

# Lack of Enforcement Plagues Pool Law

**VIRGINIA GRAEME BAKER ACT IDEALLY MAKES CHILDREN SAFER IN PUBLIC POOLS AND SPAS, BUT COMPLIANCE CONTINUES TO BE A MAJOR ISSUE**

**Story by Matt Chapuran**

**F**or years, Americans around the country have been at risk, small children and strong swimmers alike. Deaths have been reported in California, Pennsylvania and Minnesota. As recently as this summer, a woman filed a lawsuit against an athletic club for the wrongful death of her husband in a Pittsburgh club.

The danger exists in pools and spas when inadequate drainage systems or drain covers are in use. When flat drain covers are affixed in a pool or spa with a single-action drainage system, a swimmer can create suction by blocking the drain with a part of his or her body. Hair or a portion of the bathing suit getting caught in the drain can pose an additional risk. In extreme cases, the suction created by human blockage can result in an almost instantaneous disembowelment.

Recently, Congress took action. On Dec. 19, 2007, the Virginia Graeme Baker (VGB) Pool & Spa Safety Act became federal law. Named in memory of former Secretary of State James Baker III's 8-year-old granddaughter, who drowned in 2002 after being trapped by a hot tub drain, the law ultimately found passage as part of the Energy Independence and Security Act of 2007, a larger energy bill drafted by the Bush administration. The legislation requires that each swimming pool or spa drain cover manufactured, distributed or entered into commerce in the United States conform to the ASME/ANSI A112.19.8 performance standard. Also, each public pool and spa, both new and existing, must be equipped with appropriate and conforming A112.19.8 drain covers and a secondary drain system conforming to ASME/ANSI A112.19.17 or ASTM Standard F2387.

IAPMO is one of the bodies actively testing that new drain covers are in compliance with the legislation.

## A Nightmare Scenario

The VGB legislation seeks to prevent five potential dangers: hair, limb or body entrapment, bathing suit entanglement and evisceration. While most pool and spa related accidents impact children under the age of 5, it's children 2 and under that are most likely to be in jeopardy. The VGB legislation is intended to have covers in place to prevent entrapment or even evisceration.

"You can get a foot or an arm stuck in an open sump or pipe and once there, if you struggle, it can get bruised and swollen, holding you in place even when the circulation pumps are shut off," says Carvin DiGiovanni, senior director, Technical and Standards for the Association of Pool & Spa Professionals. "The drain cover is the only protection against all five known suction entrapment hazards and that is why the VGB places so much emphasis on it."

DiGiovanni emphasizes education. "Don't play near the drain cover and if it's missing or broken, do not use the pool or spa until a compliant cover has been replaced. There is no back up device today that can protect you against all five known suction entrapment hazards once the cover is off."

## Enforcement

The VGB legislation delegates enforcement powers to the U.S. Consumer Product Safety Commission (CPSC) and the fifty state Attorneys General. While acknowledging that,



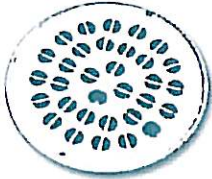
The U.S. Consumer Product Safety Commission (CPSC) is charged with protecting the public from unreasonable risks of serious injury or death from thousands of types of consumer products under the agency's jurisdiction. The CPSC is committed to protecting consumers and families from products that pose a fire, electrical, chemical, or mechanical hazard or can injure children.

The CPSC is charged with enforcement of the Virginia Graeme Baker Pool & Spa Safety Act.



## Does Your Drain Cover Look Like One of These?

A few examples of drain covers that may not comply with the VGB Act.



"We are a small agency," with only 100 field representatives, Kathleen Reilly of the CPSC says that their goal is to get all public pools "compliant as soon as possible." To mobilize as many resources as possible, Reilly says that the CPSC has made an effort to reach out to all state Attorneys General, to remind them of their enforcement powers.

One challenge facing the CPSC is its reliance on local agencies to help flag potentially non-compliant pools due to a short stock of field agents. Myriad local departments of health, sanitation and/or the environment — any public agency that may be visiting a public pool or spa for a non VGB-related issue — are potential partners in enforcement. "It differs from one municipality to another," Reilly says.

Accordingly, education and partnership are vital for the CPSC and for VGB's success. Funding for the act includes a grant program for states and an information and education program aimed at informing pool and spa stakeholders, as well as the public, about drowning prevention and the hidden dangers of entrapment. Reilly hopes that the CPSC can make some impact with "a multiple facet approach. Thankfully, we've heard estimates from the Association of Pool Owners that 50 percent of public pools are already compliant."

## Not Everyone is On Board

Despite the best intentions, some municipalities are refusing to cooperate. While unwilling to name particular states, DiGiovanni says that while some states have taken the legislation "very seriously," there has been a range of enforcement from state attorneys general from proactive to lukewarm. The lack of funding for enforcement in the bill has meant that states without existing inspection infrastructure need to either increase enforcement staffing during this recession or permit lax enforcement.

"We've seen the whole gamut of embracing VGB at the state, local and municipal level," says John Procter, communications director of the Pool Safety Council. "Some readily embraced enforcement and implementation," he says, citing Washington, D.C., New Orleans, Phoenix and Alexandria, Va., "to name a few that moved very quickly. But there's been a small group that's been

vocal in its reluctance," most notably Los Angeles County, where its chief pool inspector walked off from an interview with a local CBS affiliate. "We realize that there are limited resources at every level, but that doesn't send an encouraging message to his counterparts," Procter says.

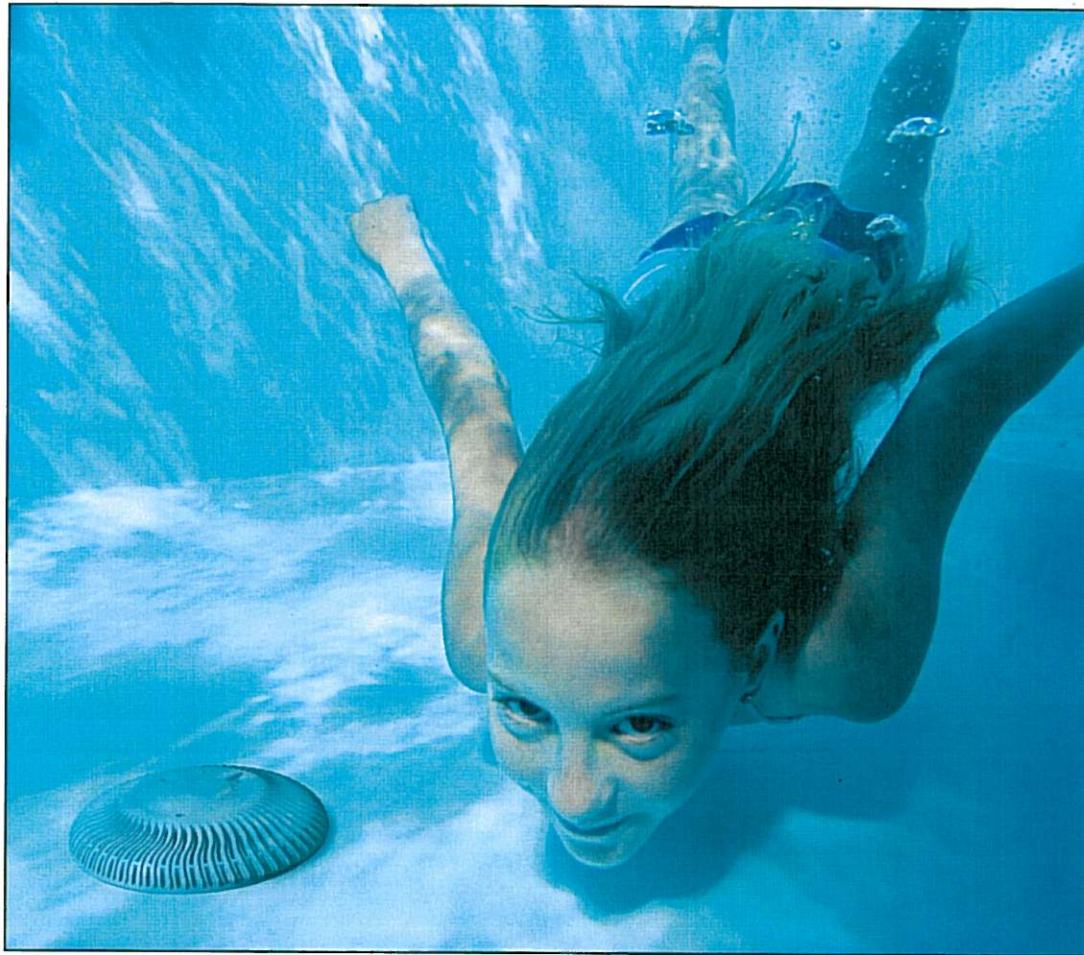
Angelo Bellomo, director for environmental health for Los Angeles County's Department of Public Health, argues that the Federal law doesn't empower local officials with enforcement authority. "The Federal law is enforced by the Federal government, not by state or local agencies," he says. "We've explored this with counsel and have determined we don't have legal standing. If we did, we'd be enforcing the Federal law directly and aggressively."

In the meantime, Los Angeles County's Director of the Bureau for Environment Protection Al Medina states that their concentration has been on implementing a dual-drain solution in any new pool in California or any pool that goes through substantial renovations. "Since 1985, we recognized issues with suction from single drain pools, but we don't have authority to force existing pools that aren't going through renovations to come into compliance with VGB."

Bellomo cites efforts in the California legislation to incorporate VGB language into state and local code to "equalize state and local level efforts with Federal powers. Statewide law is warranted and we're hopeful that it will be passed."

*(The California State Legislation has since passed AB 1020, the provisions of which are detailed on page 10.)*

Questions of cost have also slowed implementation of the law. In some cases, the administrators of public facilities have bundled changes required to satisfy VGB with other outstanding renovations, such as re-plastering or equipment acquisition, leading to "sticker shock when they see changes costing \$10,000," Procter says. In reality, Procter says, "the CPSC has demonstrated clearly that most pools require a couple hundred dollars to satisfy VGB and even if there's secondary levels of protection needed, these can be reached with an investment of \$1,200-\$1,500. The core



A very cost-effective solution to comply with VGB is the installation of an approved "unblockable" drain cover. These drain covers can also be installed without having to drain the pool, by technicians who are also certified divers.

One example of this type of drain cover is the Paramount SDX Retro High Flow Safety Drain (shown left). The SDX Retro brings existing suction outlet covers into compliance and fits existing plaster rings up to 10 inches in diameter. There is no need to chisel out a sump to meet the 1.5 times the pipe diameter sump depth requirement.

The diagram below illustrates the simplicity of the SDX Retro model's installation process.

PHOTO AND GRAPHIC PROVIDED COURTESY OF PARAMOUNT POOL AND SPA SYSTEMS  
www.1paramount.com

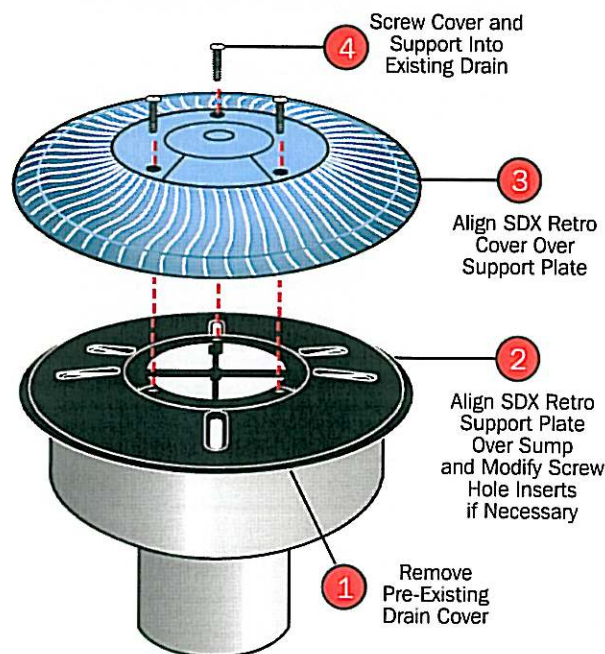
compliance is not an enormous cost when considering the potential loss of life."

### Is It Ultimately Effective?

Unaddressed by the legislation are residential pools. According to a report prepared by the U.S. Consumer Product Safety Commission (CPSC), 79 percent of reported fatalities associated with pool and spa submersion of children less than 5 years old took place "in a residence," and perhaps as few as 13 percent take place in a public setting. According to the report, "The majority (79 percent for pools and spaces) occurred in residential settings such as the victim's home, a family or friend's house, or a neighbor's residence. The victim's home location accounts for the largest percentage (51 percent for pools and spas) for all location categories."

Reilly concedes that there are a host of potential safety steps, including mandatory fencing or other barriers or alarms, which could increase the safety of residential pools.

Reilly says that 10 states currently have rules, laws or building codes that mandate measures like 4-foot fencing to help prevent child drowning in residential pools.



“VGB is a huge step in the right direction,” Procter says. He concedes that while his organization would love to see the legislation expanded to encompass all pools and spas, where the majority of cases occur, he hopes that the owners of private facilities will voluntarily take the step to invest the \$100 to improve safety. “Most pools can make these changes simply,” Procter says.

DiGiovanni endorses the theory that residential pools should also be VGB compliant. “Residential pool owners are very familiar with their backyard pool and know its design. They are responsible for maintaining safe behavior and pool equipment; especially drain covers. Their job is to educate and monitor their invited guests. In a public pool, bathers feel relatively safe because there is a lifeguard on duty and have an expectation that it is the facility’s responsibility to maintain safe behavior and make sure the pool equipment is safe,” he says. “The overall objective is to educate the general public not to play or swim near drains in either type of pool and immediately report if a drain cover is missing or broken. There are a lot more people using residential backyard pools than public pools.”

The CPSC report describes what it refers to as the common scenario for a pool accident for a child under the age of 5. “The highest percentage of the reports (46 percent) attributed the incident to an adult losing contact or knowledge of the whereabouts of the child and, during this time period, the child managed to access the pool/spa.”

Even the presence of a lifeguard doesn’t guarantee safety, especially if a non-VGB-compliant drain cover is in place or a compliant cover has been damaged or removed. The CPSC has released video of strong men failing to move inflatable devices from flat drain covers because of the suction. Reilly stresses education, saying that her agency seeks to, “Let people know about the hidden hazard of entrapment.”

### An Example of Local Enforcement

On Oct. 11, 2009, Assembly Bill 1020 was signed into California State law. This bill adds Section 116064.2 to the California Health and Safety Code. This new section incorporates

provisions of the Federal Virginia Graeme Baker (VGB) Act into California State law and is intended to prevent suction drain entrapments and drownings.

This California law requires that all public pools be retrofitted with approved drain covers manufactured after Dec. 19, 2008. In addition, every suction drain on a pool must have a split (dual) drain; be equipped with a safety vacuum release system; or an automatic pump shut-off system must be provided.

In the County of Los Angeles, the Department of Public Health’s Environmental Health Bureau of Environmental Protection – Recreational Waters Program, has been empowered to enforce this law. By July 1, 2010 owners of all public swimming pools spas and wading pools must submit a “Certification of Compliance” form, verifying that their pool(s) meet all provisions of the new State law. These requirements specifically apply to those pools located at apartments, condominiums, townhouses, hotels, motels, schools, health clubs, mobile home parks, medical facilities, and includes municipal, resort and community pools.



COUNTY OF LOS ANGELES  
**Public Health**

The text and diagrams defining Section 116064.2 of the *California Health and Safety Code* as adopted by the County of Los Angeles Department of Public Health, were reproduced from a County of Los Angeles Department of Public Health Bulletin.

[www.lapublichealth.org/EH/docs/ep\\_rw\\_vgb.pdf](http://www.lapublichealth.org/EH/docs/ep_rw_vgb.pdf)

#### **Exemptions from the new state law include:**

- All pools built after Dec. 19, 2008, are exempt from these requirements as they have already been approved by the Department to comply with the new law.
- All pools that have already been retrofitted to meet the new State law are exempt from these requirements. “Already retrofitted” means plans were submitted to the Department and either a final inspection was made by staff or a “Certification of Compliance” form was filed with the Department.
- Swimming pools and spas with existing split drain(s), however, must be evaluated by a contractor to ensure full compliance with Requirements (a) through (d) listed on the following page. Additionally, these pools and spas will require retrofitting with new approved drain covers and must comply with Requirements (e) through (h) listed

on the following page. Each pool must be evaluated by a licensed California contractor as most will require some type of modification (e.g. drain cover replacement).

**(Existing) Swimming pools and spas with single drain(s) must be retrofitted with one of the following:**

- Split drains following Requirements (a) through (i) listed below;
- Installation of an approved, “unblockable drain.” (An “unblockable drain” means a drain cover or grate with a minimum dimension of 23 inches by 18 inches OR a channel drain with a height of 3 inches or greater and length of 31 inches or greater.)

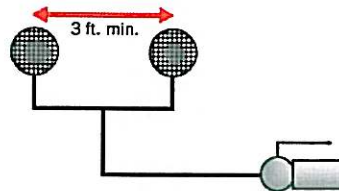
*The Federal Law definition reads: An “unblockable drain” means a drain cover or grate of any size or shape that a human body cannot sufficiently block to create a suction entrapment hazard.*

- Installation of a safety vacuum release or automatic pump shut-off system. The system must comply with the latest ASME/ANSI A112.19.17 performance standards. Covers/grates will still need to be replaced with approved types. The safety vacuum release or automatic pump shut-off system must be installed per manufacturer’s instructions. To see a list of approved safety vacuum release systems, please visit the website at: <http://www.poolsafety.gov/svrsman.html>

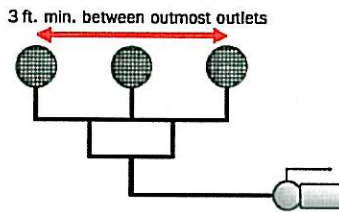
**Requirements:**

- a. The suction side of each pump, located on any type of pool, shall be plumbed with at least two suction outlets. Suction outlets shall be separated by a distance of at least 3 feet, measured from the center of one suction pipe to the other. The suction drains must be plumbed with a T in the center that is hydraulically balanced. Each branch of the “T” must be at least the same size as the main suction plumbing. *Note: Spas have two separate systems,*

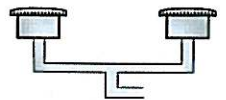
*one for the filtration and the other for the jets. Both systems need to comply with dual drain requirements.*



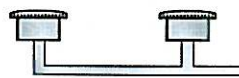
Dual Outlets



Three Outlets

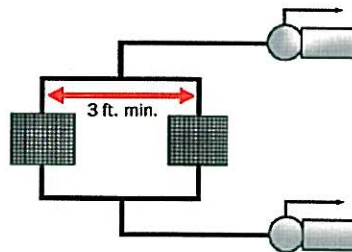


Correct



Incorrect

- b. Each branch of a split suction shall terminate under its own suction outlet cover/grate. Except, suction plumbing from *two different pumps* may terminate under one suction outlet cover/grate if the combined flow rate of each suction pipe is less than the flow ratings of a single cover/grate.



- c. In situations where room on the floor is limited, (e.g. in a spa), the suction outlets may be located less than 3 feet apart, as long as they are located on different design planes (e.g. one drain on the floor and one on the wall or two

**USEFUL INFO**

**WARNING**

**! DROWNING HAZARDS !**



Wound inflicted by a non-compliant pool drain cover.



The five suction dangers addressed by the VGB Act.

THE PHOTO ABOVE IS PROVIDED COURTESY OF SAFE KIDS USA [www.usa.safekids.org](http://www.usa.safekids.org)



VGB  
2008

An example a product mark indicating compliance with ASME/ANSI A112.19.8-2007 and the Virginia Graeme Baker Act. Because there are no specific requirements set by the CPSC for the mark's design, it is likely you'll encounter slight variations in marks applied to these VGB approved products.

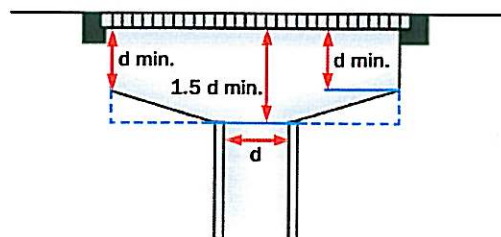
*different walls*) and as long as they are offset so a body cannot cover both suction outlet covers/grates. When a suction outlet is located on a wall, the bottom edge of the cover/grate shall be within 3 inches of the floor.

- d. The flow rating of *each* cover/grate shall be equal to or greater than the flow rating of the pump to which it is connected. For example, if a pump is rated at 80 gpm at 60 feet of head, each cover/grate of the split suction must be rated at 80 gpm or greater. If 3 or more suction outlets are used, refer to the table below.

Number of covers/grates per system	Minimum flow rating of each cover/grate % maximum system flow rate
2	100%
3	66.7%
4	50%
5	40%
6	33.3%

- e. All drains/grates will be required to meet the latest ASME/ANSI A112.19.8 performance standards. A list of covers/grates, approved by this Department, can be obtained at the web site: [http://publichealth.lacounty.gov/eh/docs/ep\\_rw equip.pdf](http://publichealth.lacounty.gov/eh/docs/ep_rw equip.pdf)

- f. If the suction outlet cover/grate is not part of the manufactured sump and is placed on a field-built sump, the sump must comply with the following dimensions. Field built sumps with lesser dimensions will be allowed if the covers have been tested with lesser dimensions and specifically stated in the manufacturer's installation instructions.



d = inside pipe diameter

- g. All skimmers shall be dual port design. Skimmers shall be vented to atmosphere through an opening in the lid. Skimmers shall be connected to either an equalizer line or a main drain. A main drain connected to a skimmer requires split main drains.

- h. Cover/grate and sump requirements for main drains shall also apply to all equalizer lines, except, the cover/grate is not required to be within 3 inches of the pool floor.

- i. Drain covers shall not be directly in line with diving boards.

## Product Marks of Conformity

In October of 2008, the Consumer Product Safety Commission sent a letter to all manufacturers of pool and spa drain covers. This letter urged them to indicate that their product(s) conform to ASME/ANSI A112.19.8-2007 by placing the mark "VGB 2008" on the compliant drain cover. At this time however, this is only a recommendation and not a requirement.

The CPSC letter also stated that these drain covers need to be certified, based on a test of each product or upon completion of a reasonable testing program, as compliant with the VGB Act. The IAPMO Research and Testing Laboratory is one such recognized testing agency that can test to this standard.

The R&T Lab has conducted hair and body entrapment testing since it opened in 1999. As a complement to this, IAPMO R&T offers certification/listing for swimming pool, spa and hot tub products. The USPC® mark of conformity on a drain cover indicates compliance with U.S. pool, spa and hot tub product performance standards, the *Uniform Swimming Pool, Spa and Hot Tub Code* and demonstrates compliance to the VGB Act.

## Be Proactive

If you notice a public pool or spa that lacks these safety precautions, alert the person responsible for managing its use and urge them to rectify this potentially deadly problem. 📧