

The Model Aquatic Health Code

The Code

GLOSSARY OF ACRONYMS AND TERMS USED IN THIS CODE



3.0 Glossary of the MAHC Code and Annex

3.1 Acronyms and Initialisms Used in This Code and Annex

ACCA	Air Conditioning Contractors of America
ADA	Americans with Disabilities Act
ADASAD	2010 Americans with Disabilities Standards for Accessible Design
AED	Automated External Defibrillator
AHJ	Authority Having Jurisdiction
AMCA	Air Movement and Control Association
ANSI	American National Standards Institute
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATSDR	Agency for Toxic Substances and Disease Registry
BCDMH	1-bromo-3-chloro-5, 5-dimethylhydantoin
CCPRF	Citizen CPR Foundation
CDC	Centers for Disease Control and Prevention
CEU	Continuing Education Units
CFM	Cubic Feet Per Minute
CMAHC	The Conference for the Model Aquatic Health Code
CPR	Cardiopulmonary Resuscitation
CPSC	Consumer Product Safety Commission
CYA	Cyanuric Acid
DBDMH	Dibromodimethylhydantoin
DBP	Disinfection By-Product
DVGW	Deutscher Verein des Gas- und Wasserfaches e.V. – Technisch wissenschaftlicher Verein (<i>German Technical and Scientific Association for Gas and Water</i>)
EAP	Emergency Action Plan
ECCU	Emergency Cardiovascular Care Update
EPA	Environmental Protection Agency
FAC	Free Available Chlorine
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FINA	Federation Internationale de Natation Amateur
GFCI	Ground-Fault Circuit Interrupter
GPM	Gallons Per Minute
HMIS	Hazardous Material Identification System
HOCl	Hypochlorous Acid
HSEESS	Hazardous Substance Emergency Events Surveillance System
IARC	International Agency for Research on Cancer
IBC	International Building Code
ICC	International Code Commission
ICBO	International Council of Building Officials
IESNA	Illuminating Engineering Society of North America
ILCOR	International Liaison Committee on Resuscitation

IPC	International Plumbing Code
ISPSC	International Swimming Pool and Spa Code
MAHC	Model Aquatic Health Code
MERV	Minimum Efficiency Reporting Value
METS	Metabolic Equivalents
NCAA	National Collegiate Athletic Association
NEC	National Electrical Code
NEHA	National Environmental Health Association
NEISS	National Electrical Injury Surveillance System
NFPA	National Fire Protection Association
NPDS	National Poison Data System
NPSH	Net Positive Suction Head
NRTL	Nationally Recognized Testing Laboratory
NSF	National Sanitation Foundation
OEM	Original Equipment Manufacturer
ÖNORM	Österreichisches Normungsinstitut (<i>Austrian Standards Institute</i>)
ORP	Oxidation Reduction Potential
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PHMB	Polyhexamethylene Biguanide Hydrochloride
POS	Perimeter Overflow System
PPE	Personal Protective Equipment
PPM	Parts Per Million
PVC	Polyvinyl Chloride
PVC-P	Plasticized Polyvinyl Chloride
RED	Reduction Equivalent Dose
RLV	Relative Limit Value
RPZ	Reduced Pressure Zone
RWI	Recreational Water Illness
SDS	Safety Data Sheet
SCBA	Self-Contained Breathing Apparatus
SCI	Spinal Cord Injury
SMACNA	Sheet Metal and Air Conditioning Contractors' National Association
SVRS	Safety Vacuum Release System
TDH	Total Dynamic Head
TDS	Total Dissolved Solids
THM	Trihalomethane
TLV	Threshold Limit Value
UL	Underwriter Laboratories
UPC	Uniform Plumbing Code
USLSC	United States Lifeguarding Standards Coalition
USPSHTC	Uniform Swimming Pool, Spa, and Hot Tub Code
UV	Ultraviolet
VFD	Variable Frequency Drive
WC	Water Closet
WQTD	Water Quality Testing Device

3.2 Glossary of Terms Used in This Code and Annex

“**Accessible Route**” means access/egress standards as defined by 2010 ADA Standards for Accessible Design.

“**Activity Pool**” See “Pool.”

“**Air Handling System**” means equipment that brings in outdoor air into a building and removes air from a building for the purpose of introducing air with fewer contaminants and removing air with contaminants created while bathers are using aquatic venues. The system contains components that move and condition the air for temperature, humidity, and pressure control, and transport and distribute the air to prevent condensation, corrosion, and stratification, provide acceptable indoor air quality, and deliver outside air to the breathing zone.

“**Agitated Water**” means an aquatic venue with mechanical means (*aquatic features*) to discharge, spray, or move the water's surface above and/or below the static water line of the aquatic venue. Where there is no static water line, movement shall be considered above the deck plane.

“**Aquatic Facility**” means a physical place that contains one or more aquatic venues and support infrastructure.

“**Aquatic Feature**” means an individual component within an aquatic venue. Examples include slides, structures designed to be climbed or walked across, and structures that create falling or shooting water.

“**Aquatic Facility or Aquatic Venue Enclosure**” means an uninterrupted barrier surrounding and securing an aquatic facility or aquatic venue.

“**Aquatic Venue**” means an artificially constructed structure or modified natural structure where the general public is exposed to water intended for recreational or therapeutic purpose. Such structures do not necessarily contain standing water, so water exposure may occur via contact, ingestion, or aerosolization. Examples include swimming pools, wave pools, lazy rivers, surf pools, spas (*including spa pools and hot tubs*), therapy pools, waterslide landing pools, spray pads, and other interactive water venues.

- “**Increased Risk Aquatic Venue**” means an aquatic venue which due to its intrinsic characteristics and intended users has a greater likelihood of affecting the of the bathers of that venue by being at increased risk for microbial contamination (*e.g., by children less than 5 years old*) or being used by people that may be more susceptible to infection (*e.g., therapy patients with open wounds*). Examples of increased-risk aquatic venues include spray pads, wading pools and other aquatic venues designed for children less than five years old as well as therapy pools.

- **“Lazy River”** means a channeled flow 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. A lazy river may include play features and devices. A lazy river may also be referred to as a tubing pool, leisure river, leisure pool or a current channel.
- **“Spa”** means a structure intended for either warm or cold water where prolonged exposure is not intended. Spa structures are intended to be used for bathing or other recreational uses and are not usually drained and refilled after each use. It may include, but is not limited to, hydrotherapy, air induction bubbles, and recirculation.
- **“Special Use Aquatic Venue”** means aquatic venues that do not meet the intended use and design features of any other aquatic venue or pool listed/identified in this Code.

“Authority Having Jurisdiction” (AHJ) means an agency, organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, installations, or procedures.

“Automated Controller” means a system of at least one chemical probe, a controller, and auxiliary or integrated component that senses the level of one or more water parameters and provides a signal to other equipment to maintain the parameters within a user-established range.

“Available Chlorine” See *“Chlorine”*

“Backflow” means a hydraulic condition caused by a difference in water pressure that causes an undesirable reversal of the flow as the result of a higher pressure in the system than in its supply.

“Barrier” means an obstacle intended to prevent direct access from one point to another.

“Bather” means a person at an aquatic venue who has contact with water either through spray or partial or total immersion. The term bather as defined, also includes staff members, and refers to those users who can be exposed to contaminated water as well as potentially contaminate the water.

“Bather Count” means the number of bathers in an aquatic venue at any given time.

“Best Practice” means a technique or methodology that, through experience and research, has been proven to reliably lead to a desired result.

“Body of Water” (*per NEC, q.v.*) means any aquatic venue holding standing water, whether permanent or storable.

“Breakpoint Chlorination” means the conversion of inorganic chloramine compounds to nitrogen gas by reaction with Free Available Chlorine. When chlorine is added to water containing ammonia (*from urine, sweat, or the environment, for example*), it initially reacts with the ammonia to form monochloramine. If more chlorine is added, monochloramine is converted into dichloramine, which decomposes into nitrogen gas, hydrochloric acid and chlorine. The apparent residual chlorine decreases since it is partially reduced to hydrochloric acid. The point at which the drop occurs is referred to as the “breakpoint”. The amount of free chlorine that must be added to the water to achieve breakpoint chlorination is approximately ten times the amount of combined chlorine in the water. As additional chlorine is added, all inorganic combined chlorine compounds disappear, resulting in a decrease in eye irritation potential and “chlorine odors.”

“Bulkheads” means a movable partition that physically separates a pool into multiple sections.

“Chemical Storage Space” means a space in an aquatic facility used for the storage of pool chemicals such as acids, salt, or corrosive or oxidizing chemicals.

“Chlorine” means an element that at room temperature and pressure is a heavy greenish yellow gas with a characteristic penetrating and irritating smell; it is extremely toxic. It can be compressed in liquid form and stored in heavy steel tanks. When mixed with water, chlorine gas forms hypochlorous acid, the primary chlorine-based disinfecting agent, hypochlorite ion, and hydrochloric acid. Hypochlorous acid dissociation to hypochlorite ion is highly pH dependent. Chlorine is a general term used in the MAHC which refers to hypochlorous acid and hypochlorite ion in aqueous solution derived from chlorine gas or a variety of chlorine-based disinfecting agents.

- **“Available Chlorine”** means the amount of chlorine in the +1 oxidation state, which is the reactive, oxidized form. In contrast, chloride ion (Cl^-) is in the -1 oxidation state, which is the inert, reduced state. Available Chlorine is subdivided into Free Available Chlorine and Combined Available Chlorine. Pool chemicals containing Available Chlorine are both oxidizers and disinfectants. Elemental chlorine (Cl_2) is defined as containing 100% available chlorine. The concentration of Available Chlorine in water is normally reported as mg/L (PPM) “as Cl_2 ”, that is, the concentration is measured on a Cl_2 basis, regardless of the source of the Available Chlorine.
- **“Free Chlorine Residual”** OR **“Free Available Chlorine”** means the portion of the total available chlorine that is not “combined chlorine” and is present as hypochlorous acid ($HOCl$) or hypochlorite ion (OCl^-). The pH of the water determines the relative amounts of hypochlorous acid and hypochlorite ion. $HOCl$ is a very effective bactericide and is the active bactericide in pool water. OCl^- is also a bactericide, but acts more slowly than $HOCl$. Thus, chlorine is a more effective bactericide at low pH than at high pH. A free chlorine residual must be maintained for adequate disinfection.

“**Circulation Path**” means an exterior or interior way of passage from one part of an aquatic facility to another for pedestrians, including, but not limited to walkways, pathways, decks, and stairways. This must be considered in relation to ADA.

“**Cleansing Shower**” See “*Shower.*”

“**Code**” means a systematic statement of a body of law, especially one given statutory force.

“**Combustion Device**” means any appliance or equipment using fire. These include, but may not be limited to, gas or oil furnaces, boilers, pool heaters, domestic water heaters, etc.

“**Construction Joint**” means a watertight joint provided to facilitate stopping places in the construction process. Construction joints also serve as contraction joints which control cracking.

“**Contamination Response Plan**” means a plan for handling contamination from formed-stool, diarrheal-stool, vomit, and blood.

“**Contaminant**” means a substance that soils, stains, corrupts, or infects another substance by contact or association.

“**Corrosive Materials**” means pool chemicals, fertilizers, cleaning chemicals, oxidizing cleaning materials, salt, de-icing chemicals, other corrosive or oxidizing materials, pesticides, and such other materials which may cause injury to people or damage to the building, air-handling equipment, electrical equipment, safety equipment, or fire-suppression equipment, whether by direct contact or by contact via fumes or vapors, whether in original form or in a foreseeably likely decomposition, pyrolysis, or polymerization form. Refer to labels and SDS forms.

“**Crack**” means any and all breaks in the structural shell of a pool vessel or deck.

“**Cross-Connection**” means a connection or arrangement, physical or otherwise, between a potable water supply system and a plumbing fixture, tank, receptor, equipment, or device, through which it may be possible for non-potable, used, unclean, polluted and contaminated water, or other substances to enter into a part of such potable water system under any condition.

“**CT Value**” means a representation of the concentration of the disinfectant (*C*) multiplied by time in minutes (*T*) needed for inactivation of a particular contaminant. The concentration and time are inversely proportional; therefore, the higher the concentration of the disinfectant, the shorter the contact time required for inactivation. The CT value can vary with pH or temperature change so these values must also be supplied to allow comparison between values.

“**Deck**” means surface areas serving the aquatic venue, including the perimeter/wet deck, pool deck, and dry deck.

- “**Dry Deck**” means all pedestrian surface areas within the aquatic venue enclosure not subject to frequent splashing or constant wet foot traffic. The dry deck is not perimeter deck or pool deck, which connect the pool to adjacent amenities, entrances, and exits. Landscape areas are not included in this definition.
- “**Perimeter/Wet Deck**” means the hardscape surface area immediately adjacent to and within four feet (1.2 m) of the edge of the swimming pool also known as the “wet deck” area.
- “**Pool Deck**” means surface areas serving the aquatic venue, beyond perimeter deck, which is expected to be regularly trafficked and made wet by bathers.

“**Diaper-Changing Station**” means a hygiene station that includes a diaper-changing unit, hand-washing sink, soap and dispenser, a means for drying hands, trash receptacle, and disinfectant products to clean after use.

“**Diaper-Changing Unit**” means a diaper-changing surface that is part of a diaper-changing station.

“**Dichloramine**” means a disinfection by-product formed when chlorine binds to nitrogenous waste in pool water to form an amine- containing compound with two chlorine atoms ($NHCl_2$). It is a known acute respiratory and ocular irritant.

“**Disinfection**” means a treatment that kills or irreversibly inactivates microorganisms (e.g., *bacteria, viruses, and parasites*); in water treatment, a chemical (*commonly chlorine, chloramine, or ozone*) or physical process (e.g., *ultraviolet radiation*) can be used.

“**Disinfection By-Product**” means a chemical compound formed by the reaction of a disinfectant (e.g. *chlorine*) with a precursor (e.g. *natural organic matter, nitrogenous waste from bathers*) in a water system (*pool, water supply*).

“**Diving Pool**” See “*Pool.*”

“**Drop Slide**” See “*Slide.*”

“**Dry Deck**” See “*Deck.*”

“**Emergency Action Plan**” means a plan that identifies the objectives that need to be met for a specific type of emergency, who will respond, what each person’s role will be during the response. and what equipment is required as part of the response.

“**Enclosure**” means an uninterrupted constructed feature or obstacle used to surround and secure an area that is intended to deter or effectively prevent unpermitted,

uncontrolled, and unfettered access . It is designed to resist climbing and to prevent passage through it and under it. Enclosure can apply to aquatic facilities or aquatic venues.

“EPA Registered” means all products regulated and registered under the Federal Insecticide, Fungicide, and Rodenticide Act (*FIFRA*) by the U.S. Environmental Protection Agency (*EPA*; <http://www.epa.gov/agriculture/lfra.html>). EPA registered products will have a registration number on the label (*usually it will state “EPA Reg No.” followed by a series of numbers*). This registration number can be verified by using the EPA National Pesticide Information Retrieval System (<http://ppis.ceris.purdue.edu/#>).

“Equipment Room” means a space intended for the operation of pool pumps, filters, heaters, and controllers. This space is not intended for the storage of hazardous pool chemicals.

“Exit Gate” means an emergency exit, which is a gate or door allowing free exit at all times.

“Expansion Joint” means a watertight joint provided in a pool vessel used to relieve flexural stresses due to movement caused by thermal expansion/contraction.

“Flat Water” means an aquatic venue in which the water line is static except for movement made by users. Diving spargers do not void the flat water definition.

“Flume” means the riding channels of a waterslide which accommodate riders using or not using mats, tubes, rafts, and other transport vehicles as they slide along a path lubricated by a water flow.

“Foot Baths” means standing water in which bathers or aquatics staff rinse their feet.

“Free Chlorine Residual” OR **“Free Available Chlorine”** See *“Chlorine.”*

“Ground-Fault Circuit Interrupter” means a device for protection of personnel that de-energizes an electrical circuit or portion thereof in the event of excessive ground current.

“Hand Wash Station” means a location which has a hand wash sink, adjacent soap with dispenser, hand drying device or paper towels and dispenser, and trash receptacle.

“Hot Water” means an aquatic venue with water temperature over 90 degrees Fahrenheit (*30 degrees Celsius*).

“Hygiene Facility” means a structure or part of a structure that contains toilet, shower, diaper-changing unit, hand wash station, and dressing capabilities serving bathers and patrons at an aquatic facility.

“Hygiene Fixtures” means all components necessary for hygiene facilities including plumbing fixtures, diaper-changing stations, hand wash stations, trashcans, soap dispensers, paper towel dispensers or hand dryers, and toilet paper dispensers.

“Hyperchlorination” means the intentional and specific raising of chlorine levels for a prolonged period of time to inactivate pathogens following a fecal or vomit release in an aquatic venue as outlined in MAHC Section 6.5.

“Imminent Health Hazard” means a significant threat or danger to health that is considered to exist when there is evidence sufficient to show that a product, practice, circumstance, or event creates a situation that requires immediate correction or cessation of operation to prevent injury based on the number of potential injuries and the nature, severity, and duration of the anticipated injury or illness.

“Increased Risk Aquatic Venue” See *“Aquatic Venue.”*

“Indoor Aquatic Facility” means a physical place that contains one or more aquatic venues and the surrounding bather and spectator/stadium seating areas within a structure that meets the definition of “Building” per the 2012 International Building Code. It does not include equipment, chemical storage, or bather hygiene rooms or any other rooms with a direct opening to the aquatic facility. Otherwise known as a natatorium.

“Infinity Edge” means a pool wall structure and adjacent perimeter deck that is designed in such a way where the top of the pool wall and adjacent deck are not visible from certain vantage points in the pool or from the opposite side of the pool. Water from the pool flows over the edge and is captured and treated for reuse through the normal pool filtration system. They are often also referred to as “vanishing edges,” “negative edges,” or “zero edges.”

“Inlet” means wall or floor fittings where treated water is returned to the pool.

“Interactive Water Play Aquatic Venue” means any indoor or outdoor installation that includes sprayed, jetted or other water sources contacting bathers and not incorporating standing or captured water as part of the bather activity area. These aquatic venues are also known as splash pads, spray pads, wet decks. For the purposes of the MAHC, only those designed to recirculate water and intended for public use and recreation shall be regulated.

“Interior Space” means any substantially enclosed space having a roof and having a wall or walls which might reduce the free flow of outdoor air. Ventilation openings, fans, blowers, windows, doors, etc., shall not be construed as allowing free flow of outdoor air.

“Island” means a structure inside a pool where the perimeter is completely surrounded by the pool water and the top is above the surface of the pool.

“Landing Pool” See *“Pool.”*

“**Lazy River**” See “*Aquatic Venue.*”

“**mg/L**” means milligrams per liter and is the equivalent metric measure to parts per million (*PPM*).

“**Monitoring**” is the regular and purposeful observation and checking of systems or facilities and recording of data, including system alerts, excursions from acceptable ranges, and other facility issues. Monitoring includes human or electronic means.

“**Moveable Floors**” means a pool floor whose depth varies through the use of controls.

“**No Diving Marker**” means a sign with the words “No Diving” and the universal international symbol for “No Diving” pictured as an image of a diver with a red circle with a slash through it.

“**Oocyst**” means the thick-walled, environmentally resistant structure released in the feces of infected animals that serves to transfer the infectious stages of sporozoan parasites (*e.g., Cryptosporidium*) to new hosts.

“**Oxidation**” means the process of changing the chemical structure of water contaminants by either increasing the number of oxygen atoms or reducing the number of electrons of the contaminant or other chemical reaction, which allows the contaminant to be more readily removed from the water or made more soluble in the water. It is the “chemical cleaning” of pool water. Oxidation can be achieved by common disinfectants (*e.g., chlorine, bromine*), secondary disinfection/sanitation systems (*e.g. ozone*) and oxidizers (*e.g. potassium monopersulfate*).

“**Oxidation Reduction Potential**” means a measure of the tendency for a solution to either gain or lose electrons; higher (*more positive*) oxidation reduction potential indicates a more oxidative solution.

“**Patron**” means a bather or other person or occupant at an aquatic facility who may or may not have contact with aquatic venue water either through partial or total immersion. Patrons may not have contact with aquatic venue water, but could still be exposed to potential contamination from the aquatic facility air, surfaces, or aerosols.

“**Peninsula / Wing Wall**” means a structural projection into a pool intended to provide separation within the body of water.

“**Perimeter Deck**” See “*Deck.*”

“**Perimeter Gutter System**” means the alternative to skimmers as a method to remove water from the pool’s surface for treatment. The gutter provides a level structure along the pool perimeter versus intermittent skimmers.

“**Plumbing Fixture**” means a receptacle, fixture, or device that is connected to a water supply system or discharges to a drainage system or both and may be used for the

distribution and use of water; for example: toilets, urinals, showers, and hose bibs. Such receptacles, fixtures, or devices require a supply of water; or discharge liquid waste or liquid-borne solid waste; or require a supply of water and discharge waste to a drainage system.

“**pH**” means the negative log of the concentration of hydrogen ions. When water ionizes, it produces hydrogen ions (H^+) and hydroxide ions (OH^-). If there is an excess of hydrogen ions the water is acidic. If there is an excess of hydroxide ions the water is basic. pH ranges from 0 to 14. Pure water has a pH of 7.0. If pH is higher than 7.0, the water is said to be basic, or alkaline. If the water’s pH is lower than 7.0, the water is acidic. As pH is raised, more ionization occurs and chlorine disinfectants decrease in effectiveness.

“**Pool**” means a subset of aquatic venues designed to have standing water for total or partial bather immersion. This does not include spas.

- “**Activity Pool**” means a water attraction designed primarily for play activity that uses constructed features and devices including pad walks, flotation devices, and similar attractions.
- “**Diving Pool**” means a pool used exclusively for diving.
- “**Landing Pool**” means an aquatic venue or designated section of an aquatic venue located at the exit of one or more waterslide flumes. The body of water is intended and designed to receive a bather emerging from the flume for the purpose of terminating the slide action and providing a means of exit to a deck or walkway area.
- “**Skimmer Pool**” means a pool using a skimmer system.
- “**Surf Pool**” means any pool designed to generate waves dedicated to the activity of surfing on a surfboard or analogous surfing device commonly used in the ocean and intended for sport as opposed to general play intent for wave pools.
- “**Therapy Pool**” means a pool used exclusively for aquatic therapy, physical therapy, and/or rehabilitation to treat a diagnosed injury, illness, or medical condition, wherein the therapy is provided under the direct supervision of a licensed physical therapist, occupational therapist, or athletic trainer. This could include wound patients or immunocompromised patients whose health could be impacted if there is not additional water quality protection.
- “**Wading Pool**” means any pool used exclusively for wading and intended for use by young children where the depth does not exceed two feet (*0.6 m*).
- “**Wave Pools**” means any pool designed to simulate breaking or cyclic waves for purposes of general play. A wave pool is not the same as a surf pool, which generates waves dedicated to the activity of surfing on a surfboard or analogous

surfing device commonly used in the ocean and intended for sport as opposed to general play intent for wave pools.

“Pool Deck” See *“Deck.”*

“Pool Slide” See *“Slide.”*

“Public Water Systems” means water systems including community water systems, non-transient/non-community water systems, or transient non-community water systems with exceptions as noted by AHJ and EPA.

“Purge” means to introduce a large volume of outdoor air to flush the interior space.

“Qualified Lifeguard” means an individual who has successfully completed an AHJ-recognized lifeguard training course offered by an AHJ-recognized training agency, holds a current certificate for such training, has met the pre-service requirements, and is participating in continuing in-service training requirements of the aquatic facility.

“Qualified Lifeguard Supervisor” means an individual responsible for the oversight of lifeguard performance and emergency response at an aquatic facility. A qualified lifeguard supervisor is an individual who has successfully completed a lifeguard supervisor training course and holds an unexpired certificate for such training; and who has met the pre-service and continuing in-service requirements of the aquatic facility according to this code.

“Qualified Operator” means an individual responsible for the operation and maintenance of the water and air quality systems and the associated infrastructure of the aquatic facility and who has successfully completed an AHJ-recognized operator training course to operate an aquatic facility offered by an AHJ-recognized training agency and holds a current certificate for such training.

“Recessed Steps” means a way of ingress/egress for a pool similar to a ladder but the individual treads are recessed into the pool wall.

“Recirculation System” means the combination of the main drain, gutter or skimmer, inlets, piping, pumps, controls, surge tank or balance tank to provide pool water recirculation to and from the pool and the treatment systems.

“Reduction Equivalent Dose (RED) bias” means a variable used in UV system validation to account for differences in UV sensitivity between the UV system challenge microbe (e.g., *MS2 virus*) and the actual microbe to be inactivated (e.g., *Cryptosporidium*).

“Re-entrainment” means a situation where the exhaust(s) from a ventilated source such as an indoor aquatic facility is located too close to the air handling system intake(s), which allows the exhausted air to be re-captured by the air handling system so it is transported directly back into the aquatic facility.

“**Responsible Supervisor**” means an individual on-site that is responsible for water treatment operations when a “qualified operator” is not on-site at an aquatic facility.

“**Rinse Shower**” See “*Shower.*”

“**Robotic Cleaner**” means a modular vacuum system consisting of a motor-driven, in-pool suction device, either self-powered or powered through a low voltage cable, which is connected to a deck-side power supply.

“**Runout**” means that part of a waterslide where riders are intended to decelerate and/or come to a stop. The runout is a continuation of the waterslide flume surface.

“**Safety**” (*as it relates to construction items*) means a design standard intended to prevent inadvertent or hazardous operation or use (*i.e., a passive engineering strategy*).

“**Safety Plan**” means a written document that has procedures, requirements and/or standards related to safety which the aquatic facility staff shall follow. These plans include training, emergency response, and operations procedures.

“**Safety Team**” means any employee of the aquatic facility with job responsibilities related to the aquatic facility’s emergency action plan.

“**Sanitize**” means reducing the level of microbes to that considered safe by public health standards (*usually 99.999%*). This may be achieved through a variety of chemical or physical means including chemical treatment, physical cleaning, or drying.

“**Saturation Index**” means a mathematical representation or scale representing the ability of water to deposit calcium carbonate, or dissolve metal, concrete or grout.

“**Secondary Disinfection Systems**” means those disinfection processes or systems installed in addition to the standard systems required on all aquatic venues, which are required to be used for increased risk aquatic venues.

“**Shower**” means a device that sprays water on the body.

- “**Cleansing Shower**” means a shower located within a hygiene facility using warm water and soap. The purpose of these showers is to remove contaminants including perianal fecal material, sweat, skin cells, personal care products, and dirt before bathers enter the aquatic venue.
- “**Rinse Shower**” means a shower typically located in the pool deck area with ambient temperature water. The main purpose is to remove dirt, sand, or organic material prior to entering the aquatic venue to reduce the introduction of contaminants and the formation of disinfection by-products.

“**Skimmer**” means a device installed in the pool wall whose purpose is to remove floating debris and surface water to the filter. They shall include a weir to allow for the

automatic adjustment to small changes in water level, maintaining skimming of the surface water.

“Skimmer Pool” See *“Pool.”*

“Skimmer System” means periodic locations along the top of the pool wall for removal of water from the pool’s surface for treatment.

“Slide” means an aquatic feature where users slide down from an elevated height into water.

- **“Drop Slide”** means a slide that drops bathers into the water from a height above the water versus delivering the bather to the water entry point.
- **“Pool Slide”** means a slide having a configuration as defined in The Code of Federal Regulations (*CFR*) Ch. II, Title 16 Part 1207 by CSPC, or is similar in construction to a playground slide used to allow users to slide from an elevated height to a pool. They shall include children’s (*tot*) slides and all other non- flume slides that are mounted on the pool deck or within the basin of a public swimming pool.
- **“Waterslide”** means a slide that runs into a landing pool or runout through a fabricated channel with flowing water.

“Spa” See *“Aquatic Venue.”*

“Special Use Aquatic Venue” See *“Aquatic Venue.”*

“Standard” means something established by authority, custom, or general consent as a model or example.

“Storage” means the condition of remaining in one space for one hour or more. Materials in a closed pipe or tube awaiting transfer to another location shall not be considered to be stored.

“Structural Crack” means a break or split in the pool surface that weakens the structural integrity of the vessel.

“Substantial Alteration” means the alteration, modification, or renovation of an aquatic venue (*for outdoor aquatic facilities*) or indoor aquatic facility (*for indoor aquatic facilities*) where the total cost of the work exceeds 50% of the replacement cost of the aquatic venue (*for outdoor aquatic facilities*) or indoor aquatic facility (*for indoor aquatic facilities*).

“Superchlorination” means the addition of large quantities of chlorine-based chemicals to kill algae, destroy odors, or improve the ability to maintain a disinfectant residual. This process is different from Hyperchlorination, which is a prescribed amount

to achieve a specific CT value whereas Superchlorination is the raising of free chlorine levels for water quality maintenance.

“Supplemental Treatment Systems” means those disinfection processes or systems which are not required on an aquatic venue for health and safety reasons. They may be used to enhance overall system performance and improve water quality.

“Surf Pool” See *“Pool.”*

“Theoretical Peak Occupancy” means the anticipated peak number of bathers in an aquatic venue or the anticipated peak number of occupants of the decks of an aquatic facility. This is the lower limit of peak occupancy to be used for design purposes for determining services that support occupants. Theoretical peak occupancy is used to determine the number of showers. For aquatic venues, the theoretical peak occupancy is calculated around the type of water use or space:

- **“Flat Water”** means an aquatic venue in which the water line is static except for movement made by users usually as a horizontal use as in swimming. Diving spargers do not void the flat water definition.
- **“Agitated Water”** means an aquatic venue with mechanical means (*aquatic features*) to discharge, spray, or move the water's surface above and/or below the static water line of the aquatic venue so people are standing or playing vertically. Where there is no static water line, movement shall be considered above the deck plane.
- **“Hot Water”** means an aquatic venue with a water temperature over 90°F (32°C).
- **“Stadium Seating”** means an area of high-occupancy seating provided above the pool level for observation.

“Therapy Pool” See *“Pool.”*

“Toe Ledge” See *“Underwater Ledge.”*

“Trichloramine” means a disinfection by-product formed when chlorine binds to nitrogenous waste in pool water to form an amine-containing compound with three chlorine atoms (NCI_3). It is a known acute respiratory and ocular irritant. It has low solubility in water and is rapidly released into the air above pools where it can accumulate, particularly in indoor settings.

“Trihalomethanes” means chemical compounds in which three of the four hydrogen atoms of methane (CH_4) are replaced by halogen atoms. Trihalomethanes are environmental pollutants and many are considered carcinogenic.

“Turnover” or “Turnover Rate” means the period of time, usually expressed in hours, required to circulate a volume of water equal to the capacity of the aquatic venue.

“**Underwater Bench**” means a submerged seat with or without hydrotherapy jets.

“**Underwater Ledge**” or “**Underwater Toe Ledge**” means a continuous step in the pool wall that allows swimmers to rest by standing without treading water.

“**UV Transmissivity**” means the percentage measurement of ultraviolet light able to pass through a solution.

“**Wading Pool**” See “*Pool.*”

“**Waterslide**” See “*Slide.*”

“**Water Replenishment System**” means a way to remove water from the pool as needed and replace with make-up water in order to maintain water quality.

“**Water Quality Testing Device**” means a product designed to measure the level of a parameter in water. A WQTD includes a device or method to provide a visual indication of a parameter level, and may include one or more reagents and accessory items.

“**Wave Pools**” See “*Pool.*”

“**Wing Wall / Peninsula**” See “*Peninsula / Wing Wall.*”

“**Zero Depth Entry**” means a sloped entry into a pool from deck level into the interior of the pool as a means of access and egress.