**AG106.3 Atmospheric Vacuum relief system required.** All pool and spa single or multiple outlet circulation systems shall be equipped with atmospheric vacuum relief to protect against entrapment at the suction outlet. Such vacuum relief systems shall include at least one approved or engineered method of the type specified herein, as follows:

1. Safety vacuum release system conforming to either ASME A112.19.17, or ASTM PS 010-03, or

2. An approved gravity drainage system or circulation system that does not create a source of entrapping suction at the outlets.

**AG107.1 General**

ASTM – American Society for Testing and Materials
1916 Race Street, Philadelphia, PA 19103
AG108.1 General

Add:


8) SUPPORTING INFORMATION (State purpose and reason, and provide substantiation to support proposed change):

The following comments are from the staff of the U.S. Consumer Product Safety Commission (CPSC) and have not been reviewed or approved by the Commission. CPSC staff is aware of a second standard that addresses safety vacuum release systems (SVRS) intended to detect and/or prevent entrapping suction from occurring in swimming pools, spas, hot tubs, and wading pools. While new designs and construction can incorporate multiple drains, gravity feeds, or other outlet suction solutions, these devices provide a safety solution for retrofit on existing structures where a single source of entrapping suction can exist.

Although current codes and standards for pools and spas contain requirements to prevent evisceration, body entrapment, and hair entrapment/entanglement, incidents and deaths continue to occur. Since the release of the first edition of the “CPSC Guidelines for Entrapment Hazards: Making Pools and Spas Safer” in 1998, changes have been made in codes and new standards have been developed.

Fifteen incidents of evisceration/disembowelment were reported to CPSC between 1980 and 1996. CPSC is not aware of any associated deaths, but the injuries are irreversible and have a devastating effect on the victim's future health and development. Young children are especially at risk since they have access to the bottom drain in wading pools because of the shallow water. Generally, drains are equipped with anti-vortext covers whose domed shape prevents sealing of the pipe opening by the body. However, if the cover or grate is unfastened, broken or missing, the potential for an incident exists. When the child's buttocks cover the drain opening, the resulting suction force can eviscerate the child through the ruptured rectum. A small change in pressure is sufficient to cause such injury extremely quickly.

CPSC is aware of 70 cases of body entrapment, including 12 confirmed deaths, between January 1990 and August 2002. The deaths were the result of drowning after the body, or a limb, was held against the drain by the suction of the circulation pump. Thirty-five of the incidents occurred in spas, 31 of the incidents occurred in swimming pools, three occurred in a wading pool and one occurred in an unknown location. In one case, a 16-year-old girl became trapped on a 12” by 12” flat drain grate in a large public spa and died. These incidents primarily involve older children (8 to 16 years of age), with an average age of about 9 years old, and 77% under the age of 15. In some of the cases, it appears that the child was playing with the open drain, including inserting a hand or foot into the pipe, and then became trapped by the resulting suction.

There are potentially many different circumstances of design and maintenance that can produce the conditions for the hazard. Body entrapment cases can occur in either pools or spas. The scenarios suggest that any open drain, or any flat grating that the body can cover completely, coupled with a plumbing layout that allows a buildup of suction if the drain is blocked, presents this hazard. Depending upon the
layout, the result may be a single bottom drain becoming the sole inlet to the pump, and this condition becomes dangerous if there is an inadequate or missing drain cover.

☐ SUPPORTING INFORMATION  Continued  (Attach additional sheets as necessary)

PLEASE USE SEPARATE FORM FOR EACH PROPOSAL
SUBMITTAL AS A DOCUMENT ATTACHED TO AN EMAIL IS PREFERRED

(SEE REVERSE FOR DIRECTIONS ON WHERE TO SEND PROPOSALS)
The following instructions are excerpts from the ICC Code Development Process for the International Codes. The full procedures can be downloaded from the ICC website at www.iccsafe.org.

PROPOSALS SHOULD BE SENT TO THE FOLLOWING OFFICES VIA REGULAR MAIL OR EMAIL:

<table>
<thead>
<tr>
<th>Code</th>
<th>Send to:</th>
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<tbody>
<tr>
<td>IBC</td>
<td>International Code Council</td>
</tr>
<tr>
<td>IFC</td>
<td>Chicago Regional Office</td>
</tr>
<tr>
<td>IUWIC</td>
<td>Attn: Diane Schoonover</td>
</tr>
<tr>
<td>IPC</td>
<td>4051 West Flossmoor Road</td>
</tr>
<tr>
<td>IPSDC</td>
<td>Country Club Hills, IL 60478-5795</td>
</tr>
<tr>
<td>IFGC</td>
<td>Fax: 708/799-0320</td>
</tr>
<tr>
<td>ICCPC</td>
<td><a href="mailto:dschoonover@iccsafe.org">dschoonover@iccsafe.org</a></td>
</tr>
<tr>
<td>IRC</td>
<td>International Code Council</td>
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<tr>
<td>IMC</td>
<td>Birmingham Regional Office</td>
</tr>
<tr>
<td>ICCPC</td>
<td>Attn: Annette Sundberg</td>
</tr>
<tr>
<td>IEBCC</td>
<td>900 Montclair Road</td>
</tr>
<tr>
<td>IECC</td>
<td>Birmingham, AL 35213-1206</td>
</tr>
<tr>
<td>IFMC</td>
<td>Fax: 205/592-7001</td>
</tr>
<tr>
<td>IZC</td>
<td><a href="mailto:asundberg@iccsafe.org">asundberg@iccsafe.org</a></td>
</tr>
</tbody>
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Acronym | ICC Code Name
-------|-----------------
IBC | International Building Code
ICCEC | ICC Electrical Code
ICCPC | ICC Performance Code
IEBC | International Existing Buildings Code
IECC | International Energy Conservation Code
IFC | International Fire Code
IFGC | International Fuel Gas Code
IMC | International Mechanical Code
IPC | International Plumbing Code
IPMC | International Property Maintenance Code
IPSDC | International Private Sewage Disposal Code
IRC | International Residential Code
IUWIC | International Urban-Wildland Interface Code
IZC | International Zoning Code

Supporting Information: Each proposal shall include sufficient supporting information to indicate how the Proposal is intended to affect the intent and application of the code.

1. **Purpose:** The proponent shall clearly state the purpose of the Proposal (e.g., clarify the code; revise outdated material; substitute new or revised material for current provisions of the code; add new requirements to the code; delete current requirements, etc.).

2. **Reasons:** The proponent shall justify changing the current code provisions, stating why the proposal is superior to the current provisions of the code. Proposals which add or delete requirements shall be supported by a logical explanation, which clearly shows why the current code provisions are inadequate or overly restrictive, specifies the shortcomings of the current Code provisions, and explains how the Proposal will improve the Code.

3. **Substantiation:** The proponent shall substantiate the proposal based on technical information and substantiation. The burden of providing substantiating material lies with the proponent of the proposal.

4. **Bibliography:** The proponent shall submit a bibliography of any substantiating material submitted with the proposal. The bibliography shall be published with the proposal, and the proponent shall make the substantiating materials available for review at the offices of ICC, and during the public hearing.

5. **Copyright Release:** The proponent shall sign a copyright release reading: “I hereby grant the International Code Council the nonexclusive, royalty-free rights, including nonexclusive, royalty-free rights in copyright, in this proposal and I understand that I acquire no rights in any publication of the International Code Council in which this proposal in this or another similar analogous form is used. I hereby attest that I have the authority and I am empowered to grant this copyright release.”

When submitting proposals electronically, to complete the submittal process, print a copy of the ICC Copyright Release form found at www.iccsafe.org/codes/publicforms.html, fill in the requested information, and fax the signed form to the appropriate office as shown to the left. This form is kept on file and can be used for all proposals and comments submitted on any International Code. On the proposal form, just check the box titled “Signature on File”. This release will be applicable to all future proposals submitted electronically.

Number of Submittals: Submittal as a document attached to an e-mail is preferred. Each proposal is to be attached as a separate document. If submitted in a paper format, two copies of each Proposal and two copies of all substantiating information shall be submitted. Additional copies may be requested when determined necessary by the Secretariat. A copy of the proposal in electronic form may be requested.

**Referenced Standards:** At least two copies of any proposed reference standard shall be submitted. In order for a standard to be considered for reference or to continue to be referenced by the codes, a standard shall meet the following criteria:

**Code References:**

1. The standard and the manner in which it is to be utilized shall be specifically referenced in the code text.
2. The need for the standard to be referenced shall be established.

**Standard Content:**

1. A standard or portions of a standard intended to be enforced shall be written in mandatory language.
2. The standard shall be appropriate for the subject covered.
3. All terms shall be defined when they deviate from an ordinarily accepted meaning or a dictionary definition.
4. The scope or application of a standard shall be clearly described.
5. The standard shall not have the effect of requiring proprietary materials.
6. The standard shall not prescribe a proprietary agency for quality control or testing.
7. The test standard shall describe, in detail, preparation of the test sample, sample selection or both.
8. The test standard shall prescribe the reporting format for the test results. The format shall identify the key performance criteria for the element(s) tested.
9. The measure of performance for which the test is conducted shall be clearly defined in either the test standard or in Code text.
10. The standard shall not state that its provisions shall govern whenever the referenced standard is in conflict with the requirements of the referencing code.
11. The preface to the standard shall announce that the standard promulgated according to a consensus procedure.

**Standard Promulgation:**

1. The standard shall be readily available.
2. The standard shall be developed and maintained through a consensus process such as ASTM or ANSI. Standards developed using the ANSI Canvass Method shall comply with the Report of ICC Modifications to the ANSI General Procedures and to ANSI Annex B - Procedures for Canvass by an Accredited Sponsor.
The 2003/2004 Code Development Hearings will be held September 5-14, 2003 in Nashville, TN.