected wood trusses are to be designed to ANSI/TPI 1-2002. Specifically, TPI 1 Section 6.2.1.1 states that "Attic live loads, other than floor live loads, that are applied to the entire length of the bottom chord shall not be required to be applied concurrently with other live loads." This is specific language in an ANSI accredited truss industry specific standard. This is

*One WTCA Center • 6300 Enterprise Lane • Madison, WI 53719*
*608/274-4849 • 608/274-3329 (fax) • www.woodtruss.com • Florida Chapters@woodtruss.com*

different than the non-mandatory Appendix B of TPI 1-95 which was referenced in the Petitioner's original question/response.

Given that the Florida Building Commission is in a position to clarify this code language, it is our hope that the Commission will adopt the language of the 2004 ICC Supplement. The new language makes the ICC's intention clear that the BCLL is non-concurrent with the roof live load or wind load. State-wide adoption would eliminate the different interpretations and enforcements that may occur within the sixty-seven different counties; thus, immediately updating the code's clarity on the BCLL requirements.

We'll look forward to your response and we really appreciate your prompt attention to this issue.

Respectfully Yours,

John Herring
Florida Executive Committee Chair

# APPENDIX A

Final Order, Case #: BEACH-DEC-030

**STATE OF FLORIDA**
**BUILDING COMMISSION**

In the Matter of

PALM BEACH COUNTY,
BUILDING CODE ADVISORY BOARD,

Case #: DCA04-DEC-030

Petitioner.

_____/

**DECLARATORY STATEMENT**

The foregoing proceeding came before the Florida Building Commission (the "Commission") by a petition from PALM BEACH COUNTY, BUILDING CODE ADVISORY BOARD (the "Petitioner"), which was received on January 30, 2004. Based upon the statements in the Petition and the materials subsequently submitted, it is hereby ORDERED:

**Findings of Fact**

1. The petition is filed pursuant to section 120.565, Florida Statutes, and must conform to the requirements of Rule 28-105.002, *Florida Administrative Code*.

2. The Petitioner is the authority created under special act HB 917 of 2001, and has held multiple hearings and upheld the 10 psf LIVE load requirements of Chapter 16, Florida Building Code.

3. The project case is a Baywinds P.U.D. single family home where the roof is constructed using wood truss with an attic, but without storage. The home is located at: 9790 Egret Chase Lane, Application # 04010134, West Palm Beach, Florida.

4. The Petitioner asks the following question:

In a residential dwelling attic without designed storage, which is accessible by a scuttle or pull-down stair only, the FBC seems to provide conflicting requirements. Specifically, shall the load on bottom chord of metal-plate-connected wood roof trusses be:

- As permitted under FBC Sec. 2309.2.2, ergo 10 psf Total in paragraph B.2.7 of Appendix B of ANS/TPI 1-1995, or is it required to be:
- As specified in FBC Table 1604.1, which is 10 psf Live Load, if so, is it concurrent with maximum live load?

**Conclusions of Law**

1. The Florida Building Commission has the specific statutory authority to interpret the provisions of the Florida Building Code by entering a declaratory statement.

2. Section 101.4.1, Florida Building Code, Building Volume, provides the General Applicability of the Code and states:

> Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable.

3. Section 101.4.9, Florida Building Code, Building Volume, provides the Reference standards of the Code and states:

> Standards referenced in the technical codes shall be considered an integral part of the codes without separate adoption. If specific portions of a standard are denoted by code text, only those portions of the standard shall be enforced. Where code provisions conflict with a standard, the code provisions shall be enforced. Permissive and advisory provisions in a standard shall not be construed as mandatory.

4. The Florida Building Code defines Live Load as: "[t]he weight superimposed by the use and occupancy of the building, not including crane load, dead load, earthquake load, snow load, or wind load."

5. Section 1601.2.2, Florida Building Code, Building Volume, provides:

> Buildings and structural systems shall possess general structural integrity to reduce the hazards associated with progressive collapse to levels consistent with good engineering practice. The structural system shall be able to sustain local damage or failure with the overall structure remaining stable. Compliance with applicable provisions of ASCE 7 shall be considered as meeting the requirements of this section.

6. The Petitioner's question is as follows:

> In a residential dwelling attic without designed storage, which is accessible by a scuttle or pull-down stair only, the FBC seems to provide conflicting requirements. Specifically, shall the load on bottom chord of metal-plate-connected wood roof trusses be:
>
> - As permitted under FBC Sec. 2309.2.2, ergo 10 psf Total in paragraph B.2.7 of Appendix B of ANS/TPI 1-1995, or is it required to be:
> - As specified in FBC Table 1604.1, which is 10 psf Live Load, if so, is it concurrent with maximum live load?

7. Therefore, the Petitioner's question is answered as follows:

> According to section 101.4.9 of the Florida Building Code, Table 1604.1 requirements supercede those of ANSI/TPI 1-95, Appendix B. The requirements of ANSI/TPI 1-95 are advisory and not mandatory in nature. In addition, since Table 1604.1 requires a design minimum uniformly distributed live load of 10 psf for residential attic without storage including the floor. The design live load for the bottom chord of metal – plate-connected wood trusses must be at a minimum of 10 psf.

Petitioner and all other interested parties are hereby advised of their right to seek judicial review of this Order in accordance with section 120.68(2)(a), Fla. Stat. (2003), and with Fla. R. App. P. 9.030(b)(1)(C) and 9.110(a). To initiate an appeal, a Notice of Appeal must be filed with Paula P. Ford, Clerk of the Commission, Sadowski Building, 2555 Shumard Oak

Boulevard, Tallahassee, Florida 32399-2100, and with the appropriate District Court of Appeal not later than thirty (30) days after this Order is filed with the Clerk of the Commission. A Notice of Appeal filed with the District Court of Appeal shall be accompanied by the filing fee specified by section 35.22(3), Fla. Stat. (2003).

DONE AND ORDERED this _____ of _____, 2004, in Coral Gables, Miami-Dade County, State of Florida.

_____
Raul L. Rodriguez, AIA, Chair
Florida Building Commission
Department of Community Affairs
Sadowski Building
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100

**CERTIFICATE OF SERVICE**

I hereby certify that a true and correct copy of the foregoing was sent to the following by the method indicated on this _____ day of _____, 2004.

PAULA P. FORD
Commission Clerk

**Via U.S. Mail:**

Building Code Advisory Board
Robert G. Boyer
Palm Beach County – Building Division
100 Austrian Avenue
West Palm Beach, Florida 33496

**Via Hand Delivery:**

Mo Madani, Planning Manager
Codes and Standards Section
Department of Community Affairs
2555 Shumard Oak Boulevard
Tallahassee, Florida 32399-2100

# APPENDIX B

## 2004 SUPPLEMENT TO THE IBC

**Table 1607.1 Change to read as shown: (S14-03/04)**

**TABLE 1607.1**
**MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS AND MINIMUM CONCENTRATED LIVE LOADS[a]**

| OCCUPANCY OR USE | UNIFORM (psf) | CONCENTRATED (lbs.) |
|---|---|---|
| 27. Residential One- and two-family dwellings | | |
| Uninhabitable attics without storage[i] | 10 | |
| Uninhabitable attics with limited storage[j,k,l] | 20 | |

**(Portions of table not shown do not change)**

a. through h. (No change to current text)

i. Attics without storage are those where the maximum clear height between joist and rafter is less than 42 inches, or where there are not 2 or more adjacent trusses with the same web configuration capable of containing a rectangle 42 inches high by 2 feet wide, or greater, located within the plane of the truss. For attics without storage, this live load need not be assumed to act concurrently with any other live load requirements.

j. For attics with limited storage and constructed with trusses, this live load need only be applied to those portions of the bottom chord where two or more adjacent trusses with the same web configuration contain a rectangle 42 inches high or greater by 2 feet wide or greater, located within the plane of the truss. The rectangle shall fit between the top of the bottom chord and the bottom of any other truss member, provided that each of the following criteria is met:
   i. The attic area is accessible by a pull-down stairway or framed opening in accordance with Section 1209.2; and
   ii. The truss shall have a bottom chord pitch less than 2:12.
   iii Bottom chords of trusses shall be designed for the greater of actual imposed dead loads or 10 psf, uniformly distributed over the entire span.

k. Attic spaces served by a fixed stair shall be designed to support the minimum live load specified for habitable attics and sleeping rooms.

**Section 1607.9.2 Change to read as shown: (S12-03/04)**



## 2004 SUPPLEMENT TO THE IRC

**Section R301.2.4 Change to read as shown: (RB10-03/04)**

**R301.2.4 Floodplain construction.** Buildings and structures constructed in whole or in part in flood hazard areas (including A or V Zones) as established in Table R301.2(1) shall be designed and constructed in accordance with Section R323.

**Exception:** All buildings and structures located in whole or in part in identified floodways as established in Table R301.2(1) shall be designed and constructed as stipulated in the *International Building Code* .

**Table R301.5 Change Footnote b and add new table footnotes as shown: (RB42-03/04, S13-03/04 and S14-03/04)**

**TABLE R301.5**
**MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS**
**(in pounds per square foot)**

| USE | LIVE LOAD |
|---|---|
| Attics with limited storage [b, g, h] | 20 |
| Attics without storage [b] | 10 |
| Guardrails and handrails[d] | 200[i] |
| Guardrails in-fill components[i] | 50[i] |

**(Portions of table not shown do not change)**

a. (No change to current text)

b. Attics without storage are those where the maximum clear height between joist and rafter is less than 42 inches, or where there are not two or more adjacent trusses with the same web configuration capable of containing a rectangle 42 inches high by 2 feet wide, or greater, located within the plane of the truss. For attics without storage, this live load need not be assumed to act concurrently with any other live load requirements.

c through f (No change to current text)

g. For attics with limited storage and constructed with trusses, this live load need be applied only to those portions of the bottom chord of not less than two adjacent trusses with the same web configuration containing a rectangle 42 inches high or greater by 2 feet wide or greater, located within the plane of the truss. The rectangle shall fit between the top of the bottom chord and the bottom of any other truss member, provided that each of the following criteria is met:
   1. The attic area is accessible by a pull-down stairway or framed opening in accordance with Section R807.1; and
   2. The truss shall have a bottom chord pitch less than 2:12.

h. Attic spaces served by a fixed stair shall be designed to support the minimum live load specified for sleeping rooms.

i. Glazing used in handrail assemblies and guards shall be designed with a safety factor of 4. The safety factor shall be applied to each the concentrated load-applied to the top of the rail, and to the load on the in-fill components. These loads shall be determined independent of one another, and loads are assumed not to occur with any other live load.