



# EAGLES NEST DEVELOPMENT CO., LLC

at TAMPA NORTH AERO PARK  
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September 6, 2005

Mo Madani, Manager  
Florida Building Commission  
2555 Shumard Oak Boulevard  
Tallahassee, FL 32399-2100

DCA05-DEC-170  
FILING AND ACKNOWLEDGEMENT  
FILED, on this date, with the designated  
Clerk, receipt of which is hereby  
acknowledged.

*Paula P. Ford* 9/8/05  
Paula P. Ford Date  
Commission Clerk

Re: Request for Declaratory Statement

Dear Mr. Madani:

We are in the design stage for a 12-unit T-hangar building to be constructed at Tampa North Aero Park, Pasco County, Florida, which is licensed by the FDOT for public use. I am requesting the Florida Building Commission's assistance in interpreting the proper code applicable to this T-hangar project. Should the fire separation be classed as Special Storage Occupancies (Aircraft Hangars) Classification or as a Group S (Storage Occupancy) classification, specifically whether NFPA 409 Section 8.2 applies in lieu of Florida Building Code Section (01) 704.3.1/(04) 708.1 Exception as required for Group S (Storage Occupancy) classification due to Florida Building Code Section (01) 411.7/(04) 412.2 Special Aircraft Hangars occupancies.

The aircraft T- hangar has been designed of limited size, in which light aircraft are stored in separate areas, and in which no hazardous operations (i.e., fuel transfer, doping, and painting) are performed. The hangar is to be used for personal use only; no commercial activities of any nature are to be permitted upon the hangar property.

The building has been designed in accordance with FBC Section (01) 411.7/ (04) 412.2 Special Storage Occupancies as Aircraft Hangars. The building is a Group III hangar with a total square footage less than 15,000 square feet and is of Type IV construction (no combustible materials). FBC Section (01) 411.7/ (04) 412.2.6 states "aircraft hangars shall be provided with fire suppression as required in NFPA 409". In accordance with NFPA 409 (2004 Edition) for Aircraft Storage Hangars, Section 4.1.3 and 8.2 (see attached) states that Group III Hangars with less than 15000 square feet and of Type IV building construction (non-combustible materials) require "partitions having a fire resistance equivalent to that of the exterior walls or roof, whichever is greater, so that no

more than three aircraft spaces shall be within an enclosed area". (No firewalls or fire rated partitions required) I do not think FBC (01) 704.3.1/(04) 708.1 Exception applies to Special Aircraft Hangar Occupancies Section (01) 411.7/(04) 412.2 and Informal Interpretation #3848 dated 08/22/05 (see attached), only NFPA 409 in accordance with FBC (01)411.7.7/(04) 412.2.6 and Informal Interpretation Report #3799 dated 07/30/05 (see attached).

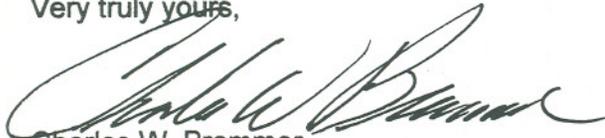
Aircraft T- hangars have been built or are under construction throughout the state, particularly those involving the FDOT with State funding, in the central and south Florida areas (Bartow, Vandenberg, Zephyrhills, Brooksville, Ocala, Quincy, Marathon, and Key West). All of these aircraft T-Hangar projects were required permitting in accordance with the Florida Building Code and provided fire suppression as Special Storage Occupancies Classification as required in NFPA 409. Group III aircraft hangars of Type IV construction were not required to have fire rated partitions or internal fire walls every 3000 square feet or less, other than those specified in NFPA 409, Chapter 4, Section 4.1.3 (Maximum Fire Areas) and Chapter 8 Section 8.2 ( Separation and Internal Subdivisions). (See attached correspondence from Andrew M. Keith, Aviation Planning Manager, Florida Department of Transportation; and Edgar J. Figueroa, Senior Airport Engineer, URS Corporation.)

To impose additional tenant fire separation in accordance with the Group S (Storage Occupancy) classification reflected in Florida Building Code Section (01) 704.3.1/(04)708.1 Exception, would create and impose an undue hardship in requiring additional fire rated partitions or internal fire walls every 3000 square feet or less between every two units. I trust that the same standards applied to state funded T-hangar projects would and will apply to privately funded T-hangar projects.

We are requesting that the Florida Building Commission issue a Declaratory Statement stating that fire separation for FBC Section (01)411.7/ (04)412.2 Special Storage Occupancies (aircraft hangars) Classification be in accordance with NFPA 409, specifically that NFPA 409 Section 4.1.3 and 8.2 applies in lieu of Florida Building Code Section (01)704.3.1/ (04) 708.1 Exception as required for Group S (Storage Occupancy) classification.

Thank you for your assistance and prompt response.

Very truly yours,



Charles W. Brammer  
President and General Contractor



## Florida Building Code Informal Interpretation



Date: Sat Jul 30 2005

Report #: 3799

Code: Building

Section: 411.7.7

**Question:**

Is it the intent of Section 411.7.7 for NFPA 409 to provide all fire suppression requirements for special aircraft hangars occupancies group (other than the stated exception)?

**Answer:**

Yes, The only other exception (other than the stated exception) would be for RESIDENTIAL AIRCRAFT HANGARS.

**Commentary:**

The 1995 Edition of NFPA 409 defines a Residential aircraft hangar as an accessory building less than 2,000 sq ft (186 m<sup>2</sup>) in area, constructed on a one-or two- family residential property where aircraft of the owner is stored. Such use will be considered as a residential accessory use incidental to the dwelling.

**Notice:**

*The Building Officials Association of Florida, in cooperation with the Florida Building Commission, the Florida Department of Community Affairs, ICC, and industry and professional experts offer this interpretation of the Florida Building Code in the interest of consistency in their application statewide. This interpretation is informal, non-binding and subject to acceptance and approval by the local building official.*



## Florida Building Code Informal Interpretation



Date: Mon Aug 22 2005

Report #: 3848

Code: Building

Section: 704.3

### Question:

Is it the intent of 704.3.1 and its exception to apply to Special Storage Occupancies Section 411, requiring a 1 hour fire resistance rating every 3000 sq. ft., specifically 411.2 automobile parking garages, 411.3 open parking garages, 411.4 enclosed parking garages, 411.5 repair garages, 411.6 parking lots, and 411.7 aircraft hangars?

### Answer:

No, s.704.3.2 is the general requirement; s.411 is the specific requirement. The specific requirement prevails (See 101.4.1, below).

### Commentary:

Â§101.4.1 General. 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.

### Notice:

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# Florida Department of Transportation

JEB BUSH  
GOVERNOR

Aviation Office  
605 Suwannee Street, MS-46  
Tallahassee, Florida 32399-0450

DENVER I. STUTLER, JR.  
SECRETARY

July 14, 2005

Charles W. Brammer  
4241 Birdsong Blvd.  
Lutz, FL 33559

Re: Eagles Nest Condominium Hangar Project

Dear Mr. Brammer:

I am writing in response to our telephone call of today, Thursday, July 14, 2005. As we discussed, the Florida Department of Transportation Aviation Office cannot interpret either the Florida Building Code or the National Fire Prevention Association (NFPA) code. We have however, been dealing with aircraft storage hangar (T-hangar) construction issues since 1995 when the Florida Airports Council cited excessive construction costs as a major problem in the construction of aircraft T-Hangars. Since that time, the Florida Department of Transportation Aviation Office has been working with state building and fire code officials to develop and publish Statewide Standardized Airport T-Hangar Construction and Fire Code Guidelines. The drafts of these guidelines are located on our Web Site <http://www.cfaspp.com> on the "Projects" page under the "Florida T-hangar Study" section.

Using these guidelines, many airports, including those in Zephyrhills, Tampa, Brooksville, and Ocala, have been able to construct T-hangars using the fire suppression criteria established in NFPA 409, and no fire rated partitions or internal firewalls were required other than in accordance with the appropriate chapters of NFPA 409.

I hope this information and the Guidelines are helpful in your current project. If you need any more information or assistance, please feel free to call me at 850-414-4516.

Respectfully,

Andrew M. Keith  
Aviation Planning Manager



July 21, 2005

Mr. Charles Brammer  
4241 Birdsong Blvd.  
Lutz, FL 33559

Re: Eagles Nest Condominium Hangar Project

Dear Mr. Brammer:

In response to your letter dated July 20, 2005, we have researched our records related to T-Hangar Projects in Florida similar to your project, in which we have participated in the design and/or construction of the units.

To this date we have completed and/or are completing projects that are T-Hangar buildings for Group II and III aircraft hangars of Type IV construction in the following airports:

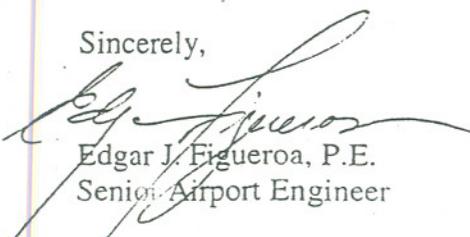
1. Marathon Airport (KMTH) – 32 units (4 Buildings)
2. Key West Airport (KEYW) – 12 units
3. Quincy (2J9) – 5 units
4. Bartow (KBOW) – 10 units

Although not specifically our construction project, we assisted Vandenberg Airport (KVDF) in the rehabilitation of its existing T-Hangars and established the Design Standards used for the permitting of the new 16 unit T-Hangars presently under construction.

At each airport we have been able to meet the requirements of NFPA 409 and the FBC and successfully permitted the construction of T-Hangars without fire rated partitions or internal firewalls. However, the units have been required to have a 6 inch curb in its perimeter with the floor sloping towards the hangar door, and to provide a partition similar or equal to the exterior wall between each unit from the top of curb to the ceiling of the unit.

Please do not construe this as an interpretation of the Florida Building Code or of the National Fire Protection Association Code.

Sincerely,



Edgar J. Figueroa, P.E.  
Senior Airport Engineer

URS Corporation  
7650 West Courtney  
Campbell Causeway  
Tampa, FL 33607-1400  
Tel: 813.286.1711  
Fax: 813.287.8591



SECTION 411  
SPECIAL STORAGE OCCUPANCIES

F.B.C.

411.7 Aircraft hangars

411.7.1 Aircraft hangars may be of any type of construction. Exterior walls that are located within 30 ft (9144 mm) and facing common property lines or the opposite side of a public street or thoroughfare shall provide not less than 2-hour fire resistance.

411.7.2 The floor areas of hangars shall not exceed those permitted for Group S in Table 500 as modified.

411.7.3 Where hangars have basements, the floor over the basement shall be of Type I construction and shall be made tight against seepage of water, oil or vapors. There shall be no opening or communication between basement and hangar. Access to the basement shall be from outside only.

411.7.4 Floors shall be graded and drained to prevent water or gasoline from remaining on the floor. Floor drains shall discharge through an oil separator to the sewer or to an outside vented sump.

411.7.5 Heating equipment other than unit heaters suspended at least 10 ft (3048 mm) above the upper surface of wings or engine enclosures of the highest aircraft which may be housed in the hangar and at least 8 ft (2438 mm) above the floor in shops, offices, and other sections of the hangar communicating with storage or service areas shall be placed in a separate room cut off by 2-hour fire resistant construction. Entrance shall be from the outside or by means of a doorway with a sill raised at least 8 inches (203 mm) above the hangar floor level or through a vestibule providing two-door separation.

411.7.6 The process of "doping," involving use of a volatile flammable solvent, or of painting, shall be carried on in a separate detached building equipped with automatic sprinkler equipment in accordance with 903.



411.7.7 Aircraft hangars shall be provided with fire suppression as required in NFPA 409.

**Exception:** Group II hangars storing private aircraft without major maintenance or overhaul are exempt from foam suppression requirements.

A standby power system that conforms to Section 2702 shall be provided in airport traffic control towers more than 65 feet (19 812 mm) in height. Power shall be provided to the following equipment:

1. Pressurization equipment, mechanical equipment and lighting.
2. Elevator operating equipment.
3. Fire alarm and smoke detection systems.

#### **412.1.6 Accessibility.**

Shall be in accordance with Chapter 11.



### **412.2 Aircraft hangar.**

#### **412.2.1 Exterior walls.**

Exterior walls located less than 30 feet (9 144 mm) from property lines, lot lines or a public way shall have a fire-resistance rating not less than 2 hours.

#### **412.2.2 Basements.**

Where hangars have basements, the floor over the basement shall be of Type IA construction and shall be made tight against seepage of water, oil or vapors. There shall be no opening or communication between the basement and the hangar. Access to the basement shall be from outside only.

#### **412.2.3 Floor surface.**

Floors shall be graded and drained to prevent water or fuel from remaining on the floor. Floor drains shall discharge through an oil separator to the sewer or to an outside vented sump.

#### **412.2.4 Heating equipment.**

Heating equipment shall be placed in another room separated by 2-hour fire-resistance-rated construction. Entrance shall be from the outside or by means of a vestibule providing a two-doorway separation.

#### **Exceptions:**

1. Unit heaters suspended at least 10 feet (3048 mm) above the upper surface of wings or engine enclosures of the highest aircraft that are permitted to be housed in the hangar and at least 8 feet (2438 mm) above the floor in shops, offices and other sections of the hangar communicating with storage or service areas.
2. A single interior door shall be allowed, provided the sources of ignition in the appliances are at least 18 inches (457 mm) above the floor.

#### **412.2.5 Finishing.**

The process of "doping," involving use of a volatile flammable solvent, or of painting, shall be carried on in a separate detached building equipped with automatic fire-extinguishing equipment in accordance with Section 903.



#### **412.2.6 Fire suppression.**

Aircraft hangars shall be provided with fire suppression as required in NFPA 409.

**Exception:** Group II hangars as defined in NFPA 409 storing private aircraft without major maintenance or overhaul are exempt from foam suppression requirements.

### **412.3 Residential aircraft hangars.**

# F.B.C.

## 704.3 Tenant fire separation

- \* 704.3.1 In a building or portion of a building of a single occupancy classification, when enclosed spaces are provided for separate tenants, such spaces shall be separated by not less than 1-hour fire resistance.

**Exception:** In Group B and Group S occupancies, partitions not rated for fire resistance may be used to separate tenants provided no area between partitions rated at 1 hour or more exceeds 3,000 sq ft (278.7 m<sup>2</sup>).

704.3.2 In buildings with usable crawl spaces, tenant separation walls required to have a fire resistance rating shall extend from the underside of the floor to the ground below. A suitable foundation shall be provided at grade level.

**Exception:** The wall need not be extended when the floor above the crawl space has a minimum 1-hour fire resistance rating.

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**SECTION 708  
FIRE PARTITIONS****708.1 General.**

The following wall assemblies shall comply with this section.

1. Walls separating dwelling units in the same building.
2. Walls separating sleeping units in occupancies in Group R-1, hotel occupancies, R-2 and I-1.
3. Walls separating tenant spaces in covered mall buildings as required by Section 402.7.2.
4. Corridor walls as required by Section 1016.1.
5. Wall separating individual tenant spaces.



**Exception:** In Group B and S occupancies walls used to separate tenants shall not be required to have fire-resistance rating, provided no area between fire partitions having a 1-hour fire-resistance rating exceeds 3,000 square feet (279 m<sup>2</sup>).

**708.2 Materials.**

The walls shall be of materials permitted by the building type of construction.

**708.3 Fire-resistance rating.**

The fire-resistance rating of the walls shall be at least 1 hour.

**Exceptions:**

1. Corridor walls as permitted by Table 1016.1.
2. Dwelling unit and sleeping unit separations in buildings of Type IIB, IIIB and VB construction shall have fire-resistance ratings of not less than ½ hour in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

**708.4 Continuity.**

Fire partitions shall extend from the top of the floor assembly below to the underside of the floor or roof slab or deck above or to the fire-resistance-rated floor/ceiling or roof/ceiling assembly above, and shall be securely attached thereto. If the partitions are not continuous to the deck, and where constructed of combustible construction, the space between the ceiling and the deck above shall be fireblocked or draftstopped in accordance with Sections 717.2.1 and 717.3.1 at the partition line. The supporting construction shall be protected to afford the required fire-resistance rating of the wall supported, except for tenant and sleeping unit separation walls and exit access corridor walls in buildings of Type IIB, IIIB and VB construction.

**Exceptions:**

1. The wall need not be extended into the crawl space below where the floor above the crawl space has a minimum 1-hour fire-resistance rating.
2. Where the room-side fire-resistance-rated membrane of the corridor is carried through to the underside of a fire-resistance-rated floor or roof above, the ceiling of the corridor shall be permitted

# NFPA 409

## Standard on Aircraft Hangars

2004 Edition



**4.1.3\* Group III Aircraft Hangar.** A Group III hangar shall have both of the following features:

- (1) An aircraft access door height of 8.5 m (28 ft) or less
- (2) A single fire area that measures up to the maximum square footage permitted for specific types of construction in accordance with Table 4.1.3

**Table 4.1.3 Maximum Fire Areas for Group III Aircraft Hangars**

Type of Construction	Maximum Single Fire Area	
	m <sup>2</sup>	ft <sup>2</sup>
Type I (443) and (332)	2,787	30,000
Type II (222)	1,858	20,000
Type II (111), Type III (211), and Type IV (2HH)	1,394	15,000
Type II (000)	1,115	12,000
Type III (200)	1,115	12,000
Type V (111)	743	8,000
Type V (000)	465	5,000

## 8.2 Separation and Internal Subdivisions.

8.2.1 For single hangar buildings, the clear space distances specified in Table 8.2.1 shall be maintained on all sides of the single hangar. Where mixed types of construction are involved, the less fire-resistant type of construction shall be used to determine clear space required. Where the minimum clear spaces specified in Table 8.2.1 are not met, the buildings shall be considered a hangar building cluster.

**Table 8.2.1 Clear Space Distances for Single Hangar Buildings**

Type of Construction	Minimum Separation Required	
	m	ft
Type I (443) and (332)	15	50
Type II (222)	15	50
Type II (111), Type III (211), and Type IV (2HH)	15	50
Type II (000)	15	50
Type III (200)	15	50
Type V (111) and (000)	23	75

8.2.1.1 Where single hangar buildings adjoin each other and each has fire walls with a minimum rating of at least 2 hours, located so that fire areas shall not exceed the maximum areas specified in Table 4.1.3, no minimum separation distance shall be required. These buildings shall not be considered a hangar building cluster.

8.2.2 Row hangars shall be divided by solid partitions having a fire resistance equivalent to that of the exterior walls or roof, whichever is greater, so that no more than three aircraft spaces shall be within an enclosed area.

8.2.3 Partitions and ceilings separating aircraft storage and servicing areas from other areas, such as shops, offices, and parts storage areas, shall have at least a 1-hour fire resistance rating with openings protected by listed fire doors having a fire resistance rating of at least 45 minutes.



"Robert McCormick"  
<rmccormick@prodigy.net>  
09/20/2005 01:08 PM

To "Mo Madani" <mo.madani@dca.state.fl.us>  
cc "Tim Moore \\\(work\)" <tmoore@pascocountyfl.net>  
bcc  
Subject Re: T Hangar Interpretations

Dear Mo,

Following your phone call yesterday indicating that a complaint had been registered and a DEC Statement requested regarding the two "conflicting" BOAF interpretations relative to T Hangars (I believe they were numbers 3794 and 3848), I have polled the interpretations reviewers, paraphrasing the question as shown below:

*"Considering the provisions of both 704.3.1 and 411.7 (2001 FBC-B) as they apply to a multiple aircraft T-hangar in which individual aircraft spaces are separated by metal walls and rented to separate tenants, would the Exception to 704.3.1 apply (requiring 1 hr fire resistance separation every 3,000 s.f. in "S" occupancies) or would there not be any fire resistant separation requirements at all since 411.7 does not mention such separation and it is a "specific" requirement for a Special Storage Occupancy?"*

I believe the language above correctly represents the issue. I have copied Tim Moore, Pasco's Building Official, on this email and ask him to confirm that the question is posed properly.

I have received 6 responses so far from Building Officials and other notable code professionals, all of whom agree that the provisions of Section 704.3.1 are applicable to such hangars, including the exception that requires fire separation at least every 3,000 square feet in B and S Occupancies. They further agree that Section 411.7, which is specific to aircraft hangars, establishes other requirements for that special storage occupancy type but does not cancel the separation requirement of 704.3.1 Exception just because it does not mention separation requirements.

We believe that although there may be a way to more finely tune the previous interpretation responses relative to this particular issue, they were both answered correctly *based on the phraseology of the questions presented to the review panel in the first place.*

Thank you.

Bob McCormick