U.S. CONSUMER PRODUCT SAFETY COMMISSION
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Statement of Commissioner Robert Adler on Petition CP12-1 for Classification of "BeeSafe System" as an Alternative Anti-Entrapment System Under the Virginia Graeme Baker Pool and Spa Safety Act

December 7, 2012

Background

On February 13, 2012, Bonnie Snow and Teri Snow submitted a petition requesting that the Commission initiate rulemaking to determine that their BeeSafe System is as effective as, or better than, systems designed to prevent drain entrapment listed in §§ 1406(c)(1)(ii)(I)-(V) of the Virginia Graeme Baker Pool and Spa Safety Act (VGB Act). After careful study and examination of the petition, CPSC staff concluded that the safety and efficacy claims asserted in the petition could not be demonstrated, so they recommended denial of the petition. Having carefully read both the petition and the staff's analysis of it, I concur in the staff's recommendation and therefore have voted to deny the petition.

The VGB Act

Briefly stated, the VGB Act, among other things, requires that each public pool and spa in the United States with a single main drain other than an unblockable drain be equipped with one or more of the following anti-entrapment devices or systems: (i) safety vacuum release system (SVRS), (ii) suction-limiting vent system; (iii) gravity drainage system, (iv) automatic pump shut-off system, (v) drain disablement, or (vi) any other system determined by the Commission to be as effective as, or better than, these systems at preventing or eliminating the risk of injury or death associated with pool drainage systems.

Petitioners claimed that their BeeSafe System met the requirements of number (vi) above in that it is equally effective as, or better than, the systems set forth in (i) through (v).

The BeeSafe Petition

Briefly described, the BeeSafe System is a large circular device intended to be permanently affixed over a pool drain both with strong industrial adhesive and "lock-tite treated screws [that require a specialty screw driver and that] cannot be removed with a straight screwdriver or knife."[1] In the center of each device is a winterizing lid attached by a separate set of screws that is removable for maintenance and repair work.

Petitioners claimed the most critical feature of their system to be the presence of numerous open long tubes that empty so quickly that even if some of them become blocked, water would continue to flow through the unblocked tubes sufficiently that dangerous suction would not occur. More significantly to me, they claimed that if the winterizing cover in the center of the device were to go missing, any tubes that became blocked would empty the water into the built-in sump and any suction at the surface would be released when this happened. Specifically, the petition stated:

> But what would happen if the winterizing lid were to go missing? The answer is simple: most likely, nothing. There would be no body entrapment because the tubes would still be functioning and there would be no possibility of blocking them to create a suction entrapment. The lid opening is small enough and the rise of the BeeSafe System off the floor of the pool high enough that even if the cover were gone there would not be a risk of an evisceration. As there is no grate, if the winterizing cover were damaged or missing there would be no risk of a hair or mechanical entrapment with the BeeSafe System.[2]

This claim, to me, was the critical test of the BeeSafe System. The VGB Act requirement for secondary anti-entrapment devices rests upon the assumption that all drain covers potentially come off, thereby presenting entrapment and evisceration hazards. Were the BeeSafe System one that was permanently affixed with a winterizing lid that never came off or opened, the issue would be quite different. But, the winterizing lid is clearly designed to be opened and removed for routine maintenance. In order to satisfy me that the BeeSafe System is equivalent or superior in safety, the petition had to demonstrate safety with the winterizing lid removed.

Staff's Analysis

Upon receiving the petition, the agency's technical staff undertook a broad analysis of BeeSafe's claims, including extensive tests in a carefully constructed pool model both with the

[1] BeeSafe Petition, page 19.
[2] BeeSafe Petition, p. 23.

BeeSafe Model 1 and with Model 2. Staff particularly focused on testing the claims made by the petitioners regarding the safety of the BeeSafe System with the winterizing lid removed.

Regrettably, the results of staff's tests are clear and unequivocal:

> Without the winterizing covers installed, both the Model 1 and the Model 2 failed to meet the requirements of ANSI/APSP-16 at their rated flows.
>
> The petitioner claims that its products will meet the standard even without the winterizing cover installed. CPSC staff, however, found that pull-off forces for the body-block tests exceeded the forces allowed by the standard. When CPSC staff conducted the full-head-of-hair tests, the simulated human head that was used to conduct the test was pulled completely into the winterizing cover opening, stopped only by the plumbing underneath of the product.[3]

In other words, contrary to BeeSafe's claims, the staff's testing demonstrated that the System provided insufficient protection to pass the ANSI/APSP standard's requirements.

Discussion

I am very disappointed that the BeeSafe System fails to meet the VGB Act's requirements as an alternative system to the specified systems in the Act. I continue to hope that improvements in technology will be developed as alternative safety systems. I say this in part because I suspect that SVRS continues to be the secondary anti-entrapment system of choice for most pool owners due to its relatively low cost. Unfortunately, I believe that the SVRS technology currently on the market provides extremely limited secondary protection to swimmers and bathers.[4]

As I have previously stated, I eagerly await the development of a drain cover with a "dead-man switch" that shuts off the pool pump immediately upon the removal of the drain cover. If not that approach, I would like to see unblockable drain covers that need not be removed for pool maintenance or repair – which, alas, is not what I consider the winterizing lid on the BeeSafe System to be.

I urge the petitioners and others who think they have good alternatives to the present compliance approaches under the VGB Act to continue to explore those alternatives.

[3] Staff analysis, p. 15.

[4] Of the five main entrapment hazards, SVRS provides full protection only against full body entrapment. It provides limited protection against limb entrapment, limited protection against evisceration, and no protection against hair or mechanical entrapment.