

Virginia Graeme Baker Pool & Spa Safety Act (P&SS Act) FAQ

Q: What are public pool and spa owners/operators obligated to do to comply with the *Virginia Graeme Baker Pool & Spa Safety Act (P&SS Act)*?

A: As of December 19, 2008, all operating public pools and spas must have drain covers that meet the ANSI/ASME A112.19.8-2007 standard on every drain/grate. In addition, if the pool has a single main drain (other than an unblockable drain), the operator must either disable the drain or install a second anti-entrapment device or system. This can take the form of an automatic shut-off system, gravity drainage system, Safety Vacuum Release System (SVRS) or suction-limiting vent system. A pool may have more than one single main drain. If a pool has dual or multiple main drains more than 3 feet apart, it may be exempt from this second requirement. Pools and spas with single main drains that are unblockable are also exempt from this requirement. (Last Updated: January 30, 2009)

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Q: Do I need to be in compliance with the Act on December 19, 2008 if I operate a seasonal pool or spa?

A: Pools and spas that are closed on December 19, 2008 are not required to be in compliance with the Act until the day the pool or spa is re-opened to the public. (Last Updated: January 30, 2009)

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Q: Is a skimmer equalizer considered a drain for purposes of determining a cover's capacity to handle the pump system flow?

A: No. Skimmers are designed to clog and the equalizer, if present, only operates when the skimmer is not functioning, so CPSC staff does not consider them as part of a "multiple drain system." Since there are so many different ways to consider/set the system from a percentage of flow point of view (% main drain + % skimmer), CPSC staff considers 'system flow' to be flow through the drain outlet(s) only, a worst case scenario. Any additional systems (such as skimmers) add some safety factor as they take some of the flow and reduce the flow required at the main drain. If the skimmers become inoperable, the system is still protected by having appropriately rated covers in place. If the scenario should be reversed (main drain(s) inoperable), it is not of significance since the skimmers should be designed to handle 100% flow and they do not present the same hazard as submerged suction outlets. (Last Updated: June 4, 2010)

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Q: How do I determine if my pool has multiple drains?

A: Multiple drains consist of, at a minimum, two fully submerged suction outlets per pump, with drain cover centers at least 3 feet apart (measured 'on center'). While no maximum separation is noted in the P&SS Act, the connections between the outlets and the pump are important for proper operation and should be certified by a Registered Design Professional and inspected by a licensed inspector to ensure hydraulic balance between outlets and the main suction line to the pump. Not all pools and spas with multiple drains can be considered multiple drain systems that reduce entrapment risk. Some examples are a series of distributed outlets or multiple drains shared by more than one pool. These systems are

often not balanced. It is highly recommended that a Registered Design Professional be consulted on the design/certification of any multiple drain system. (Last Updated: June 4, 2010)

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Q: Are there any discussions to reschedule or extend the December 19 deadline?

A: The December 19, 2008, deadline was established by Congress and has not been amended. CPSC lacks authority to extend the deadline set by Congress. (Last Updated: January 30, 2009)

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Q: Are equalizer lines in public pools subject to the P&SS Act?

A: Yes. Skimmer equalizer lines are submerged suction outlets and must either be covered with a compliant cover or plugged. CPSC staff does not consider equalizer lines to be main drains. The intended function is not as a drain but rather to prevent air from entering the suction line if the water level in the pool falls below the skimmer opening. With proper maintenance (maintaining water level and clearing baskets) an equalizer line does not present the hazard addressed by the P&SS Act. Existing equalizer lines do not need to be split. (Last Updated: June 4, 2010)

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Q: If my pool has one main drain and one or more skimmers, does it need a second anti-entrapment device or system?

A: Yes. CPSC staff currently has no technical evidence to support claims that this type of set-up would be equivalent to a multiple main drain system. Therefore, unless the main drain is unblockable this type of set-up would require the installation of a second anti-entrapment system, as outlined in CPSC's staff interpretation. (Last Updated: January 30, 2009)

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Q: Which types of pools and spas pose the greatest danger of entrapment and evisceration to consumers?

A: Children's wading pools, other pools designed specifically for young children, and in-ground spas that have flat drain grates and single main drain systems. (Last Updated: January 30, 2009)

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Q: What should I do if my state or county department of health does not allow me to disable my drains or use a particular drain cover?

A: Affected pool and spa owners/operators need to be in compliance with federal safety requirements. If you believe that state or local laws make it impossible for you to comply with federal law, please contact poolsafely@cpsc.gov. (Last Updated: January 30, 2009)

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Q: Are maintenance drains or drains without a suction outlet in public pools subject to the P&SS Act?

A: Yes. Drains that are opened only during maintenance and used to empty the pool into a municipal sewer system are still considered submerged outlets and must be protected. These types of drains require a P&SS Act compliant drain cover, but they do not require a secondary anti-entrapment backup system. (Last Updated: June 4, 2010)

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Q: Do inaccessible drains require a P&SS Act compliant cover?

A: No. If the drain is inaccessible due to a barrier wall, then it is an unblockable drain, the statute does not apply and a P&SS Act compliant cover is not necessary. (Last Updated: June 4, 2010)

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Q: If I need to modify my sump to accept a new replacement cover, need a professional engineer or a licensed professional to approve this new cover?

A: Yes, if the modification increases the flow/velocity through the rated drain cover or will substantially affect the sump structure. If the sump needs substantial modification to accept the new P&SS ACT compliant cover, then this would be considered a “field fabricated” sump and would require either the approval of a Registered Design Professional or documentation from the cover manufacturer indicating the flow rate and velocity through the cover are appropriate for the field modified sump. Modifications that may affect the connection between the cover and the sump, such as re-drilling holes which is allowed by the ASME/ANSI A112.19.8 performance standard under certain conditions, must follow cover and sump manufacturer procedures/recommendations. A Registered Design Professional must certify the cover installation when modifications are required outside those procedures. (Last Updated: June 4, 2010)

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Q: What types of drain covers are available for purchase?

A: A variety of drain covers have already been certified to ASME/ANSI A112.19.8-2007. These include covers that are round (for blockable and unblockable drains), 9"x 9" square, 12"x 12" square, and 18"x 18" square. CPSC staff expects additional square unblockable drain covers to enter the market in 2009. (Last Updated: January 30, 2009)

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Q: What is the proper marking on approved drain covers?

A: Drain covers made during a short period in the summer of 2008 used the ASME symbol and/or the "ASME/ANSI A112.19.8-2007" mark. There was then a period of time during the late summer and early fall of 2008 when no marking was placed on drain covers being made to be in compliance with the standard. Since November 12, 2008, newly made drain covers should have the "VGB 2008" marking. You should ensure that you are using certified covers. If there is no mark or you are otherwise in doubt, contact the manufacturer and ask for a copy of the certificate. Also keep a record of where and exactly when you purchased the cover. (Last Updated: January 30, 2009)

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Q: Can operators pre-order approved drain covers?

A: Yes. Round covers and various square covers are available for purchase and many manufacturers are taking orders for drain covers yet to be manufactured. (Last Updated: January 30, 2009)

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**Q: What should I do if my pool's drain requires a field-fabricated drain cover but none is available?
(For example a pool with a single L-shaped drain that is half on the pool bottom and half on the wall.)**

A: Certain drains will require a field-fabricated cover. Pool owners/operators should either work to find a manufacturer who will build a custom-made cover or the pool should be re-built to have dual main drains. In the near term, owners/operators should incorporate one of the secondary anti-entrapment systems into their existing system. If the two planes of the L-shaped drain cannot be blocked simultaneously by the body blocking element defined in the ASME standard, then a secondary system is not necessary. Failure to comply with the requirements of the Act may result in pool closure. (Last Updated: January 30, 2009)

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Q: Who is approving new drain cover designs?

A: Third-party testing and certification is being conducted by Underwriters Laboratories, the National Sanitation Foundation, and IAPMO (The International Association of Plumbing and Mechanical Officials). (Last Updated: January 30, 2009)

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Q: I have a field-fabricated, unblockable drain cover that I believe meets the current ASME/ANSI standard. Am I required to order a new cover?

A: No. A field-fabricated cover may continue to be used where a professional engineer (PE) certifies that it meets the requirements of ASME/ANSI A112.19.8-2007, including flow rates, UV exposure, and durability. The PE must document that the drain cover meets the new standard and provide a copy of the certificate to the pool owner/operator. (Last Updated: January 30, 2009)

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Q: What is CPSC's position regarding sumps and the ASME/ANSI standard?

A: CPSC staff recognizes and supports the technical requirement of the ASME/ANSI A112.19.8-2007 standard, which calls for field-built sumps to have a depth of 1.5 times the diameter of the piping; however, the federal Pool & Spa Safety Act does not require pool owners/operators to replace their sump. If a new, compliant drain cover can be safely secured onto a pre-existing sump, while properly controlling the flow rate, then it meets the intent of the law. If a PE determines that additional engineering work needs to be done to the sump to bring it into compliance with the standard and ensure a secure connection with a new cover, then that work should be carried out. Finally, if a PE determines that a new drain cover cannot be safely placed on a pre-existing sump, then the sump should be removed and replaced with a new, compliant sump that is compatible with the compliant drain covers. (Last Updated: January 30, 2009)

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Q: How do I calculate flow for drain covers in a multiple drain system?

A: CPSC staff, consistent with the ASME/ANSI A112.19.8 performance standard, recommends using the multiple drain calculation outlined below.

For multiple drain systems, 100% system flow is maintained when each drain cover is flow rated with any one drain completely blocked. This is a packaging/instructional requirement of the ASME/ANSI A112.19.8 performance standard and is also referenced in the ANSI/APSP-7 Entrapment Avoidance standard which was recently adopted into the International Code Council ("ICC") building codes. Many states have adopted the International Building Code/International Residential Code ("IBC/IRC"). The P&SS Act requires compliance to the ASME/ANSI A112.19.8 performance standard.

Accordingly, the following flow calculations should be treated as guidance from CPSC technical staff consistent with the packaging requirements of the ASME/ANSI standard in order to further the goal of the P&SS Act to provide alternatives to single drain systems and reduce the drain entrapment hazard in pools and spas. Although not specifically referenced in the P&SS Act, building codes and industry standards provide important safety guidance that should be followed by the pool and spa industry.

The general concept to calculate flow for multiple drains is to assume one drain is blocked so the total flow through the remaining open drain covers meets the system requirements. The total flow is also hydraulically balanced, such that flow is distributed equally among the unblocked drain covers.

Assuming one drain is blocked, the ASME/ANSI rated flow through each unblocked drain cover is at least:

Two drains (one blocked) = each rated at total system flow

Three drains (one blocked) = each rated at 1/2 total system flow

Four drains (one blocked) = each rated at 1/3 total system flow

of drains (one blocked) = each rated at total system flow/(# of open drains)

For one drain, the rating is the total system flow. If blockable, an additional secondary anti-entrapment system is required to be installed. If the single main drain is an unblockable drain, no further action is required.

Consult a Registered Design Professional to determine the flow and balance of specific multiple drain systems. (Last Updated: June 4, 2010)

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Q: Is design flow or maximum flow used to apply a P&SS Act compliant drain cover to a pump system?

A: The maximum flow rate of the circulation system should be used to determine the flow rating for the outlet cover(s) needed which would include removal of all restrictions (including the filter). (Last Updated: June 4, 2010)

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Q: Are spray/splash pads and interactive recreational fountains subject to the P&SS Act?

A: There are numerous ways to construct spray/splash pads. Assuming there is no direct suction on the outlets for spray/splash pads, the pads drain via gravity on a slightly sloped surface to a tank where the water is then pulled via a pump and sprayed back. Generally, the outlets are not submerged, or if they are submerged it is minimal. Spray/splash pads with no direct suction on the outlets are not subject to the P&SS Act. (Last Updated: June 4, 2010)

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Q: Are whirlpool bathtubs located in hotel rooms subject to the P&SS Act?

A: Bathtub appliances are not subject to the P&SS Act. Hot tubs and spas are by definition included within the scope of the P&SS Act. If a structure is a hot tub, spa, or portable spa whose suction fittings are addressed by ASME/ANSI A112.19.8, the structure is included in the definition of "swimming pool or spa" under the P&SS Act. If the appliance or structure in question is one whose suction fitting requirements are addressed by ANSI A119.19.7, "Hydromassage Bathtub Appliances," neither the appliance nor the drain cover are within the scope of the P&SS Act. (Last Updated: June 4, 2010)

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Q: Do hydrostatic valves require P&SS Act compliant drain cover?

A: No. Hydrostatic valves are not a submerged suction outlet but rather a return when the hydrostatic valve operates. The cover for a sump with only a hydrostatic valve does not need to be P&SS Act compliant. (Last Updated: June 4, 2010)

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Q: Do inaccessible drains require P&SS Act compliant cover?

A: No. If the drain is inaccessible due to a barrier wall, then it is an unblockable drain, the statute does not apply and a P&SS Act compliant cover is not necessary. (Last Updated: June 4, 2010)

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Q: Are baptismal fonts in churches covered by the P&SS Act?

A: No. The P&SS Act defines swimming pool or spa as “any outdoor or indoor structure intended for swimming or recreational bathing” A baptismal font in a church does not meet the definition of a “swimming pool or spa” under the P&SS Act because it is not “intended for swimming or recreational bathing.” (Last Updated: June 4, 2010)

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Q: Is a skimmer equalizer considered a drain for purposes of determining a cover’s capacity to handle the pump system flow?

A: No. Skimmers are designed to clog and the equalizer, if present, only operates when the skimmer is not functioning, so CPSC staff does not consider them as part of a “multiple drain system.” Since there are so many different ways to consider/set the system from a percentage of flow point of view (% main drain + % skimmer), CPSC staff considers ‘system flow’ to be flow through the drain outlet(s) only, a worst case scenario. Any additional systems (such as skimmers) add some safety factor as they take some of the flow and reduce the flow required at the main drain. If the skimmers become inoperable, the system is still protected by having appropriately rated covers in place. If the scenario should be reversed (main drain(s) inoperable), it is not of significance since the skimmers should be designed to handle 100% flow and they do not present the same hazard as submerged suction outlets. (Last Updated: June 4, 2010)

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Q: My public spa has three or four drain covers, all in a small foot well. What do I need to do to comply?

A: The drain cover requirement of the new law applies to these types of public spas. They should have compliant drain covers and a second anti-entrapment system if the drains are less than 36 inches apart and not located on two planes. (Last Updated: January 30, 2009)

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Q: If I have a gravity drain system, am I required to change the drain cover?

A: Yes. Pools with gravity drain systems automatically fall into the category of having a second anti-entrapment system, so ensuring that the existing covers are compliant with ASME/ANSI A112.19.8-2007 or replacing them with compliant covers is all that is required. (Last Updated: January 30, 2009)

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Q: A pool owner installed an emergency shut-off switch for an indoor pool which is gravity fed. The existing covers are 18" x 18" with a 24" diagonal. Would new drain covers with the new logo be required?

A: Drain covers compliant with ASME/ANSI 112.19.8-2007 are required on all drains of public pools and spas. If the drain on a single main drain is blockable, a secondary anti-entrapment system must also be installed. An 18"x 18" grate with a 24" diagonal is blockable by the body-blocking element referred to in the ASME standard. An emergency shut-off switch must be automatic to be in compliance with the requirements for the secondary anti-entrapment device. If the pool has a multiple suction outlet system, then ensuring that the existing drain covers are compliant with ASME/ANSI A112.19.8-2007 or replacing them with compliant drain covers is all that is required. (Last Updated: January 30, 2009)

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Q: My indoor pool has two main drains about 8 inches apart. Do I still need to install new drain covers?

A: Yes. The drain covers must be compliant with ASME/ANSI A112.19.8-2007. In addition, you will need a second anti-entrapment system since the drains are less than 36 inches apart. (Last Updated: January 30, 2009)

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Q: Who qualifies as a "trained or certified professional"?

A: CPSC staff recommends contacting state or local officials to determine who is qualified in your area. Experts, such as a PE or similar design professional, should be formally licensed or certified as a business and carry some level of insurance or similar protection. (Last Updated: January 30, 2009)

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Q: Are physical therapy pools considered to be public under the Act?

A: It depends. Therapy pools are not specifically defined under section 1404(c)(2) of the Act, but a therapy pool may not be considered a public pool depending on its accessibility to the public generally. (Last Updated: January 30, 2009)

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Q: Approved flow rates are determined by the drain cover manufacturers, but some state minimum standards require that the water velocity through grates not exceed 1.5 fps with one drain 100% blocked. How do we rectify this issue?

A: Drain cover ratings are based on allowable flow in gallons per minute (gpm) and tested in the laboratory under conditions to determine maximum allowable flow rate, which can result in velocities through the open area of the cover that are greater than 1.5 fps. Alignment of the flow-ratings of the covers with state requirements may require adjustments to some of the state codes. State officials may want to evaluate their code requirements in light of the new requirements made mandatory by the Act. (Last Updated: January 30, 2009)

Q: Who can enforce the Act?

A: The Consumer Product Safety Commission and the State Attorneys General are empowered to enforce this Act. (Last Updated: January 30, 2009)

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Q. A pool maintenance company recommends replacing a pool drain cover because the drain cover is beyond the lifespan, or useful life, indicated on the drain cover. Is failure to replace a drain cover that is beyond its stated useful life a violation of the Virginia Graham Baker Pool and Spa Safety Act (VGB Act)?

A. Failure to replace a drain cover that is beyond its stated useful life is not, in itself, a violation of the VGB Act. The requirement pertaining to useful life is a marking or labeling requirement for the drain cover manufacturer. However, CPSC believes it is good practice for pool owners and operators to inspect the drain cover often and have it professionally inspected at least annually. Pool operators should consult the manufacturer's instructions including useful life markings or labeling. If a drain cover exhibits signs of cracking or otherwise fails to meet the performance requirements of the ANSI/APSP-16 2011, this would be considered a violation of the VGB Act, regardless of whether the useful life date has passed.

The VGB Act requires that public pools and spas in the United States be equipped with anti-entrapment devices or systems that comply with the ASME/ANSI A112.19.8 performance standard or any successor standard. ANSI/APSP-16 2011 is the successor standard to ASME/ANSI A112.19.8.

The APSP-16 standard includes design, material, assembly, and performance requirements. The APSP-16 standard also includes a section titled, "Packaging and Installation Instructions." This section contains instructions regarding the marking or labeling of suction fittings. The standard requires that manufacturers mark fitting components "Life: X Years," indicating the appropriate installed life in years (Section 7.1.1(b)(5)). The section also requires that manufacturers include packaging and installation instructions that contain: "Replace within 'YY' installed years," for all parts (Section 7.2.1(a)(9)).

Thus, a suction fitting or drain cover satisfies the labeling requirements of the APSP-16 standard pertaining to useful life if the useful life is marked on the product and the statement "Replace within 'YY' installed years" is included in the packaging and installation instructions. Should a drain cover exhibit signs of cracking, CPSC Compliance staff would consider this to be in violation of ANSI/APSP-16 2011 because this condition would violate the performance requirements of the standard.

CPSC recommends that all pool operators have all drain covers inspected by a qualified professional annually, or more frequently, if required, to make sure that drain covers are fully intact (no signs of cracks, broken or missing parts, etc.) and appropriately fastened to the pool floor with the manufacturers' recommended hardware. (Staff Interpretation February 2015)