FIGURE A-H-1 — (Continued)
SECTION II: HAZARDOUS MATERIALS INVENTORY STATEMENT
PART A — DECLARATION

1. Business Name: _____
2. Address: _____
3. Declaration:

Under penalty of perjury, I declare the above and subsequent information, provided as part of the hazardous materials inventory statement, is true and correct.

Signature: _____ Date: _____
Print Name: _____ Title: _____
(Must be signed by owner/operator or designated representative)

PART B — HAZARDOUS MATERIALS INVENTORY STATEMENT

(1) HAZARD CLASS	(2) COMMON/TRADE NAME	(3) CHEMICAL NAME, COMPONENTS AND CONCENTRATION	(4) CHEMICAL ABSTRACT SERVICE NO.	(5) PHYSICAL STATE	(6) MAXIMUM QUANTITY ON HAND AT ANY TIME	(7) UNITS	(8) DAYS ON SITE	(9) STORAGE CODE (TYPE, PRES., TEMP.)	(10) SARA CLASS	(11) ANNUAL WASTE THROUGHPUT

SECTION III: SEPARATION, SECONDARY CONTAINMENT AND MONITORING
PART A — ABOVEGROUND STORAGE AREAS

Storage Area Identification (as shown on facility map):_____

1. Storage Type:

_____ Original Containers
_____ Inside Machinery
_____ 55-gallon (208.2 L) Drums or Storage Shed
_____ Pressurized Vessel
_____ Other: _____
_____ Safety Cans
_____ Bulk Tank
_____ Outside Barrels

2. Storage Location:

_____ Inside Building
_____ Outside Building
_____ Secured

3. Separation:

_____ All Materials
_____ Compatible
_____ Separated by 20 Feet (6096 mm)
_____ Other: _____
_____ One-hour Separation Wall/Partition
_____ Approved Cabinets

4. Secondary Containment:

_____ Approved Cabinet
_____ Tray
_____ Vaulted Tank
_____ Other: _____
_____ Secondary Drums
_____ Bermed, Coated Floor
_____ Double-wall Tank

FIGURE A-H-1 — (Continued)

5. Monitoring:

_____ Visual
_____ Other:
_____ Continuous
_____
Attach specifications if necessary

6. Monitoring Frequency:

_____ Daily
_____ Other:
_____ Weekly
_____
Attach specifications if necessary

SECTION III: SEPARATION, CONTAINMENT AND MONITORING
PART B — UNDERGROUND

SINGLE-WALL TANKS AND PIPING

Tank Area Identification (as shown on facility map): _____

1. _____ Backfill Vapor Wells
   Model and Manufacturer: _____
   _____
   Continuous or Monthly Testing: _____
2. _____ Groundwater Monitoring Wells
3. _____ Monthly Precision Tank Test
4. _____ Piping
   Monitoring Method: _____
   Frequency: _____
5. _____ Other: _____
   _____

DOUBLE-WALL TANKS AND PIPING

Tank Area Identification (as shown on facility map):

1. Method of monitoring the annular space: _____
   _____
2. Frequency:
   _____ Continuous _____ Daily _____Weekly
   _____ Other: _____
3. List the type of secondary containment for piping: _____
   _____
4. List the method of monitoring the secondary containment for piping: _____
5. Are there incompatible materials within the same vault:
   _____ Yes _____ No
   If yes, how is separate secondary containment provided?
   _____

Note: If you have continuous monitoring equipment, you shall maintain copies of all service and maintenance work. Such reports shall be made available for review on site, and shall be submitted to the fire prevention bureau upon request.

Attach additional sheets as necessary.

SECTION IV: WASTE DISPOSAL

_____ Discharge to the Sanitary Sewer — Wastes: _____
_____
_____

_____ Pretreatment
Wastes: _____
_____
_____

_____ Licensed Waste Hauler
Wastes: _____
_____
_____

_____ Recycle
Wastes: _____
_____
_____

_____ Other
Describe Method: _____
Wastes: _____
_____
_____

_____ No Waste

FIGURE A-H-1 — (Continued)
SECTION V: RECORD KEEPING

Description of our inspection program: _____
_____
_____

_____ We will use the attached sample forms in our inspection program.
_____ We will not use the sample forms. We have attached a copy of our own forms.

SECTION VI: EMERGENCY RESPONSE PLAN

1. In the event of an emergency, the following shall be notified:

A. On-site Responders:

Name	Title	Phone
_____	_____	_____
_____	_____	_____

B. Method of Notification to Responder:

_____ Automatic Alarm _____ Phone
_____ Manual Alarm _____ Verbal
_____ Other: _____
_____

C. Agency Phone Number
Fire Department:
State Office of Emergency:
Services:
Other:
_____ _____
_____ _____

2. Designated Local Emergency Medical Facility:

Name	Address	Phone (24 hours)
_____	_____	_____

3. Mitigation Equipment:

A. Monitoring Devices:
_____ Toxic or flammable gas detection
_____ Fluid detection
_____ Other: _____
_____

B. Spill Containment:
_____ Absorbants _____ Other: _____
_____

C. Spill Control and Treatment:
_____ Vapor Scrubber _____ Mechanical Ventilation
_____ Pumps/vacuums _____ Secondary Containment
_____ Neutralizer _____ Other: _____
_____

4. Evacuation:
_____ Immediate area evacuation routes posted
_____ Entire building evacuation procedures developed
_____ Assembly areas preplanned
_____ Evacuation maps posted
_____ Other: _____
_____

5. Supplemental hazardous materials emergency response plan on site.
Location:_____
Responsible Person: _____
Phone:_____

SECTION VII: EMERGENCY-RESPONSE TRAINING PLAN

1. Person responsible for the emergency-response training plan:

Name	Title	Phone
_____	_____	_____

2. Training Requirements:

A. All employees trained in the following as indicated:
_____ Procedures for internal alarm/notification
_____ Procedures for notification of external emergency-response organization
_____ Location and content of the emergency-response plan

B. Chemical handlers are trained in the following as indicated:
_____ Safe methods for handling and storage of hazardous materials
_____ Proper use of personal protective equipment
_____ Locations and proper use of fire- and spill-control equipment
_____ Specific hazards of each chemical to which they may be exposed

C. Emergency-response team members are trained in the following:
_____ Procedures for shutdown of operations
_____ Procedures for using, maintaining and replacing facility emergency and monitoring equipment

3. The following records are maintained for all employees:
_____ Verification that training was completed by the employee
_____ Description of the type and amount of introductory and continuing training
_____ Documentation on and description of emergency-response drills conducted at the facility

4. A more comprehensive and detailed emergency-response training plan is maintained on site.

Location: _____
Responsible Person: _____
Phone: _____

Reason: To provide a form for Hazardous Materials Management Plans and Hazardous Materials Inventory Statements in order to encourage uniformity throughout the country on what information to submit and how to submit it.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: If this code change is approved, the content will be revised editorially to comply with code appendix style conventions.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

F218–06/07
IBC [F] 307.1

Proponent: Gregory R. Keith, Professional heuristic Development, representing the Boeing Company

Revise as follows:

[F] 307.1 High-hazard Group H. High-hazard Group H occupancy includes, among others the use of a building or structure, or a portion thereof, that involves the manufacturing, processing, generation or storage of materials that constitute a physical or health hazard in quantities in excess of those allowed in Tables 307.1(1) and 307.1(2) per control area~~s~~ as constructed and located as required in Section 414. Hazardous occupancies ~~uses~~ are classified in Groups H-1, H-2, H-3, H-4 and H-5 and shall be in accordance with this section, the requirements of Section 415 and the *International Fire Code*.

Exceptions: The following shall not be classified as ~~in~~ Group H, but shall be classified as ~~in~~ the occupancy that they most nearly resemble.

~~1. Buildings and structures that contain not more than the maximum allowable quantities per control area of hazardous materials as shown in Tables 307.1(1) and 307.1(2), provided that such buildings are maintained in accordance with the *International Fire Code*.~~

~~2. Buildings utilizing control areas in accordance with Section 414.2 that contain not more than the maximum allowable quantities per control area of hazardous materials as shown in Tables 307.1(1) and 307.1(2).~~

~~3.~~ 1. Buildings and structures occupied for the application of flammable finishes, provided that such buildings or areas conform to the requirements of Section 416 and the *International Fire Code*.

~~4.~~ 2. Wholesale and retail sales and storage of flammable and combustible liquids in mercantile occupancies conforming to the *International Fire Code*.

~~5.~~ 3. Closed piping containing flammable or combustible liquids or gases utilized for the operation of machinery or equipment.
~~6.~~ 4. Cleaning establishments that utilize combustible liquid solvents having a flash point of 140°F (60°C) or higher In closed systems employing equipment listed by an approved testing agency, provided that this occupancy is separated from all other areas of the building by 1-hour fire barriers or 1-hour horizontal assemblies or both.
~~7.~~ 5. Cleaning establishments that utilize a liquid solvent having a flash point at or above 200°F (93°C).
~~8.~~ 6. Liquor stores and distributors without bulk storage.
~~9.~~ 7. Refrigeration systems.
~~10.~~ 8. The storage or utilization of materials for agricultural purposes on the premises.
~~11.~~ 9. Stationary batteries utilized for facility emergency power, uninterrupted power supply or telecommunication facilities, provided that the batteries are provided with safety venting caps and ventilation is provided in accordance with the *International Mechanical Code*.
~~12.~~ 10. Corrosives shall not include personal or household products in their original packaging used in retail display or commonly used building materials.
~~13.~~ 11. Buildings and structures occupied for aerosol storage shall be classified as Group S-1, provided that such buildings conform to the requirements of the *International Fire Code*.
~~14.~~ 12. Display and storage of nonflammable solid and nonflammable or noncombustible liquid hazardous materials in quantities not exceeding the maximum allowable quantity per control area in Group M or S occupancies complying with Section 414.2.5.
~~15.~~ 13. The storage of black powder, smokeless propellant and small arms primers in Groups M and R-3 and special industrial explosive devices in Groups B, F, M and S, provided such storage conforms to the quantity limits and requirements prescribed in the *International Fire Code*.

Reason: Section 307.1 was modified in the 2006 Edition of the International Building Code. In an attempt to clarify the provisions of the code, one key point was missed. The appropriate and necessary reference to Tables 307.1(1) and 307.1(2) was removed from the enabling text. It is generally expected that one would find the technical charging requirement for Tables 307.1 in Section 307.1. The concept of maximum allowable quantities of hazardous materials based on Tables 307.1(1) and 307.1(2) is absolutely fundamental to the proper classification of Group H occupancies. This proper legal reference should be established in the charging text. It is noted that the reference to the tables first occurs in Exception 1. Exceptions represent exceptions to the rule. What now occurs in Exception 1, is the rule. Accordingly, it is proposed to reintroduce the proper cross reference to Tables 307.1(1) and 307.1(2) into Section 307.1. Having done this, it renders Exception 1 as redundant and moot. Also, Exception 1 contains an IFC maintenance provision as a condition of classification as a non-Group H occupancy. Is this to say that buildings not maintained in accordance with the *International Fire Code* must be classified as Group H occupancies? This represents a potentially unenforceable provision. Additionally, Exception 2 is redundant as the control area concept is already addressed in Section 307.1. Approval of this proposal will clarify the code and increase uniformity in the proper classification of Group H occupancies.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

F219–06/07

IBC [F] 307.4, IBC [F] 307.5 (IFC 202), IBC [F] 415.2, [F] 415.6.2.11 through [F] 415.6.2.13 (New), [F] 415.7, [F] 415.7.2, [F] 415.7.4 through [F] 415.7.6 (New), [F] 415.8.5.2.2; IFC 3402.1

Proponent: Philip Brazil, P.E., Reid Middleton, Inc., representing Washington Association of Building Officials (WABO)

1. Revise as follows:

IBC [F] 307.4 (IFC 202) High-hazard Group H-2. Buildings and structures containing materials that pose a deflagration hazard or a hazard from accelerated burning shall be classified as Group H-2. Such materials shall include, but not be limited to, the following:

Class I, II or IIIA flammable or combustible liquids which are used, dispensed, mixed or stored in normally open containers or systems, or in closed containers or systems pressurized at more than a gage pressure of 15 psi (103.4 kPa) ~~gage~~
Combustible dusts
Cryogenic fluids, flammable
Flammable gases
Organic peroxides, Class I
Oxidizers,Class 3, that are used or stored in normally open containers or systems, or in closed containers or systems pressurized at more than a gage pressure 15 psi (103 kPa) ~~gage~~
Pyrophoric liquids, solids and gases, nondetonable
Unstable (reactive) materials, Class 3, nondetonable
Water-reactive materials, Class 3

IBC [F] 307.5 (IFC 202) High-hazard Group H-3. Buildings and structures containing materials that readily support combustion or that pose a physical hazard shall be classified as Group H-3. Such materials shall include, but not be limited to, the following:

Class I, II or IIIA flammable or combustible liquids that are used, mixed or stored in normally closed containers or systems pressurized at a gauge pressure of 15 pounds per square inch ~~gauge~~ (103.4 kPa) or less
Combustible fibers, other than densely packed baled cotton
Consumer fireworks, 1.4G (Class C, Common)
Cryogenic fluids, oxidizing
Flammable solids
Organic peroxides, Class II and III
Oxidizers, Class 2
Oxidizers, Class 3, that are used or stored in normally closed containers or systems pressurized at a gauge pressure of 15 pounds per square inch ~~gauge~~ (103 kPa) or less
Oxidizing gases
Unstable (reactive) materials, Class 2
Water-reactive materials, Class 2

2. (IFC) Revise as follows:

3402.1 Definitions. The following term shall, for the purposes of this chapter and as used elsewhere in the code, have the following meaning:

LIQUID STORAGE ROOM. A room classified as a Group H-2 or H-3 occupancy used for the storage of flammable or combustible liquids in a closed condition.

LIQUID USE, DISPENSING AND MIXING ROOM. A room in which Class I, Class II and Class IIIA flammable or combustible liquids are used, dispensed or mixed in open containers.

LIQUID STORAGE WAREHOUSE. A building classified as a Group H-2 or H-3 occupancy used for the storage of flammable or combustible liquids in a closed condition.

3. Revise as follows:

IBC [F] 415.2 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in the code, have the meanings shown herein.

[F] LIQUID STORAGE ROOM. A room classified as a Group H-2 or H-3 occupancy used for the storage of flammable or combustible liquids in a closed condition.

[F] LIQUID USE, DISPENSING AND MIXING ROOMS. A room ~~rooms~~ in which Class I, II and IIIA flammable or combustible liquids are used, dispensed or mixed in open containers.

LIQUID STORAGE WAREHOUSE. A building classified as a Group H-2 or H-3 occupancy used for the storage of flammable or combustible liquids in a closed condition.

[F] 415.6 Group H-2. Occupancies in Group H-2 shall be constructed in accordance with Sections 415.6.1 through 415.6.4 and the *International Fire Code*.

[F] IBC 415.6.2.11 Liquid storage rooms. Liquid storage rooms shall be constructed in accordance with the following:

1. Rooms shall be separated from other areas of the building by fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. The fire-resistance rating shall be not less than 1 hour for rooms no greater than 150 square feet (13.9 m^2) in area and not less than 2 hours for rooms more than 150 square feet (13.9 m^2) in area.
2. Rooms greater than 500 square feet (46.5 m^2) in area shall have at least one exterior door approved for fire department access.
3. Shelving, racks, wainscoting, dunnage, scuffboards, floor overlay and similar installations shall be of noncombustible construction or wood of at least 1 inch (25.4 mm) nominal thickness.
4. Rooms used for the storage of Class I flammable liquids shall not be located in a basement.

[F] IBC 415.6.2.12 Liquid use, dispensing and mixing rooms. Liquid use, dispensing and mixing rooms shall be constructed in accordance with the following:

1. Rooms shall be separated from other areas of the building by fire barriers constructed in accordance with Section 706 or horizontal assemblies constructed in accordance with Section 711, or both. The fire-resistance rating shall be not less than 1 hour for rooms no greater than 150 square feet (13.9 m^2) in area and not less than 2 hours for rooms more than 150 square feet (13.9 m^2) in area.
2. Rooms greater than 500 square feet (46.5 m^2) in area shall have at least one exterior door approved for fire department access.
3. Rooms shall not be located in a basement.

[F] IBC 415.6.2.13 Liquid storage warehouses. Liquid storage warehouses shall be constructed in accordance with the following:

1. Warehouses shall be separated from other areas of the building by a fire wall constructed in accordance with Section 705 with a fire-resistance rating of not less than 3 hours.
2. Shelving, racks, wainscoting, dunnage, scuffboards, floor overlay and similar installations shall be of noncombustible construction or wood of at least 1 inch (25.4 mm) nominal thickness.
3. Rooms used for the storage of Class I flammable liquids shall not be located in a basement.

[F] 415.7 Groups H-3 and H-4. Groups H-3 and H-4 shall be constructed in accordance with ~~the applicable provisions of this code~~ Sections 415.7.1 through 415.7.6 and the *International Fire Code*.

[F] 415.7.2 Floors in storage rooms. Floors in liquid storage rooms and in storage areas for corrosive liquids and highly toxic or toxic materials shall be of liquid-tight, noncombustible construction.

[F] IBC 415.7.4 Liquid storage rooms. Liquid storage rooms shall be constructed in accordance with Section 415.6.2.11.

[F] IBC 415.7.5 Liquid use, dispensing and mixing rooms. Liquid use, dispensing and mixing rooms shall be constructed in accordance with Section 415.6.2.12.

[F] IBC 415.7.6 Liquid storage warehouses. Liquid storage warehouses shall be constructed in accordance with the Section 415.6.2.13.

[F] 415.8.5.2.2 Liquid storage rooms. Liquid storage rooms shall be constructed in accordance with the following requirements:

~~2.~~ 1. Rooms shall be separated from other areas of the building by fire barriers having a fire-resistance rating of not less than 1-hour for rooms up to 150 square feet (13.9 m^2) in area and not less than 2 hours ~~where the room is~~ for rooms more than 150 square feet (13.9 m^2) in area.
~~1.~~ 2. Rooms ~~in excess of~~ greater than 500 square feet (46.5 m^2) in area shall have at least one exterior door approved for fire department access.
3. Shelving, racks, ~~and~~ wainscoting, dunnage, scuffboards, floor overlay and similar installations ~~in such areas~~ shall be of noncombustible construction or wood of not less than 1inch (25 mm) nominal thickness.
4. Rooms used for the storage of Class I flammable liquids shall not be located in a basement.

Reason: The purpose for this proposal is to establish requirements in the IBC for construction of liquid storage rooms and liquid use, dispensing and mixing rooms, which are referenced in the IFC, and to better align the IFC and IBC provisions on storage and use of flammable and combustible liquids.

There are technical provisions for liquid storage rooms in IBC Sections 415.8.5.2.2 and 415.8.5.2.3 for Group H-5, but not in IBC Sections 415.6 and 415.7 for Groups H-2 and H-3, respectively.

Aircraft paint hangars are classified as Group H-2 per IBC Section 412.4.1. Spray equipment cleaning operations and flammable liquid storage are required to be conducted in liquid use, dispensing and mixing rooms and liquid storage rooms, per IBC Sections 412.4.3 and 412.4.4, respectively. There is no mention in the IBC of where the technical provisions for the construction of these rooms are located.

For Groups H-2 and H-3, Exceptions 1 and 2 to IBC Section 415.3 exempt liquid use, dispensing and mixing rooms not more than 500 square feet in floor area and liquid storage rooms not more than 1,000 square feet in floor area from being located on the outer perimeter of the building. There is no mention in the IBC of where the technical provisions for the construction of these rooms are located.

IBC Section 415.2 contains a definition for "liquid use, dispensing and mixing room," but the IFC does not (see Section 3402.1). Although "liquid use, dispensing and mixing room" is defined in IBC Section 415.2, it does not appear anywhere else in the IBC. However, it does appear in several code sections of the IFC (i.e., Sec. 3405.3.5.3 and 3405.3.7.1)

IFC Section 3404.3.7.1 for liquid storage rooms specifies that they shall be constructed and separated as required by the IBC. However, the IBC does not contain any such provisions, except for Group H-5 in Section 415.8.5.2.2. IFC Section 1803.3.3 for semiconductor fabrication facilities specifies that liquid storage rooms shall comply with the IBC. The requirements are found in IBC Section 415.8.5.2.2.

IFC Section 3405.3.5.3 for use, dispensing and mixing inside of buildings specifies that quantities exceeding control area limits shall be within a room or building complying with the IBC. There is no mention in the IBC of where the technical provisions for the construction of these rooms are located.

IFC Section 3405.3.7.1 specifies that rooms or buildings classified by the IBC as Group H-2 or H-3 based on use, dispensing or mixing of flammable or combustible liquids shall be constructed in accordance with the IBC. IBC Sections 307.4 and 307.5 include use and storage depending on whether the container is open or closed and level of pressurization in closed containers for Groups H-2 and H-3. Dispensing and mixing are not mentioned. There is no mention in the IBC of where the technical provisions for the construction of these rooms or buildings are located.

The IBC does not have a definition for "liquid storage warehouse." and never mentions the term. The IFC does have a definition in Section 3402.1. IFC Section 3404.3.8 for liquid storage warehouses specifies that they shall be constructed and separated as required by the IBC. There is no mention in the IBC of where the technical provisions for the construction of these warehouses are located.

The definition of liquid storage warehouse in Section 3402.1 of the IFC was added during the 2004/2005 code development cycle. Before that, it was not clear what occupancy a liquid storage warehouse would be classified as. The definition of liquid use, dispensing and mixing room in Section 415.2 of the IBC does not specify an occupancy classification but the use (but not dispensing or mixing) of Class I, II or IIIA flammable or combustible liquids is listed for Group H-2 and H-3 occupancies in IFC Section 202 (IBC Sections 307.4 and 307.5, respectively). The determination of the occupancy classification in closed (i.e., not open) containers is dependent on whether the flammable or combustible liquids are kept at gauge pressures of more than (Group H-2) or less than (Group H-3) 15 psi. This is also the case for a liquid storage warehouse since its definition classifies it as Group H-2 or H-3.

What is missing from this is the same treatment for a liquid storage room. In IFC Section 3402.1 and IBC Section 415.2, the definition of liquid storage room specifies a Group H-3 classification. As noted above, the storage of Class I, II or IIIA flammable or combustible liquids is listed for Group H-2 and H-3 occupancies in IFC Section 202 (IBC Sections 307.4 and 307.5, respectively). This proposal changes the definition of liquid storage room to specify its occupancy classification as Group H-2 or H-3, which will be determined on the basis of whether the flammable or combustible liquids are stored at gauge pressures of more than (Group H-2) or less than (Group H-3) 15 psi. If this revision is approved, it will make the listing of occupancies in the definitions of liquid storage room and liquid storage warehouse superfluous.

The purpose of this proposal is to add technical provisions to the IBC for the construction of liquid storage rooms; liquid use, dispensing and mixing rooms; and liquid storage warehouses that are compatible with the scoping provisions for them currently found in the IBC and IFC. In the case of liquid storage rooms in Groups H-2 and H-3, it will also add technical provisions that are consistent with those for liquid storage rooms in Groups H-5.

The proposed change from "15 psi (103.4 kPa) gauge" to a "gauge pressure of 15 psi (103 kPa)" in IFC Section 202 (IBC Sections 307.4 and 307.5) is intended to make the language consistent with the protocol established in the IEEE/ASTM SI 10 "Use of the International System of Units (SI): The Modern Metric System" (see Section 3.5.5, 2002 edition). Note that gauge pressure is measured with zero equal to atmospheric pressure, which is in contrast with absolute pressure that is measured with zero equal to a perfect vacuum.

The proposed changes in IFC Section 202 from "used or stored" to "used, dispensed, mixed or stored" at Group H-2 (IBC Section 307.4) and from "used or stored" to "used, mixed or stored" at Group H-3 (IBC Section 307.5) is for compatibility with similar language in the IFC (e.g., Sections 3405.3, 3405.3.5.1, 3405.3.5.3, 3405.3.7, 3405.3.7.1, 3405.3.7.5, etc.) and IBC Sections 412.4.3, 415.2 ("liquid use, dispensing and mixing room") and 415.3 (Exception 1). Dispensing is added to Group H-2, but not Group H-3, because a classification of Group H-3 is limited to closed containers and dispensing is not possible unless is occurs from open containers. Mixing is added to Groups H-2 and H-3 because it is possible in a closed container (i.e., internal mechanism with remote operation).

Liquid storage rooms are added to storage areas for corrosive, toxic and highly toxic materials at IBC Section 415.7.2 on Group H-3 and H-4 occupancies for consistency with IBC Section 415.8.5.2.3 for HPM rooms and liquid storage rooms in Group H-5 occupancies.

Cost Impact: The code change proposal will not increase the cost of construction.

Analysis: In Section 3402.1, the definition of "Liquid Use, Dispensing and Mixing Rooms" that currently exists in IBC Section [F] 415.2 is being editorially duplicated in the IFC. Likewise, in IBC Section [F] 415.2, the definition of "Liquid Storage Warehouse" that currently exists in the IFC is being editorially duplicated in the IBC. No technical changes are being proposed to these two definitions. They are being shown for the clarity of the code change.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

F220–06/07

IBC 403.1.1, [F] 403.10.3 through [F] 403.11.2, [F] 403.15 through [F] 403.15.3 (All New)

Proponent: William M. Connolly, State of New Jersey, representing International Code Council Ad Hoc Committee on Terrorism Resistant Buildings

1. Revise as follows:

403.1 Applicability. The provisions of this section shall apply to buildings with an occupied floor located more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access.

Exception: The provisions of this section shall not apply to the following buildings and structures:

1. Airport traffic control towers in accordance with Section 412.
2. Open parking garages in accordance with Section 406.3.
3. Buildings with an occupancy in Group A-5 in accordance with Section 303.1.
4. Low-hazard special industrial occupancies in accordance with Section 503.1.1.
5. Buildings with an occupancy in Group H-1, H-2 or H-3 in accordance with Section 415.

403.1.1 Fuel oil for standby power. Portions of high-rise construction that contain an occupancy in Group H-3 for storage of fuel oil for standby power, emergency power, or an elective, redundant power system shall be constructed in accordance with Section 403.15.

2. Add new text as follows:

[F] 403.10.3 Fuel oil (Class II and Class III combustible liquids) storage. Fuel oil (Class II and Class III combustible liquids) used in conjunction with the standby power system shall be stored in accordance with 403.15.

[F] 403.11.2 Fuel oil (Class II and Class III combustible liquids) storage. Fuel oil (Class II and Class III combustible liquids) used in conjunction with the emergency power system shall be stored in accordance with 403.15.

[F] 403.15 Fuel oil (Class II and Class III combustible liquids) storage. Fuel oil (Class II and Class III combustible liquid) storage inside buildings used in conjunction with the emergency power system, the standby power system or an elective, redundant power supply system shall be permitted to exceed the maximum allowable quantity as per Table 307.1(1) provided the storage is in compliance with 403.15.1.

[F] 403.15.1 Fuel oil (Class II and Class III combustible liquids) storage systems. Fuel oil (Class II and Class III combustible liquid) storage systems shall comply with the requirements of this section and NFPA 31.

[F] 403.15.1.1 Control areas. All storage tanks installed above the lowest level of the building shall comply with Table 307.1(1) and Section 414.2.

[F] 403.15.1.2 Inside storage. Inside storage shall be permitted to be increased to 36,000 gal provided all of the following conditions are met:

1. The tank is located on the lowest floor level of the building.
2. The capacity of any one tank does not exceed 12,000 gallons
3. Each tank is located in a vault listed in accordance with UL 2245 having walls, floor, and top having a fire resistance rating of not less than 3 hours. The walls shall be bonded to the floor. The top and walls of the vault shall be independent of the building structure. An exterior building wall having a fire resistance rating of not less than 3 hours shall be permitted to serve as a wall of the vault; and
4. The vault is located in a room or area of the building that is cut off vertically and horizontally from other areas and floors of the building by assemblies having a fire resistance rating of not less than 2 hours.

[F] 403.15.1.3 Secondary containment. Fuel oil (Class II and Class III combustible liquid) tanks having a capacity of more than 660 gallons storage at the lowest level of a building shall have secondary containment equal to two times the tank capacity.

[F] 403.15.1.4 Float switch. A float switch shall be provided with the curb or pan around the storage tank or utilization equipment and shall be arranged so as to sound an alarm and stop the transfer pump in case of failure of the tank or the control in the tank. An alarm bell shall be located in the same room with the tank and a visual and audible alarm shall be located in a fire command center.

[F] 403.15.2 Method of transfer. Storage tanks and utilization equipment installed above the lowest level of a building shall be filled by means of a transfer pump supplied from a primary storage tank located and installed in accordance with 403.15.1.2. All storage tanks installed above the lowest level of the building shall comply with Table 307.1(1) and Section 414.2. A separate transfer pump and piping circuit shall be provided for each storage tank or equipment installed above the lowest floor. Appropriate devices shall be provided for the automatic and manual starting and stopping of the transfer pumps so as to prevent the overflow of liquid from these storage tanks. Fuel transfer piping shall not be used for storage and the size of the pipe shall not exceed the minimum needed for hydraulic performance.

[F] 403.15.3 Excess flow. Every pump contained within the system shall be capable of identifying excess flow due to a breach in the piping and shall automatically interrupt the flow from the tank. A check valve for the piping system shall be provided at every third story at a minimum.

Reason: This code change proposal is one of fourteen proposals being submitted by the International Code Council Ad Hoc Committee on Terrorism Resistant Buildings.

The Code has long prohibited uses of Group H-3 in high rise buildings except when quantities involved fall below very restrictive thresholds. The purpose of this change is to establish controls on the storage and distribution of Class II and III liquids in high rise buildings.

Electricity has become the life blood of the modern information management workplace. Continuous and uninterrupted power is essential to the business continuity and even the survival of many enterprises. These elective redundant power systems are typically driven by Class III combustible liquids. The absolute necessity for elective redundant power has led to the illicit storage of these materials in high rise buildings or systems designed to pump the material throughout the building.

The National Institute of Standards and Technology's (NIST) report on the World Trade Center (WTC) tragedy did not deal with this issue because it covered only WTC 1 and WTC 2. The proponents believe that a Class III combustible liquid distribution system was implicated in the WTC 7 collapse and that the soon to be released WTC 7 report will so find.

This proposal recognizes the necessity for elective redundant power and seeks to regulate storage and distribution of Class II and Class III combustible liquids in high rise and other buildings while protecting against the risks associated with such use.

Ideally, the storage of Class II or Class III combustible liquids (exceeding the exempt quantities established by the Code) should not be permitted inside of high rise buildings. There are, however, sites in highly dense urban locations where there is no place for outside storage. The proposed new Subsection 403.15.1 allows storage beneath a high rise building but subjects that storage to a number of requirements which will ensure safety.

Distribution of Class II and Class III combustible liquids poses an even greater hazard. The proposed new Subsection 403.15.2 establishes requirements intended to ensure the safety of such distribution systems.

Cost Impact: The proposal will not increase the cost of construction, per se, because the storage of large quantities of Class II and Class III combustible liquids is not now permitted. There will be some increase in the cost of distribution systems.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

F221–06/07

IBC [F] 403.2.1 through [F] 403.2.1.2 (New), [F] 403.2.2 (New) [IFC 914.3.1.1 through 914..3.1.1.2, 914.3.1.2 (New)] IBC [F] 911.1 (IFC 509.1)

Proponent: William M. Connolly, State of New Jersey, representing International Code Council Ad Hoc Committee on Terrorism Resistant Buildings

1. Add new text as follows:

[F] 403.2.1 (IFC 914.3.1.1) Sprinkler riser redundancy and isolation. All buildings that are more than 420 feet (128 m) in height shall have all risers supplying automatic sprinkler systems interconnected to each other at the top and bottom most floor of each vertical riser zone. The interconnections shall be at least as large as the largest riser supplied.

[F] 403.2.1.1 (IFC 914.3.1.1.1) Number of risers and separation. A minimum of two sprinkler water supply risers must be provided in each vertical riser zone of the building. Sprinkler water supply risers shall be placed a distance apart equal to not less than one-half of the length of the maximum overall diagonal dimension of the building or area to be served measured in a straight line between the nearest portion of the sprinkler water supply risers.

[F] 403.2.1.1.1 (IFC 914.3.1.1.1.1) Hydraulic design evaluations. Independent hydraulic design evaluations shall be completed utilizing individual water supply risers for each vertical riser zone. System hydraulic design shall not be based upon redundancy of water supply risers for each vertical riser zone.

[F] 403.2.1.2 (IFC 914.3.1.1.2) Control valves. Manual or remote control valves shall be provided on all riser piping supplying automatic sprinkler systems at every third floor of the building. This requirement is independent of sprinkler floor control valves required by Section 903.4.3.

[F] 403.2.2 (IFC 914.3.1.2) Water supply to required fire pumps. Required fire pumps shall draw from a minimum of two independent street level water mains located in different streets.

2. Revise as follows:

[F] 911.1 (IFC 509.1) Features. Where required by other sections of this code, a fire command center for fire department operations shall be provided. The location and accessibility of the fire command center shall be approved by the fire department. The fire command center shall be separated from the remainder of the building by not less than a 1-hour fire barrier constructed in accordance with Section 706 or horizontal assembly constructed in accordance with Section 711, or both. The room shall be a minimum of 96 square feet (9 m^2) with a minimum dimension of 8 feet (2438 mm). A layout of the fire command center and all features required by the section to be contained therein shall be submitted for approval prior to installation. The fire command center shall comply with NFPA72 and shall contain the following features:

1. The emergency voice/alarm communication system unit.
2. The fire department communications unit.
3. Fire detection and alarm system annunciator unit.
4. Annunciator unit visually indicating the location of the elevators and whether they are operational.
5. Status indicators and controls for air-handling systems.
6. The fire-fighter's control panel required by Section 909.16 for smoke control systems installed in the building.
7. Controls for unlocking stairway doors simultaneously.
8. Sprinkler valve and water-flow detector display panels.
9. Emergency and standby power status indicators.
10. A telephone for fire department use with controlled access to the public telephone system.
11. Fire pump status indicators.
12. Schematic building plans indicating the typical floor plan and detailing the building core, means of egress, fire protection systems, fire-fighting equipment and fire department access.
13. Worktable.
14. Generator supervision devices, manual start and transfer features.
15. Public address system, where specifically required by other sections of this code.
16. Controls and status indicators for remote control valves on vertical sprinkler/standpipe risers.

Reason: This code change proposal is one of fourteen proposals being submitted by the International Code Council Ad Hoc Committee on Terrorism Resistant Buildings.

The purpose of this proposed change is to increase the reliability of fire suppression systems in very tall buildings, those that exceed 420 feet in height, by requiring looping of sprinkler uses and independent street-level water feeds.

The difficulty of fighting fires in very tall buildings ranges from hard to virtually impossible. Accordingly, the reliable functioning of required sprinkler systems is critically important. The National Institute of Standards and Technology (NIST) World Trade Center (WTC) Report documented

that the proximate cause of the collapse was a building contents fire that raged out of control, in part at least, because the building's fire sprinkler systems were non-functional due to the initial aircraft attack. Events far less dramatic could knock out or make a sprinkler riser inoperative, thereby leaving the structure very vulnerable to fire.

Recommendation 12 of the NIST WTC report calls for the redundancy of active fire suppression systems to be increased to accommodate the greater risks associated with increasing building height and population. This proposal seeks to do that by providing two water feeds to each floor designed such that the system will function as intended if one of those feeds is damaged or otherwise interrupted.

It is interesting to note that existing standards for water mains in residential subdivisions call for looping and valving to ensure that no more than 20 homes could be cut off by a water main break. Such a break would create a fire suppression risk for 4 people (the average occupancy of one home) or no more than 80 people (assuming all 20 homes catch fire). In contrast, we do not require looping and valving to isolate failure in buildings that might contain 10,000 occupants. This proposal seeks to correct that problem.

Substantiation: Proposed new Subsection 403.2.1 requires the interconnection (looping) of sprinkler risers in each vertical zone.

Proposed new Subsection 403.2.1.1 requires two risers for every zone and specifies a separation distance to reduce the possibility that one incident could incapacitate both risers.

Proposed new Subsection 403.2.1.1.1 ensures that the sprinkler system will be designed to function as intended and required from either riser. This is consistent with the goal of providing redundancy.

Proposed new Subsection 403.2.1.2 requires riser control valves at every third floor of the building. This provision supports the stated intent of this code change by ensuring that a riser break (or other problem eliminating the riser's functionality) will not leave more then two floors without the required sprinkler protection. These new valves raise the possibility that someone will inadvertently close one or more. Accordingly, a proposed amendment to Section 911.1 of the Code requires that these automatic valves be able to be monitored from the fire command center by the use of status indicators. This will make it possible to monitor continuously all riser valves from one location and correct any problem from that location.

New Subsection 403.2.2 requires fire pumps to be fed from two independent water mains in separate streets. This will greatly reduce the possibility of the loss of water due to a main break, given the valving which is a feature of public water systems.

Bibliography:

National Institute of Standards and Technology. Final Report of the National Construction Safety Team on the Collapses of the World Trade Center Towers. United States Government Printing Office: Washington, D.C. September 2005.

Cost Impact: The code change proposal will increase the cost of construction for very tall buildings, but the additional cost is warranted by the additional risk inherent in such buildings.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

F222–06/07
IBC [F] 412.4.3

Proponent: Carroll Lee Pruitt, FAIA, Pruitt Consulting, Inc.

Revise as follows:

[F] 412.4.3 Operations. ~~Only those flammable liquids necessary for painting operations shall be permitted in quantities less than the maximum allowable quantities per control area in Table 307.7(1).~~ The quantities of flammable materials in use at any given time within each separate and distinct control area within a aircraft paint hangar shall not exceed the maximum allowable quantities per control area permitted in Table 307.7(1). The quantities of flammable materials in storage and not in use shall be allowed to exceed the quantities in Table 307.7.1 provided they are not within the control area in use for painting operations. Spray equipment cleaning operations shall be conducted in a liquid use, dispensing and mixing room.

Reason: The purpose of the code change is to provide clearer information as to the intent of the code. The language as written seems to imply that even though the paint hanger is classified as a Group H occupancy, the quantities of flammable liquids are limited and may not exceed the exempt amount in Table 307.7.1. If the quantities do not exceed the amount in the Table, the use would not appear to be a Group H. This code change clarifies that it is important to limit the quantities of flammable materials in actual use at any given time within a control area, but to not limit the amount that might be stored in other areas of the building outside of the control area where the materials are actually in use.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

F223–06/07
IBC [F] 414.1.3

Proponent: Robert J. Davidson, Davidson Code Concepts, LLC, representing himself

Revise as follows:

[F] 414.1.3 Information required. The hazardous material(s) to be used or stored shall be submitted with the maximum amount expected to be present for each classification of physical or health hazard as indicated in Tables 307.1(1) and 307.1(2). The submittal shall include a description of how the material will be used or stored. ~~Separate floor plans shall be submitted f~~ For buildings and structures with an occupancy in Group H ~~,~~ separate floor plans shall be submitted identifying the locations of anticipated contents and processes so as to reflect the nature of each

occupied portion of every building and structure. A report identifying hazardous materials including, but not limited to, materials representing hazards that are classified in Group H to be stored or used, shall be submitted and the methods of protection from such hazards shall be indicated on the construction documents. The opinion and report shall be prepared by a qualified person, firm or corporation approved by the building official and shall be provided without charge to the enforcing agency.

Reason: Applying Section 307.1 requires that the code official know what classes and total amounts of hazardous materials in each class are to be present at any one time. Sections 307.1.1, 414.1.1 and 414.1.2 make it clear that hazardous materials in any quantity must comply with Section 414 and the *International Fire Code*. This language would indicate that the intent of the code is that the code official is entitled to have a listing of materials supplied for review against code requirements. However, the existing language found at [F] 414.1.3 limits the submission of additional information concerning the hazardous materials to Group H occupancies only.

The first problem with the existing language is that the code official needs information on the hazardous materials submitted to make a determination of the H Group, not after the determination is made. The second problem is that regardless of the Group H designation the code official needs to know what materials are to be present to apply Section 414 of the IBC and the appropriate chapters of the International Fire Code.

This proposal clarifies the need for a submittal of information concerning what hazardous materials will be present including maximum amounts to be provided for each hazard classification as referenced in Tables 307.1(1) and 307.1(2). It includes that a description of how the materials will be used or stored to be submitted to assist in identifying what hazards may be created by the handling or use of the material. This will assist the code official in making a proper determination of whether or not an H Group is involved and will provide needed information for applying Section 414 and appropriate Chapters of the International Fire Code whenever hazardous materials are present. It also clarifies that the submitter shall do the analysis necessary to provide a classification breakdown with total amounts in each class as compared to just submitting a listing of materials and leaving the code official the job of totaling up the amount in each class.

If the determination of a Group H is made the more extensive requirements for separate floor plans and a report prepared by a qualified person, firm or corporation would continue to apply unchanged other than an editorial revision to the language.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

F224–06/07
IBC [F] 415.3.2, [F] 415.2, [F] 307.2

Proponent: Gregory R. Keith, Professional heuristic Development, representing the Boeing Company

1. Revise as follows:

[F] 415.3.2 Group H-1 and H-2 or H-3 detached buildings. The storage of hazardous materials in excess of those amounts listed in Table 415.3.2 shall be in accordance with the provisions of Section 415.5. Where a detached building is required by Table 415.3.2, there are no requirements for wall and opening protection based on fire separation distance.

2. Delete without substitution:

[F] 307.2 Definitions. The following words and terms shall, for the purposes of this section and as used elsewhere in this code, have the meanings shown herein.

~~**DETACHED BUILDING.** A separate single-story building, without a basement or crawl space, used for the storage or use of hazardous materials and located an approved distance from all structures.~~

3. Add new text as follows:

F] 415.2 Definitions. The following words and terms shall, for the purposes of this chapter and as used elsewhere in the code, have the meanings shown herein.

DETACHED BUILDING. A separate single-story building, without a basement or crawl space, used for the storage or use of hazardous materials and located an approved distance from all structures.

Reason: Table 415.3.2 currently is not formally enabled by the text in Section 415.3.2. This proposal corrects this circumstance. Technical requirements in tables are generally legally established by proper charging language in the corresponding text sections in order to assist users in the proper determination of such requirements. Editorial convention, however, is to title a table based on that section where the term first appears in the code. In this instance, Section 415.5 provides the root requirement for detached buildings and enables Table 415.3.2. The proposed included cross reference will assist users in ascertaining those additional schematic requirements located in Section 415.5. Additionally, the definition of "detached building" has been relocated from Chapter 3 to Chapter 4. In this proper location, it can support applicable technical requirements. Approval of this proposal will clarify the code and increase uniformity in the proper determination of detached building requirements.

Cost Impact: The code change will not increase the cost of construction.

Public Hearing: Committee AS AM D
Assembly: ASF AMF DF

F225–06/07
IBC [F] 416.4 (New)

Proponent: Robert J. Davidson, Davidson Code Concepts, LLC, representing himself

Add new text as follows:

[F] 416.4 Spray booths. Spray booths shall be designed, constructed and operated in accordance with the *International Fire Code*.

(Renumber subsequent sections)

Reason: Section 416 applies to the construction, installation and use of buildings and structures for the application of flammable finishes. Existing language provides limited information for spray rooms, Section 416.2, and spraying spaces, Section 416.3, leading one to believe there are no such requirements for spray booths. The proposed language simply places a pointer to the International Fire Code for the specifics of designing, constructing or operating spray booths and makes it clear that the intent of Section 416 includes spray booths.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee AS AM D
Assembly: ASF AMF DF

F226–06/07
IBC [F] 906.1, Chapter 35

Proponent: Gerald W. Burg, State of Ohio

1. Revise as follows:

[F] 906.1 General. Portable fire extinguishers shall be provided in occupancies and locations as required by ~~the *International Fire Code*~~ NFPA 10.

2. Add referenced standard to Chapter 35 as follows:

NFPA
10-02 Portable Fire Extinguishers.....906.1

Reason: The purpose of the change is to clarify the code by reducing cross-referencing. Requirements for placement of portable fire extinguishers are cross-referenced from IBC to IFC and then on to NFPA. In contrast, sprinkler system requirements are directly referenced to NFPA from IBC.

Placement of portable fire extinguishers, especially within cabinets, is primarily an architectural design decision that is verified during non-structural plan review, and as such should be directly regulated from the IBC, without going through the IFC. The IFC would still regulate the maintenance of such equipment.

(This proposed Code change would go along with a proposed change to 3501.3 IBC)

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

F227–06/07
IBC [F]1704.14.1

Proponent: Bill McHugh, Firestop Contractors International Association

Revise as follows:

[F] 1704.14.1 Testing Scope. The test scope shall be as follows:

1. During erection of ductwork and prior to concealment for the purposes of leakage testing and recording of device location.
2. Prior to occupancy and after sufficient completion for the purposes of pressure difference testing, flow measurements and detections and control verification.
3. Compartmentation to be inspected to standards approved by the building official. Referenced standards include American Concrete Institute (ACI), American Society of Testing and Materials (ASTM), American Architectural Hardware Manufacturers Association (AAHMA), Building Hardware Manufacturers Association (BHMA), Door

and Hardware Institute (DHI), Firestop Contractors International Association (FCIA), Gypsum Institute (GI), International Masonry Institute (IMI), National Fireproofing Contractors Association (NFCA), National Glass Association (NGA), Portland Cement Association (PCA), Sheet Metal Contractors National Association (SMACNA), Steel Door Institute(SDI).

Reason: The purpose of this code change is to have the smoke barrier referenced in section 909.5 inspected per a referenced standard.
Where compartmentation exists, it is expected to perform as intended, like the damper referenced in the same section of the code. Penetrations are an integral part of the smoke control compartmentation system, and have industry protocols for inspection.

Cost Impact: The code change proposal will increase the cost of construction.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

F228–06/07
IEBC [F] 1406.4, [F] 1409 (New)

Proponent: Michael E. Dell'Orfano, South Metro Fire Rescue, representing ICC Code Correlation Committee

1. Delete without substitution:

~~**[F] 1406.4 Water supply.** Water supply for fire protection, either temporary or permanent, shall be made available as soon as combustible material accumulates.~~

2. Add new text as follows:

[F] SECTION 1409
WATER SUPPLY FOR FIRE PROTECTION

1409.1 When required. An approved water supply for fire protection, either temporary or permanent, shall be made available as soon as combustible material arrives on the site.

Reason: During the 04/05 code change cycle, the ICC Code Correlation Committee was presented with Item No. CCC05-IEBC 3, which proposed to delete then-Section 1306.4 in order to be consistent with IFC Section 1413. However, in order to be consistent with the IFC, a new section must also be added in order to maintain requirements for water supplies during construction, as was done in IFC Section 1412.
Therefore, this proposal is intended to delete current IEBC Section 1406.4, which is not appropriate for the standpipe section, and add IEBC Section 1409 in order to address general water supply requirements during construction. This is consistent with the IFC.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

F229–06/07
IFGC [F] 706.4 (New)

Proponent: John C. Dean, The National Association of State Fire Marshals

Add new text as follows:

[F] 706.4 Indoor storage of hydrogen. Storage of hydrogen in quantities not exceeding 3,500 scf at 10,000 psig shall be permitted in systems compliant with ASME boiler and pressure vessel code and listed by a nationally recognized testing Lab. The residential fueling facility shall be allowed to store hydrogen either indoors or outdoors. Indoor storage of hydrogen shall be in a Class 1, Division 2 room and not exceed 3,500 scf at 7,700 psig provided that indoor storage is ventilated in accordance with Section 706.4.1, or storage shall be in a separate sealed enclosure ventilated directly to outdoors.

[F] 706.4.1 Room ventilation. The ventilation shall be at least 1 cfm per square foot of room area, but not less than 1 1 cfm per 6 cubic foot of room volume. Ventilation shall include spaces above suspended ceilings.

[F] 706.4.1.1 Mechanical ventilation. Ventilation shall be by a continuous mechanical ventilation system or by a mechanical ventilation system activated by a continuously monitoring hydrogen detection system where a gas concentration of not more than 25% of the lower flammable limit is present.

[F] 706.4.1.2 Gas detection. Where installed, a gas detection system shall be equipped to sound an alarm and visually indicate when a maximum of 25% of the lower flammable limit (LFL) is reached. The gas detection system shall function during ventilation system maintenance operations. The LFL of hydrogen shall be defined as 4% hydrogen in air.

[F] 706.4.1.3 System failure. Any failure of the ventilation system shall immediately shut down the fueling system. Reactivation of the fueling system shall be by manual restart and shall be conducted by trained personnel.

[F] 706.4.1.4 Adjacent ventilation systems. A ventilation system for a room within or attached to another building shall be designed such that all areas served by the ventilation system comply with this section during the normal operating conditions and during alarm conditions.

Reason: This differs from anything in existing code in that it stipulates pressure limits, not just quantities of hydrogen gas. Ventilation and alarms are required so that should there be a gas leak, it is detected and there is no chance of asphyxiation. The IEC and NFPA 55 have established 25% of the LFL as the alarm point, and this seems to be consistent with good engineering practice.[1]

[1] Proposed changes are based on findings from NASFM's Ad Hoc committee consisting of emergency responders, federal and state authorities, and industry experts all having experience with and/or code enforcement authority over residential and consumer hydrogen facilities.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

F230–06/07
IPC [F] 1202.1

Proponent: Cecil F. Hardee, Jr., County of Fairfax, Virginia, representing Virginia Plumbing and Mechanical Inspectors Association (VPMIA) and the Virginia Building Code Officials Association (VBCOA)

Revise as follows:

[F] 1202.1 Nonflammable medical gases. Nonflammable medical gas systems, inhalation anesthetic systems and vacuum piping systems shall be designed and installed in accordance with NFPA 99C.

Exceptions:

1. This section shall not apply to portable systems or cylinder storage.
2. Vacuum system exhaust terminations shall comply with the *International Mechanical Code.*

Reason: The purpose is to clarify the requirements of exhaust from vacuum piping systems. IPC references IMC to determine the requirements for exhaust discharge from medical gas systems. IMC doesn't specifically regulate the design of the vacuum piping system. IMC 501.2 regulates the exhaust discharge and Section 501.1.1 gives the specific requirements for termination of exhaust outlets of required exhaust systems.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee: AS AM D
Assembly: ASF AMF DF

F231–06/07
2705.2.2.1

Proponent: Greg Rogers, South Kitsap Fire & Rescue, representing ICC Joint Fire Service Review Committee

Revise as follows:

~~**2705.2.2.1**~~ **2705.1.11 Design.** Systems shall be suitable for the use intended and shall be designed by persons competent in such design. Controls shall be designed to prevent materials from entering or leaving the process or reaction system at other than the intended time, rate, or path. Where automatic controls are provided, they shall be designed to be fail safe.

Reason: This section currently applies only to closed hazardous materials systems. Open systems should also meet the requirements of being suitable for the intended use and being designed by competent persons to prevent the unintended release of hazardous materials. No cost increase is expected, because hazardous materials systems should already meet this standard, as they are required to be approved in section 2703.2.3.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing: Committee AS AM D
Assembly: ASF AMF DF

F232–06/07
IBC [F] 415.6.3.2, [F] 415.6.3.4, [F] 415.6.3.4.1, [F] 415.6.3.5.2

Proponent: Philip Brazil, P.E., Reid Middleton, Inc., representing himself

Revise as follows:

[F] 415.6.3.2 Construction. Liquefied petroleum gas-distribution facilities shall be constructed in accordance with Section 415.6.3.3 for separate buildings, Section 415.6.3.4 for attached ~~buildings~~ structures or Section 415.6.3.5 for rooms within buildings.

[F] 415.6.3.4 Attached ~~buildings~~ structures. Where liquefied petroleum gas-distribution facilities are located in an attached structure, the attached perimeter shall not exceed 50 percent of the perimeter of the space enclosed and the facility shall comply with Sections 415.6.3.3 and 415.6.3.4.1. Where the attached perimeter exceeds 50 percent, such facilities shall comply with Section 415.6.3.5.

[F] 415.6.3.4.1 Fire separation. Separation of the attached structures shall be provided by fire barriers having a fire-resistance rating of not less than 1 hour and shall not have openings. Fire barriers between attached structures occupied only for the storage of LP-gas are permitted to have fire door assemblies that comply with Section ~~715~~ 706.7. Such fire barriers shall be designed to withstand a static pressure of at least 100 pounds per square foot (psf) (4788 Pa), except where the building to which the structure is attached is occupied by operations or processes having a similar hazard.

[F] 415.6.3.5 Rooms within buildings. Where liquefied petroleum gas-distribution facilities are located in rooms within buildings, such rooms shall be located in the first story above grade plane and shall have at least one exterior wall with sufficient exposed area to provide explosion venting as required in the *International Fire Code*. The building in which the room is located shall not have a basement or unventilated crawl space and the room shall comply with Sections 415.6.3.5.1 and 415.6.3.5.2.

[F] 415.6.3.5.2 Common construction. Walls and floor/ceiling assemblies common to the room and to the building within which the room is located shall be fire barriers with not less than a 1 hour fire-resistance rating and without openings. Common walls for rooms occupied only for storage of LP-gas are permitted to have ~~opening protectives~~ fire door assemblies complying with Section ~~715~~ 706.7. The walls and ceilings shall be designed to withstand a static pressure of at least 100 psf (4788 Pa).

> **Exception**: Where the building, within which the room is located, is occupied by operations or processes having a similar hazard.

Reason: The purpose for this proposal is to correct several technical flaws in the provisions for liquefied petroleum gas-distribution facilities in attached structures and rooms within buildings. In Section 415.6.3.2 and the title of Section 415.6.3.4, "attached buildings" are changed to "attached structures" for consistency with use of the term "attached structures" in the provisions of Sections 415.6.3.4 and 415.6.3.4.1, and to maintain the distinction between the building and the attached structure that is made in Section 415.6.3.4.1 (last sentence).

In Sections 415.6.3.4.1 and 415.6.3.5.2, the reference to Section 715 to 706.7 to establish that the general limitations in Section 706.7 for protected openings in fire barriers are applicable to fire barriers in liquefied petroleum gas-distribution facilities. Without the change, a code user may conclude that the limitations in liquefied petroleum gas-distribution facilities are less than are generally required for fire barriers.

The Section 415.6.3.5.2, "opening protectives" are changed to "fire door assemblies" for consistency with the same requirement in Section 415.6.3.4.1 for attached structures. Otherwise, fire window assemblies and other forms of opening protection would be permitted.

Cost Impact: The code change proposal will not increase the cost of construction.

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF