

Virginia Graeme Baker Pool and Spa Safety Act

September 2008 CPSC Staff Draft Technical Guidance on Section 1406: Minimum State Law Requirements¹

Section 1405 of the Virginia Graeme Baker Pool and Spa Safety Act specifies that the Commission shall establish a grant program for each of fiscal years 2009 and 2010. However, Congress has not yet appropriated funds for this program. When Congress funds this grant program, we will notify the States. To provide assistance to States that may be considering enacting statutes (or amending existing statutes), U.S. Consumer Product Safety Commission (CPSC) staff has prepared this draft guidance document that describes technical issues for consideration in connection with the requirements of Section 1406 of the Act.

To be eligible for a grant, as provided for in Section 1405 of the Virginia Graeme Baker Pool and Spa Safety Act, a State, at a minimum, must have certain requirements in place which are discussed below with technical guidance on those requirements.²

CPSC may establish additional minimum State law requirements for existing pools and spas to ensure that users are protected against entrapment hazards, following public notice of the intent to publish such requirements and a 30-day comment period. Pub. L. No. 110-140, §1406(a)(1)(B). As specified in the Act, the Commission will consider current or revised national performance standards on pool and spa barrier protection and entrapment prevention. In addition, the requirements will be consistent with the guidelines contained in the Commission's publication entitled 'Guidelines for Entrapment Hazards: Making Pools and Spas Safer,' and will take into consideration various systems, devices and practices that have been developed to protect against or prevent entrapment hazards. Pub. L. No. 110-140, §1406(a)(4).

1. Barriers³

To be eligible for a grant, the State statute must require the enclosure of all outdoor residential pools and spas by barrier to entry. Pub. L. No. 110-140, §1406(a)(1)(A)(i). The

¹ These comments are those of CPSC staff, have not been reviewed or approved by, and may not necessarily reflect the views of, the Commission.

² As specified in the Act, the Commission shall use these requirements solely for the purpose of determining the eligibility of a State for a grant, and not for other enforcement purposes.

³ Based on *CPSC Safety Barrier Guidelines for Home Pools*, CPSC Publication No. 362, U.S. Consumer Product Safety Commission, Washington, DC.

barriers to entry should effectively provide protection against potential drowning or near-drowning of young children by restricting access to swimming pools and spas.

Following is the CPSC staff's judgment and interpretation as to what an effective barrier may entail:

- 1.1 **Fences and/or Walls.** Outdoor swimming pools, such as in-ground, above-ground, or on-ground pools, and spas shall have a barrier (e.g., fence and/or wall) which complies with the following:
 - 1.1.1 The top of a fence or wall used as a barrier shall be a minimum of 48 inches (1219 mm) above grade. The bottom of a fence shall be no more than 4 inches (102 mm) above grade when that grade is a hard surface such as cement/asphalt. The bottom of a fence shall be no more than 2 inches (51 mm) above grade when that grade is a soft surface such as grass or ground/natural surface. All measurements shall be taken on the barrier side farthest from the pool.
 - 1.1.1.1 Solid barriers such as brick or rock walls shall have no indentations or protrusions that can provide hand and/or foot holds, other than normal construction tolerances and masonry joints.
 - 1.1.2 For above-ground or on-ground pools, the pool structure itself may serve as a ground level barrier. If the top of the pool structure is less than 48 inches above grade and a barrier is mounted on top of the pool structure, the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall be 4 inches (102 mm).
 - 1.1.2.1 Where access to an above-ground pool is provided by a ladder or steps, then:
 - 1.1.2.1.1 The steps or ladder shall be designed to be secured, locked, or removed to prevent access, or
 - 1.1.2.1.2 A barrier such as one described in Section 1.1.1 above shall surround the steps or ladder.
 - 1.1.3 Where a barrier (fence) is constructed of horizontal and vertical members, then:
 - 1.1.3.1 If the distance between the top of a horizontal member and ground level is less than 45 inches (1143 mm), the horizontal members shall be located on the swimming pool side of the fence. The spacing between the vertical members shall not exceed 1-3/4 inches (44 mm) in width. Any decorative cutout spacing within vertical members of the fence shall not exceed 1-3/4 inches (44 mm) in width.

- 1.1.3.2 If the distance between the top of a horizontal member and ground level is 45 inches (1143 mm) or more, the spacing between the vertical members shall not exceed 4 inches (102 mm) in width. Any decorative cutout spacing within vertical members of the fence shall not exceed 1-3/4 inches (44 mm) in width.
- 1.1.4 The maximum mesh size for a chain link fence shall not exceed 1-1/4 inches (32 mm) square [1-3/4 inches (44 mm) diagonal]. A larger mesh size may be used if slats fastened at the top or bottom of the fence are used to reduce mesh openings to no more than 1-3/4 inches (44 mm). See Figure A below.

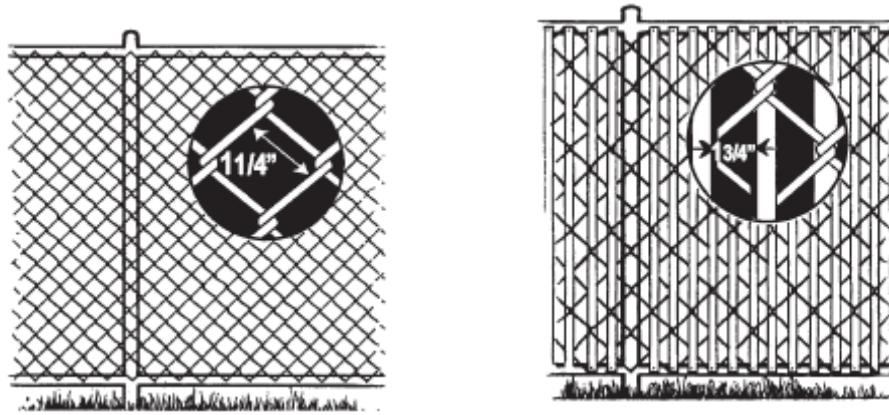


Figure A. Maximum chain link fence opening.

- 1.1.5 For a barrier made up of diagonal members (latticework), the maximum opening between the diagonal members shall not exceed 1-3/4 inches (44 mm).
- 1.2 **Access Gates.** Access gates shall meet the requirements of Section 1.1 (Fences and/or Walls) above and shall be equipped to accommodate a locking device.
- 1.2.1 Pedestrian access gates shall open outward away from the pool and shall be self-closing and self-latching. A locking device shall be included in the gate design. Where the release mechanism of the self-latching device is less than 54 inches (1372 mm) from the bottom of the gate, the release mechanism and openings must comply with the following:
- 1.2.1.1 The release mechanism shall be on the pool side of the gate at least 3 inches (76 mm) below the top of the gate, and
- 1.2.1.2 The gate and barrier shall have no opening greater than 1/2 inch (13 mm) within 18 inches (457 mm) of the release mechanism.
- 1.2.2 Gates other than for pedestrian access shall be equipped with a self-latching device.

1.3 **Dwelling Walls.** For swimming pools or spas where dwelling walls serve as a part of a barrier, one of the following shall be in place:

1.3.1 A door in the wall that provides direct access to the pool shall be equipped with an audible alarm system meeting Underwriters Laboratories Inc. (UL) standard UL 2107 *General-Purpose Signaling Devices and Systems*, Section 77, Residential Water Hazard Entrance Alarm Equipment.

1.3.1.1 The alarm system shall be equipped with a manual means to temporarily deactivate the alarm for not more than 15 seconds.

1.3.1.2 The deactivation means shall be located not less than 54 inches (1372 mm) from the floor or threshold of the door.

1.3.2 A power safety cover that meets the requirements of ASTM F1346 *Performance Specification for Safety Covers and Labeling Requirements for All Covers for Swimming Pools, Spas, and Hot Tubs*.

1.3.2.1 Manual covers for spas shall be used whenever the spa is not in use. Manual safety covers shall meet all the requirements of ASTM F1346.

2. **Entrapment Protection/Prevention Devices**

Section 1406 also sets forth that States must have certain minimum requirements to prevent entrapment in order to be eligible for a grant. The provisions of this section apply to the use of entrapment protection/prevention devices on swimming pools and spas that are not covered by section 1404's requirements for anti-entrapment on public pools⁴ ("non-public pools").

To be eligible for a grant, a State statute must require that all pools and spas are equipped with anti-entrapment devices or systems. Pub. L. No. 110-140, §1406(a)(1)(A)(ii). The devices/systems described are intended to provide protection against drowning or near-drowning due to suction entrapment.

⁴ Public pools and spas must comply with section 1404 of the statute. Section 1404(c)(2) defines public pool and spa as a swimming pool or spa that is "(A) open to the public generally, whether for a fee or free of charge; (B) open exclusively to-- (i) members of an organization and their guests; (ii) residents of a multi-unit apartment building, apartment complex, residential real estate development, or other multi-family residential area (other than a municipality, township, or other local jurisdiction); or (iii) patrons of a hotel or other public accommodations facility; or (C) operated by the Federal Government (or by a concessionaire on behalf of the Federal Government) for the benefit of members of the Armed Forces and their dependents or employees of any department or agency and their dependents.

- 2.1 Non-public pools or spas constructed more than one year after enactment of the State statute establishing requirements that comply with provisions of the Act, shall use:
- (A) More than one drain (CPSC staff believes a multiple main drain system without isolation capability with covers on each submerged suction outlet that meet ASME/ANSI A112.19.8 *Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs*, would meet such a requirement); or
 - (B) One or more unblockable drains; or
 - (C) No main drain.

Pub. L. No. 110-140, §1406(a)(1)(A)(iii).

- 2.2 All non-public pools and spas with a main drain, other than an unblockable drain, shall be required to use a suction outlet cover that meets ASME/ANSI A112.19.8. Pub. L. No. 110-140, §1406(a)(1)(A)(iv).

Should the Commission undertake such a rulemaking to establish additional minimum state requirements, the Commission is required by the Act to require the use of one of the following except in pools constructed without a single main drain:

- (A) Safety Vacuum Release System
- (B) Suction-Limiting Vent System
- (C) Gravity Drainage System
- (D) Automatic Pump Shut-off System
- (E) Drain Disablement
- (F) Other systems determined by the Commission to be equally effective as, or better than, the systems described in subparagraphs (A) through (E).

Pub. L. No. 110-140, §1406(d).

3. Additional Layers of Protection (not required)

Although not required, states may consider requirements for additional layers of protection to supplement requirements described in Section 1 (Barriers) and Section 2 (Entrapment Protection/Prevention Devices) above. The following types of equipment have been identified by staff as possible additional safety requirements that States may want to consider:

- 3.1 **Window Guards**. A window in a wall that allows access to the pool may be equipped with window guards that limit access or be affixed with a childproof device to limit the window opening to less than 4 inches. The window guard shall meet ASTM F2006

Safety Specification for Window Fall Prevention Devices for Non-Emergency Escape (Egress) and Rescue (Ingress) Windows.

3.2 **Swimming Pool Alarms.** A pool alarm may be used to provide warning that a pool has been entered. There are pool-based alarms, surface and subsurface, as well as perimeter alarms that monitor the pool area. All alarms shall meet the requirements of ASTM F2208 *Standard Specification for Pool Alarms.*

3.2.1 Surface alarms float on the pool's surface and are activated by waves in the pool. The device shall provide an alarm at the pool and within the residence and shall meet the requirements of ASTM F2208.

3.2.2 Subsurface alarms respond to pressure waves under the water surface, generated by the displacement of water when an object enters the pool. The device shall provide an alarm at the pool and within the residence and shall meet the requirements of ASTM F2208.

3.2.3 Perimeter alarms, used in conjunction with barriers meeting the requirements of Sections 1.1.2 – 1.1.4, shall meet the performance requirements of ASTM F2208.

3.3 **Entrapment Prevention.** Due to care and maintenance concerns associated with circulation systems that include submerged suction outlets and covers, consideration may be given to the installation of a back-up system that relieves entrapping suction and/or shuts down the pump when a blockage is detected [e.g., an SVRS or other technology] in case unanticipated conditions arise that may present an entrapment hazard.

Note: The Act requires that any state receiving grant funds shall use at least 50 percent of the grant amount to hire and train enforcement personnel for implementation and enforcement of the State's swimming pool and spa safety law. The remaining money shall be used to educate pool construction, installation, and service companies about the standards and to educate pool owners, operators, and the public about pool safety and drowning and entrapment prevention, as well as to defray any administrative costs associated with training and education programs.