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REGULATIONS COMPILER

1 CABINET FOR HEALTH AND FAMILY SERVICES

2 Department for Public Health

3 Division of Public Health Protection and Safety

4 (New Administrative Regulation)

5 902 KAR 10:123. Kentucky public swimming and bathing facilities construction
6 requirements.

7 RELATES TO: KRS 211.015, 211.090, 211.210, 211.220, 211.990(2), 29 C.F.R.
8 1910.119, 15 U.S.C. 8003

9 STATUTORY AUTHORITY: KRS 194A.050, 211.180

10 NECESSITY, FUNCTION, AND CONFORMITY: KRS 194A.050(1) authorizes the
11 secretary of the Cabinet for Health and Family Services to promulgate administrative
12 regulations necessary to protect, develop, and maintain the health, personal dignity, integrity,
13 and sufficiency of Kentucky citizens and to operate programs and fulfill the responsibilities
14 vested in the cabinet. KRS 211.180 authorizes the cabinet to adopt administrative regulations
15 relating to public facilities and their operation and maintenance in a safe and sanitary manner
16 to protect public health and prevent health hazards. This administrative regulation establishes
17 uniform standards for construction of public swimming pools and bathing facilities.

18 Section 1. Definitions. (1) "Accessible" means having access to a fixture, connection,
19 appliance or equipment, even if it is necessary to remove an access panel, door, or similar
20 obstruction.

21 (2) "Agitation" means the mechanical or manual movement to dislodge the filter aid and dirt

1 from the filter element.

2 (3) "Air gap" means the unobstructed vertical distance through the free atmosphere
3 between the lowest opening from any pipe or faucet conveying water or waste to a tank,
4 plumbing fixture, receptor, or other device, and the flood level rim of the receptacle.

5 (4) "Approved" means that which is acceptable to the cabinet.

6 (5) "Backwash" means the flow of water through the filter element or media in the reverse
7 direction sufficient to dislodge the accumulated dirt and filter aid and remove them from the
8 filter tank.

9 (6) "Backwash cycle" means the time required to backwash the filter system thoroughly.

10 (7) "Backwash rate" means the rate of application of water through a filter during the
11 backwash cycle expressed in gallons per minute per square foot of effective filter area.

12 (8) "Bather" means a person using a public swimming and bathing facility.

13 (9) "Cabinet" is defined by KRS 211.015(a).

14 (10) "Cartridge filter" means a filter that utilizes a porous cartridge as its filter media.

15 (11) "Diatomaceous earth (DE) filter" means a filter that utilizes a thin layer of
16 diatomaceous earth as its filter media that will need to be periodically replaced.

17 (12) "Disinfectant" means an approved chemical compound designed for the destruction of
18 pathogenic organisms in bathing facilities and includes chlorine and bromine.

19 (13) "Equalizer line" means the connection from the skimmer housing to the pool, spa, or
20 hot tub below the weir box, which:

21 (a) Is sized to satisfy pump demand and prevent air lock or loss of prime; and

22 (b) Contains a float valve assembly and pop-up valve.

23 (14) "Facility operator" means a person or employee of that person who is responsible for
24 the proper operation and maintenance of the facility.

1 (15) "Filter" means a device that separates solid particles from water by recirculating it
2 through a porous substance.

3 (16) "Filtration rate" means the rate of water flow through a filter while in operation.

4 (17) "Flow meter" means a device that measures the flow of water through piping.

5 (18) "Head loss" means the total pressure drop between the inlet and the outlet of a
6 component.

7 (19) "Holding tank" means a storage vessel to retain water for a spray pad recirculation
8 system.

9 (20) "Hydrojet" means a fitting which blends air and water, creating a high velocity, turbulent
10 stream of air enriched water.

11 (21) "Inlet" means a fitting or fixture through which filtered water returns to a pool or spa.

12 (22) "Main outlet" means an outlet fitting at the deepest point of the horizontal bottom of a
13 pool through which water passes to a recirculating pump or surge tank, and is often referred to
14 as a "main drain".

15 (23) "Modulating valve" means a valve that automatically regulates the flow of water from
16 the main drain through the use of a float ball.

17 (24) "Perimeter overflow system" means a channel at normal water level that extends
18 completely around the pool perimeter and is used to remove surface debris, also known as an
19 overflow or scum gutter.

20 (25) "Perlite filter" means a filter that utilizes a thin layer of perlite as its filter media
21 deposited on a septum that must be periodically replaced.

22 (26) "Play feature" means a structure or feature that is added to a pool for the purpose of
23 entertainment.

24 (27) "Plunge pool" means a pool or area within a pool designed as the termination point for

1 a water slide or water ride.

2 (28) "Positive shutoff valve" means a valve that completely stops the flow of water.

3 (29) "Precoat" means the process of depositing a layer of diatomaceous earth or perlite on
4 the filter element at the start of a filter cycle.

5 (30) "Public swimming and bathing facility" means a natural or artificial body or basin of
6 water that is modified, improved, constructed, or installed for the purpose of swimming or
7 bathing, except for a pool at a private single family residence intended only for the use of the
8 owner and guests.

9 (31) "Readily accessible" means direct access without the necessity of removing any panel,
10 door, or similar obstruction.

11 (32) "Skimmer" means a device designed to continuously remove surface film and water
12 and return it through the filter.

13 (33) "Splash pad" means an area that:

14 (a) Has aquatic play features that spray or drop water for the purpose of wetting
15 people;

16 (b) Is designed so that there is no accumulation or ponding of water on the ground;

17 (c) Includes both recirculating and non-recirculating water systems; and

18 (d) Includes splash pads operated by local governments as defined in KRS 211.205.

19 (34) "State Building Code" means the requirements established in 815 KAR Chapter 7.

20 (35) "State Plumbing Code" means the requirements established in 815 KAR Chapter 20.

21 (36) "Strainer" means a device used to remove hair, lint, leaves, or other coarse material on
22 the suction side of a pump.

23 (37) "Suction piping" means that portion of the circulation piping located between the facility
24 structure and the inlet side of a pump.

1 (38) "Surge tank" means a storage vessel within the pool recirculation system used to retain
2 the water displaced by bathers.

3 (39) "Total discharge head" means the amount of water that a pump will raise water above
4 its center line.

5 (40) "Total dynamic head" means the arithmetical difference between the total discharge
6 head and total suction head (a vacuum reading is considered as a negative pressure). This
7 value is used to develop the published performance curve.

8 (41) "Total suction head" means the amount of water that a pump will lift by suction.

9 (42) "Turnover rate" means the time requirements, in hours or minutes, for the circulation
10 system to filter and recirculate a volume of water equal to the facility volume.

11 (43) "Wading pool" means a pool or area within a pool where the water depth is twenty- four
12 (24) inches or less.

13 Section 2. Submission of Plans and Specifications for Approval. (1) A person shall not
14 construct, alter, or reconstruct a public swimming and bathing facility until approval of detailed
15 plans and specifications, with supporting design data as required in this administrative
16 regulation, is granted in writing by the state or local agency having jurisdiction.

17 (2) The original plans and five (5) copies shall be submitted to the local health department
18 with payment pursuant to Section 3 of this administrative regulation.

19 (3) The front page of the plans submitted for review and approval shall contain the:

20 (a) Name of the swimming and bathing facility;

21 (b) Location by city and county;

22 (c) Name and contact information for the facility owner;

23 (d) Name of the installer; and

24 (e) Name of the engineer, architect, or person preparing the plans.

1 (4) Plans shall be submitted by an engineer or architect licensed in the state of Kentucky
2 and bear the individual's official seal.

3 (5) Plans and specifications on public swimming and bathing facilities constructed by the
4 state or local government, or for a facility with surface area greater than 1,600 square feet,
5 shall be prepared by an engineer or architect registered in the State of Kentucky.

6 (6) The plans shall be:

7 (a) Drawn to scale;

8 (b) Accompanied by proper specifications to permit a comprehensive review of the plans,
9 including the piping and hydraulic details; and

10 (c) Include:

11 1. A site plan of the general area with a plan and sectional view of the facility complex with
12 all necessary dimensions;

13 2. A piping diagram showing all appurtenances including treatment facilities in sufficient
14 detail, as well as pertinent elevation data, to permit a hydraulic analysis of the system;

15 3. The specifications on all treatment equipment, including performance ranges of pumps,
16 disinfecting equipment, chemical feeders, filters, strainers, lights, skimmers, suction outlets or
17 return inlets, diving boards, safety equipment, and other related equipment;

18 4. Drawing of equipment room showing placement of equipment; and-

19 5. Appropriate fees.

20 (7) One (1) set of approved plans shall be kept at the job site and available for inspection.

21 (8) Upon completion of recirculation piping system construction and prior to the piping being
22 tested for air pressure at ten (10) pounds per square inch of pressure for fifteen (15) minutes
23 and covered, the owner or builder shall contact the cabinet for an inspection.

24 (9) Upon completion of construction, a notarized statement certifying the facility was

1 constructed in accordance with the approved plans and this administrative regulation shall be
2 submitted to the cabinet.

3 (10) The facility shall not be used before receiving a final inspection and written approval
4 from the cabinet, as well as any other affected state and local regulatory agencies. It shall be
5 the owner or operator's responsibility to notify the cabinet and other involved agencies of
6 construction completion and call for inspection.

7 (11) Unless construction is begun within one (1) year from the date of approval, the
8 approval shall expire. Extension of approval may be considered upon written request to the
9 cabinet.

10 (12) No change in location, construction, design, materials, or equipment shall be made to
11 approved plans or the facility without the written approval of the cabinet.

12 Section 3. Fees for Plan Review and Construction Inspection. (1) A fee shall be required
13 for all plan reviews and construction inspections by the cabinet or the local health department
14 to determine compliance with this administrative regulation.

15 (2) The fee for plan review shall be calculated as follows:

16 (a) Swimming and bathing facility plan review for gutter pools, the fee shall be \$346.50

17 (b) Swimming and bathing facility plan review for skimmer pools, the fee shall be \$173.25

18 (c) Swimming and bathing facility plan review for minor reconstruction, the fee shall be
19 \$115.50

20 (3) The fee required shall include eighty two and a half (82.50) dollars for interactive water
21 features.

22 (4) The fee for swimming and bathing facility construction inspection shall be calculated as
23 follows:

24 (a) Pre-renovation evaluation/consultation, the fee shall be \$231.00

1 (b) Rough-in construction inspection, the fee shall be \$115.50

2 (c) Final construction inspection, the fee shall be \$173.25

3 (5) The plan review and construction inspection fees required by this section shall be paid
4 to the Kentucky Department for Public Health by check or money order made payable to the
5 Kentucky State Treasurer.

6 Section 4. Water Supplies. (1) Potable water from an approved municipal water system or
7 water district shall be supplied to all public swimming and bathing facilities. If these supplies
8 are not available, a potable water supply meeting the approval of the Energy and Environment
9 Cabinet shall be provided.

10 (2) The water supply shall be capable of providing:

11 (a) Sufficient quantities of water under pressure to all water-using fixtures and equipment at
12 the facility; and

13 (b) Enough water to raise the water level by at least one (1) inch in three (3) hours in:

14 1. Swimming, diving, or wave pools; and

15 2. Water slide plunge pools.

16 Section 5. Sewage and Wastewater Disposal. (1) Sewage or wastewater generated from
17 the operation of a public swimming and bathing facility shall discharge to a public sanitary
18 sewer.

19 (2) If a public sanitary sewer is not available, sewage or wastewater shall be discharged to
20 a system that complies with 902 KAR 10:085.

21 (3) Outdoor deck or surface area drainage water may be discharged directly to storm
22 sewers, natural drainage areas, or to the ground surface without additional treatment. This
23 drainage shall not result in nuisance conditions that create an offensive odor, a stagnant wet
24 area, or an environment for the breeding of insects.

1 (4) Filter backwash shall be discharged to public sanitary sewers, or if unavailable, to a
2 system approved by the cabinet.

3 Section 6. Facility Design and Construction. (1) All public swimming and bathing facilities,
4 and attendant structures, such as bathhouses, dressing rooms, or restrooms, except for beach
5 areas at bathing beaches, shall meet the design, materials, fixture, and construction
6 requirements of 815 KAR 7:120 and 815 KAR Chapter 20.

7 (2) Depth markings and lane lines.

8 (a) On all facilities other than beaches, the depth of the water shall be marked plainly at or
9 above the water surface on the vertical wall of the facility, if possible, and on the edge of the
10 deck next to the facility. Depth markers shall be placed at the following locations:

- 11 1. At the points of maximum and minimum depths;
- 12 2. At the point of change of slope between deep and shallow portions or transition point;
- 13 3. At intermediate two (2) feet increments of water depth; and
- 14 4. If the facility is designed for diving, at appropriate points to denote the water depths
15 in the diving area.

16 (b) Depth markers shall be spaced so that the distance between adjacent markers is not
17 greater than twenty-five (25) feet as measured peripherally.

18 (c) Depth markers shall be in Arabic numerals at least four (4) inches high and of a color
19 contrasting with the background. If depth markers cannot be placed on the vertical walls at or
20 above the water level, other means shall be used, so that markings shall be plainly visible to
21 persons in the facility.

22 (d) Lane lines or other markings on the bottom of the facility shall be a minimum of ten (10)
23 inches in width and be of a contrasting color.

24 (3) A safety line supported by buoys shall be provided across the section of the pool where

1 the break between the shallow and deep water occurs (five (5) feet) except when the pool is
 2 being used for organized activities or during operation as a wave pool. The line shall be placed
 3 one (1) foot toward the shallow end from where the break occurs.

4 (4) The hydrojet auxiliary air or water pump for a spa shall be controlled by an on-off switch
 5 with a fifteen (15) minute timer located and labeled at least five (5) feet away from the spa.

6 (5) All facilities shall provide an emergency automatic pump shut off located adjacent to the
 7 telephone.

8 Section 7. Facility Water Treatment Systems. (1)(a) A recirculation system, consisting of
 9 pumps, piping, filters, water conditioning, disinfection equipment, and other accessory
 10 equipment shall be provided to clarify, chemically balance, and disinfect the water for all
 11 swimming and bathing facilities, except bathing beaches.

12 (b) All system components, including piping, shall bear the NSF International (NSF) potable
 13 water (NSF-pw) mark.

14 (c) Pumps greater than seven and five-tenths (7.5) horse power that are not required to
 15 meet NSF testing standards shall be considered on a case-by-case basis.

16 (2) Pumping equipment.

17 (a) The recirculation pump and motor shall deliver the flow necessary to obtain the turnover
 18 required in the table below. A valve for flow control and a flow meter shall be provided in the
 19 recirculation pump discharge piping.

20 (b) The turnover rate shall be:

Type of Facility	Turnover Required
Diving pools	8 hours or less
Wading pools, Spas, Therapy pools, Splash pad holding tanks, Facility equipped with a spray feature not providing	30 minutes or less

additional filtered and disinfected water to the spray feature	
Wave pools, Lazy rivers, Water rides	2 hours or less
Vortex pools, Plunge pools	1 hour or less
All other pools	6 hours or less

1 (c) Higher flow rates may be necessary in pools with skimmers so that each skimmer will
2 have a minimum flow rate of thirty (30) gallons per minute.

3 (d) The pump shall be of sufficient capacity to provide a minimum backwash rate of fifteen
4 (15) gallons per square foot of filter area per minute in sand filter systems.

5 (e) The pump or pumps shall supply the required recirculation rate of flow to obtain the
6 turnover rate required at a total dynamic head of at least:

- 7 1. Fifty (50) feet for all vacuum filters;
- 8 2. Seventy (70) feet for pressure sand or cartridge filters; or
- 9 3. Eighty (80) feet for pressure diatomaceous earth filters and perlite filters.

10 (f) If the pump is located at an elevation higher than the facility water line, it shall be self-
11 priming.

12 (g) If vacuum filters are used, a vacuum limit control shall be provided on the pump suction
13 line. The vacuum limit switch shall be set for a maximum vacuum of eighteen (18) inches of
14 mercury.

15 (h) A compound vacuum-pressure gauge or vacuum gauge shall be installed on the
16 suction side of the pump.

17 (i) A pressure gauge shall be installed on the pump discharge line adjacent to the
18 pump.

19 (j) Valves shall be installed to allow the flow to be shut off during cleaning, switching
20 baskets, or inspection of hair and lint strainers.

1 (k) A hair or lint strainer with openings no more than one-eighth (1/8) inch is required except
2 for pumps that are used with vacuum filter systems.

3 (3) Water heaters shall be installed at all indoor swimming and bathing facilities, and
4 shall comply with the following:

5 (a) A water heater piping system shall be equipped with a bypass. A valve shall be provided
6 at the bypass and on the influent and effluent heater piping. The influent and effluent heater
7 piping shall be metallic and installed in accordance with heater manufacturer's
8 recommendations;

9 (b) A heating coil, pipe, or steam hose shall not be installed in any swimming and bathing
10 facility;

11 (c) Thermometers shall be provided in the piping to check the temperature of the water
12 returning from the facility and the temperature of the blended water returning to the facility;

13 (d) An automatic temperature limiting device with thermostatic control that prevents the
14 introduction of water in excess of 100 degrees Fahrenheit to swimming and diving pools and in
15 excess of 104 degrees Fahrenheit for spas shall be provided and shall be accessible only to
16 the facility operator;

17 (e) A pressure relief valve shall be provided and shall be piped to within six (6) inches of the
18 floor;

19 (f) Venting of gas or other fuel burning water heaters shall be provided in accordance with
20 the State Building Code;

21 (g) Heaters for indoor swimming and diving pools shall be capable of maintaining an overall
22 pool water temperature between seventy-six (76) degrees Fahrenheit and eighty-four (84)
23 degrees Fahrenheit;

24 (h) Combustion and ventilation air shall be provided for fuel burning water heaters in

1 accordance with manufacturer recommendations or the State Building Code;

2 (i) Heaters for indoor swimming and diving pools shall be sized on a basis of 150 British

3 Thermal Units per hour input per square foot of pool water surface area; and

4 (j) All heaters shall meet the latest standards of applicable recognized testing agencies.

5 (4) A flow meter shall be:

6 (a) Located so that the rate of recirculation may be easily read;

7 (b) Installed on a straight length of pipe at a distance of at least ten (10) pipe diameters
8 downstream, and five (5) pipe diameters upstream from any valve, elbow, or other source of
9 turbulence, except for those specifically designed without separation parameters; and

10 (c) Installed on each recirculation system, splash pad feature, waterslide, any other type of
11 spray feature, and on multiple filtration units, except at government-owned, non-recirculating
12 splash pads.

13 (5) Vacuum cleaning system.

14 (a) A vacuum cleaning system shall be:

15 1. Provided for all facilities except beaches; and

16 2. Capable of reaching all parts of the facility bottom.

17 (b) A vacuum system that utilizes the attachment of a vacuum hose to the suction
18 piping through the skimmer may be provided.

19 (c)1. If the vacuum cleaning system is an integral part of the facility recirculation
20 system, a wall fitting shall be provided:

21 a. Eight (8) to twelve (12) inches below the normal water level; and

22 b. With a cap or plug that is not removable by bathers.

23 2. Piping from this connection shall be:

24 a. To the suction side of the pump ahead of the hair and lint strainer;

1 b. At least one and one-half (1 1/2) inches in diameter; and

2 c. Equipped with a control valve near the junction with the pump suction line.

3 3. The size of the vacuum hose shall be at least one and one-half (1 1/2) inches in diameter
4 and be of sufficient strength to prevent collapsing and allow adequate flow for proper cleaning.

5 (d) Automatic vacuum systems may be used to supplement the built-in vacuum system
6 provided they are capable of removing all debris from the facility bottom.

7 (e) Vacuum systems shall only be used when the facility is closed to bathers.

8 (6) Piping, skimmer, and overflow system.

9 (a) Piping shall comply with the material specifications listed in the Kentucky State
10 Plumbing Code for potable water.

11 (b) All piping, valves, and fittings shall be color coded, suitably labeled, or marked to denote
12 its purpose within the facility water treatment system.

13 (c) The piping shall be designed to carry the required quantities of water at velocities not
14 exceeding five (5) feet per second in suction piping and ten (10) feet per second in pressure
15 piping.

16 (d) Gravity piping shall be sized so that the head loss in piping, fittings, and valves does not
17 exceed the difference in water levels between the facility and the maximum operating level in
18 the surge or filter tank.

19 (e) The following waste lines shall be provided with six (6) inch air gaps at their points of
20 discharge to the waste pump or sewer:

21 1. Main outlet bypass or other connections to waste;

22 2. Surge tank drain and overflow lines;

23 3. Pump discharge to waste lines; and

24 4. Gutter bypass to waste lines.

1 (7) Inlets.

2 (a) Each inlet shall be directionally adjustable.

3 (b) The velocity of flow through any inlet orifice shall be in the range of five (5) to twenty
4 (20) feet per second, except that facilities equipped with skimmers shall have a velocity of flow
5 in the range of ten (10) to twenty (20) feet per second.

6 (c) Inlets shall be located and directed to produce uniform circulation of water to facilitate
7 the maintenance of a uniform disinfectant residual throughout the entire facility without the
8 existence of dead spots.

9 (d) Inlets in facilities with skimmers shall be twelve (12) inches below the midpoint on the
10 skimmer throat.

11 (e) Inlets in facilities with a prefabricated perimeter overflow system shall be eight (8) inches
12 or more below the lip of the gutter.

13 (f) Inlets shall be placed completely around the pool with each serving a linear distance of
14 not more than fifteen (15) feet on center. The pipe serving the inlets shall form a loop
15 completely around the pool.

16 (g) The number of inlets shall be determined by dividing the perimeter of the pool measured
17 in feet, by fifteen (15). Any fraction thereof would represent one (1) additional inlet.

18 (h) Pools greater than forty-five (45) feet wide shall be equipped with floor inlets in a grid
19 pattern located no more than seven and five-tenths (7.5) feet from a wall and no more than
20 fifteen (15) feet apart. The grid shall form a continuous loop with no reduction in loop pipe
21 sizing.

22 (i) A minimum of two (2) inlets is required on all pools, holding tanks, and bathing facilities,
23 regardless of size.

24 (j) At least one (1) inlet shall be located in each recessed stairwell or other space where

1 water circulation might be impaired.

2 (k) Prefabricated perimeter overflow systems shall be approved on a case-by-case basis by
3 the cabinet.

4 (8) Outlets.

5 (a) All facilities, including holding tanks, shall be provided with a minimum of two (2) main
6 outlets at the deepest horizontal point plumbed in parallel to permit the facility to be completely
7 and easily drained.

8 (b) Openings and grates shall:

9 1. Conform to 15 U.S.C. 8003;

10 2. Be covered by a proper grating that is not removable by bathers;

11 3. Be at least four (4) times the area of the main outlet pipe;

12 4. Have sufficient area so that the maximum velocity of the water passing through the grate
13 does not exceed one and one-half (1 1/2) feet per second at maximum flow; and

14 5. Have a maximum grate opening width of one-fourth (1/4) inch.

15 (c) Additional outlets shall be provided in all facilities where the width of the facility is more
16 than sixty (60) feet. In these cases, outlets shall be spaced not more than thirty (30) feet
17 apart, nor more than fifteen (15) feet from side walls, and shall be connected in parallel, not
18 series.

19 (d) A hydrostatic relief valve may be provided for in-ground swimming and diving pools.
20 Subsurface drainage, if provided, shall not be directly connected to a sanitary sewer.

21 (e) Main outlet piping shall be sized for water removal at a rate of at least 100 percent of the
22 design recirculation flow rate and at velocities specified in subsection (6)(c) of this section. It
23 shall function as a part of the recirculation system. The piping system shall be valved to permit
24 adjustment of flow through it.

1 (9) Perimeter overflow systems.

2 (a) Swimming and bathing facilities with a water surface area greater than 1,600 square feet
3 shall have a continuous perimeter overflow system.

4 (b) A perimeter overflow system shall:

5 1. Extend completely around the facility;

6 2. Permit inspection, cleaning, and repair;

7 3. Be designed so that no ponding or retention of water occurs within any portion of the
8 system;

9 4. Be designed to prevent entrapment of bathers or the passage of small children into an
10 enclosed chamber;

11 5. Have an overflow lip which is rounded, provides a good handhold, and is level within
12 two-tenths (0.2) inch;

13 6. Provide for the rapid removal of all water and debris skimmed from the pool's surface;

14 7. Be designed for removal of water from the pool's upper surface at a rate equal to 100
15 percent of the design turnover flow rate;

16 8. Discharge to the recirculation system;

17 9. Be provided with a minimum of two (2) outlet pipes that will not allow the overflow
18 channel to become flooded when the facility is in normal use;

19 10. Require additional outlet pipes provided at one (1) per 150 lineal feet of
20 perimeter overflow system or fraction thereof; and

21 11. Have drain gratings with surface area at least equal to two (2) times the area of the
22 outlet pipe.

23 (10) All facilities that have perimeter overflow systems shall have a net surge capacity of at
24 least one (1.0) gallon per square foot of water surface area. Surge capacity shall be provided

1 either in a vacuum filter tank, surge tank, or a combination of these. Main drain piping shall
2 terminate eighteen (18) inches above the surge tank floor and be equipped with a modulating
3 valve and a positive shutoff valve. Surge capacity for a diatomaceous earth (DE) filter is
4 measured eighteen (18) inches above the filter media and the bottom of the gutter pipe.

5 (11) Skimmers are permitted on facilities whose width does not exceed thirty (30) feet and
6 whose water surface area is 1,600 square feet or less. If skimmers are used, the following
7 shall be met:

8 (a) At least one (1) skimmer shall be provided for each 500 square feet of water surface
9 area or fraction thereof with a minimum of two (2) skimmers provided, except for spas, holding
10 tanks, or wading pools with a water surface area of 144 square feet or less, where a minimum
11 of one (1) skimmer shall be required.

12 (b) Skimmers shall be located to minimize interference with each other.

13 (c) The rate of flow per skimmer shall not be less than thirty (30) gallons per minute, and all
14 skimmers shall be capable of handling at least eighty (80) percent of required flow rate.

15 (d) Surface skimmer piping shall have a separate valve in the equipment room to permit
16 adjustment of flow.

17 (e) Each skimmer shall be provided with an equalizer line at least one and one-half (1 1/2)
18 inches in diameter, located at least one (1) foot below the lowest overflow level of the skimmer,
19 and be provided with a self-closing valve and cover that conforms to 15
20 U.S.C. 8003.

21 (f) All overflow water shall pass through a basket that can be removed without the use of
22 tools.

23 (g) All pools not equipped with a perimeter overflow system shall have a smoothly
24 contoured handhold coping not over two and one-half (2 1/2) inches thick for the outer two (2)

1 inches or an equivalent approved handhold. The handhold shall be no more than nine (9)
2 inches above the normal water line.

3 (12) All facilities shall be equipped for the addition of make-up water from a potable water
4 source pursuant to the following:

5 (a) Discharge through an air gap of at least six (6) inches to a surge tank or a vacuum filter
6 tank. If make-up water is added directly to the facility, the fill-spout shall be located under or
7 immediately adjacent to a ladder rail, grab rail, or lifeguard platform. If added to a surge tank
8 or vacuum filter tank, the six (6) inch air gap shall be measured above the top lip of the tank;
9 and

10 (b) Through piping with vacuum breaker, antisiphon, or other protection as specified by the
11 State Plumbing Code.

12 (13) Filtration.

13 (a) Filters shall comply with the following:

14 1. Pressure filters shall have:

15 a. Pressure gauges;

16 b. An observable free fall, or a sight glass installed on the backwash discharge line; and

17 c. A manual air-relief valve at the high point;

18 2. The filter backwash disposal facility shall have sufficient capacity to prevent flooding
19 during the backwash cycle;

20 3. All filters shall be designed so that they can be completely drained. Filters shall be
21 drained through a six (6) inch air gap to a pump or sanitary sewer; and

22 4. Filter media shall be listed as NSF approved.

23 (b) Each facility shall have separate filtration and treatment systems.

24 (c) Filter equipment and treatment systems shall operate continuously twenty-four (24)

1 hours per day, except if the facility is closed for repairs or at the end of the swimming season.

2 (d) Rapid sand or gravity sand filters shall be designed for a filter rate not to exceed three
3 (3) gallons per minute per square foot of bed area at time of maximum head loss with sufficient
4 area to meet the design rate of flow required by the prescribed turnover.

5 (e) At least eighteen (18) inches of freeboard shall be provided between the upper surface
6 of the filter media and the lowest portion of the pipes or drains that serve as overflows during
7 backwashing.

8 (f) The filter system shall be designed with necessary valves and piping to permit filtering to
9 the pool.

10 (g) High rate sand filters. The design filtration rate shall be a minimum of five (5) gallons per
11 minute per square foot of filter area. The maximum design filtration rate shall be the lesser of
12 fifteen (15) gallons per minute per square foot of filter area or seventy-five (75) percent of the
13 NSF listed filtration rate. The backwash rate shall be fifteen (15) gallons per minute per square
14 foot of filter area.

15 (h) Diatomaceous earth filters shall comply with the following requirements:

16 1. The design filtration rate shall not exceed one and one-half (1 1/2) gallons per minute per
17 square foot of filter area on diatomaceous earth filters, except that the rate of filtration may be
18 increased to two (2) gallons per minute per square foot of filter area if continuous feeding of
19 diatomaceous earth is employed;

20 2. A precoat pot shall be provided on the pump suction line for pressure diatomaceous
21 earth systems. All diatomaceous earth filter systems shall have piping arranged to allow
22 recycling of the filter effluent during precoating;

23 3. If equipment is provided for the continuous feeding of diatomaceous earth to the filter
24 influent, the equipment shall have a capacity to feed at least one and one-half (1 1/2) ounces

1 of this material per square foot of filter area per day;

2 4. Overflow piping on vacuum diatomaceous earth filters shall be provided on the filter tank
3 to discharge overflow water;

4 5. All filters shall be equipped for cleaning by one (1) or more of the following methods:

5 a. Backwashing;

6 b. Air-pump assist backwashing;

7 c. Spray wash;

8 d. Water pressure to wash vacuum filter; or

9 e. Agitation; and

10 6. Perlite may be used in filters listed by NSF for perlite, but it may not be substituted for
11 diatomaceous earth without NSF listing.

12 (i) Vacuum sand filters shall comply with the following requirements:

13 1. The design filtration rate shall be seventy-five (75) percent of that listed by NSF or fifteen
14 (15) gallons per minute, whichever is lesser. The backwash rate shall be at fifteen (15) gallons
15 per minute per square foot of filter area; and

16 2. Overflow piping shall be provided in order to drain overflow water.

17 (j) Cartridge filters shall comply with the following requirements:

18 1. Cartridge filters shall not be used on facilities with a capacity larger than 80,000 gallons;

19 2. Cartridge filters shall only be used on indoor pools;

20 3. The design filtration rate shall not exceed fifteen hundredths (0.15) gallons per minute
21 per square foot of filter surface area; and

22 4. A clean duplicate set of cartridges shall be maintained at the facility.

23 (14) Disinfectant and chemical feeders.

24 (a) The minimum chemical feed equipment required at any facility shall include a unit for

1 feed of a disinfectant and a unit for feed of a chemical for pH control.

2 (b) Equipment capacity.

3 1. Equipment for supplying chlorine or compounds of chlorine shall be of sufficient capacity
4 to feed the chlorine at a rate of:

5 a. Eight (8) ppm or two and seven-tenths (2.7) pounds per day chlorine gas or its equivalent
6 for each 10,000 gallons of pool volume for outdoor facilities; or

7 b. Three (3) ppm or one (1) pound per day for chlorine gas or its equivalent for each 10,000
8 gallons of pool volume for indoor facilities based on the turnover rates specified in subsection
9 (2)(b) of this section.

10 2. The equipment for supplying chlorine shall not be controlled by a day-date clock.

11 3. The injection point for chlorine shall be placed on the discharge side of the pump and
12 downstream of the flow meter unless the chlorine injection point is located within the surge
13 tank.

14 4. Pot feeders for supplying bromochlorodimethylhydantoin sticks shall contain at least five
15 tenths (0.50) a pound of bromochlorodimethylhydantoin per thousand gallons of facility
16 capacity, or fraction thereof. The feeder shall have a method of feed rate adjustment.

17 5. Supplemental NSF listed ultraviolet (UV) light disinfection systems:

18 a. Shall be provided on all splash pads with a recirculating water system;

19 b. Shall be installed on a bypass line; and

20 c. Shall be equipped with a flow indicator; and

21 d. May be used on other facilities as supplemental disinfection.

22 6. Ozone may be used as a supplement to chlorination or bromination. Ozonation
23 equipment will be considered by the cabinet on a case-by-case basis.

24 7. No more than one (1) gram per day of ozone per ten (10) gallons per minute of flow rate

1 will be allowed. The ambient air ozone concentration shall be less than five hundredths (.05)
2 ppm at all times either in the vicinity of the ozonator or at the pool water surface.

3 (c) If positive displacement pumps, or hypochlorinators, are used to inject the disinfectant
4 solution into the recirculation line, they shall be of variable flow type and shall be of sufficient
5 capacity to feed the amount of disinfectant required by paragraph (b)1 of this subsection. If
6 calcium hypochlorite is used, the concentration of calcium hypochlorite in the solution shall not
7 exceed five (5) percent. The solution container shall have a minimum capacity equal to the
8 volume of solution required per day at the feed rate required in paragraph (b)1 of this
9 subsection.

10 (d) Gas chlorinators shall only be used in a pre-existing facility and shall comply with
11 applicable sections of 29 C.F.R. 1910.119.

12 (e) pH control feeders. All facilities shall install a chemical feeder of positive displacement
13 type for the purpose of applying chemicals to maintain pH of facility water within the range of
14 seven and two-tenths (7.2) to seven and eight-tenths (7.8). A solution tank of adequate
15 capacity shall be provided.

16 Section 8. Operational Water Quality Standards. Operational water quality shall comply with
17 902 KAR 10:120.

18 Section 9. Equipment Rooms. Equipment rooms shall comply with the following
19 requirements:

20 (1) Equipment necessary for facility operation shall be housed in a lighted, ventilated room
21 that affords protection from the weather, prevents unauthorized access, has ceilings of at least
22 seven (7) feet in height, and is of sufficient size for operation and inspection.

23 (2) The equipment room floor shall slope toward drains and shall have a nonslip finish.

24 (3) A hose bib with a vacuum breaker shall be installed in the equipment room.

1 (4) Suitable space, if not provided in the equipment room, shall be provided for storage of
2 chemicals, tools, equipment, supplies, and records where they can be acquired by the facility
3 operator without leaving the premises. The storage space shall be dry and protected from
4 unauthorized access.

5 (5) The equipment room and all other storage areas shall be maintained in a clean,
6 uncluttered condition, and shall not be used for storage of materials not essential to operation
7 and maintenance of the facility.

8 Section 10. Telephones. (1) All facilities shall have a non-pay landline telephone, or Voice
9 over Internet Protocol (VoIP) telephone, continuously connected to a power source and
10 operational at all times, capable of direct dialing 911 without going through a switchboard
11 located on the deck that is readily accessible and conspicuously located. A cordless telephone
12 shall be prohibited.

13 (2) All facilities utilizing VoIP telephones shall only use fixed VoIP services.

14 (3) Instructions for dialing shall be posted if necessary.

15 (4) The address of the facility and the telephone number of the police department, fire
16 department, emergency medical service, or a hospital shall be posted in a conspicuous place
17 near the telephone.

18 Section 11. Existing Facilities and Equipment. (1) Existing facilities and equipment being
19 used prior to the effective date of this administrative regulation that do not fully meet the
20 design, construction, and materials requirements of this administrative regulation, may
21 continue to be used if the facilities and equipment:

22 (a) Are in good repair;

23 (b) Are capable of being maintained in a sanitary condition;

24 (c) Meet facility water quality standards; and

1 (d) Create no health or safety hazard.

2 (2) If existing equipment, components, piping, or fittings involved in the facility water
3 treatment system are replaced to effect repairs, the replacement equipment, components,
4 piping, or fittings shall meet the requirements of this administrative regulation. If replacement
5 occurs, it shall be the owner's or operator's responsibility to notify the cabinet as to what was
6 replaced and what was used for a replacement.

7 Section 12. Effect on Local Administrative Regulations. Compliance with this administrative
8 regulation shall not relieve any person from compliance with any other state or local laws
9 dealing with pool operation and maintenance matters or zoning requirements that may also be
10 applicable.

11 Section 13. Variances for Construction Requirements. (1) All facilities shall be constructed or
12 remodeled in compliance with the provisions of this administrative regulation, except that an
13 applicant may request a variance if the cabinet determines that the variance would not affect
14 seriously the safe and healthful operation of the facility.

15 (2) Before granting a variance, the cabinet shall require proof from the applicant
16 documenting that the requested variance will comply with the basic intent of these
17 administrative regulations and that no safety or health hazard would be created if the variance
18 is granted.

902 KAR 10:123

REVIEWED:

DocuSigned by:
Steven Stack 7/2/2024
5437970E93414CA

Steven J. Stack, MD, MBA Date
Commissioner, Department for Public Health

APPROVED:

DocuSigned by:
Eric Friedlander 7/2/2024
0AE1D6C1306431

Eric C. Friedlander Date
Secretary, Cabinet for Health and Family Services

PUBLIC HEARING AND PUBLIC COMMENT PERIOD:

A public hearing on this administrative regulation shall, if requested, be held on September 23, 2024, at 9:00 a.m. using the CHFS Office of Legislative and Regulatory Affairs Zoom meeting room. The Zoom invitation will be emailed to each requestor the week prior to the scheduled hearing. Individuals interested in attending this virtual hearing shall notify this agency in writing by September 16, 2024, five (5) workdays prior to the hearing, of their intent to attend. If no notification of intent to attend the hearing is received by that date, the hearing may be canceled. This hearing is open to the public. Any person who attends virtually will be given an opportunity to comment on the proposed administrative regulation. A transcript of the public hearing will not be made unless a written request for a transcript is made. If you do not wish to be heard at the public hearing, you may submit written comments on this proposed administrative regulation until September 30, 2024. Send written notification of intent to attend the public hearing or written comments on the proposed administrative regulation to the contact person. Pursuant to KRS 13A.280(8), copies of the statement of consideration and, if applicable, the amended after comments version of the administrative regulation shall be made available upon request.

CONTACT PERSON: Krista Quarles, Policy Analyst, Office of Legislative and Regulatory Affairs, 275 East Main Street 5 W-A, Frankfort, KY 40621; Phone: 502-564-7476; Fax: 502-564-7091; CHFSregs@ky.gov.

REGULATORY IMPACT ANALYSIS AND TIERING STATEMENT

Administrative Regulation: 902 KAR 10:123

Agency Contact: Julie Brooks

Phone Number: (502) 229-3377

Email: julied.brooks@ky.gov

Contact Person: Krista Quarles

Phone Number: (502) 564-7476

Email: CHFSregs@ky.gov

(1) Provide a brief summary of:

(a) What this administrative regulation does: This administrative regulation establishes the uniform design and construction standards for public swimming and bathing facilities, including splash pads and spas.

(b) The necessity of this administrative regulation: This administrative regulation is necessary to ensure all public swimming and bathing facilities are designed and constructed in a manner that protects public health.

(c) How this administrative regulation conforms to the content of the authorizing statutes: KRS 194A.050(1) authorizes the secretary of the Cabinet for Health and Family Services to promulgate administrative regulations necessary to protect, develop, and maintain the health, personal dignity, integrity, and sufficiency of Kentucky citizens and to operate programs and fulfill the responsibilities vested in the cabinet. KRS 211.180 authorizes the cabinet to adopt administrative regulations relating to public facilities and their operation and maintenance in a safe and sanitary manner to protect public health and prevent health hazards.

(d) How this administrative regulation currently assists or will assist in the effective administration of the statutes: This administrative regulation will ensure all public swimming and bathing facilities, including splash pad and spas, are designed, constructed and installed in a manner that protects public health.

(2) If this is an amendment to an existing administrative regulation, provide a brief summary of:

(a) How the amendment will change this existing administrative regulation: This is a new administrative regulation.

(b) The necessity of the amendment to this administrative regulation: This is a new administrative regulation.

(c) How the amendment conforms to the content of the authorizing statutes: This is a new administrative regulation.

(d) How the amendment will assist in the effective administration of the statutes: This is a new administrative regulation.

(3) List the type and number of individuals, businesses, organizations, or state and local governments affected by this administrative regulation: The department receives between 115 and 120 construction plans per year.

(4) Provide an analysis of how the entities identified in question (3) will be impacted by either the implementation of this administrative regulation, if new, or by the change, if it is an amendment, including:

(a) List the actions that each of the regulated entities identified in question (3) will have to take to comply with this administrative regulation or amendment: Regulated entities will need to be aware of the design, construction, and inspection requirements contained in this administrative regulation.

(b) In complying with this administrative regulation or amendment, how much will it cost each of the entities identified in question (3): The cost of compliance with this administrative regulation should be minimal.

(c) As a result of compliance, what benefits will accrue to the entities identified in question (3): All public swimming and bathing facilities will be designed and constructed in a manner that protects public health while also providing opportunities for the general public to enjoy the facilities.

(5) Provide an estimate of how much it will cost the administrative body to implement this administrative regulation:

(a) Initially: This is an ongoing program, there are no initial cost.

(b) On a continuing basis: This is an ongoing program, the costs associated with this administrative regulation will be absorbed by current program funding.

(6) What is the source of the funding to be used for the implementation and enforcement of this administrative regulation: State general fund dollars and revenue received from the permitting and inspection fees are the sources of funding to implement this administrative regulation.

(7) Provide an assessment of whether an increase in fees or funding will be necessary to implement this administrative regulation, if new, or by the change if it is an amendment: This new administrative regulation proposes to increase the current fee structure for the construction permit and inspection by ten (10) percent.

(8) State whether or not this administrative regulation establishes any fees or directly or indirectly increases any fees: The fees established in this new administrative regulation are not new fees. The existing fee structure is in 902 KAR 10:121 and that administrative regulation will be repealed with the filing of this new administrative regulation. This new administrative regulation proposes to increase the plan review and construction inspection fees by ten (10) percent.

(9) TIERING: Is tiering applied? (Explain why or why not) Tiering is not applied. All public swimming and bathing facilities, including splash pads operated by a local government, require plan review approval before beginning construction.

FISCAL IMPACT STATEMENT

902 KAR 10:123. Kentucky public swimming and bathing facility construction requirements.

Contact Person: Julie Brooks

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Email: julied.brooks@ky.gov

Contact Person: Krista Quarles

Phone Number: (502) 564-7476

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(1) Identify each state statute, federal statute, or federal regulation that requires or authorizes the action taken by the administrative regulation. KRS 194A.050 and 211.180.

(2) Identify the promulgating agency and any other affected state units, parts, or divisions: The Cabinet for Health and Family Services, Department for Public Health, Division of Public Health Protection and Safety is the promulgating agency. The Division of Plumbing, Department of Housing, Building and Construction in the Public Protection Cabinet and the Divisions of Water and Waste Management in the Energy and Environment Cabinet will also be affected by this new administrative regulation. The Department of Parks in the Tourism, Arts and Heritage Cabinet will also be affected by this administrative regulation.

(a) Estimate the following for the first year:

Expenditures: The costs associated with administering the plan review and construction inspection program is between \$335,000 to \$340,000.

Revenues: The department receives approximately \$48,000 in revenue from the plan review and construction inspection fees.

Cost Savings: This administrative regulation does not result in cost savings.

(b) How will expenditures, revenues, or cost savings differ in subsequent years?

Expenditures may be impacted by changes in salary, fringe benefits and travel cost for state and local health department employees. These changes cannot be determined at this time. The revenues received will not change in subsequent years without an amendment to this administrative regulation.

(3) Identify affected local entities (for example: cities, counties, fire departments, school districts): This new administrative regulation affects local health departments and local governments that have a public swimming and bathing facility.

(a) Estimate the following for the first year:

Expenditures: Expenditures for local health departments will be minimal. Local health departments receive the initial construction plans but forward those, along with the required fee, to the state. Local governments will have expenditures related to the facility design, plan development, and construction cost. This cost can range from \$50,000 to \$100,000 or more.

Revenues: This administrative regulation does not generate revenue for the affected local entities.

Cost Savings: This administrative regulation does not result in cost savings.

(b) How will expenditures, revenues, or cost savings differ in subsequent years? The impact in expenditures, revenue and cost savings in subsequent years cannot be determined.

(4) Identify additional regulated entities not listed in questions (2) or (3): This new administrative regulation affects newly constructed hotels that have a swimming pool or spa/hot tub and existing hotels that seek to remodel the swimming pool or spa/hot tub, health facilities and athletic clubs, schools including colleges and universities, swim clubs and country clubs, youth camps, and any other entity that provides a public swimming and bathing facility.

(a) Estimate the following for the first year:

Expenditures: Expenditures for the additional regulated entities will be the cost associated with the facility design, plan development, and construction cost. This cost can range from \$50,000 to \$100,000 or more.

Revenues: This administrative regulation does not generate revenue for the additional regulated entities.

Cost Savings: This administrative regulation does not result in cost savings.

(b) How will expenditures, revenues, or cost savings differ in subsequent years? The fee structure in this administrative regulation will not change in subsequent years without amending the administrative regulation. The expenditures for the additional regulated entities may change depending on the cost associated with the facility design, plan development and construction cost. That total cannot be determined at this time.

(5) Provide a narrative to explain the:

(a) Fiscal impact of this administrative regulation: This administrative regulation will have minimal fiscal impact for the regulated entities. The Department for Public Health receives approximately \$48,000 per year in revenue from the fees associated with the plan review and construction inspection activities. However, the departments expenditures are between \$335,000 to \$340,000 per year.

(b) Methodology and resources used to determine the fiscal impact: A financial report of revenue for the associated cost center and the salary report were used to determine the revenue and expenditures for this administrative regulation.

(6) Explain:

(a) Whether this administrative regulation will have an overall negative or adverse major economic impact to the entities identified in questions (2) - (4). (\$500,000 or more, in aggregate) This administrative regulation will not have an overall negative or adverse major economic impact for the entities identified in questions (2) – (4).

(b) The methodology and resources used to reach this conclusion: The revenue received from the regulated entities in the form of fees is less than \$50,000 per year. The expenditures for the department are less than \$350,000 per year.

FEDERAL MANDATE ANALYSIS COMPARISON

Administrative Regulation: 902 KAR 10:123
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(1) Federal statute or regulation constituting the federal mandate. 29 C.F.R. 1910.119 Occupational Safety and Health Administration regarding the storage of hazardous materials, and 15 U.S.C. 8003- Federal swimming pool and spa drain cover standards.

(2) State compliance standards. KRS 211.180 authorizes the secretary of the Cabinet for Health and Family Services to promulgate administrative regulations for the regulation and control of the matters set out below and shall formulate, promote, establish, and execute policies, plans, and comprehensive programs relating to all matters of public health, including the sanitation of public and semipublic recreational areas.

(3) Minimum or uniform standards contained in the federal mandate. 29 C.F.R. 1910.119 contains requirements for preventing or minimizing the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals. These releases may result in toxic, fire or explosion hazards.

The federal swimming pool and spa drain cover standards under 15 U.S.C. 8003 requires that effective December 19, 2007, all pools and spas manufactured, distributed, or entered into commerce in the United States shall conform to the entrapment protection standards of the ASME/ANSI A112.19.8 performance standard; each public pool and spa in the United States shall be equipped with anti-entrapment devices or systems that comply with the ASME/ANSI A112.19.8 performance standard, or any successor standard.

(4) Will this administrative regulation impose stricter requirements, or additional or different responsibilities or requirements, than those required by the federal mandate? This administrative regulation does not impose any stricter requirements, or additional or different responsibilities or requirements.

(5) Justification for the imposition of the stricter standard, or additional or different responsibilities or requirements. Not applicable.