ISPSC

2024 GROUP A PROPOSED CHANGES TO THE I-CODES

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SP3-24

ISPSC: SECTION 202, SECTION 202 (New), SECTION 303, 303.1, 303.1.2 (New), TABLE 303.1.2 (New), 303.1.3 (New), 303.1.1, 303.1.2, 303.1.3, 303.2, 303.3, DOE (New)

Proposed Change as Submitted

Proponents: Maureen Guttman, Senior Fellow, Energy Solutions, California Investor-Owned Utilities

2024 International Swimming Pool and Spa Code

SECTION 202
DEFINITIONS

Add new definition as follows:

SITE-RECOVERED ENERGY. Waste energy recovered at the building site that is used to offset consumption of purchased energy supplies.

SOLAR THERMAL WATER HEATER. An assembly of components designed to heat water through the conversion of incident solar radiation at the building site.

SECTION 303
ENERGY

Revise as follows:

303.1 Energy consumption of pools and permanent spas. The energy consumption of pools and permanent spas shall be controlled by the requirements in Sections 303.1.1 through ~~303.1.3~~ 303.1.4 and with Section 317.

Add new text as follows:

303.1.1 Primary heating systems. The primary pool or spa heating system shall be one of the following:

1. A *solar thermal water heater* with a solar collector surface area equivalent to at least 65 percent of the pool or spa surface area.
2. A heat pump pool heater.
3. Systems that do not use *solar thermal water heaters* or heat pump pool heaters as their primary heat source shall derive no less than 60 percent of annual heating energy from *on-site renewable energy* or *site-recovered energy*.

Exceptions:

1. *Residential* pools and *residential* spas.
2. Portable electric spas.
3. A pool or spa heated only by a *solar thermal water heater*.

303.1.2 Pool heater efficiency. Pool heaters shall meet the minimum efficiency requirements of Table 303.1.2 when tested in accordance with the test procedure listed in DOE 10 CFR 430.23(p) and Appendix P to Subpart B of Part 430.

TABLE 303.1.2 POOL HEATER MINIMUM EFFICIENCY REQUIREMENTS

EQUIPMENT TYPE	MINIMUM EFFICIENCY
Heat Pump Pool Heater	4.0 COP rated at 50° F db 44.2° F wb outdoor air 80.0° F entering water
Gas-Fired Pool Heater	*Before 5/31/2028* *Integrated Thermal Efficiency not less than the following:* *600 (PE)/(PE + 1,619)* *where PE is the active electrical power, in Btu/h* *After 5/31/2028* *82% Et* *Before 5/31/2028* *84(QIN + 491)/(QIN + 2,536)* *where QIN is the input capacity, in Btu/h* *After 5/31/2028*

303.1.3 Heater controls. Heater controls and ignition pilots shall comply with Section 303.1.3.1 through Section 303.1.3.3.

Revise as follows:

~~**303.1.1**~~ **303.1.3.1** ~~**Heaters**~~ **Electric switches.** The electric power to heaters shall be controlled by an on-off switch with ready access that is an integral part of the heater, mounted on the exterior of the heater or external to and within 3 feet (914 mm) of the heater. Operation of such switch shall not change the setting of the heater thermostat. Such switches shall be in addition to a circuit breaker for the power to the heater. ~~Gas-fired heaters shall not be equipped with continuously burning ignition pilots.~~

~~**303.1.2**~~ **303.1.3.2 Time switches.** Time switches or other control methods that can automatically turn off and on heaters and pump motors according to a preset schedule shall be installed for heaters and pump motors. Heaters and pump motors that have built-in time switches shall be in compliance with this section.

Exceptions:

1. Where public health standards require 24-hour pump operation.
2. Pumps that operate solar- or waste-heat recovery pool heating systems.

~~**303.1.1**~~ **303.1.3.3** ~~**Heaters**~~ **Ignition pilots.** ~~The electric power to heaters shall be controlled by an on-off switch with ready access that is an integral part of the heater, mounted on the exterior of the heater or external to and within 3 feet (914 mm) of the heater. Operation of such switch shall not change the setting of the heater thermostat. Such switches shall be in addition to a circuit breaker for the power to the heater.~~ Gas-fired heaters shall not be equipped with continuously burning ignition pilots.

~~**303.1.3**~~ **303.1.4 Covers.** Outdoor heated pools and outdoor permanent spas shall be provided with a vapor-retardant cover or other *approved* vapor-retardant means in accordance with Section 104.9.1.

Exception: Where more than 75 percent of the energy for heating, computed over an operating season of not fewer than 3 calendar months, is from a heat pump or an on-site renewable energy system, covers or other vapor-retardant means shall not be required.

303.2 Portable spas. The energy consumption of electric-powered portable spas shall be controlled by the requirements of APSP 14.

303.3 Residential pools and permanent residential spas. The energy consumption of *residential* swimming pools and permanent *residential* spas shall be controlled in accordance with the requirements of APSP 15.

Add new standard(s) as follows:

DOE 10 CFR Part 430. Energy Conservation Program for Consumer Products: Test Procedures and Certification and Enforcement Requirement for Plumbing Products; and Certification and Enforcement Requirements for Residential Appliances; Final Rule; Pool heaters

Reason: This proposal, based on pool heater requirements proposed for California's 2025 energy code, requires that the primary heating system for pools and spas is either a solar thermal water heater, a heat pump pool heater or a heating system that derives no less than 60 percent of its annual heating energy from either on-site renewable energy or site-recovered energy. Natural gas or electric back-up heating systems are allowed in all cases. The proposal also includes mandatory minimum efficiency standards for pool heaters established by the U.S. Department of Energy.

The purpose of this proposal is to save energy and reduce carbon emissions from new swimming pool and spa heaters. According to CBECS 2018, the majority of pool and spa heaters installed today to heat indoor commercial pools are powered with natural gas (71%) which ties building owners to unpredictable utility costs caused by price swings in the natural gas market.

Solar thermal heating systems are cost effective alternatives to conventional gas-fired pool heaters which result in reduced energy use and lower monthly utility costs. Solar swimming pool and spa heating systems are one of the simplest and least expensive forms of solar thermal technology. The most common and least expensive type of solar swimming pool and spa heating systems are unglazed solar collectors which are made of a black plastic material that absorbs the sun's energy, converting it into heat which is then transferred to the water in the pool. Unglazed solar collectors are popular for swimming pools because they are easy to install, require little to no maintenance, and result in significantly lower monthly utility bills.

While a solar thermal heater with a backup gas-fired pool heater is more expensive than installing just a gas-fired pool heater (incremental costs are around $5,250 for a 20,000 gallon capacity pool), the reduction in monthly utility costs results in very short payback periods. A recent California CASE Study found that installing a solar pool and spa heating system with gas-fired back-up reduces natural gas use by 64 therms/year for residential pools and 45,000 therms/year for an Olympic sized pool. The same CASE study found that the reduction in natural gas use over 30 years resulted in a reduction in utility bills for solar pool and spa heating systems that were two to six times higher than the incremental cost for installing the system. The Department of Energy similarly states that the payback period for a solar pool and spa heating system alone is on the order of 1 to 7 years.

Not only do solar thermal water heaters result in reduced utility bills, but they can also reduce carbon emissions. The California CASE Study found that this requirement would reduce greenhouse gas emissions in California by approximately 37,000 metric tons of CO_2e per year. Given that commercial pools in California make up roughly 20% of the commercial pool market in the U.S., this proposal, if adopted nationwide, could result in a reduction of roughly 190,000 metric tons of CO_2e per year which is equivalent to taking 42,000 cars off the road.

As an alternative to installing a solar thermal heating system, this proposal allows for the installation of heat pump pool heaters or pool heaters which derive at least 60 percent of their annual heating energy from either on-site renewable energy or site-recovered energy. The California CASE study found that heat pump pool heaters save more energy and are more cost effective than solar thermal heating systems. This proposal exempts residential pools and spas and portable electric spas.

Bibliography: U.S. Department of Energy. *Solar Swimming Pool Heaters*. Accessed December 15, 2023. https://www.energy.gov/energysaver/solar-swimming-pool-heaters

California Energy Codes and Standards. *Codes and Standards Enhancement (CASE) Initiative 2025 California Energy Code: Swimming Pool Heating*. Revised October 2023. https://title24stakeholders.com/wp-content/uploads/2023/10/Revised-2025-T24-Final-CASE-Report_-NR-Swimming-Pool-Spa-Heating-1.pdf

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Estimated Immediate Cost Impact:

The California CASE study found that installing a solar thermal water heaters in addition to a gas-fired pool heating system in nonresidential pools resulted in total 30-year incremental installation and maintenance costs of $18,786. The California CASE study found that heat pump pool heaters in addition to a gas-fired pool heating system result in $17,416 in incremental installation and maintenance costs over 30 years.

Estimated Immediate Cost Impact Justification (methodology and variables):

The estimated immediate incremental cost assumed that the owner installed a solar thermal water heater or a heat pump pool heater as the primary system and a gas heater as back-up. The incremental cost therefore is the full installed cost of solar thermal water heater or heat pump pool heater. The cost of the solar collectors was estimated from a database of installation cost values from the California Solar Initiative Commercial Pool Solar Thermal Rebate program. The database contains over 1,100 commercial pool solar thermal projects with data on the collector size and total project cost.

Estimated Life Cycle Cost Impact:

Over 30 years, the CASE study found that solar thermal water heaters saved between $38,000 to $150,000 for non-residential pools yielding a benefit to cost ratio between 2.0 to 6.6 depending on the Climate Zone. If one includes the immediate and maintenance costs for the solar thermal water heaters, total life cycle cost savings over 30 years are between $19,214 and $131,214 depending on the Climate Zone.

Over 30 years, the CASE study found that heat pump pool heaters saved between $40,697 to $202,301 for consumers yielding a benefit to cost ratio between 2.3 to 11.6 depending on the Climate Zone. If one includes the immediate and maintenance costs for the solar thermal water heaters, total life cycle cost savings over 30 years are between $23,281 and $184,885 depending on the Climate Zone.

Estimated Life Cycle Cost Impact Justification (methodology and variables):

The methodology and variables for the life cycle cost impact calculation are descripted in the CASE study.

Staff Analysis: A review of the standard proposed for inclusion in the code, DOE 10CFR Part 430 *Energy Conservation Program for Consumer Products: Test Procedures and Certification and Enforcement Requirement for Plumbing Products; and Certification and Enforcement Requirements for Residential Appliances; Final Rule; Pool heaters*, with regard to some of the key ICC criteria for referenced standards (Section 4.6 of CP#28) will be posted on the ICC website on or before March 18, 2024.

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Public Hearing Results (CAH1)

Committee Action: **Disapproved**

Committee Reason: These are proposed California requirements that are not appropriate for the ISPSC. (11-0)

SP3-24

Individual Consideration Agenda

Comment 1:

ISPSC: SECTION 202, 303.1, 303.1.1 (New), 303.1.2 (New), 303.1.2, TABLE 303.1.2, 303.1.2.1 (New), 303.1.2.2 (New), 303.1.3 (New),

303.1.3.1 (New), 303.1.3, 303.1.4.1 (New), 303.1.3.2, 303.1.3.3, 303.1.4, DOE (New), DOE

Proponents: Maureen Guttman, Energy Solutions, California Investor-Owned Utilities requests As Modified by Committee (AMC2)

Modify as follows:

2024 International Swimming Pool and Spa Code

SOLAR THERMAL ~~WATER~~ POOL HEATER. An assembly of components designed to heat water for swimming pools or spas by solar thermal means, excluding pool recirculation components. ~~through the conversion of incident solar radiation at the building site.~~

303.1 Energy consumption of pools and permanent spas. The energy consumption of pools and permanent spas shall be controlled by the requirements in Sections 303.1.1 through ~~303.1.4~~ 303.1.5 and with Section 317.

303.1.1 Primary heating systems. The primary pool or spa heating systems shall be one of the following:

1. ~~2.~~ A heat pump pool heater.
2. ~~1.~~ A solar thermal pool ~~water~~ heater with a solar collector surface area equivalent to at least 65 percent of the pool or spa surface area.
3. Systems that do not use heat pump pool heaters or solar thermal pool ~~water~~ heaters or ~~heat pump pool heaters~~ as their primary heat source shall derive no less than 60 percent of annual heating energy from on-site renewable energy orsite-recovered energy.
4. A combination of solar thermal pool heater and heat pump pool heater without external supplementary heat.

Exceptions:

1. Residential pools and residential spas.
2. Portable electric spas.
3. Pool heating systems in Climate Zone 8 as identified Section 301 in the International Energy Conservation Code.
4. ~~3.~~ A pool or spa heated only by a solar thermal ~~water~~ pool heater.
5. Replacements to gas-fired heating systems for pools and spas in existing buildings.
6. A pool heating system whose annual site energy consumption is no greater than any of the pool heating systems compliant with Section 303.1.1 as determined by an approved party.

Add new text as follows:

303.1.2 Heat pump pool heater sizing. The design loads for the purpose of sizing systems and equipment for heat pump pool heaters shall comply with Sections 303.1.2.1 and 303.1.2.2.

~~**303.1.2 Pool heater efficiency.** Pool heaters shall meet the minimum efficiency requirements of Table 303.1.2 when tested in accordance with the test procedure listed in DOE 10 CFR 430.23(p) and Appendix P to Subpart B of Part 430.~~

~~**TABLE 303.1.2 POOL HEATER MINIMUM EFFICIENCY REQUIREMENTS**~~

~~EQUIPMENT TYPE~~	~~MINIMUM EFFICIENCY~~
~~Heat Pump Pool Heater~~	~~4.0 COP rated at 50°F db 44.2°F wb outdoor air 80.0°F entering water~~

~~Gas-Fired Pool Heater~~	~~Before 5/31/2028~~ ~~Integrated Thermal Efficiency not less than the following:~~ ~~600 (PE)/(PE + 1,619)~~ ~~where PE is the active electrical power, in Btu/h~~ ~~After 5/31/2028~~ ~~82% Et~~ ~~Before 5/31/2028~~ ~~84(QIN + 491)/(QIN + 2,536)~~ ~~where QIN is the input capacity, in Btu/h~~ ~~After 5/31/2028~~

303.1.2.1 Indoor pools and spas. Heat pump pool heaters serving indoor pools and spas shall comply with one of the following:

1. Heat pump pool heaters shall be sized in accordance with the manufacturer's published sizing guidelines.
2. Heat pump pool heaters without manufacturer's published sizing guidelines shall be sized in accordance with generally accepted engineering standards.

Add new text as follows:

303.1.2.2 Outdoor pools and spas. Heat pump pool heaters serving outdoor pools and spas shall comply with one of the following:

1. Heat pump pool heaters shall be sized in accordance with the manufacturer's published sizing guidelines.
2. Heat pump pool heaters without manufacturer's published sizing guidelines shall be sized using an output heating capacity no less than O_{out} calculated in accordance with Equation 3-1. **Oout = Vp x 8.33 x ΔT ÷ t (Equation 3-1)**
   where:

   O_{out} = output heating capacity of the heat pump pool heater in Btu/hr

   Vp = pool volume in gallons

   ΔT = desired pool temperature minus the average temperature for the coldest month and shall not exceed 10°F, in °F

   t = time needed for the heat pump pool heater to achieve the 10°F rise, and shall not exceed 17.5 hours, in hours

303.1.3 Supplementary pool and spa heating. Supplementary pool and spa heating systems shall be permitted if the primary pool and spa heating system does not meet the full annual heating load of the pool or spa.

303.1.3.1 Control of supplementary pool heating system. Pool and spa heating systems with an internal or an external supplementary pool heating system shall have controls that prevent supplementary heat operation when the heating load can be met by the primary pool heating system alone. Supplementary pool and spa heating system operation is permitted for setback recovery.

~~**303.1.3**~~ **303.1.4 Heater controls.** Heater controls and ignition pilots shall comply with Section ~~303.1.3.1~~ 303.1.4.1 through Section ~~303.1.3.3~~ 303.1.4.3.

~~**303.1.3.1**~~ **303.1.4.1 Electric switches.** The electric power to heaters shall be controlled by an on-off switch with ready access that is an integral part of the heater, mounted on the exterior of the heater or external to and within 3 feet (914 mm) of the heater. Operation of such switch shall not change the setting of the heater thermostat. Such switches shall be in addition to a circuit breaker for the power to the heater.

~~303.1.3.2~~ 303.1.4.2 **Time switches.** Time switches or other control methods that can automatically turn off and on heaters and pump motors according to a preset schedule shall be installed for heaters and pump motors. Heaters and pump motors that have built-in time switches shall be in compliance with this section.

Exceptions:

1. Where public health standards require 24-hour pump operation.
2. Pumps that operate solar- or waste-heat recovery pool heating systems.

~~303.1.3.3~~ 303.1.4.3 **Ignition pilots.** Gas-fired heaters shall not be equipped with continuously burning ignition pilots.

~~303.1.4~~ 303.1.5 **Covers.** Outdoor heated pools and outdoor permanent spas shall be provided with a vapor-retardant cover or other *approved* vapor-retardant means in accordance with Section 104.9.1.

Exception: Where more than 75 percent of the energy for heating, computed over an operating season of not fewer than 3 calendar months, is from a heat pump or an on-site renewable energy system, covers or other vapor-retardant means shall not be required.

Delete without substitution:

~~**DOE 10 CFR Part 430.** Energy Conservation Program for Consumer Products: Test Procedures and Certification and Enforcement Requirement for Plumbing Products; and Certification and Enforcement Requirements for Residential Appliances; Final Rule; Pool heaters~~

Reason:

This proposal is a modified version of a proposal submitted and considered at the ICC Committee Action Hearings in April. The modifications to the proposal are intended to better align this proposal with changes discussed and agreed to with pool and spa industry representatives. The principal modifications include:

1. An exemption for replacements for existing gas-fired pool heaters to account for the unique challenges facing existing buildings.
2. An exemption for pool heating systems whose site energy use consumption is less than that of the four options provided.
3. Guidance on how to appropriately size heat pump pool heaters if installed.
4. Guidance on appropriate control requirements for supplementary heating.

In addition, this proposal includes the following additional changes:

1. The proposal revises the definition for solar thermal pool heater to be consistent with the definition in the 2020 ICC 902/PHTA 902/SRCC 400 Solar Pool and Spa Heating System Standard.
2. The proposal exempts pool heating systems in Climate Zone 8 where cost effectiveness analysis shows that solar thermal pool heating systems are not appropriate.
3. The proposal removes the mandatory minimum efficiency standards for pool heaters established by the U.S. Department of Energy as well as a minor restructuring of the heaters section. Those proposed changes are included in a separate proposal.

As stated in the original reason statement, the purpose of this proposal is to save energy and reduce carbon emissions from new swimming pool and spa heaters. According to CBECS 2018, the majority of pool and spa heaters installed today to heat indoor commercial pools are powered with natural gas (71%) which ties building owners to unpredictable utility costs caused by price swings in the natural gas market.

Cost Impact: Increase

Estimated Immediate Cost Impact:

While additional exemptions provided for existing buildings, systems in Climate Zone 8, and systems whose annual site energy use consumption is lower than that of the options allowed will reduce costs nationally, the revisions made to the original proposal do not impact the cost of the proposal to an individual installation.

Estimated Immediate Cost Impact Justification (methodology and variables):

N/A

Estimated Life Cycle Cost Impact:

N/A

Estimated Life Cycle Cost Impact Justification (methodology and variables):

N/A

Comment (CAH2)# 651

Comment 2:

ISPSC: 303.1, TABLE 303.1.2, 303.1.3 (New), 303.1.3.2, 303.1.3.3, 303.1.4, 303.1.3

Proponents: Maureen Guttman, Energy Solutions, California Investor-Owned Utilities requests As Modified by Committee (AMC2)

Modify as follows:

2024 International Swimming Pool and Spa Code

303.1 Energy consumption of pools and permanent spas. The energy consumption of pools and permanent spas shall be controlled by the requirements in Sections 303.1.1 through ~~303.1.4~~ 303.1.6 and with Section 317.

Revise as follows:

TABLE 303.1.2 POOL HEATER MINIMUM EFFICIENCY REQUIREMENTS

EQUIPMENT TYPE	MINIMUM EFFICIENCY	COMPLIANCE DATE
Commercial Heat Pump Pool Heater[a]	4.0 COP rated at 50° F db 44.2° F wb outdoor air ~~80.0° F entering water~~	
Consumer Electric Pool Heater[b]	4.0 COP rated at 50° F db 44.2° F wb outdoor air 80.0° F entering water	Before 5/31/2028
	~~*Before 5/31/2028*~~ Integrated Thermal Efficiency not less than the following: 600 (PE)/(PE + 1,619) where PE is the active electrical power, in Btu/h	On or after 5/31/2028
Commercial Gas-Fired Pool Heater[a]	~~*After 5/31/2028*~~ *82% Et* ~~*Before 5/31/2028*~~ ~~*84(QIN + 491)/(QIN + 2,536)*~~ ~~*where QIN is the input capacity, in Btu/h*~~ ~~*After 5/31/2028*~~	

Consumer Gas-Fired Pool Heater[b]	*82% Et*	*Before 5/31/2028*
	$84(Q_{IN} + 491)/(Q_{IN} + 2,536)$ where Q_{IN} is the input capacity, in Btu/h	On or after 5/31/2028

a. Performance requirement is for commercial pool heaters and for applications outside of the U.S. Commercial pool heaters contain additional design modifications related to safety requirements for installation in commercial buildings and are not regulated as consumer products by the U.S. DOE as defined in 10 CFR 430.

b. Pool heaters in this category or subcategory are regulated as consumer products by the U.S. DOE as defined in 10 CFR 430.

~~**303.1.3.1**~~ **303.1.3** ~~**Electric switches**~~ **Heater electric switches.** The electric power to heaters shall be controlled by an on-off switch with ready access that is an integral part of the heater, mounted on the exterior of the heater or external to and within 3 feet (914 mm) of the heater. Operation of such switch shall not change the setting of the heater thermostat. Such switches shall be in addition to a circuit breaker for the power to the heater.

~~**303.1.3.2**~~ **303.1.4 Time switches.** Time switches or other control methods that can automatically turn off and on heaters and pump motors according to a preset schedule shall be installed for heaters and pump motors. Heaters and pump motors that have built-in time switches shall be in compliance with this section.

Exceptions:

1. Where public health standards require 24-hour pump operation.
2. Pumps that operate solar- or waste-heat recovery pool heating systems.

~~**303.1.3.3**~~ **303.1.5** ~~**Ignition pilots**~~ **Gas-fired heater ignition pilots.** Gas-fired heaters shall not be equipped with continuously burning ignition pilots.

~~**303.1.4**~~ **303.1.6 Covers.** Outdoor heated pools and outdoor permanent spas shall be provided with a vapor-retardant cover or other *approved* vapor-retardant means in accordance with Section 104.9.1.

Exception: Where more than 75 percent of the energy for heating, computed over an operating season of not fewer than 3 calendar months, is from a heat pump or an on-site renewable energy system, covers or other vapor-retardant means shall not be required.

~~**303.1.3 Heater controls.** Heater controls and ignition pilots shall comply with Section 303.1.3.1 through Section 303.1.3.3.~~

Reason:

This proposal is a modified version of a proposal submitted and considered at the ICC Committee Action Hearings in April. The original proposal was split into two parts. This proposal is intended to improve compliance and enforcement across a jurisdiction's adopted codes and with DOE's minimum efficiency standards for pool heaters by both aligning and clarifying code requirements.

This proposal aligns heater efficiency requirements with mandatory minimum efficiency standards for pool heaters established by the U.S. Department of Energy(DOE) and those established by the 2024 IECC and ASHRAE 90.1-2022. In 2024, minimum efficiency requirements for consumer gas-fired pool heaters with an efficiency of 82% Et are in place. DOE finalized a rule requiring manufacturers of consumer gas-fired pool heaters and consumer electric pool heaters meet new efficiency standards and new metrics beginning 5/31/2028. In addition, the 2024 IECC and ASHRAE 90.1-2022have included minimum efficiency requirements for pool heaters not covered by DOE's minimum efficiency standards. This proposal is intended to align the 2027 ISPSC with both federal requirements and requirements in the 2024 IECC and ASHRAE 90.1-2022.

To clarify pool heater requirements, this proposal also revises the heater controls section by removing the requirement that gas-fired heaters are not equipped with continuously burning ignition pilots and making that its own section.

Bibliography: N/A

Cost Impact: Increase

Estimated Immediate Cost Impact:

There is no cost impact to the original proposal as a result of this modification.

Estimated Immediate Cost Impact Justification (methodology and variables):

N/A

Estimated Life Cycle Cost Impact:

N/A

Estimated Life Cycle Cost Impact Justification (methodology and variables):

N/A

Comment (CAH2)# 693

SP17-24

ISPSC: SECTION 202 (New), SECTION 202, 316.4.1

Proposed Change as Submitted

Proponents: Gregory Ceton, Pool and Hot Tub Alliance (gceton@phta.org); Jennifer Hatfield, J. Hatfield & Associates, Pool & Hot Tub Alliance (jen@jhatfieldandassociates.com)

2024 International Swimming Pool and Spa Code

Add new definition as follows:

FREEBOARD. The vertical distance between the operating level of the pool and the level where the water would spill beyond the pool or onto the deck. For a pool with a vanishing edge, or where the coping is lower than the design pool water level, the freeboard would be zero.

Revise as follows:

SURGE CAPACITY. The storage volume in a surge tank, *gutter,* and plumbing lines that is available during operation of the pool to temporarily hold water that has been displaced from the pool by bathers, without diverting that water to waste. Water held in surge capacity shall not be in motion due to gravity, rather, only by the pumps.

316.4.1 Surge capacity. Where perimeter surface skimming systems are used, they shall be connected to a circulation system with a system surge capacity of not less than ~~1~~ 0.5 gallon for each square foot (~~40.7~~ 20.4 liters per square meter) of water surface, unless there is 2 inches (51 mm) or more of freeboard around the entirety of the pool perimeter. The capacity of the perimeter overflow system and related piping is permitted to be considered as a portion of the surge capacity.

Reason: The purpose of surge capacity is poorly understood. The idea of surge capacity is to allow the pool to fill up with people and empty out without having to divert the displaced water to waste.

1. Surge capacity should not be required on pools with adequate freeboard, because they will not dump water to waste during a high bather load event. Some pools, such as vanishing edge pools or tension edge pools, would not have adequate freeboards, for example.
2. Areas that only ever have water in motion (such as gutter pipes and gutter trenches) should not count as surge capacity, because these areas typically cannot fill up with water. For example, consider a vanishing edge pool with no main drain that has a section of sloping gutter pipe above the catch basin static water level. This pipe does not get fuller when more people come into the pool. Its fullness depends on the flow rate and pipe slope only.
3. Experience shows many areas have adopted this requirement, but few enforce it, and those that do are not consistent in how they apply it. The requirement of one gallon per square foot converts to a height of about 1.75 inches of water over the pool. Surge capacity is intended to prevent water from going to waste every time a group of bathers enters the pool. Therefore, in a typical open gutter pool, with freeboard behind the gutter dropouts, water is never diverted to waste due to high bather load, and surge capacity is not needed. All that happens in that case is the water over the gutter lip temporarily grows, and this is benign.

The current definition of surge capacity expects the excess water to go to places it will not actually go, because gutter pipes typically run partially full of flowing water down a slope. The volume held in a gutter pipe is a function of the gutter flow rate, and it does not change when some volume is displaced.

Surge capacity should be more narrowly defined, and it should only be required where freeboard is low. This proposal addresses that and adds a definition for "freeboard".

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Estimated Immediate Cost Impact:

Difficult to estimate due to the differences in pool sizes and tank costs between projects.

Surge tanks range in price from $150-$10,000

Assuming a larger residential pool able to use a smaller surge tank under the proposal, the average decrease would likely be $1,000 to $2,000.

Estimated Immediate Cost Impact Justification (methodology and variables):

Listed prices of surge tanks, cost of installation would be unaffected by the tank size.

Estimated Life Cycle Cost Impact:

None.

Estimated Life Cycle Cost Impact Justification (methodology and variables):

None.

SP17-24

Public Hearing Results (CAH1)

Committee Action: **As Modified by Committee**

Committee Modification:
SURGE CAPACITY. The storage volume in a surge tank, *gutter,* and plumbing lines that is available during operation of the pool to temporarily hold water that has been displaced from the pool by bathers, without diverting that water to waste.
~~Water held in surge capacity shall not be in motion due to gravity, rather, only by the pumps.~~

316.4.1 Surge capacity.
Where perimeter surface ~~skimming~~ overflow systems are used, they shall be connected to a circulation system with a system surge capacity of not less than ~~0.5~~ 1 gallon for each square foot (~~20.4~~ 40.7 liters per square meter) of water surface~~.~~ ~~unless there is 2 inches (51 mm) or more of freeboard around the entirety of the pool perimeter. The capacity of the perimeter overflow system and related piping is permitted to be considered as a portion of the surge capacity.~~
Exception: Surge capacity is not required if the following conditions are present:

1. Automatic surface skimmers that are designed to process not less than 100 percent of the turnover rate,
2. Freeboard of 2 inches (51 mm) or more around the entirety of the pool perimeter,

316.3 Skimmer sizing.
Where automatic surface skimmers are used as the sole ~~overflow~~ skimming system, not less than one surface skimmer shall be provided for the square foot (square meter) areas, or fractions thereof, indicated in Table 316.3. Skimmers shall be located to maintain effective skimming action.

Committee Reason: For the modification: The modification provides clarity to the original proposal.(11-0)
For the proposal as modified: The proposal will reduce the needed surge capacity. (11-0)

SP17-24

Individual Consideration Agenda

Comment 1:

ISPSC: SECTION 202, SECTION 316, 316.1, 316.2, 316.2.1, 316.3, TABLE 316.3, 316.4, 316.4.1, TABLE 316.4.1 (New)

Proponents: Gregory Andrew Ceton, Pool and Hot Tub Alliance (gceton@phta.org); Jennifer Hatfield, J. Hatfield & Associates, Pool & Hot Tub Alliance (jen@jhatfieldandassociates.com) requests As Modified by Committee (AMC2)

Further modify as follows:

2024 International Swimming Pool and Spa Code

FREEBOARD. The vertical distance between the operating level of the pool and the level where the water would spill beyond the pool or onto the deck. For a pool with a vanishing edge, or where the coping is lower than the design pool water level, the freeboard would be zero.

SURGE CAPACITY. The storage volume in a surge tank, *gutter,* and plumbing lines that is available during operation of the pool to temporarily hold water that has been displaced from the pool by bathers, without diverting that water to waste.

SECTION 316
~~SKIMMERS~~SURFACE SKIMMING SYSTEMS

316.1 General. The provisions of this section apply to ~~skimmers~~ surface skimming systems for pools and spas.

Exceptions:

1. Portable ~~*residential*~~ electric spas and ~~portable *residential*~~ exercise spas.
2. *Onground storable pools* supplied by the pool manufacturer as a kit that includes a skimming system that is in accordance with Section 704.

316.2 Required. A surface skimming system shall be provided for public *swimming pools* and *permanent spas,* and *residential swimming pools*. ~~Surface skimming systems shall be *listed* and *labeled* in accordance with NSF 50. Either a~~ A surface skimming system shall consist of automatic surface skimmers, or an ~~perimeter~~ overflow gutter system, or a combination of the two~~ shall be provided for permanent inground *residential* pools and permanent *residential* spas~~. Recessed automatic surface skimmers shall be *listed and labeled* in accordance with NSF 50. Where installed, surface skimming systems shall be designed and constructed to create a skimming action on the pool water surface when the water level in the pool is within operational parameters.

Exceptions:

1. Class D public pools designed in accordance with Chapter 6.
2. Skimmers that are an integral part of a spa that has been *listed* and *labeled* in accordance with UL1563 shall not be required to be *listed* and *labeled* in accordance with NSF 50.

316.2.1 Circulation systems. Public pool circulation systems shall be designed to process not less than 100 percent of the turnover rate through ~~skimmers~~their surface skimming system.

316.3 Skimmer sizing. Where automatic surface skimmers are used as the sole surface skimming system, not less than one automatic surface skimmer shall be provided for the square foot (square meter) areas, or fractions thereof, indicated in Table 316.3. Skimmers shall be located to maintain effective skimming action.

TABLE 316.3 SKIMMER SIZING TABLE

POOL OR SPA	AREA PER SKIMMER (SQ. FT)

POOL OR SPA	AREA PER SKIMMER (SQ. FT)
Public pool	500
Residential pool	800
Spas (all types)	150

For SI: 1 square foot = 0.0929 m^2.

316.4 Perimeter coverage. Where a perimeter ~~type~~ overflow gutter surface skimming system is used as the sole surface skimming system, the system shall extend around not less than 50 percent of the pool or spa perimeter.

316.4.1 Surge capacity. Where perimeter ~~surface~~ overflow gutter systems are used, they shall be connected to a circulation system with a system surge capacity of not less than the ~~1 gallon for each square foot (40.7 liters per square meter) of~~ water surface area, multiplied by the factor indicated in Table 316.4.1.

Exception: Surge capacity is not required if both of the following conditions are present:

1. Automatic surface skimmers that are designed to process not less than 100 percent of the turnover rate.
2. A minimum ~~F~~ freeboard of 2 inches (51 mm) ~~or more~~ around the entirety of ~~the~~ a pool perimeter ~~.~~ and a minimum freeboard of 4 inches (102 mm) around the entirety of a spa perimeter.

Add new text as follows:

TABLE 316.4.1 MINIMUM SURGE CAPACITY

Pool Area Type	Required surge capacity (gallons per square foot)
Spa	2
Pool area less than 1ft deep	0.5
Pool area 5 feet deep or more	0.15
All other pool areas	0.9

For SI: 1 gallon per square foot = 40.7 liters per square meter

Reason: The common meaning of "skimmer" is a single device that is about a foot wide connected to the pump suction. The Florida code and the California code both mention skimmers, meaning a single 1' wide device, without defining it, because its meaning is commonly understood.

However, the *ISPSC* uses the word "skimmer" to mean "a system of skimmers" or "the gutter" which contradicts common usage and confuses the reader. Therefore, this public comment more accurately titles this section as a "surface skimming system" as the section covers the two types of systems, skimmers and overflow gutters. This comment also aligns terms with definition changes that were adopted in SP1-24, at the first code action hearing, along with ensuring terms align with existing *ISPSC* definitions.

Section 316.2 also is cleaned up as the intent is clearly for residential pools to have the same skimming requirements as public pools, so there is no need to have separate sentences with different wordings for each set of requirements that could be confusing. The only "skimmers" that are listed and labeled to NSF 50 are Recessed Automatic Surface Skimmers, so that is also clarified.

The background for the additional changes to section 316.4.1 and new Table 316.4.1 is as follows:

- Surge is meant to absorb the displacement caused by occupants. In code action hearing #1, we approved more reliable minimum figures for the number of occupants in a pool (P19-24, Part II). The occupant will displace a volume equal to their submerged volume.
- Spas are now assigned a denser occupancy factor of one occupant per 10 square feet rather than 24 square feet. The industry is seeing a trend of spas designed with overflowing edges. If this section were left unchanged, the current 1 gallon per square foot factor would work out to each occupant in a spa displacing 10 gallons. The median adult male weight is 200 lb. while the median adult female weight is 170 lb., so 185 is the median for both sexes. For occupants weighing approximately 185 lbs., that would require each to be only 45% submerged. The proposed factor assumes that the median occupant is 90% submerged.
- Water depth of less than 1' is most likely a tanning ledge, and people do not lie down in these. They sit on the floor, or they bring a chair; therefore, less than 50% of their bodies will be submerged.
- Water depth of 5' or more is assigned 1 occupant per 150 square feet, and the proposed 0.16 factor preserves the 22.2 gallons per occupant ratio.

- For most pool areas, the occupant load will be 1 per 24 square feet, again corresponding with P19-24, Part II. For these areas, the minimum surge capacity will be 0.9 gallon per square foot, meaning 22.2 gallons are assigned per occupant. A 185 lb. occupant who is floating or fully submerged will displace 22.2 gallons of water. The median adult male weight is 200 lb. while the median adult female weight is 170 lb., so 185 is the median for both sexes, and most occupants will rest their feet on the bottom rather than float in most areas of the pool.

In summary, this public comment means to align with other proposals that were adopted in CAH#1 and made additional needed changes to further clean up this section.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

Fiberglass surge tanks range in price from $150-$10,000. Under this proposal, a larger residential pool will be able to use a smaller surge tank, resulting in an average decrease in construction costs of $1,000 to $2,000.

A similar minor increase could be expected for the proposed increase in required surge capacity for permanent inground spas.

For larger public and residential pools, the product of the proportion of pool construction cost associated with the surge tank, multiplied by the reduction in the surge tank size allowed by this revision, will rarely be more than 1% of the cost to build or operate the pool, but it will be a reduction.

Estimated Immediate Cost Impact Justification (methodology and variables):

This proposal will result in a minor reduction in construction costs for pools and a possible minor increase in construction costs for permanent spas.

The surge capacity factor in the 2024 ISPSC is 1 gallon per square foot. This proposal calls for spas to have double that amount of surge capacity, while other pools and areas of pools will have a reduced minimum surge capacity.

While spas with overflowing edges are rare, they are currently typically being designed with greater surge capacity, to ensure safe operation of pumps in scenarios with a high number of users entering and exiting the spa.

For larger public and residential pools, the current requirement to provide surge capacity generally increases total water volume by 2% to 4% and increases the area of watertight structure by 2% to 8%. Under this proposal, this portion of the cost of pool construction would be decreased by about 10% (as the factor changes from 1 gal/sf to 0.9 gal/sf), for pools between 1' and 5' deep. For depths outside of that range, the savings would be greater.

Estimated Life Cycle Cost Impact:

No change in life cycle cost.

Estimated Life Cycle Cost Impact Justification (methodology and variables):

No changes that have an impact on life cycle costs. All costs are first costs.

Comment (CAH2)# 378

SP29-24

ISPSC: 604.2.2, APSP Chapter 11 (New)

Proposed Change as Submitted

Proponents: Gregory Andrew Ceton, Pool and Hot Tub Alliance (gceton@phta.org); Jennifer Hatfield, J. Hatfield & Associates, Pool & Hot Tub Alliance (jen@jhatfieldandassociates.com)

2024 International Swimming Pool and Spa Code

Revise as follows:

604.2.2 Reduced ~~circulation~~flow rate. ~~The circulation rate~~ The aquatic recreation facility shall be permitted to ~~be~~ reduce~~d~~ the flow rate ~~during periods that the pool is closed for use~~ when not open to bathers and provided ~~that acceptable water clarity conditions are met prior to reopening the pool for public use.~~the water quality is maintained and documented in accordance with APSP-11. Water quality shall be tested and documented prior to opening the aquatic venue to bathers. The reduced ~~circulation~~ flow rate shall not be zero~~.~~ unless approved.

APSP

Pool & Hot Tub Alliance (formerly The Association of Pool & Spa Professionals)
2111 Eisenhower Avenue, Suite 500
Alexandria, VA 22314

ANSI/APSP/ICC 11--2019 American National Standard for Water Quality in Public Pools and Spas

Reason: This change aligns the term "flow rate" which is used in PHTA–2, APSP-11, and the Model Aquatic Health Code (MAHC). The sanitation and pH guidelines incorporated by reference clarify required operation. These requirements for water quality are required by reference in other sections of the ISPSC and do not change the cost of operation.

Bibliography: ANSI/APSP/ICC-11 American National Standard for Water Quality in Public Pools and Spas

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

It is a language change and clarification to ensure similar terminology ("flow rate" as opposed to "circulation rate") is used in all referenced PHTA standards and the Model Aquatic Health Code.

SP29-24

Public Hearing Results (CAH1)

Committee Action: **Disapproved**

Committee Reason: The ISPSC is a construction code and not an operation and maintenance code. How is the code official able to enforce the standard after the construction is complete? Also, there is concern about allowing the code official to approve a zero flow rate. Although in favor of a radical turn down of flow rate when the pool is closed, the flow rate should not be zero in order for automated chemical monitoring equipment to maintain proper water chemistry. (11-0)

SP29-24

Individual Consideration Agenda

Comment 1:

ISPSC: 604.2.2, APSP Chapter 11

Proponents: Gregory Andrew Ceton, Pool and Hot Tub Alliance (gceton@phta.org); Jennifer Hatfield, J. Hatfield & Associates, Pool & Hot Tub Alliance (jen@jhatfieldandassociates.com) requests As Modified by Committee (AMC2)

Modify as follows:

2024 International Swimming Pool and Spa Code

604.2.2 Reduced flow rate. The aquatic recreation facility shall be permitted to reduce the flow rate when not open to bathers ~~and provided the water quality is maintained and documented in accordance with APSP-11~~. Water quality shall be tested and documented prior to opening the aquatic venue to bathers. The reduced flow rate shall not be zero ~~unless approved~~.

Delete without substitution:

APSP

Pool & Hot Tub Alliance (formerly The Association of Pool & Spa Professionals)
2111 Eisenhower Avenue, Suite 500
Alexandria, VA 22314

~~ANSI/APSP/ICC-11-2019~~ ~~American National Standard for Water Quality in Public Pools and Spas~~

Reason: This public comment addresses the committees concerns and reason for disapproval.

First, it removes the requirement that the water quality be maintained and documented in accordance with APSP-11, due to the concern a code official would not be able to enforce the standard after the construction is complete.

Second, it removes the language, "unless approved," as it relates to not allowing a reduced flow rate of zero. This provided no guidance for enforcement and more importantly, runs contrary to public pool operations health and safety. PHTA has elected to remove that language to restore the sentence to its original form, addressing the committees concern.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Justification for no cost impact:

These comments do not change the cost impact of the proposal as originally submitted.

Comment (CAH2)# 58

SP30-24

ISPSC: SECTION 202, 202, SECTION 202 (New), TABLE 604.2, SECTION 613 (New), 613.1 (New), 613.1.1 (New), 613.1.2 (New), ASTM Chapter 11 (New)

Proposed Change as Submitted

Proponents: Jennifer Hatfield, J. Hatfield & Associates, Pool & Hot Tub Alliance (jen@jhatfieldandassociates.com); Gregory Andrew Ceton, Pool and Hot Tub Alliance (gceton@phta.org)

2024 International Swimming Pool and Spa Code

PUBLIC SWIMMING POOL (Public Pool). A pool, other than a *residential* pool, that is intended to be used for swimming or bathing and is operated by an owner, lessee, operator, licensee or concessionaire, regardless of whether a fee is charged for use. Public pools shall be further classified and defined as follows:

Class A competition pool. A pool intended for use for accredited competitive aquatic events such as Federation Internationale De Natation (FINA), USA Swimming, USA Diving, USA Synchronized Swimming, USA Water Polo, National Collegiate Athletic Association (NCAA), or the National Federation of State High School Associations (NFHS).

Class B public pool. A pool intended for public recreational use that is not identified in the other classifications of public pools.

Class C semi-public pool. A pool operated solely for and in conjunction with lodgings such as hotels, motels, apartments or condominiums.

Revise as follows:

Class D-1 wave action pool. A pool designed to simulate breaking or cyclic waves for purposes of general play ~~or surfing~~.
It does not include a *surf venue*, *surf basin* or *stationary wave system*.

Class D-2 activity pool. A pool designed for casual water play ranging from simple splashing activity to the use of attractions placed in the pool for recreation.

Class D-3 catch pool. A body of water located at the termination of a manufactured waterslide attraction. The body of water is provided for the purpose of terminating the slide action and providing a means for exit to a deck or walkway area.

Class D-4 leisure river. A manufactured stream of water of near-constant depth in which the water is moved by pumps or other means of propulsion to provide a river-like flow that transports bathers over a defined path that may include water features and play devices.

Class D-5 vortex pool. A circular pool equipped with a method of transporting water in the pool for the purpose of propelling riders at speeds dictated by the velocity of the moving stream of water.

Class D-6 interactive play attraction. A manufactured water play device or a combination of water-based play devices in which water flow volumes, pressures or patterns can be varied by the bather without negatively influencing the hydraulic conditions for other connected devices. These attractions incorporate devices or activities such as slides, climbing and crawling structures, visual effects, user-actuated mechanical devices and other elements of bather-driven and bather-controlled play.

Class E. Pools used for instruction, play or therapy and with temperatures above 86°F (30°C).

Class F. Class F pools are wading pools and are covered within the scope of this code as set forth in Section 405.
Public pools are either a diving or nondiving type. Diving types of public pools are classified into types as an indication of the suitability of a pool for use with diving equipment.

Type O. A nondiving public pool.

Types VI–IX. Public pools suitable for the installation of diving equipment by type.

Add new definition as follows:

STATIONARY WAVE SYSTEMS. A system that delivers a constantly flowing sheet of water nominally up to 24 in. thick travelling over a form allowing for patron interaction with a perpetual wave.

SURF BASIN. Mechanical devices to generate moving waves with suitable characteristics for surfing and can provide multiple different wave profiles suitable to any level of surfing.

SURF VENUE. A facility designed to accommodate a large body of water dedicated only to surfing on a surfboard or other similar surfing or wave-riding device, with bathymetry, shape, and design that can use a variety of different mechanisms to generate ocean like surfable waves that shoal and break progressively towards shallow water.

Revise as follows:

TABLE 604.2 TURNOVER TIME

CLASS OF POOL	MAXIMUM TURNOVER TIME[a] (hours)
D-1[b]	2
D-2 with less than 24 inches water depth	1
D-2 with 24 inches or greater water depth	2
D-3	1
D-4	2
D-5	1
D-6	1

For SI: 1 inch = 25.4 mm.

a. Pools with a sand bottom require a 1-hour turnover time.

b. Surf venues, surf basins, and stationary wave systems in compliance with Section 613 are not considered D-1 pools.

Add new text as follows:

SECTION 613
SURF VENUES, SURF BASINS, AND STATIONARY WAVE SYSTEMS

613.1 Surf venues. Surf venues shall comply with Section 613.1.1 or 613.1.2.

613.1.1 SURF basins. Surf basins shall comply with ASTM wk75193.

613.1.2 Stationary wave systems. Stationary wave systems shall comply with ASTM F3133.

Add new standard(s) as follows:

ASTM

ASTM International
100 Barr Harbor, P.O. Box C700
West Conshohocken, PA 19428-2959

F3133–21	Standard Practice for Classification, Design, Manufacture, Construction, Maintenance, and Operation of Stationary Wave Systems
wk75193-xx	Standard Practice for Classification, Design, Manufacture, Construction, Maintenance, and Operation of Controlled Surf(ing) Basins

Reason: The ISPSC currently addresses surf pools within Class D-1 wave action pools; however, these are two different types of pools/systems/venues. This proposal clarifies that a D-1 wave action pool is not a surf pool by striking that current wording and at the same time adding a sentence to clarify that a surf venue, surf basin or stationary wave system is not a D-1 wave action pool.

The proposal then provides new definitions to define a surf venue, surf basin and stationary wave system. These are the terms associated with this rapidly growing facet of the aquatic industry. The surf venue and surf basin definitions are based on industry code and standard work that is currently being worked on. Whereas the stationary wave system definition is based on an approved ASTM

standard.

This proposal moves to Chapter 6 to clarify in Table 604.2 that D-1 turnover requirements do not apply to surf venues, surf basins and stationary wave systems that comply with the newly proposed Section 613. This is to ensure D-1 wave pool turnover requirements are not erroneously applied to these surfing areas and systems.

The new section 613 being proposed then requires that surf venues comply with either two subsections. One subsection requires surf basins to comply with the draft ASTM standard currently being developed and the other subsection requires stationary wave systems to comply with the 2021 edition of the ASTM F3133 Standard for such systems.

This proposal is needed to both ensure these increasingly popular surfing venues and devices are a) not confused with wave action pools and their associated requirements and b) to ensure there are appropriate requirements for surf venues, basins and stationary wave system devices to protect those who utilize them. Simply put, unique surfing venues are currently not appropriately captured in the ISPSC. This proposal is a first step in doing so, recognizing that additional design guidelines will need to be added in the future.

Cost Impact: The change proposal is editorial in nature or a clarification and has no cost impact on the cost of construction

Estimated Immediate Cost Impact:

The decrease in cost can range from $40,000 to $2,000,000 per project due to the greater allowance in turnover time by clarifying these products are not wave pools.

Estimated Immediate Cost Impact Justification (methodology and variables):

The cost estimate range considers the filtration cost comparing the filter system required for a 2-hour D-1 wave pool turnover rate to a 6 hour turnover rate.

SP30-24

Public Hearing Results (CAH1)

Committee Action: **As Modified by Committee**

Committee Modification:

Class D-1 wave action pool. A pool designed to simulate breaking or cyclic waves for purposes of general play .
It does not include a ~~*surf venue*~~, *surf basin* or *stationary wave system*.

~~**SURF VENUE.**~~

~~A facility designed to accommodate a large body of water dedicated only to surfing on a surfboard or other similar surfing or wave-riding device, with bathymetry, shape, and design that can use a variety of different mechanisms to generate ocean like surfable waves that shoal and break progressively towards shallow water.~~

TABLE 604.2 TURNOVER TIME

CLASS OF POOL	MAXIMUM TURNOVER TIME[a] (hours)
D-1[b]	2
D-2 with less than 24 inches water depth	1
D-2 with 24 inches or greater water depth	2
D-3	1
D-4	2
D-5	1
D-6	1

For SI: 1 inch = 25.4 mm.

a. Pools with a sand bottom require a 1-hour turnover time.

b. ~~Surf venues, s~~ Surf basins, and stationary wave systems in compliance with Section 613 are not considered D-1 pools.

SECTION 613
~~SURF VENUES,~~ SURF BASINS, AND STATIONARY WAVE SYSTEMS

~~613.1 Surf venues.~~
~~Surf venues shall comply with Section 613.1.1 or 613.1.2.~~

Committee Reason: For the modification: Appropriately removes the terms "surf venue" as this is not an industry term.(11-0)
For the proposal as modified: The Committee agreed with the published reason statement. (11-0)

SP30-24

Individual Consideration Agenda

Comment 1:

ISPSC: SECTION 202

Proponents: Jennifer Hatfield, J. Hatfield & Associates, Pool & Hot Tub Alliance (jen@jhatfieldandassociates.com); Gregory Andrew Ceton, Pool and Hot Tub Alliance (gceton@phta.org) requests As Modified by Committee (AMC2)

Further modify as follows:

2024 International Swimming Pool and Spa Code

SURF BASIN.
A constructed body of water with ~~M~~mechanical devices used to generate moving waves that shoal and break toward shallow water with suitable characteristics for surfing and can provide multiple different wave profiles suitable to any level of surfing. A surf basin is only intended to be used for surfing.

Reason: The definition of "surf basin" is expanded and clarified to make it more directly similar to the planned scope of the ASTM standard that provides the technical basis for this new section and to clarify the intended type of facility governed by this new section of the ISPSC.

Cost Impact: Decrease

Estimated Immediate Cost Impact:

The decrease in cost can range from $40,000 to $2,000,000 per project due to the greater allowance in turnover time by clarifying these products are not wave pools.

Estimated Immediate Cost Impact Justification (methodology and variables):

The cost estimate range considers the filtration cost comparing the filter system required for a 2-hour D-1 wave pool turnover rate to a 6 hour turnover rate.

Comment (CAH2)# 679