**Swimming Pool Technical Advisory Committee (TAC)/Electrical TAC - Comments**

**7th Edition (2020) Florida Building Code, Building**

**SECTION 454 SWIMMING POOLS AND BATHING PLACES**

**(PUBLIC AND PRIVATE)**

SW-C-454- Comment #1

**From:** Hebrank, Kari B. [mailto:KHebrank@carltonfields.com]   
**Sent:** Tuesday, December 17, 2019 1:03 PM  
**To:** Madani, Mo  
**Cc:** Dallas Thiesen  
**Subject:** IWF clarification 3

Mo,

Season’s Greetings!  The Florida Swimming Pool Association (FSPA) had a teleconference yesterday with some of the best and brightest swimming pool contractors and engineers to discuss code modifications SW7929 and SW 7819, which both address filtration and treatment of recirculation systems for water features and were intended to allow concentrated chlorine to get diluted into the rest of the water before it was all inactivated in the UV chamber.  At the conclusion of the call, it was determined that in order to provide a clear regulatory framework, it would be best to replace code modification SW 7819 with a revised SW 7929.  The attached document shows the original SW 7819, the original SW 7929, the clarifying revisions to SW 7929 and the final proposed language we recommend for a new SW 7929/7819.

The proponent for SW 7819, who participated in our teleconference, has agreed that the new revised language is a better approach because his initial code proposal was based on an outdated  Model Aquatic Health Code.

We respectfully request that the Florida Building Commission replace SW 7819 with our new proposed language in the revised SW 7929, which incidentally is consistent with code modification SW 7927.

Please do not hesitate to contact Dallas Thiesen, FSPA, or myself should you need additional information or have questions.

Hope you have a very merry holiday.

Kind regards,

Kari Hebrank

*Original*

**454.1.9.8.6.3**

In lieu of Section 454.1.9.8.6.1, the recirculation system must be designed to continuously return 100 percent of the water to the collector tank after all (100 percent) of the water is first filtered, treated with disinfectant and pH adjustment chemicals, and the final treatment provided by a validated UV disinfectant unit described in Section 454.1.6.5.16.6 before any of this treated water is piped to the water features.

*SW7929*

454.1.9.8.6.3

In lieu of Section 454.1.9.8.6.1, the recirculation system must be designed to continuously return 100 percent of the water to the collector tank after all (100 percent) of the water is first filtered, treated with a validated UV disinfectant unit described in Section 454.1.6.5.16.6, with final treatment provided by disinfectant and pH adjustment chemicals~~, and the final treatment provided by a validated UV disinfectant unit described in Section 454.1.6.5.16.6~~ before any of this treated water is piped to the water features.

*Alternate SW7929*

**454.1.9.8.6.3**

In lieu of Section 454.1.9.8.6.1, the recirculation system must be designed to continuously return 100 percent of the water to the collector tank after all (100 percent) of the water is first filtered and treated with disinfectant and pH adjustment chemicals; the final treatment shall be provided by a validated UV disinfectant unit described in Section 454.1.6.5.16.6 before any of this treated water is piped to the water features.

*result*

454.1.9.8.6.3

In lieu of Section 454.1.9.8.6.1, the recirculation system must be designed to continuously return 100 percent of the water to the collector tank after all (100 percent) of the water is first filtered and treated with disinfectant and pH adjustment chemicals; the final treatment shall be provided by a validated UV disinfectant unit described in Section 454.1.6.5.16.6 before any of this treated water is piped to the water features.

From: Hebrank, Kari B. [mailto:KHebrank@carltonfields.com]   
Sent: Thursday, January 2, 2020 6:24 PM  
To: Madani, Mo  
Cc: Wendy Parker; Dallas  
Subject: Fwd: New Language

Mo,

Happy New Year my friend! Attached please find our final revised language as a result from a conference call we had today with the Public Pool Coalition. The Department of Health representatives participated in two separate calls on this issue and did not raise objections to our final version and even stated it provides more clarity. The proponent of the first version also participated in the call and signed off in this language.

Please submit this version to the Florida Building Commission members for approval at the February meeting. Please note I did make one grammatical edit to the version listed in email below relative to the instruction for UV flow capacity otherwise it was a run-in sentence. (After all I majored in Business & Literature, pool contractors are science,math and tech whizzes!).

result

454.1.9.8.6.3

In lieu of Section 454.1.9.8.6.1, the recirculation system must be designed to continuously return 100 percent of the water to the collector tank after all (100 percent) of the water is first filtered and treated with disinfectant and pH adjustment chemicals; the final treatment shall be provided by a validated UV disinfectant unit described in Section 454.1.6.5.16.6, on each feature pump, before any of this treated water is piped to the water features.(Note: UV flow capacity must meet the feature pump(s) flow capacity).

**TAC Recommendation: Amended to change the note to a sentence AM**

**Commission Action: AM**

SW/E-C-454- Comment #2

**Bryan P. Holland, MCP, AStd.**

**Southern Region Field Representative**

**Revise Section 454.1.4.2.5**

**454.1.4.2.5 Voltage limitation.** Underwater lighting, or lighting that may be exposed to nozzle-directed pool water, shall not exceed 30 volts DC or 15 volts AC. Such lights shall be installed in accordance with manufacturer’s installation instructions ~~specifications,~~ and be approved for such use ~~by UL or NSF~~.

**REASON FOR COMMENT AND RECOMMENDED CHANGES:**

* The new rule was approved without a section title.
* Products should be installed in accordance with instructions and not specifications.
* Certification and testing laboratories do not approve products or installations. Approval of products and installations is subject to the code official.

**TAC/SW Recommendation: NAR**

**TAC/E Recommendation: NAR**

**Commission Action: NAR**

**SW-C-454- Comment #3 (Note: Each code section was considered separately)**

**From:** Vincent, Bob G [mailto:Bob.Vincent@flhealth.gov]   
**Sent:** Friday, January 3, 2020 11:36 AM  
**To:** Madani, Mo  
**Subject:** Chapter 4 Section 454.1 revisions review by DOH

DOH discussion for the FBC revisions to public pools section of Chapter 4, Section 454.1

We have concerns for the following revisions that are unclear and need edits or new information:

*To correct the following revision, please delete the highlighted remnant on line 15 and leave a some of the lines 21-22 struck sentence in, rearrange words and add ”for” to look like this:*

For the purpose of determining minimum pool size only, the pool turnover period used cannot be less than ~~3~~ 2.5 hours~~. except~~ for pools serving non-transient residential developments of 1,000 units or more ~~can be sized based on 2.5 hours~~.

**454.1.1.1 Sizing**

The bathing load for conventional swimming pools, wading pools, interactive water features, water activity pools ~~less than 24 inches (610 mm) deep~~ and special purpose pools shall be computed either on the basis of one person per 5 gpm (0.32 L/s) of recirculation flow, or one person per each 20 square feet (0.9 m2) of surface area, whichever is less. The bathing load for spa type pools shall be based on one person per each 10 square feet (0.9 m2) of surface area. ~~The filtration system for swimming pools shall be capable of meeting all other requirements~~ ~~of these rules while providing a flow rate of at least 1 gpm (0.06 L/s) for each living unit at transient facilities~~ and 3/4 gpm (0.04 L/s) at nontransient facilities.The pools provided at a transient facility shall be able to accommodate one bather per five living units, while the bathing load at a non-transient facility shall be at least one bather per seven living units. Recreational vehicle sites, campsites and boat slips designated for live-aboards shall be considered a transient living unit. For properties with multiple pools, this requirement includes the cumulative total ~~gpm~~ bathing load of all swimming pools, ~~excluding~~ spas, wading pools and interactive water features. All other types of projects shall be sized according to the anticipated bathing load and proposed uses, ~~For the purpose of determining minimum pool size only, the pool turnover period used cannot be less than~~ ~~3 hours.~~ except pools serving non-transient residential developments of 1,000 units or more can be sized based on 2.5 hours.

**TAC Recommendation (Section 454.1.1.1): NAR**

**Commission Action: NAR**

(SW7259 A1 only/ SW8131)

*Please add back in the “or beverages” on line 30 per my submittal to the FB Commission in September. Also, we have found that sign makers are putting in the X on the lines 40 & 43 onto their signs, so it would be wise to delete both of these X’s to make it clear this is a blank they need to fill in?*

**454.1.2.3.5 Rules and regulations signage.** Rules and regulations for bathers shall be installed in minimum 1-inch (25.4 mm ) letters which must be legible from the pool deck, and shall contain the following:

1. No food ~~or beverages~~ in the pool ~~or on pool wet deck~~. or on pool wet deck.

Commercially bottled water in plastic bottles are allowed on the pool wet deck for pool patron hydration.

1. No glass or animals in the fenced pool area (or 50 feet (15 240 mm) from unfenced pool).
2. Bathing load: persons.
3. Pool hours: a.m. to p.m.
4. Shower before entering.
5. Pools of 200 square feet (18.58 m2) in area or greater without an approved diving well configuration shall have “NO DIVING”, in 4 inch (102 mm) letters included with the above listed pool rules.
6. Do not swallow the pool water. This statement shall be added to signs at pools that conduct alterations as that term is defined.
7. If the pool includes a sun shelf, “WARNING: DROP OFF AT SUN SHELF EDGE IS \_×\_ FEET DEEP” in 4-inch (102 mm) letters.
8. If the pool includes a sun shelf, “DO NOT PLACE FURNITURE IN POOL.”
9. By January 1, 2022, all pools shall add: "POOL MAXIMUM DEPTH: \_x\_ FEET," in 2" (51 mm) letters with the above listed pool rules
10. SW7180/ SW8365 A2 only/SW7217)

**TAC Recommendation (Section 454.1.2.3.5): As Submitted - remove ‘x’ in item 8, 9 and 10**

**Commission Action: AS**

*Appears this last sentence on lines 52-53 was left out of the 2020 code draft but was in the supplement.*

**454.1.2.8.1 Sun shelf dimensional requirements.** Sun shelf areas must be a minimum of 20 inches (508 mm) wide and provide a minimum of 10 square feet (0.93 m2) of horizontal surface adjoining on the edge of the pool (three sides of shelf must be surrounded by pool deck) over a distance of not less than 3 feet (914 mm). The sun shelf edge that adjoins the pool edge must be continuous. The sun shelf floor shall be horizontal or shall a have uniform slope from a zero depth entry, and its maximum depth shall be between 8 inches (203 mm) to 12 inches (254 mm) below the water surface. In pools utilizing automatic recessed surface skimmers, there shall be at least one skimmer in each sun shelf area.

(SW8341 A1 only/SW7903)

**TAC Recommendation (Section 454.1.2.8.1): No action needed**

**Commission Action: No Action Needed**

*This revision may contradict the DOH pool code. DOH has a code requirement for a Safety/Lifeguard plan that we must approve for pools with climbable structures and for all water theme parks; in that plan, lifeguards typically cannot be replaced by non-lifeguard-certified attendants at a slide run out.*

**454.1.9.2.2.4**

Attendants or lifeguards ~~Water park personnel~~ shall be provided at the top of the slides and at the run out.

(SW7917)

**TAC Recommendation (Section 454.1.9.2.2.4): NAR to allow for more work on language**

**Commission Action: NAR**

*This change is referencing a slide that is not defined, and this term should be made clearer as slides are built into and added to more than just conventional pools, but also are added to river rides and into water activity pools. The two definitions in FBcode of a ‘swimming pool slide’ and ‘water slide’ is only discerned by the phrase ‘having trough-like or tubular flumes or chutes’; and these newly allowed exemptions could be applied to one of the latter, larger defined slides where it should not be applied for safety of sliders and for patrons contacting and consuming the water. Also, it is unclear what this “exception” is for. Is it for the “optional filter area”.*

**454.1.9.2.6.2 Filter ~~areas~~ performance .** ~~Minimum filter area requirements shall be twice the filter areas specified for the recirculation rates stipulated in Section 454.1.6.5.5.1.~~ This exception is only applicable to conventional pool recreational slides. The filtration system shall be capable of returning the pool water turbidity to 5/10ths (0.50) NTU within 8 hours or less after peak bather load. A continuous readout/electronic recording in-line turbidity meter shall be installed and used to determine compliance with this NTU criteria whenever the filter area size is optionally not doubled in size.

(SW7894 A1 only/ SW7178 A1+Original)

**TAC Recommendation (Section 454.1.9.2.6.2): NAR to allow for more work on language.**

**Commission Action: NAR**

*It appears that the ‘adjustment chemicals’ leftover in the supplement was deleted from the 2020 draft and should not be deleted:*

**454.1.9.8.6.1**

All (100 percent) of the water from the collector tank must be first filtered, treated ~~with~~ by an NSF Standard 50 certified UV disinfection unit with a minimum 40 mJ/cm2 dose, and then final treatment provided by disinfectant ~~and pH~~ adjustment chemicals~~, and then final treatment provided by an NSF Standard 50 certified UV disinfection unit with a minimum 40 mJ/cm2 dose~~ before any of this treated water is piped to the water features.

(SW7927)

**TAC Recommendation (Section 454.1.9.8.6.1): No action needed.**

**Commission Action: No action needed.**

*This change is unacceptable for the health of all patrons because it will allow the defecated Cryptosporidium protozoan oocysts to survive for long periods of time at an IWF, readily passing through the treatment system thereby infecting unsuspecting patrons who drink water from the fountain-like water features. The newer FSPA submittal is better, safer; and yet was not resolved by 4PM yesterday, 1/2/2020.*

**454.1.9.8.6.3**

In lieu of Section 454.1.9.8.6.1, the recirculation system must be designed to continuously return 100 percent of the water to the collector tank after all (100 percent) of the water is first filtered, treated with disinfectant and pH adjustment chemicals, and ~~the final treatment provided by~~ a validated UV disinfectant unit described in Section 454.1.6.5.16.6 ~~before any of this treated water is piped to the water features~~. In this scenario, the feature pumps do not need their own filter or disinfection, but they must be interlocked such that they do not operate unless the filter pump, chemical, and UV systems are all working properly.

(SW7819 /SW7855)

**TAC Recommendation (Section 454.1.9.8.6.3): No Action needed.**

**Commission Action: No Action needed**

SW-C-454- Comment #4

**From:** Michael Weinbaum [mailto:michael@martinaquatic.com]   
**Sent:** Thursday, January 2, 2020 4:25 PM  
**To:** Madani, Mo  
**Cc:** jel@wetengineering.net; Dallas Thiesen  
**Subject:** RE: FBC meetings July 8-12

Mr. Madani-

I understand you are taking comments for consideration by the Florida Building Commission up to today.  Please see my attached letter asking for 7819 to be removed from the draft 2020 code.

|  |  |
| --- | --- |
| [Martin Aqatic Design & Engineering](http://www.martinaquatic.com/) | **Mike Weinbaum, P.E.** |
| **Senior Engineer** |
| **Martin Aquatic Design & Engineering** |

**454.1.9.8.6.3**

|  |
| --- |
| In lieu of Section 454.1.9.8.6.1, the recirculation system must be designed to continuously return 100 percent of the water to the collector tank after all (100 percent) of the water is first filtered, treated with disinfectant and pH adjustment chemicals, and the final treatment provided by a validated UV disinfectant unit described in Section 454.1.6.5.16.6~~before any of this treated water is piped to the water features~~.  In this scenario, the feature pumps do not need their own filter or disinfection, but they must be interlocked such that they do not operate unless the filter pump, chemical, and UV systems are all working properly.  (SW 7819) |
|  |

**To:** Mo Madani, Florida Building Commission

**From:** Michael Weinbaum

**CC:**

Commissioner Jim LePetrie, Swimming Pool Technical Advisory Committee

Dallas J. Thiesen, Florida Swimming Pool and Spa Association

**Date:** 2 January 2020

**Re:** FBC Modification 7819

I am the author of FBC Modification 7819, which was approved by the Swimming Pool Technical

Advisory Committee and is incorporated into the latest draft of the 2020 Florida Building Code. I wrote

this modification to make the Florida Building Code be closer to the Model Aquatic Health Code

published by the CDC, which calls for UV treatment on the filter loop only.

However, the next revision of the Model Aquatic Health Code will take that away and require UV

treatment on 100% of the feature water. This is very similar to what the Florida Department of Health

typically requires since the 2017 code went into effect, and exactly what 7819 was pushing against.

For this reason, I would like the Florida Building Commission to remove my modification 7819 from their

draft of the 2020 Florida Building Code.

I am also concerned that the Florida Department of Health (DoH) has been interpreting the current

language in a specific way that is not obvious from the current code, and none of the modifications

currently drafted bring the Code closer to what DoH demands. I defer to the Florida Pool and Spa

Association for that concern.

Sincerely,

Michael Weinbaum, Florida P.E. 76074

**TAC Recommendation: NAR**

**Commission Action: NAR**

SW-C-454- Comment #5

**From:** Michael Weinbaum [mailto:michael@martinaquatic.com]   
**Sent:** Thursday, January 2, 2020 4:43 PM  
**To:** Madani, Mo  
**Subject:** Comments on section 454 integration

Mo-

I received the integration first draft from Dallas Thiesen on the 17th of December.

I see an error in 454.1.1.1, SW7259 that I’ve corrected with a blue line:

Also, please see my previous e-mail about SW 7819.  I’m sorry if the subject line on that one was confusing.

(See attachment #2)

|  |  |
| --- | --- |
| [Martin Aqatic Design & Engineering](http://www.martinaquatic.com/) | **Mike Weinbaum, P.E.** |
| **Senior Engineer** |
| **Martin Aquatic Design & Engineering** |

**TAC Recommendation: NAR to be handled through previous comments to allow for more work.**

**Commission Action: NAR**