# Chapter HSS 172

# SAFETY, MAINTENANCE AND OPERATION OF PUBLIC SWIMMING POOLS



**Note:** Chapter H 72 as it existed on August 31, 1978, was repealed and a new Chapter H 72 was created effective September 1, 1978; Chapter H 72 was renumbered Chapter HSS 172, effective, May 1, 1982.

**HSS 172.01 Scope of rules.** (1) GENERAL. This code provides the owner, operator and manager of man-made pools with minimum rules that are to be followed in the proper care, maintenance and supervision of pools.

(2) APPLICABILITY. The provisions of these rules shall apply to the owner or operator, patrons, lifeguard or responsible supervisors of any public swimming pool.

**History:** Cr. Register, August, 1978, No. 272, eff. 9-1-78; renum. from H 72.01, Register, May, 1982, No. 317, eff. 6-1-82.

**HSS 172.02 Definitions.** (1) Department means the department of health and social services.

(2) Approved means acceptable to the department based on its determination.

(3) Deck means the approved walking surface around the pool.

(4) Immediate pool area means the area within the pool enclosure, the area immediately adjacent to the pool enclosure and other areas in which necessary pool appurtenances are located.

(5) Lifeguard means a person holding a current advanced lifesaving or water safety instructor certificate from the American Red Cross, National YMCA or equivalent.

(6) Maintained means the keeping of the grounds, buildings, service systems (heating, plumbing, recirculation, electrical, filters, etc.), furniture and all other equipment in good repair.

(7) Patron means a user of the pool area.

(8) Pool means the structure, basin, chamber or tank, used for one of a variety of purposes: combination pools for swimming and diving, diving pools, exercise pools, swimming pools, wading pools, limited purpose pools and whirlpools, as defined in s. HSS 171.03 (8), Wis. Adm. Code.

(9) Pool area means the surface within the pool enclosure.

(10) Public swimming pool means an outdoor or indoor pool that is entirely man-made so defined in s. HSS 171.03 (8), Wis. Adm. Code,

excepting those serving less than 3 individual residential quarters such as homes or apartments. Public pools include those serving or installed for the state or any political subdivision thereof, including school districts; those serving or installed at motels, hotels, resorts, camps, clubs, associations, housing developments, schools; religious, charitable or youth organizations; institutions or similar establishments. Included are buildings, equipments and appurtenances, irrespective of whether or not a fee is charged for the use thereof.

(11) Responsible supervisor means a person designated by the owner who can act quickly to effect rescues, maintain order and enforce pool use regulations.

(12) Unauthorized access means a person entering a restricted area without permission of the owner or designated representative.

History: Cr. Register, August, 1978, No. 272, eff. 9-1-78; renum. from H 72.02, Register, May, 1982, No. 317, eff. 6-1-82.

**HSS 172.03 Supervision and safety.** (1) SUPERVISION. Every public pool shall be under the supervision of a responsible supervisor or lifeguard. This person shall require careful observance of sanitary and safety regulations.

(2) LIFEGUARDS. (a) *Where and number required.* Lifeguards shall be provided during scheduled and posted hours for pool use at all pools having a surface area in excess of 2,000 square feet. The number of lifeguards shall be in accord with the number of elevated lifeguard chairs required by ch. HSS 171, Wis. Adm. Code. Where the maximum patron loading exceeds 450, 3 additional lifeguards are required.

(b) *Permissible reduction.* When portions of a pool are not in use, such areas may be roped off and restricted from use. The number of lifeguards may then be reduced in accord with actual patron loading.

The following table is to be used to determine the number of lifeguards required:

| *Actual Patron Loading* | *Lifeguards Required* |
|---|---|
| 1 - 67 | 1 |
| 68 - 104 | 1 |
| 105 - 200 | 2 |
| 201 - 325 | 2 |
| 326 - 450 | 3 |

For pools having a patron loading in excess of 450 patrons, a reduction of one lifeguard is permitted for each additional reduction of 500 patrons or major fraction thereof.

Note: In ch. HSS 171, Wis. Adm. Code, patron loading is related to pool surface area on the basis of 24 square feet per patron in a diving area and 10 square feet in the shallow portion.

(c) *Instructional use.* When a pool or portion thereof is used for instructional purposes, the instructor-student maximum ratio shall be 1 to 30.

Note: Under certain conditions, a lifeguard may be desirable.

(d) *Closed hours.* During closed hours, a sign shall be posted stating that the pool and the pool deck area are closed.

(3) LIFEGUARD IDENTIFICATION AND ASSIGNMENT. Lifeguards shall wear suits that are conspicuously marked "Lifeguard" or be otherwise readily identifiable. Lifeguards assigned to the supervision of the pool shall not be assigned duties that distract their attention from observation of persons in the pool area, or prevent their immediate assistance to persons in distress.

(4) SAFETY EQUIPMENT. The following safety equipment shall be provided and be maintained.

(a) *Rescue equipment.* At least one ring buoy of the U.S. coast guard approved type, attached to a one-quarter inch diameter line not less than one and one-half times the maximum width of the pool or 50 feet in length, whichever is less, or a Red Cross approved rescue tube with not less than 6 feet of line attached shall be provided in each pool area. When more than one lifeguard chair is provided, each shall be equipped with a ring buoy or rescue tube. The equipment shall be maintained.

Note: At outdoor pools under 30 feet in width a shepherd's crook may be substituted for the ring buoy or rescue tube. Similarly a reaching pole, 8 to 10 feet in length, may be used at indoor pools under 30 feet in width.

(b) *First aid equipment.* An approved 24-unit first aid kit, 2 durable blankets and one spine board shall be available at each pool area.

(c) *Safety rope.* The safety rope, where required, shall remain in place except during supervised special purpose use.

(d) *Communications.* The telephone or other emergency type communication system shall be maintained. A current list of emergency numbers shall be available.

(e) *Safety and alarm equipment.* All safety equipment and emergency alarms, if provided, shall be readily accessible and be maintained.

(f) *Noise.* Noise within the pool area shall be controlled so that all patrons can hear emergency instructions.

(5) POOL RULES. (a) *Location and maintenance.* All pool use rule signs shall be located at conspicuous places and be legible.

(b) *Content.* The posted rules shall include: "Persons with infections not permitted"; "No food, drink, gum or tobacco permitted in pool or on deck"; "Shower before entering and after use of toilet facilities"; "No running or rough play"; and "No pets allowed."

(c) *Additional rules.* Whenever additional rules are needed to protect the health and safety of patrons, the management shall post and enforce such rules.

(6) SLIDES. Slides shall be carefully supervised and used properly.

(7) CHEMICALS. (a) *Labeling.* All chemicals shall have approved labels containing directions for use.

(b) *Storage.* All chemicals shall be stored in the original covered container in a clean, dry and well ventilated locked area away from flammables and heat sources. Only authorized personnel shall have access to the storage area.

(c) *Mixing.* Chemicals shall be independently mixed and applied.

(8) SECURITY. All gates and doors into the pool enclosure shall be checked daily for proper operation. They shall be locked when the pool is not in use.

History: Cr. Register, August, 1978, No. 272, eff. 9-1-78; renum. from H 72.03, Register, May, 1982, No. 317, eff. 6-1-82.

**HSS 172.04 Maintenance and operation.** (1) POOL AND POOL AREA. (a) *General.* Every pool shall be kept free of sediment, lint, hair and other debris by regular brushing or vacuum cleaning. The walls and bottom of the pool and the deck shall be kept free from dirt and discoloration. Cracks or other defects in the walls, floor or deck shall be repaired. Whirlpools and wading pools shall be cleaned at least once each day. Routine cleaning shall be performed during closed hours. Floor areas subject to bacterial growth shall be sanitized as needed.

(b) *Temperature.* Air temperature at an indoor pool except for whirlpools or therapeutic pools shall be between 4° and 8° F., higher than the water temperature. Indoor pool water temperature shall be between 72° and 80° F., except whirlpool or therapeutic (limited purpose) pool water temperature shall not exceed 105° F.

Note: Prolonged immersion in a whirlpool should be avoided.

(c) *Floors, ceilings and walls.* Walls, ceilings, floors and equipment shall be repainted when necessary. Structural hangers for ceilings shall be inspected for deterioration at least annually and repaired or replaced as needed. Replacement tile, paint or other approved floor surfacing shall be of a nonslip finish.

(d) *Spectator area.* Inspect seats on a regular basis for structural defects and repair as needed. Railings or other restraints to separate spectators from pool patrons shall be maintained.

(e) *Solid waste.* When food, beverage or other items that generate solid wastes are permitted, flytight receptacles shall be provided and be maintained. They shall be constructed of plastic, metal or other approved material. Solid wastes shall be disposed of in a sanitary manner as needed.

(f) *Lockers.* Locker interiors shall be regularly inspected. They shall be cleaned as needed.

(g) *Pool and deck equipment.* All pool and deck equipment shall be maintained.

(2) RECIRCULATION SYSTEM. (a) *General.* The recirculation system consisting of filters, pumps, strainers, screens, disinfectant feeders, slurry or dry feeders and other appurtenances shall be operated continuously except for seasonal closing or during periods of necessary maintenance.

(b) *Skimmers and gutters.* Skimmers, skimmer weirs and overflows shall be inspected daily and cleaned, repaired or replaced as needed. Strainer baskets for skimmers shall be cleaned at least daily. Water shall be added as needed to keep the pool water level at the overflow, as consistently as possible. For other than reverse flow gutter pools, at least 75% or the recirculation flow shall be over the weir during normal oper-

ation. For skimmer type pools, at least 80% of the recirculation flow shall be through the skimmers.

(c) *Surge tank.* The surge tank shall be operated between its designed water levels.

(d) *Water supply.* A minimum air-gap of 2 pipe diameters or 6 inches, whichever is less, shall exist between the potable water supply inlet and the overflow point of any pool, makeup tank, surge tank, solution or slurry tanks unless another approved backflow-backsiphonage prevention device is provided. Pool water pretreatment equipment shall be maintained and operated in accord with manufacturer's instructions.

(e) *Pump strainers and screens.* Strainers and baskets or screens shall be continuously in use and be inspected and cleaned as needed. Clean spare strainer baskets or screens shall be available.

(f) *Circulation pumps.* The design recirculation rate shall be maintained at all times except during maintenance operations. The manufacturer's lubrication instructions shall be followed. Pump alignment shall be set and maintained as recommended by the manufacturer. The impeller rotation shall be checked and the impeller inspected whenever the pump motor is repaired. The pump shall not be throttled on the suction side during normal operation.

(g) *Piping and appurtenances.* 1. Flowmeters. Flowmeter accuracy should be checked periodically. They shall be maintained.

2. Valves. Valves shall be occasionally operated through their entire operating range. All valves shall be maintained. Connecting control tubing for automatic rate-of-flow control valves shall be cleaned periodically.

3. Inlets. Inlet flow rates and direction shall be determined periodically. Direction of discharge shall be arranged for most effective water movement.

4. Gauges. Gauges shall be maintained with the lines to the gauges bled and cleaned periodically.

5. Coding. Pipe color coding, direction-of-flow indicators and valve tags, if initially provided, shall be maintained.

(h) *Filters.* 1. Sand. a. Rapid rate sand filters shall be backwashed when the pressure differential is greater than 7 pounds per square inch or as recommended by the manufacturer, whichever is less.

b. High-rate sand filters shall be backwashed when the pressured differential is greater than 11 pounds per square inch or as recommended by the manufacturer, whichever is less.

c. The filter shell and appurtenances shall be maintained.

d. Filter media shall be cleaned or replaced when the initial pressure loss after backwashing exceeds 3 pounds per square inch.

e. Filter backwash water shall discharge to a storm sewer, if available, or to the ground surface at an approved location, except that from whirlpools shall discharge to a sanitary sewer. Discharge shall be through an air-gap.

2. Diatomaceous earth. a. Pressure diatomaceous earth filters shall be backwashed when the pressure differential is greater than 7 pounds per square inch or as recommended by the manufacturer, whichever is less.

b. Vacuum diatomaceous earth filters shall be backwashed when the vacuum gauge reading increases to greater than 7 pounds per square inch following precoating or as recommended by the manufacturer, whichever is less.

c. Septums shall be removed and cleaned or repaired when they no longer provide effective filtration or create a friction loss preventing maintenance of the required recirculation rate.

d. Diatomaceous earth waste water separation units, where required, shall be maintained.

e. The filter shell and appurtenances shall be maintained.

f. Filter wash water shall discharge to a sanitary sewer, if available, or to the ground surface at an approved location. Discharge shall be through an air-gap.

3. Cartridge. a. Cartridge type filters shall be removed and cleaned when the pressure differential is greater than 11 pounds per square inch or as recommended by the manufacture, whichever is less.

b. All waste water and solids resulting from cartridge cleaning shall be discharged to a sanitary sewer or disposed of on the owner's property in a manner not creating a health hazard or nuisance.

c. Cartridges shall be replaced when plugged or damaged.

d. At least 10% of one complete set of cartridges shall be available on the premises at all times.

(3) CHEMICAL FEEDERS. (a) *General.* All feeders shall be operated and maintained for maximum efficiency within the operating range. Manufacturer's recommendations for maintenance shall be followed. All feeders shall be of the positive displacement type and shall be interwired with the recirculating pump electrical circuit or discharge proportional to flow.

(b) *Operation.* 1. Gas chlorinators. Repairs to gas chlorinators shall only be made by adequately trained personnel. The operator shall determine the appropriate emergency personnel to contact in the event of an emergency and have the telephone numbers conspicuously posted.

**Note: Emergency personnel most frequently contacted are the staff of the local fire department.**

a. Chlorine cylinders shall be stored indoors in an area having approximately the same air temperature as the chlorine room and sheltered from a direct source of heat or sunlight. Cylinders shall be in an upright position and shall be chained or strapped to a rigid support. Cylinders shall not be moved unless the protection cap is secured over the valve. Empty cylinders shall be so tagged and the cylinder valve closed.

b. Cylinders in use shall not be separated from the gas ejector by a wall or other barrier.

c. The chlorinator and gas cylinders shall be checked daily for leaks using ammonium hydroxide. That chemical shall be kept in a plastic container.

d. Smoking is prohibited in the chlorinator room.

e. A gas mask, approved by the appropriate federal agency for use in a chlorine atmosphere, shall be kept outside the chlorine room in an unlocked cabinet. The gas mask canister shall be replaced regularly in accord with the manufacturer's recommendations. A permanent record shall be kept of mask usage.

2. Slurry feeders. The lowest effective concentration of solution should be used. In no case shall the concentration exceed 5%. Diatomite slurry feeder head and lines shall be flushed as necessary to insure proper and continuous operation. Water from the discharge side of the recirculation pump should be used. If connection is to a potable water supply line, it shall be equipped with an approved backflow-backsiphonage prevention device. Diatomite slurry tank agitators shall run continuously.

**Note: If automatic flushing equipment is provided, it is preferred that flushing occurs once every 15 minutes for a duration of one minute.**

3. Solution feeders. Liquid chemicals may be fed full strength or diluted. If calcium hypochlorite, or other chemicals that form residue are used, a 2 tank system is required. One tank shall be used for mixing the solution and settling the precipitate. The clear liquid shall be decanted or siphoned into the storage tank. Mixing and storage tanks shall be so labeled. A cover with a screened vent shall be provided on all solution tanks. The installation shall be maintained to prevent backflow of water into the tanks and to prevent the chemicals from being siphoned out of the tanks into the pool or recirculation system. When pool water tests indicate the need, chemical feed rates shall be adjusted to maintain the desired chemical concentrations and pH.

4. Dry feeders. Dry feeders shall be inspected daily for proper operation.

5. Automatic feed control and analyzer systems. The automatic system shall be maintained as recommended by the manufacturer.

(4) WATER CHEMISTRY. (a) *Disinfection.* All pools, when in use, shall be continuously disinfected by a chemical and/or process which meets all of the following requirements:

1. Registered. Is registered with the United States environmental protection agency as a disinfectant and the product label is registered with the Wisconsin department of agriculture.

2. Field measurement. Has a chemical residual which can be easily and accurately measured by a field test procedure.

3. Compatability. Is compatable for use with other chemicals normally used in the pool water treatment, or is clearly identified as having a use limitation.

4. Toxicity. Does not impart toxic properties to the water when used according to directions.

5. Safety. Does not create an undue safety hazard when handled, stored and/or used according to directions.

(b) *Chlorine.* The unstabilized free available residual chlorine, as measured by the neutral orthotolodine, D.P.D., leuco-crystal violet tests or similar department approved test method, of at least the following concentrations, depending upon the pH of the water, shall be maintained.

| pH | Minimum free available residual chlorine - mg/1 (not stabilized with cyanuric acid) |
|---|---|
| 7.2 through 7.5 | 0.40 |
| 7.6 | 0.50 |
| 7.7 | 0.60 |
| 7.8 | 0.70 |
| 7.9 | 0.80 |
| 8.0 | 1.00 |

(c) *Cyanuric acid or isocyanurate compounds.* 1. General. When cyanuric acid is used to stabilize the free available residual chlorine, or where one of the chlorinated isocyanurate compounds is used as the disinfecting chemical, the concentration of cyanuric acid in the water should be at least 30 milligrams per liter but shall not exceed 100 milligrams per liter and the free available residual chlorine, as measured by the neutral orthotolodine, D.P.D., leuco-crystal violet tests or similar department approved test method of at least the following concentrations, depending upon the pH of the water, shall be maintained.

| pH | Minimum free available residual chlorine mg/1 |
|---|---|
| 7.2 through 7.5 | 1.00 |
| 7.6 | 1.25 |
| 7.7 | 1.50 |
| 7.8 | 1.75 |
| 7.9 | 2.00 |
| 8.0 | 2.50 |

2. Restriction. Cyanuric acid and isocyanurate compounds shall only be used in outdoor pool water.

(d) *Alkalinity.* The total alkalinity shall be maintained between 70 and 150 milligrams per liter. Hydroxide alkalinity shall never be present.

(e) *Test kits.* Test kits as approved by the department shall be maintained.

1. Provision. A test kit shall be provided for the determination of total alkalinity and the content of all chemicals added to the pool water.

2. Reagents. Testing reagents should be ordered in small quantities and shall be properly stored. Phenol red, when used, shall be replaced at least every 6 months. All reagents shall be stored in their original labeled containers.

3. Personal preparation. Persons using test kits shall wash their hands before and after conducting tests.

(5) WATER HEATERS. (a) *General.* Water heaters and heat exchangers shall be maintained.

(b) *Restriction.* Pool water heaters or heat exchangers for outdoor pools utilizing electrical resistance or fossil fuel shall not be operated from September 15 to the following May 15th.

(6) ELECTRICAL. (a) *General.* The electrical installation at all public pools shall comply with the appropriate section of the Wisconsin Administrative Code and any applicable local codes.

(b) *Maintenance.* Defects in the electrical system including underwater lights, overhead lights and their respective lenses shall be immediately repaired. Underwater lights shall be inspected annually and each time the pool is drained.

Note: Ground fault interruptors should be installed and maintained on all pools constructed prior to 1971.

(7) HEATING AND VENTILATING. (a) *General.* Heating, ventilating and exhaust equipment shall be maintained and operated to provide air movement as required by applicable sections of the Wis. Adm. Code. Temporary ventilation facilities shall be used when work is done in unventilated areas such as settling basins or surge tanks.

(b) *Condensation control.* Action shall be taken to prevent any excessive condensation problems in indoor pool enclosures.

(8) DRESSING, SHOWER AND TOILET FACILITIES. Dressing, shower and toilet facilities shall be maintained in a sanitary condition. Adequate sanitation supplies shall be on hand at all times. Showers shall be maintained to provide 3 to 5 gallons of water per minute per shower.

(9) MAINTENANCE RECORDS AND SCHEDULE. (a) *Reports.* Daily reports of pool operation shall be kept by the owner or operator. Data shall be recorded on forms provided by the department. The monthly reports shall be submitted to the appropriate departmental regional office not later than the tenth of the following month.

(b) *Files.* The owner or operator shall maintain an accessible file on the premises, containing information such as manufacturer's pump performance curves, manual of instruction on filter operation, manufacturer's recommendations on operation and maintenance of all equpment, instructions and other pertinent information on pool operation and maintenance. The file shall include a copy of ch. HSS 172. Departmental correspondence and formal plan approval shall be available but need not be filed on the premises.

History: Cr. Register, August, 1978, No. 272, eff. 9-1-78; renum. from H 72.04, Register, May, 1982, No. 317, eff. 6-1-82.

**HSS 172.05 Seasonal opening.** As a minimum, the following actions shall be taken by the pool manager or operator before an outdoor pool is used after winter closing.

(1) POOL BASIN AND DECK. Drain the pool to within one foot above the high groundwater level or drain completely, if groundwater is not present. Remove all debris. Examine pool walls, bottom, decks and repair all cracks and chips. Clean the pool walls and bottom thoroughly. Flush all pool piping. Remove any peeled paint and repaint the pool

white or a light color. Refill the swimming pool after the paint is dry as indicated by the manufacturer. Remount diving boards, ladders and other deck equipment.

Note: WARNING—It is essential that the depth to high groundwater be known. Such information should be available from the designer and/or contractor.

(2) RECIRCULATION SYSTEM. Reinstall all equipment and piping that was removed. Operate all valves to assure that they move freely. Repair or lubricate as necessary. Clean the hair and lint strainer basket. Place the recirculation system in operation and backwash the filter thoroughly. Place the filter in operation.

(3) OTHER. Inspect all feeders and place them in operation. Inspect all gauges and flowmeters and repair or replace them if necessary.

(4) WATER QUALITY. Test the pH and alkalinity of the water and the disinfectant content. Adjust, if necessary, to be within the proper ranges.

History: Cr. Register, August, 1978, No. 272, eff. 9-1-78; renum. from H 72.05, Register, May, 1982, No. 317, eff. 6-1-82.

**HSS 172.06 Seasonal closing.** As a minimum, the following actions shall be taken by the pool manager or operator if a pool is closed at the end of the swimming season:

(1) POOL DRAINED. The pool may be completely drained if the high groundwater level is below the pool. See note following HSS 172.05 (1). Open drain valve and allow all of the water to drain from the pool and leave valve open. If the pool water is drained into a sump and then pumped, partially open valves so the pumping rate about equals the draining rate. Continuously observe the operation and adjust valves if necessary. The automatic hydrostatic relief valve shall be inspected and repaired or replaced if necessary.

(2) POOL NOT DRAINED. Pump or drain water to a level at least 6 inches below the wall inlet fittings. All piping that is subject to freezing shall be drained or otherwise protected from freezing and be plugged.

Note: Provisions should be made to decrease or prevent direct freezing pressures on pool walls by placing logs, drums, etc. in the pool water.

(3) CLEANUP. Remove all debris within the pool and pool enclosure.

(4) FILTERS. (a) *Sand.* Close water supply line. Remove filter tank drain plugs. Open all valves on filter. Remove manhole covers on pressure filters and examine the filter sand. Remove and replace any encrusted sand. Examine filter shell thoroughly and repair, paint or replace if necessary.

(b) *Diatomaceous earth.* Close water supply line. Remove filter drain plugs. Open all valves on filter. Remove the cover of pressure filters and remove filter septums. Examine filter septums and clean according to manufacturer's recommendations. Repair or replace filter septums and fabric as necessary. Examine the filter tank thoroughly and repair, paint or replace if necessary.

(c) *Cartridge.* Close water supply line. Remove filter drain plugs. Open all valves on filter. Remove cover of filters and remove the cartridges. Examine the cartridges and clean according to manufacturer's

recommendations. Replace cartridges as necessary. Examine the filter tank thoroughly and repair, paint or replace if necessary. Order extra cartridges for next season's use.

(5) RECIRCULATION PUMPS. Turn off the pump switch and open the circuit breaker to the pump circuit. Open all valves around the pump. Remove the lid, strainer and drain plug from the strainer pot. Drain the pump impeller casing. Clean and lubricate the pump in accordance with the manufacturer's recommendations. Protect outdoor pumps with a waterproof covering.

(6) CHLORINATORS. (a) *Gas.* Drain the water from all chlorinator parts and associated piping. Make certain the ejector is drained. Store all gas masks in a warm, dry area. All chlorine gas cylinders, empty or full, should be returned to the supplier.

(b) *Hypochlorinators.* Remove all liquid from the hoses and diaphragm. Clean out all calcium carbonate, calcium hydroxide or other deposits on the check valves, hoses and diaphragm. Add oil and grease in accordance with manufacturer's recommendations. Remove and store in a warm dry location.

(7) OTHER CHEMICAL FEEDERS. Drain water from all parts and associated piping. Clean and grease unprotected metal parts. Repair or replace all defective parts. Remove and store in a warm dry area.

(8) CHEMICALS. Dispose of or store all chemicals in accordance with manufacturer's recommendations.

(9) SKIMMERS. Drain and cover all skimmers.

(10) OTHER APPURTENANCES. Examine, paint, service, lubricate, repair or replace all equipment as necessary and store properly.

(11) POTABLE WATER SUPPLY SYSTEM. (a) *Piping.* Drain all water lines to the toilets, urinals, lavatories, drinking fountains, chemical feeders, showers, hosebibbs, pool water makeup, chlorinators and chemical feed system in buildings that are unheated.

(b) *Tanks and fixtures.* Drain all flush tanks on the toilets and urinals, the hot water boiler, water storage and pre-treatment tanks, mixing tanks and chemical solution tanks in buildings that are unheated. Add antifreeze to undrainable fixture traps in unheated areas. Remove outdoor drinking fountains and store them in a warm dry area or cover them.

(12) SWIM SUITS AND TOWELS. Clean suits and towels thoroughly and store in a sanitary manner.

(13) UNDERWATER LIGHTS. Bring light fixtures up on the pool deck and cover them. Examine niches for signs of leakage and repair as necessary.

(14) HEATERS. Turn off the fuel supply or, where necessary, shut off the electrical circuit breaker to the pool heater circuit. Drain the water from the heater and clean the heater tubes according to manufacturer's recommendations.

**History:** Cr. Register, August, 1978, No. 272, eff. 9-1-78; renum. from H 72.06, Register, May, 1982, No. 317, eff. 6-1-82.

**HSS 172.07 Closing criteria.** (1) GENERAL. Whenever any of the following conditions are not met at a public pool, it shall be immediately closed and not reopened until proof of correction is evident.

(a) *Health or safety hazards.* When condition (s) at a pool or bathhouse create an immediate danger to health or safety as determined by the department, appropriate local officials or the person in charge of the pool or bathhouse operation.

(b) *Microbiological quality.* When more than 15% of the samples covering any considerable period of time equal or exceed the bacteriological analyses obtained as follows:

1. Plate method. Contain more than 200 colonies per one milliliter of water, as determined by the standard agar plate count (24 hours at 35°C.)

2. Tube method. Show positive test (confirmed test) for coliform organisms in any 5, 10-milliliter portions of a sample when the multiple fermentation tube method is used; or more than 1 coliform organism per 50 milliliters when the membrane filter test is used.

3. Staphylococcal group. Whenever examinations are made of bacteria of the staphylococcal group, not more than 50 organisms per 100 milliliters of water should be present.

**Note:** Samples collected for microbiological examination are to be collected while the pool is in use with the residual disinfectant deactivated, and be examined in accordance with the procedures described in the latest edition of *Standard Methods for the Examination of Water and Wastewater,* (APHA, AWWA and WPCF).

(c) *Other quality conditions.* 1. Clarity. When the pool water clarity is such that a black disc, 6 inches in diameter, is not readily visible when placed on a white field at the deepest point of the pool.

2. Inadequate disinfection. See HSS 172.04 (4).

3. Temperature. When the air temperature is below 65°F. for outdoor pools, and water temperature is below 72°F. for indoor pools.

4. Hazardous weather. When the presence of or the sighting of potential hazardous weather conditions exist. The subsequent opening of the pool shall be approved by the responsible supervisor, lifeguard, operator or owner. If concensus of the owner and his lifeguard cannot be reached, the decision of the lifeguard shall prevail.

(2) WRITTEN ORDER. When a written order to close a pool is issued by the department or appropriate local official, that order shall be conspicuously posted at the pool site by the owner or his designated operator. When the condition (s) causing the issuance of a closing order have been considered corrected, the owner or operator shall notify the department. The pool shall not be reopened until so authorized in writing by the department or local official.

**History:** Cr. Register, August, 1978, No. 272, eff. 9-1-78; renum. from H 72.07, Register, May, 1982, No. 317, eff. 6-1-82.

**HSS 172.08 Sampling.** (1) BACTERIOLOGICAL. (a) *Frequency.* At least one sample of pool water per month during the operating season and preferably one sample per week shall be collected for bacteriological

analysis. The sample shall be analyzed at the state laboratory of hygiene or other certified laboratory.

(b) *Results.* Should a sample be unsafe as specified in s. HSS 172.07 (1) (b), daily samples shall be collected until a safe analysis is reported. The cause of the unsafe sample should be determined and disinfectant feed rate shall be adjusted upward to achieve more effective bacterial kill. See s. HSS 172.04 (4).

(2) CHEMICAL. Such samples as needed to maintain chemical content or pH in the ranges specified in s. HSS 172.04 (4) shall be collected and analyzed by the operator.

History: Cr. Register, August, 1978, No. 272, eff. 9-1-78; renum. from H 72.08, Register, May, 1982, No. 317, eff. 6-1-82.

**HSS 172.09 Variance.** The department may approve safety, operation and maintenance rules for pools that are different from those contained in this chapter for experimental or trial purposes. Such purposes shall comply with the purpose and intent of this chapter. The department may require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding the sufficiency of any proposed alternative.

History: Cr. Register, August, 1978, No. 272, eff. 9-1-78; renum. from H 72.09, Register, May, 1982, No. 317, eff. 6-1-82.

**HSS 172.10 License.** (1) REQUIREMENT. Before being opened for public use each public swimming pool as defined in s. HSS 172.02 (10), shall be licensed by the department or a local governmental entity. Application for licensure by the department shall be made on forms provided by the department.

(2) EXEMPTION. Two or more pools on a property having a single recirculation and filtration system are considered one unit (pool).

(3) STATE FEES. The departmental annual fiscal year license fee shall be nonreturnable, nontransferrable and nonprorated as specified in s. 140.05 (17), Stats.

(4) RESTRICTION. The department shall not assess license fees for public swimming pools if the appropriate local governmental entity (where physically located) enacts an ordinance or promulgates regulations causing payment of an annual local license fee and further providing the following conditions are met by ordinance or regulation enactment and/or activity.

(a) Chapters HSS 171 and 172, Wis. Adm. Code, or similar regulations which are at least as stringent as those chapters in all respects be adopted.

(b) A means for suspension or revocation of the local license be provided.

(c) At least one sanitary survey (inspection) per year be conducted.

(d) Copies of all applicable ordinances or regulations and the name and address of the responsible inspecting official be submitted to the department.

(e) A listing of all public swimming pools in its jurisdiction and subject to its regulatory and inspection program be submitted annually during the month of April to the department.

(f) Local governmental entity staff, within 30 days after completing a sanitary survey, submit a copy of that report to the department on forms provided at cost by the department.

(5) LOCAL FEES. Local license fees shall be assessed by the appropriate governmental entity. However, should a local governmental entity own and operate a public swimming pool and conduct a regulatory and inspection program in accord with this section, the fees required by s. 140.05 (21), Stats., shall be considered assessed and paid.

Note: Because of the variety of operating procedures used by local governmental entities, one department, committee, section or other organizational unit may own a facility(s) and staff of another organizational unit may conduct the regulatory and inspection program. In such cases a fee may actually be assessed. Such action is based on local ordinance or resolution content.

(6) SUPERVISION. The department shall have the right to separately or jointly conduct sanitary surveys and review all records of local activities at reasonable times and upon reasonable notice. Copies of reports on sanitary surveys conducted by department staff shall be transmitted to the appropriate local authority within 30 days.

(7) ENFORCEMENT. (a) Should the department determine that the local regulation and inspection program does not meet the provisions of these regulations, it shall notify the governing body and the responsible inspecting official or agency of the local governmental entity. The local governmental entity shall then revise its regulation and inspection program to comply with these regulations within 60 days. If after that 60 days, the department determines that the local regulation and inspection program has not been revised to comply with these regulations, public swimming pools in that local governmental entity shall be assessed the state license fee for the appropriate state fiscal year to avoid concurrent local and state license fees; and upon expiration of the local license the department shall assume licensure, regulatory and inspection responsibilities.

(b) Should the department determine that a satisfactory program is not being conducted by the local governmental entity because of the lack of a qualified inspector, the department shall after the 60 day period offer that or any other local official an examination designed for statewide use and relating to all facets of public swimming pool design and operation. The examination shall be jointly prepared by qualified state and local governmental entity representatives. Should the employee (inspector) achieve a grade of at least 70 on a scale of 100 he or she shall be deemed qualified.

(8) LOCAL-STATE LICENSE. If local governmental entities conduct an inspection and regulation program in compliance with these regulations, public swimming pools licensed in their jurisdiction shall be deemed licensed by the state under s. 140.05 (17) Stats.

History: Cr. Register, August, 1978, No. 272, eff. 9-1-78; renum. from H 72.10, Register, May, 1982, No. 317, eff. 6-1-82.