2007-2008 ICC CODE DEVELOPMENT CYCLE

ERRATA TO THE 2007/2008 PROPOSED CHANGES TO THE INTERNATIONAL CODES

Second Posting: December 21, 2007

The following is a list of errata, found since the first posting on November 15, 2007, to the published monograph entitled "2007/2008 Proposed Changes to the 2006 Editions of the International Codes, including the 2007 Supplement."

This listing is organized based on the order of codes as published.

IBC – FIRE SAFETY (VOLUME 1)

REVISIONS TO TENTATIVE ORDER OF DISCUSSION:

Remove FS170-07/08 from IBC Fire Safety Hearing Order

FS2-07/08 Part I: Add Section 707.1 and revise the first paragraph of Section 707.2 as follows:

707.1 General. The provisions of this section shall apply to vertical shafts where such shafts are required to protect openings and penetrations through ~~floor/ceiling~~ floor and ~~roof/ceiling~~ roof assemblies. Shaft enclosures shall be constructed as fire barriers in accordance with Section 706 or horizontal assemblies in accordance with Section 711, or both.

707.2 Shaft enclosure required. Openings through a ~~floor/ceiling~~ floor assembly shall be protected by a shaft enclosure complying with this section.

Delete Section 914.3.1 (IBC [F] 403.2) from Part III IFC of the proposed change without substitution:

FS20-07/08, PART II: Revise Sections 711.3.3, 711.4 and 909.20.2 as follows:

711.3.3 Unusable space. In 1-hour fire-resistance-rated floor ~~construction~~ assemblies, the ceiling membrane is not required to be installed over unusable crawl spaces. In 1-hour fire-resistance-rated roof ~~construction~~ assemblies, the floor membrane is not required to be installed where unusable attic space occurs above.

711.4 (Supp) Continuity. Assemblies shall be continuous without openings, penetrations or joints except as permitted by this section and Sections 707.2, 712.4, 713 and 1020.1. Skylights and other penetrations through a fire-resistance-rated roof deck or slab are permitted to be unprotected, provided that the structural integrity of the fire-resistance-rated roof ~~construction~~ assembly is maintained. Unprotected skylights shall not be permitted in roof ~~construction~~ assemblies required to be fire-resistance rated in accordance with Section 704.10. The supporting construction shall protected to afford the required fire-resistance rating of the horizontal assembly supported.

909.20.2 Construction. The smokeproof enclosure shall be separated from the remainder of the building by not less than a 2-hour fire barrier without openings other than the required means of egress doors. The vestibule shall be separated from the stairway by not less than a 2-hour fire barrier. The open exterior balcony shall be constructed in accordance with the fire-resistance-rating requirements for floor ~~construction~~ assemblies.

FS178-07/08: Replace Section 1406.2.2 with the following:

1406.2.2 (Supp) Architectural trim. In buildings of Type I, II, III and IV construction, exterior wall coverings shall be permitted to be constructed of wood where permitted by Section 1405.4 or other equivalent combustible material. Combustible exterior wall coverings, other than fire-retardant-treated wood complying with Section 2303.2 for exterior installation, shall not exceed 10 percent of an exterior wall surface area where the fire separation distance is 5 feet (1524 mm) or less. Combustible architectural trim shall be limited to ~~three stories or~~ 40 feet (12 192 mm) in height above grade ~~plane~~. Noncombustible materials shall be permitted to be of any height provided the materials are secured to the wall with metal or other approved noncombustible brackets.

Exception: Combustible architectural trim of fire-retardant treated wood shall be permitted up to ~~four stories or~~ 60 feet (18.29 m) in height above grade ~~plane~~.

FS197-07/08: Replace proposal with the following:

FS197–07/08

905.11, Chapter 35

Proponent: Jeff Hugo, National Fire Sprinkler Association (NFSA)

THIS PROPOSAL IS ON THE AGENDA OF THE IFC CODE DEVELOPMENT COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

1. Add new text as follows:

905.11 Testing and maintenance. Standpipe systems shall be tested and maintained in accordance with NFPA 25.

2. Add new standard to Chapter 35 as follows:

National Fire Protection Association

25–07 Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems

Reason: This new text will allow the building official or the department to be able to enforce NFPA 25 for standpipes, in the cases where no fire official is present in the jurisdiction. This new text will also point out to designers and building owners their responsibilities by the direct reference to NFPA 25, helping out follow up inspectors such as fire, building, and/or property maintenance.

The need for sprinkler and standpipe maintenance after the installation is imperative. Oftentimes, sprinklers and standpipe systems are combined and standpipe maintenance could be accomplished along with sprinkler system easily. However, this section will cover those standpipes that stand alone, such as dry standpipes in parking garages, marinas, boatyards, etc.

Catastrophic fires involving malfunctioning standpipes have hampered firefighting efforts and have led to several firefighter deaths and injuries. The One Meridian Plaza fire in 1991 and the Deutsche Bank tower at ground zero in 2007 come to mind. The One Meridian Plaza fire claimed three firefighters and the Deutsche Bank killed two firefighters. In both fires, faulty standpipe components contributed to these deaths by not supplying adequate water.

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

IBC – GENERAL (VOLUME 1)

REVISIONS TO TENTATIVE ORDER OF DISCUSSION:

Add G22-07/08 to IBC General Hearing Order following G33-07/08, Part I

Add G34-07/08 to IBC General Hearing Order following G225-07/08

Add G227-07/08 to IBC General Hearing Order following G187-07/08

Remove FS2-07/08, Part I from IBC General Hearing Order

Remove G109-07/08, Part I from IBC General Hearing Order

Remove G183-07/08, Part I from IBC General Hearing order

G183-07/08: Replace proposal with the following:

G183–07/08

1301.1.1, 202 (New); IECC 404.2 (New), 202 (New)

Proponent: Dave Collins, AIA, The Preview Group, Inc., representing the AIA Codes Committee

THIS PROPOSAL IS ON THE AGENDA OF THE IECC CODE DEVELOPMENT COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

1. IBC Revise as follows:

1301.1.1 Criteria. Buildings shall be designed and constructed in accordance with the *International Energy Conservation Code*. The energy use of all structures shall be 50% less than the average building site energy intensity per square foot as determined by the building occupancy and location in the U.S. Department of Energy=s Energy Information Administration (EIA) 2003 Commercial Building Energy Consumption Survey (CBECS). Where a building occupancy is used for an activity that does not align closely the activities listed, the code official is authorized to determine the activity that the building occupancy most nearly resembles:

US DOE EIA	Occupancy
Education	(E)
Food Sales	(B)
Food Services	(A-2)
Health Care	
Inpatient	(I-2)
Outpatient	(B)
Lodging	(R-1, R-2, R-3, R-4, I-4)
Mercantile	(M)
Retail (Other Than Mall)	(M)
Enclosed and Strip Malls	(See Section 402)
Office	(B)
Public Assembly	(A-1, A-3, A-4)
Public Order and Safety	(B, I-3)
Religious Worship	(A-3)
Service	
Warehouse and Storage	(S-1.S-2)
Other	(F-1, F-2, H)
Vacant	(U)

2. Add new definition as follows:

SECTION 202
DEFINITIONS

SITE ENERGY INTENSITY. Site energy intensity is the energy use in a building and facilities on the site expressed in kBtu=s used per year per area of total useful area of a building B ($kBtu/ft^2/yr$).

2. IECC Add new text as follows:

101.6 Site energy intensity criteria. The energy use of all structures shall be 50% less than the average building site energy intensity per square foot as determined by the building occupancy and location in the U.S. Department of Energy=s Energy Information Administration (EIA) 2003 Commercial Building Energy Consumption Survey (CBECS).

Where a building occupancy is used for an activity that does not align closely the activities listed, the code official is authorized to determine the activity that the building occupancy most nearly resembles:

US DOE EIA	Occupancy
Education	(E)
Food Sales	(B)
Food Services	(A-2)
Health Care	
Inpatient	(I-2)
Outpatient	(B)
Lodging	(R-1, R-2, R-3, R-4, I-4)
Mercantile	(M)
Retail (Other Than Mall)	(M)
Enclosed and Strip Malls	(See Section 402)
Office	(B)
Public Assembly	(A-1, A-3, A-4)
Public Order and Safety	(B, I-3)
Religious Worship	(A-3)
Service	
Warehouse and Storage	(S-1.S-2)
Other	(F-1, F-2, H)
Vacant	(U)

2. Add new definition as follows:

SECTION 202
GENERAL DEFINITIONS

SITE ENERGY INTENSITY. Site energy intensity is the energy use in a building and facilities on the site expressed in kBtu=s used per year per area of total useful area of a building B (kBtu/ft^2/yr).

Reason: The United States leads the world in per capita consumption of energy. Buildings are fully 48% of the consumption of energy nationwide. The US Department of Energy has compiled data showing how the energy is being used by various types of buildings. The following table shows the distribution of the samples as of 2003.

Table A1. Summary Table for All Buildings (Including Malls), 2003

	Number of Buildings (thousand)	Total Floor Space (million square feet)	Mean Square Feet per Building (thousand)	Median Square Feet per Building (thousand)
All Buildings	4,859	71,658	14.7	5.0
Building Floorspace (Square Feet)				
1,001 to 5,000	2,586	6,922	2.7	2.4
5,001 to 10,000	948	7,033	7.4	7.2
10,001 to 25,000	810	12,659	15.6	15.0
25,001 to 50,000	261	9,382	36.0	35.0
50,001 to 100,000	147	10,291	70.2	67.0
100,001 to 200,000	74	10,217	138.6	130.0
200,001 to 500,000	26	7,494	287.6	260.0
Over 500,000	8	7,660	937.6	700.0
Principal Building Activity				
Education	386	9,874	25.6	7.0
Food Sales	226	1,255	5.6	2.8
Food Service	297	1,654	5.6	3.5
Health Care	129	3,163	24.6	6.0
Inpatient	8	1,905	241.4	106.0
Outpatient	121	1,258	10.4	6.0
Lodging	142	5,096	35.8	12.5
Mercantile	657	11,192	17.0	6.9
Retail (Other Than Mall)	443	4,317	9.7	4.8
Enclosed and Strip Malls	213	6,875	32.2	12.3
Office	824	12,208	14.8	4.0
Public Assembly	277	3,939	14.2	6.7
Public Order and Safety	71	1,090	15.5	5.0
Religious Worship	370	3,754	10.1	6.0
Service	622	4,050	6.5	2.8
Warehouse and Storage	597	10,078	16.9	5.2
Other	79	1,738	21.9	4.6
Vacant	182	2,567	14.1	3.7
Year Constructed				
Before 1920	333	3,784	11.4	4.9
1920 to 1945	536	6,985	13.0	4.0
1946 to 1959	573	7,262	12.7	4.0
1960 to 1969	600	8,641	14.4	5.0
1970 to 1979	784	12,275	15.6	5.8
1980 to 1989	768	12,468	16.2	4.2
1990 to 1999	917	13,981	15.2	5.0
2000 to 2003	347	6,262	18.1	5.6

As a first step toward improvement of energy consumption in buildings, we can begin to reduce the energy consumption in new construction and renovations as they are being undertaken, making a significant impact on their long-term consumption of energy. This is a welfare issue affecting the health and productivity of our society. By making significant reductions in the use of energy in buildings the codes will have an enduring affect on our economy and the depletion of valuable resources.

Awareness of the impact of building energy use and the need to address this is a rising concern among various communities. Codes and standards are being developed and adopted locally to include various types of guideline systems for sustainable design such as LEED, Green Globes, EnergyStar, and others. While these are an important aspect of improved building design, they do not yet address the threshold of energy consumption and improved energy efficiency that we believe is critical. By incorporating a maximum energy use criteria, the ICC family of codes will set a precedent for communities to follow, making measurable change.

Standards such as ASHRAE 90.1 and the proposed standard for high performance buildings ASHRAE/USGBC/IESNA SPC 189, *Standard for High-Performance Green Buildings Except Low-Rise Residential Buildings*, both will include criteria that are similar to this proposal. While these standards may be available in the near future, it is imperative that the codes make a statement as to how the subject should be addressed now.

Use of the CBECS data to establish energy consumption criteria addresses two very important aspects of this issue. Defining the energy target at the outset of the design process gives the design team a clear, achievable target. This target will allow the design team to focus its effort on achieving the target through a range of design strategies without reference to other model designs. Having the criteria based on reductions in real world, actual energy use for each occupancy type in a given region provides a second identifiable achievement. The code is not seeking reductions in the theoretical energy consumption determined through design efforts. Using CEBECS data to determine the criteria will lead to reductions in what buildings really use.

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

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

G227-07/08: Add new code change as follows:

G227–07/08
3002.4

Proponent: Chad Lawry, City of Vancouver, WA, representing City of Vancouver Firefighters

Revise as follows:

3002.4 Elevator car to accommodate ambulance stretcher. Where elevators are provided in buildings ~~four~~ two or more stories above grade plane or ~~four~~ two or more stories below grade plane, at least one elevator shall be provided for fire department emergency access to all floors. The elevator car shall be of such a size and arrangement to accommodate a 24-inch by 84-inch (610 mm by 2250 mm) ambulance stretcher in the horizontal, open position and shall be identified by the international symbol for emergency medical services (star of life). The symbol shall not be less than 3 inches (76 mm) high and shall be placed inside on both sides of the hoistway door frame.

Reason: The purpose of the code change is the safe egress of patients and emergency responders during medical emergencies.

Justification: When an elevator car is too small to accommodate an ambulance stretcher, patients and emergency responses are at increased risk when negotiating stairways. When a patient is strapped to a backboard due to back or neck injuries, the stretcher cannot be set to a reclined position in order to fit in a typical elevator which is designed to accommodate a wheelchair.

It is virtually impossible to provide effective CPR while carrying a patient up or down stairs. However, effective CPR can be provided in an elevator.

As with many jurisdictions, our local ambulances and Fire Department medic units are staffed by only 2 people. Due to back injuries and near mishaps carrying large patients down stairs, our Firefighters are requesting simple code change for this high-risk, high-frequency activity.

Scope: This pertains to all new construction subject to the requirements of the International Building Code. The proposed code revision will not require elevators where they are not already required by the building codes.

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

As an example, according to a sales representative of American Crescent Elevator Mfg., Corp. (310 Stephens Street Picayune, Ms. 39466 Sales: 800-748-9711 Fax: 601-798-9444), the cost of a 2100 pound capacity elevator accommodating wheel chairs is roughly $35,000 installed compared to a 2500 pound capacity elevator accommodating stretchers at roughly $36,000 installed.

The impact is a 2.77% increase in the cost of one elevator. EXAMPLE: In $1,000,000 project, the cost impact is approximately one tenth of 1%

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

IBC – MEANS OF EGRESS (VOLUME 1)

E28-07/08: Revise proposed new Exception 4 to Section 1007.1 as follows:

4. ~~An~~ Accessible means of egress are not required from accessible spaces that are not required by Section 1104 to be provided with accessible route.

E90-07/08: Replace proposed new Section 422.1 (to become Section 421.2) as follows:

421.2 Compliance with other codes and standards. Elimination, prevention or control of fall hazards shall comply with the provisions and requirements of ANSI/ASSE Z359, ANSI/ASSE A1264.1 and DOL-29 CFR Part 1910, Subpart D.

Revise reference to standard in Chapter 35 (IFC Chapter 45) as follows:

~~American National Standards Institute~~ American Society of Safety Engineers
ANSI/ASSE Z359~~.0, 1, 2, 3 and 4 (2007)~~ Fall Protection Code
Z359.0-2007 Definitions and Nomenclature Used for Fall Protection and Fall Arrest
Z359.1-2007 Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components
Z359.2-2007 Minimum Requirements for a Comprehensive Managed Fall Protection Program
Z359.3-2007 Safety Requirements for Positioning and Travel Restraint Systems
Z359.4-2007 Safety Requirements for Assisted-Rescue and Self-Rescue Systems, Subsystems and Components

ANSI/ASSE A1264.1-2007 Safety Requirements for Workplace Walking/Working Surfaces and Their Access; Workplace, Floor, ~~and~~ Wall and Roof Openings; Stairs and Guardrails Systems

---

IBC – STRUCTURAL (VOLUME 1)

REVISIONS TO TENTATIVE ORDER OF DISCUSSION:

Add G109-07/08, Part I following S79-07/08 on the IBC Structural Hearing Order

Add EB14-07/08, Part II following S87-07/08 on the IBC Structural Hearing Order

Remove S140-07/08 from the 4th column of the IBC Structural Hearing Order

---

INTERNATIONAL FIRE CODE (VOLUME 1)

REVISIONS TO TENTATIVE ORDER OF DISCUSSION:

Add "Part II" to FS165-07/08 on the IFC Hearing Order

F23-07/08: Revise new item 10 to read as follows:

~~9.~~10. To engage in the dispensing of liquid fuels into the fuel tanks of motor vehicles from tank vehicles at commercial, industrial, governmental or manufacturing establishments.

F97-07/08: Replace proposal by adding Item 2 as follows:

F97–07/08
608, IMC [F] 502.4, [F] 502.4.1; 602.1 (New)

Proponent: Ronald Marts, Telcordia Technologies, representing AT&T, BellSouth, SBC, PacBell, Ameritech, SNET, Qwest, Cincinnati Bell

1. Revise IFC as follows:

608.1 (Supp) Scope. Stationary storage battery systems having an electrolyte capacity of more than 50 gallons (189L) for flooded lead acid, Nickel Cadmium, and VRLA, or a total battery weight (excluding racks or cabinets) of 1000 pounds for Lithium-Ion, ~~and~~ Lithium Metal Polymer and Nickel Metal Hydride, used for facility standby power, emergency power, or uninterrupted power supplies shall comply with this section and with Table 608.1.

TABLE 608.1 (Supp)
BATTERY REQUIREMENTS

	Non-Recombinant Batteries		Recombinant Batteries			Other
Requirement	**Flooded Lead Acid Batteries**	**Flooded Nickel Cadmium (Ni-Cd) Batteries**	**Valve Regulated Lead Acid (VRLA) Batteries**	**Lithium-Ion**	**Nickel Metal Hydride**	**Lithium Metal Polymer**
Safety Caps (608.2)	Venting caps (608.2.1)	Venting caps (608.2.1)	Self-resealing flame-arresting caps (608.2.2)	No caps	Self-resealing flame-arresting caps (608.2.2)	No caps
Thermal Runaway Management	Not required	Not required	Required (608.3)	Not required	Required (608.3)	Required (608.3)
Spill Control	Required (608.5)	Required (608.5)	Not required	Not required	Not Required	Not Required
Neutralization	Required (608.5.1)	Required (608.5.1)	Required (608.5.2)	Not required	Required (608.5.2)	Not Required
Ventilation	Required (608.6.1; 608.6.2)	Required (608.6.1; 608.6.2)	Required (608.6.1; 608.6.2)	Not Required	Required (608.6.1; 608.6.2)	Not Required
Signage	Required (608.7)	Required (608.7)	Required (608.7)	Required (608.7)	Required (608.7)	Required (608.7)
Seismic Control	Required (608.8)	Required (608.8)	Required (608.8)	Required 608.8	Required (608.8)	Required 608.8
Fire Detection	Required (608.9)	Required (608.9)	Required (608.9)	Required 608.9	Required (608.9)	Required 608.9

608.2.2 Recombinant batteries. Valve-regulated lead-acid (VRLA), nickel metal hydride, or other types of sealed, recombinant batteries shall be equipped with self-resealing flame-arresting safety vents.

608.3 (Supp) Thermal runaway. VRLA and lithium metal polymer, and nickel metal hydride battery systems shall be provided with a listed device or other approved method to preclude, detect, and control thermal runaway.

608.5 (Supp) Spill control and neutralization. An approved method and materials for the control and neutralization of a spill of electrolyte shall be provided in areas containing lead-acid, nickel-cadmium, or other types of batteries with freeflowing liquid electrolyte. For purposes of this paragraph, a "spill" is defined as any unintentional release of electrolyte.

Exception: VRLA, Lithium-Ion, Lithium Metal Polymer, nickel metal hydride, or other types of sealed batteries with immobilized electrolyte shall not require spill control.

608.5.1 Non-recombinant battery neutralization. For battery systems containing lead-acid, nickel-cadmium, or other types of batteries with free-flowing electrolyte, the method and materials shall be capable of neutralizing a spill from the largest ~~lead-acid battery~~ cell or block to a pH between 7.0 and 9.0.

608.5.2 (Supp) Recombinant battery neutralization. For VRLA, nickel metal hydride, or other types of sealed batteries with immobilized electrolyte, the method and material shall be capable of neutralizing a spill of 3.0 percent of the capacity of the largest VRLA cell or block in the room to a pH between 7.0 and 9.0.

Exception: Lithium-Ion and Lithium Metal Polymer batteries shall not require neutralization.

608.6 Ventilation. Ventilation of stationary storage battery systems shall comply with Sections 608.6.1 and 608.6.2.

608.6.1 (Supp) Room ventilation. Ventilation shall be provided in accordance with the *International Mechanical Code* and one of the following:

1. For flooded lead acid, flooded Ni-Cad, ~~and~~ VRLA, and nickel metal hydride batteries, the ventilation system shall be designed to limit the maximum concentration of hydrogen to 1.0 percent of the total volume of the room; or
2. Continuous ventilation shall be provided at a rate of not less than 1 cubic foot per minute per square foot (1 $ft_3/min/ft_2$) [0.0051m_3/s m_2] of floor area of the room.

Exception: Lithium-Ion and Lithium Metal Polymer batteries shall not require ventilation beyond what is normally required in accordance with the *International Mechanical Code*..

2. Revise IMC as follows:

[F] 502.4 (Supp) Stationary storage battery systems. Stationary storage battery systems, as regulated by Section 608 of the *International Fire Code*, shall be provided with ventilation in accordance with this chapter and Section 502.4.1 or 502.4.2.

Exception: Lithium-ion and Lithium Metal Polymer batteries shall not require ventilation beyond what is normally required by this code.

[F] 502.4.1 Hydrogen limit in rooms. For flooded lead acid, flooded nickel cadmium, ~~and~~ VRLA and nickel metal hydride batteries, the ventilation system shall be designed to limit the maximum concentration of hydrogen to 1.0 percent of the total volume of the room.

[F] 502.4.2 Ventilation rate in rooms. Continuous ventilation shall be provided at a rate of not less than 1 cubic foot per minute per square foot (cfm/ft2) [0.00508 m3/(s • m2)] of floor area of the room.

3. Add new definition as follows:

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

BATTERY TYPES

Nickel metal hydride battery. An electrochemical secondary (rechargeable) alkaline battery where the charge carriers (positive Hydrogen ions) are stored in non-gaseous form in a metal alloy hydride material.

Reason: This proposed change adds Nickel Metal Hydride (NMH) batteries to Section 608. NMH batteries are currently undergoing tests by several end users for use as stationary battery back-up systems where lead acid and VRLA batteries are currently used. Section 608 has become the "battery" section of the code, where several requirements can be addressed for each technology battery. The new definition is required for clarity.

This proposed change also includes an enhancement to rooms where Lithium-Ion and Lithium Metal Polymer batteries are located by requiring general ventilation in accordance with the IMC.

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

F99-07/08: Replace proposal by adding Item 2 as follows:

F99–07/08

608.6.1; IMC [F] 502.4, [F] 502.4.1

Proponent: Stephen McCluer, APC-MGE

1. Revise IFC as follows:

608.6.1 (Supp) Room ventilation. Ventilation shall be provided in accordance with the *International Mechanical Code* and the following:

1. For flooded lead acid, flooded Ni-Cad, nickel metal hydride and VRLA batteries, the ventilation system shall be designed to limit the maximum concentration of hydrogen to 1.0 percent of the total volume of the room within an eight hour period and under the worst case condition of recharge following a discharge, or equalize charging, if the capability exists, whichever is higher; or
2. Continuous ventilation shall be provided at a rate of not less than 1 cubic foot per minute per square foot ($1ft^3/min/ft^2$) [$0.0051m_3/s\ m^2$] of floor area of the room.

Exception: Lithium-Ion and Lithium Metal Polymer batteries shall not require ventilation in excess of that required by the *International Mechanical Code.*

2. Revise IMC as follows:

[F] 502.4 (Supp) Stationary storage battery systems. Stationary storage battery systems, as regulated by Section 608 of the *International Fire Code*, shall be provided with ventilation in accordance with this chapter and Section 502.4.1 or 502.4.2.

Exception: Lithium-ion and Lithium Metal Polymer batteries shall not require ventilation in excess of that required by this code.

[F] 502.4.1 Hydrogen limit in rooms. For flooded lead acid, flooded nickel cadmium, nickel metal hydride and VRLA batteries, the ventilation system shall be designed to limit the maximum concentration of hydrogen to 1.0 percent of the total volume of the room within an eight hour period and under the worst case condition of recharge following a discharge, or equalize charging, if the capability exists, whichever is higher.

[F] 502.4.2 Ventilation rate in rooms. Continuous ventilation shall be provided at a rate of not less than 1 cubic foot per minute per square foot (cfm/ft2) [0.00508 m3/(s • m2)] of floor area of the room.

Reason: The IMC is a big document. It would be helpful to guide the reader to the relevant section of the IMC, which would logically be the VENTILATION section (presently Chapter 4). [see proposal M29-07/08 on IMC Ch 5]

Add nickel-metal-hydride batteries to the list of regulated battery types. Stationary NiMH battery systems have only recently been introduced to the market and are expected to become more widely used in the near future.

Add a time limit to the requirement for gassing. Theoretically, given enough time in a sealed space and given an infinite amount of gas generation, enough hydrogen could be generated to reach a one percent concentration… sometimes in days, weeks or even months. Assuming that other monitoring protections required by this code are functioning, such a design requirement is unrealistic and needlessly expensive. A requirement to design a ventilation system to prevent the accumulation of 1% hydrogen gas within an eight hour period is reasonable. Realistically, most battery systems must be in a sustained failure mode to generate that much gas. Vented batteries could do so, and would require a ventilation system designed for such conditions under this proposal.

Add the requirements under which such hydrogen gassing could occur. It should not be the theoretical laboratory maximum failure mode. Hydrogen release is created under conditions of excessive heat and/or voltage through the cells. Assuming compliance with the thermal runaway protection required by 608.3, the requirement should be based upon the worst case event likely to be seen in actual applications. Worst case would be during the high voltage event of equalize charging for a vented (flooded) battery. Some battery systems, such as UPS with VRLA batteries, do not permit or have provisions for equalize charging, in which case the worst case high voltage condition is recharge following a discharge.

Add the caveat that no “additional” ventilation is required beyond what is required by the IMC. Even Li-Ion and LMP batteries need at least some ventilation.

Cost Impact: The code change proposal will not increase the cost of construction beyond what is already required by the *International Fire Code* and the *International Mechanical Code*.

F268-07/08: Revise reason statement to read as follows:

Reason: Since the temporary storage of consumer fireworks, 1.4G occurs in almost every state in the US, it makes good sense to specify fire safety regulations for those situations. NFPA 1124-2006 contains fairly comprehensive requirements for such storage that have been developed through the NFPA consensus process.

INTERNATIONAL ENERGY CONSERVATION CODE – (VOLUME 2)

REVISION TO TENTATIVE ORDER OF DISCUSSION:

Add EC49-07/08, Part I after EC48-07/08, Part I on the IECC Hearing Order

Revise EC90-07/08 (before EC100-07/08) to become EC99-07/08 on the IECC Hearing Order

Remove Part II from G183-07/08 on IECC Hearing Order

INTERNATIONAL EXISTING BUILDING CODE – (VOLUME 2)

REVISIONS TO TENTATIVE ORDER OF DISCUSSION:

Add Part I to EB14-07/08 on IEBC Hearing Order

Add E19-07/08, Part III after EB17-07/08 on IEBC Hearing Order

Add E26-07/08, Part II after EB19-07/08 on IEBC Hearing Order

Add E8-07/08, Part III after EB31-07/08 on IEBC Hearing Order

Remove Part I from EB15-07/08 on IEBC Hearing Order

INTERNATIONAL MECHANICAL CODE – (VOLUME 2)

REVISION TO TENTATIVE ORDER OF DISCUSSION:

Remove M29-07/08 from IMC Hearing Order

Add Part I to the following code changes on the IMC Hearing Order:

M6-07/08,	**M16-07/08**	**M33-07/08**	**M91-07/08**
M7-07/08	**M17-07/08**	**M79-07/08**	**M92-07/08**
M9-07/08	**M30-07/08**	**M80-07/08**	**M103-07/08**
M10-07/08	**M32-07/08**	**M88-07/08**	**M104-07/08**
M11-07/08			

M26-07/08: Add exception to proposal as follows:

404.1 General. Enclosed parking garages shall be provided with mechanical ventilation as prescribed in this chapter.

Exception: Private garages classified as Group U occupancies.

INTERNATIONAL PROPERTY MAINTENANCE CODE – (VOLUME 2)

PM3-07/08: Replace proposal with the following:

EXTERMINATION. The control and elimination of insects, rats or other pests by eliminating their harborage places; by removing or making inaccessible materials that serve as their food; ~~by poison spraying, fumigating, trapping or by any other approved pest elimination methods.~~ or water; by trapping; and, when necessary, by use of registered pesticides consistent with label instructions in a manner that effectively controls the pest with the lowest exposure to occupants.

(Reason and cost impact to remain as published)

PM10-07/08: Replace proposal with the following:

403.5 Clothes dryer exhaust. Clothes dryer exhaust systems shall be independent of all other systems and shall be exhausted outside the structure in accordance with the ~~manufacturer's instructions~~ label.

Exception: Listed and labeled condensing (ductless) clothes dryers.

(Reason and cost impact to remain as published)

PM13-07/08: Replace proposal with the following:

503.4 Floor surface. In other than single family dwelling units, every bathroom and toilet room floor shall be maintained to be a smooth, hard, nonabsorbent surface to permit such floor to be easily kept in a clean and sanitary condition.

(Reason and cost impact to remain as published)

PM17-07/08: Replace reason statement with the following:

Reason: Based upon similar code language contained within the National Electrical Code.

INTERNATIONAL RESIDENTIAL CODE BUILDING/ENERGY – (VOLUME 2)

REVISIONS TO TENTATIVE ORDER OF DISCUSSION:

Revise G3-07/08, Part II to become G3-07/08, Part III on IRC B/E Hearing Order

Revise G4-07/08, Part II to become G4-07/08, Part III on IRC B/E Hearing Order

Remove RB28-07/08 from the IRC B/E Hearing Order

RB39-07/08: Replace the first Item 10 in Section R308.4 to read as follows:

10. Glazing adjacent to stairways, landings and ramps within 36 inches (914 mm) horizontally of a walking surface when the exposed surface of the glass is less than 60 inches (1524 mm) above the plane of the adjacent walking surface.

RB102-07/08: Replace the proposal with the following:

RB102–07/08
R401.3

Proponent: Gary J. Ehrlich, National Association of Home Builders (NAHB)

Revise as follows:

R401.3 Drainage. Surface drainage shall be diverted to a storm sewer conveyance or other approved point of collection so as to not create a hazard. Lots shall be graded to drain surface water away from foundation walls. The grade shall fall a minimum of 6 inches (152 mm) within the first 10 feet (3048 mm).

Exception: Where lot lines, walls, slopes or other physical barriers prohibit 6 inches (152 mm) of fall within 10 feet (3048 mm), the final grade shall slope away from the foundation at a minimum slope of ~~5~~ 2 percent and the water shall be directed to drains or swales to ensure drainage away from the structure. Swales shall be sloped a minimum of ~~2~~ 1 percent when located within 10 feet (3048 mm) of the building foundation. Impervious surfaces within 10 feet (3048 mm) of the building foundation shall be sloped a minimum of 2 percent away from the building.

(Reason and cost impact remain as published)

RB223-07/08: Replace Part I and Part II reason statements as follows:

PART I – IRC
Reason: The purpose of the proposed code change is to clarify the intent of the current language, to correct the punctuation and to create uniformity with the IBC. With the recent introduction of inflatable pools (usually blue) to the market place, a new hazard has emerged. According to the Consumer Product Safety Commission web site, the number of children dying in these types of pools is growing at an alarming rate.

The depth clarification was addressed by a formal ICC interpretation this past year and this code change simply puts that interpretation into the text of the code. Many homeowners would simply lower the water level of the pool to a depth just under 24 inches for the inspection and claim to be exempt.

The portable and inflatable language was added because many homeowners mistakenly believe that because these types of pools are exempt from the electrical code that they are also exempt from the building codes. For this reason, many inspectors are also hesitant to enforce the current pool safety barrier requirements because inflatable and portable pools are not specifically listed and/or are mistakenly thought to be unregulated due to their temporary nature.

Wading pool language was added for consistency with the IBC definition of a swimming pool.

PART II – IBC GENERAL
Reason: The purpose of the proposed code change is to clarify the intent of the current language, to correct the punctuation and to create uniformity with the IRC. With the recent introduction of inflatable pools (usually blue) to the market place, a new hazard has emerged. According to the Consumer Product Safety Commission web site, the number of children dying in these types of pools is growing at an alarming rate.

The depth clarification was addressed by a formal ICC interpretation this past year and this code change simply puts that interpretation into the text of the code. Many homeowners would simply lower the water level of the pool to a depth just under 24 inches for the inspection and claim to be exempt.

The portable and inflatable language was added because many homeowners mistakenly believe that because these types of pools are exempt from the electrical code that they are also exempt from the building codes. For this reason, many inspectors are also hesitant to enforce the current pool safety barrier requirements because inflatable and portable pools are not specifically listed and/or are mistakenly thought to be unregulated due to their temporary nature.

RB225-07/08: Replace Part I and Part II reason statements as follows:

PART I – IRC
Reason: The purpose of this code change is to clarify the intent of pool barrier requirements to include language that would address common elements that defeat the safety barriers.

With the introduction of inflatable pools, a new issue has emerged. These pools allow for easy climbing by young children, as demonstrated in the video on the Consumer Product Safety Commission web site, due to the soft texture and sloped sides. Owners of these pools claim that the 4 foot high sides of these climbable pools meet the barrier requirements of the code. While common sense dictates that having a climbable barrier does not meet the intent of the code, the code does not currently contain language to that effect, which is leading to enforcement difficulties in the field. According to the Consumer Product Safety Commission web site, the death toll from these pools is rising at an alarming rate.

Some of the fabric sided above ground pools have pockets for the support bars that offer a ladder effect into the pool, effectively eliminating the effectiveness of the safety that the sides of the pool would otherwise provide. Metal sided above ground pools often have angled braces to support the pool side walls that small children can easily climb. Pool filters, pumps and other ancillary pool accessories are often placed next to the above ground pool and act as easy steps into the pool. None of these issues are addressed in the current code language. Because this code change is only a clarification, the code change will not increase the cost of construction.

PART II – IBC GENERAL

Reason (Part I): This code change recognizes the promulgation of APSP-7 (2006) "American National Standard For Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Spas, Hot Tubs, and Catch Basins". This standard is basically a construction standard but it does not require the same entrapment protection as that provided for in the existing IBC Code requirements. Thus, the Pool Safety Consortium has maintained the Section requiring atmospheric vacuum relief systems.

The APSP's Suction Entrapment Avoidance Standard is based upon the following premises:

4.3"*There is no backup for a missing or damaged suction outlet cover/grate. If any cover/grate is found to be damaged or missing, the pool or spa shall be immediately closed to bathers."*

5.1" General, Methods to avoid entrapment in circulation systems, swim jet systems, alternative suction systems, and debris removal systems are shown in 5.2 through 5.10.

APSP's long held position is that Dual outlets (Sec. 5.3) is the only necessary entrapment avoidance method and back up systems such as Safety Vacuum Release Systems are not needed and an unnecessary added expense to the cost of a pool or spa. Notice for Sec. 5.1 above there is no back up (additional layer of protection) for when unforeseen blockage occurs or especially contractor error, Contractor error has been documented in past and recent entrapment investigations by the US CPSC.

This formula for safety presumes that a child or a responsible party understands the clear and present danger of a missing or damaged cover or grate, and is informed enough to know that the pool or spa should immediately be closed to bathers. This safety prescription is short sighted, and does not protect the child or parent from their own lack of understanding as to the degree of danger this condition represents.

Many entrapment accidents happen when the child themselves remove the drain cover. In a recent evisceration case in Minneapolis, Minn., the drain cover was reported to be floating next to the child's body.

The safety standards now promulgated under the IBC and IRC recognize the need for a safety formula that requires an additional degree of protection to guard against the possibility of body or limb entrapment on a single functioning suction outlet with a missing or broken suction outlet cover.

APSP's guidelines for dual suction outlets as detailed in Section 5 of the Standard are not descriptive enough to provide direction to the Industry or the Code Officials as to how to construct a safe dual drain system.

When two suction outlets are flowing, and one is blocked by a bather, there is a resultant hold-down force on the bather proportional to the exposed area of the suction outlet blocked, and proportional to the dynamic pressure drop in the branch piping.

The Standard does require a 3 ft/sec velocity limit in branch suction piping between suction outlets (see 4.4 Water velocity). This limit further restricts branch suction piping velocity to 8 ft/sec when one suction outlet is blocked. While the dynamic pressure drop in the branch piping is proportional to the square of the velocity in the pipe, it is also affected by entrance losses through outlet covers and grates, as well as separation distances and piping configurations.

Thorough testing for one of the ASTM 15.51 Sub-Committees has shown that the 3ft/sec can not be accomplished when 2" PVC piping is used in the interconnecting piping (see figure 1- Pipe Velocity of section 4.4). How is a building inspector to know what the velocity is before OR after the pool/spa is built?

Figure 4 of this section states "*minimum distance 3 feet apart*". Testing shows that there is a definite increase in hold down force the further apart the suction outlets are placed.

The Standard does not provide the Industry or the Code Officials with the necessary criteria in terms of suction outlet covers, piping configurations and allowable fittings, and maximum allowable suction outlet separation distances. Lacking this information, the Standard does not adequately protect the bathing public from the risk of entrapment due to dynamic hold-down forces on dual suction outlets.

APSP's guidelines for Engineered Vent Systems detailed in Section 7.2 of the Standard are not descriptive enough to provide direction to the Industry or the Code Officials as to how to construct a safe vent line system.

So called "Engineered" vent line systems have been used in Florida for the past five years, with no consideration given to static differential forces, and the hold-down force that results when a bather blocks a single functioning suction outlet. The Standard lacks descriptive information regarding the requirement for hydrostatically balanced vent line designs, to mitigate the affect of static differential hold-down forces.

In April of 2004, Mr. Art Kamm, P.E. wrote a letter to the Florida Building Commission's Plumbing Technical Advisory Committee, detailing the resulting affect caused by static differentials in improperly designed vent lines. The hold-down force created by an evacuated deep vent line in a 6 foot deep pool, can exceed 100 lbs on a single operating open suction outlet sump. This force is excessive and dangerous.

The Standard does not provide the Industry or the Code Officials with the necessary criteria in terms of hydraulically balanced vent line design. Lacking this information, the Standard does not adequately protect the bathing public from the risk of entrapment due to static differential hold-down forces on a single functioning suction outlet.

APSP-7 allows alternative methods to be determined by the "*authority having jurisdiction*". This loophole was used in Florida to allow the use of the Hayward "Drain Flapper" as a substitute for the SVRS for years before the Florida Building Commission found it to unsafe and reversed the position allowing it's use as a final layer of protection.

These arguments and others were presented to the IBC and the IRC when APSP attempted to remove the requirement for atmospheric vacuum relief systems. To date, the ICC has appropriately rejected these arguments during the last two code cycles.

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

Analysis: A review of the standard proposed for inclusion in the code, APSP-7 (2006), for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before January 15, 2008.

Reason: The purpose of this code change is to clarify the intent of pool barrier requirements to include language that would address common elements that defeat the safety barriers. While this is primarily an IRC issue, it should be added to the IBC for consistency and for those residential projects that may need to deal with this issue.

With the introduction of inflatable pools, a new issue has emerged. These pools allow for easy climbing by young children, as demonstrated in the video on the Consumer Product Safety Commission web site, due to the soft texture and sloped sides. Owners of these pools claim that the 4 foot high sides of these climbable pools meet the barrier requirements of the code. While common sense dictates that having a climbable barrier does not meet the intent of the code, the code does not currently contain language to that effect, which is leading to enforcement difficulties in the field. According to the Consumer Product Safety Commission web site, the death toll from these pools is rising at an alarming rate.

Some of the fabric sided above ground pools have pockets for the support bars that offer a ladder effect into the pool, effectively eliminating the effectiveness of the safety that the sides of the pool would otherwise provide. Metal sided above ground pools often have angled braces to support the pool side walls that small children can easily climb. Pool filters, pumps and other ancillary pool accessories are often placed next to the above ground pool and act as easy steps into the pool. None of these issues are addressed in the current code language. Because this code change is only a clarification, the code change will not increase the cost of construction.

RB226-07/08: Add reason statement for Part I as follows:

Reason (Part I): This code change recognizes the promulgation of APSP-7 (2006) "American National Standard For Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Spas, Hot Tubs, and Catch Basins". This standard is basically a construction standard but it does not require the same entrapment protection as that provided for in the existing IBC Code requirements. Thus, the Pool Safety Consortium has maintained the Section requiring atmospheric vacuum relief systems.

The APSP's Suction Entrapment Avoidance Standard is based upon the following premises:

> 4.3"*There is no backup for a missing or damaged suction outlet cover/grate. If any cover/grate is found to be damaged or missing, the pool or spa shall be immediately closed to bathers."*
>
> *5.1" General, Methods to avoid entrapment in circulation systems, swim jet systems, alternative suction systems, and debris removal systems are shown in 5.2 through 5.10.*

APSP's long held position is that Dual outlets (Sec. 5.3) is the only necessary entrapment avoidance method and back up systems such as Safety Vacuum Release Systems are not needed and an unnecessary added expense to the cost of a pool or spa. Notice for Sec. 5.1 above there is no back-up (additional layer of protection) for when unforeseen blockage occurs or especially contractor error, Contractor error has been documented in past and recent entrapment investigations by the US-CPSC.

This formula for safety presumes that a child or a responsible party understands the clear and present danger of a missing or damaged cover or grate, and is informed enough to know that the pool or spa should immediately be closed to bathers. This safety prescription is short sighted, and does not protect the child or parent from their own lack of understanding as to the degree of danger this condition represents.

Many entrapment accidents happen when the child themselves remove the drain cover. In a recent evisceration case in Minneapolis, Minn., the drain cover was reported to be floating next to the child's body.

The safety standards now promulgated under the IBC and IRC recognize the need for a safety formula that requires an additional degree of protection to guard against the possibility of body or limb entrapment on a single functioning suction outlet with a missing or broken suction outlet cover.

APSP's guidelines for dual suction outlets as detailed in Section 5 of the Standard are not descriptive enough to provide direction to the Industry or the Code Officials as to how to construct a safe dual drain system.

When two suction outlets are flowing, and one is blocked by a bather, there is a resultant hold down force on the bather proportional to the exposed area of the suction outlet blocked, and proportional to the dynamic pressure drop in the branch piping.

The Standard does require a 3 ft/sec velocity limit in branch suction piping between suction outlets (see 4.4 Water velocity). This limit further restricts branch suction piping velocity to 8 ft/sec when one suction outlet is blocked. While the dynamic pressure drop in the branch piping is proportional to the square of the velocity in the pipe, it is also affected by entrance losses through outlet covers and grates, as well as separation distances and piping configurations.

Thorough testing for one of the ASTM 15.51 Sub-Committees has shown that the 3ft/sec can not be accomplished when 2" PVC piping is used in the interconnecting piping (see figure 1- Pipe Velocity of section 4.4). How is a building inspector to know what the velocity is before OR after the pool/spa is built?

Figure 4 of this section states "*minimum distance 3 feet apart*". Testing shows that there is a definite increase in hold down force the further apart the suction outlets are placed.

The Standard does not provide the Industry or the Code Officials with the necessary criteria in terms of suction outlet covers, piping configurations and allowable fittings, and maximum allowable suction outlet separation distances. Lacking this information, the Standard does not adequately protect the bathing public from the risk of entrapment due to dynamic hold-down forces on dual suction outlets.

APSP's guidelines for Engineered Vent Systems detailed in Section 7.2 of the Standard are not descriptive enough to provide direction to the Industry or the Code Officials as to how to construct a safe vent line system.

So called "Engineered" vent line systems have been used in Florida for the past five years, with no consideration given to static differential forces, and the hold-down force that results when a bather blocks a single functioning suction outlet. The Standard lacks descriptive information regarding the requirement for hydrostatically balanced vent line designs, to mitigate the affect of static differential hold-down forces.

In April of 2004, Mr. Art Kamm, P.E. wrote a letter to the Florida Building Commission's Plumbing Technical Advisory Committee, detailing the resulting affect caused by static differentials in improperly designed vent lines. The hold-down force created by an evacuated deep vent line in a 6 foot deep pool, can exceed 100 lbs on a single operating open suction outlet sump. This force is excessive and dangerous.

The Standard does not provide the Industry or the Code Officials with the necessary criteria in terms of hydraulically balanced vent line design. Lacking this information, the Standard does not adequately protect the bathing public from the risk of entrapment due to static differential hold-down forces on a single functioning suction outlet.

APSP-7 allows alternative methods to be determined by the "*authority having jurisdiction*". This loophole was used in Florida to allow the use of the Hayward "Drain Flapper" as a substitute for the SVRS for years before the Florida Building Commission found it to unsafe and reversed the position allowing it's use as a final layer of protection.

These arguments and others were presented to the IBC and the IRC when APSP attempted to remove the requirement for atmospheric vacuum relief systems. To date, the ICC has appropriately rejected these arguments during the last two code cycles.

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

Analysis: A review of the standard proposed for inclusion in the code, APSP-7 (2006), for compliance with ICC criteria for referenced standards given in Section 3.6 of Council Policy #CP 28 will be posted on the ICC website on or before January 15, 2008.
