2016 Model Aquatic Health Code

Code Language

POLICIES AND MANAGEMENT

CS267224A

6.0[A] Policies and Management

The provisions of Chapter 6 shall apply to all AQUATIC FACILITIES covered by this CODE regardless of when constructed, unless otherwise noted.

Note: Section numbers with superscript "A" (e.g., 6.0[A]) denote a corresponding discussion in the* Annex to the Model Aquatic Health Code*.

6.0.1 Staff Training

All QUALIFIED OPERATORS, maintenance staff, QUALIFIED LIFEGUARD staff, or any others who are involved in the STORAGE, use, or handling of chemicals shall receive training prior to access of chemicals, and receive at least an annual review of procedures thereafter for the following topics discussed in MAHC 6.0.1.1 to 6.0.1.5.

6.0.1.1 Storage and Handling

Procedures for CHEMICAL STORAGE and handling outlined in this CODE.

6.0.1.2 Personal Protective Equipment Procedures

STANDARD precautions, PPE, and other measures to minimize exposure to chemicals as required by OSHA. This shall include staff training in PPE and respiratory protective devices when required.

6.0.1.3 Spill Procedures

Spill Procedures and Emergency Response outlined in this CODE.

6.0.1.4 OSHA Requirements

Federal OSHA Requirements: Hazard Communication Standard *(Employee Right-to-Know)* and SDS. Know the location and availability of STANDARD and the written program.

6.0.1.5 Chemical and Safety Data Sheets Lists

Know workplace chemicals list and SDS.

6.0.1.6 Training Plan

Employers shall have a training plan in place and implement training for employees on chemicals used at the AQUATIC FACILITY before their first assignment and whenever a new hazard is introduced into the work area.

6.0.1.6.1 Training Topics

The training shall include at a minimum:

1) How to recognize and avoid chemical hazards;
2) The physical and health hazards of chemicals used at the facility;
3) How to detect the presence or release of a hazardous chemical;
4) Required PPE necessary to avoid the hazards;

5) Use of PPE;
6) Chemical spill response; and
7) How to read and understand the chemical labels or other forms of warning including SDS sheets.

6.0.1.7 Training Records

Records of all training shall be recorded and maintained on file.

6.0.1.8[A] Body Fluid Exposure

Employees assigned to roles which have the potential for an occupational exposure to bloodborne pathogens, pathogens that cause RWIs, or other pathogens shall be trained to recognize and respond to body fluid *(blood, feces, vomit)* releases in and around the AQUATIC VENUE area.

6.0.1.9 Exposure Control Program

Employers shall have an Exposure Control Program for bloodborne pathogens as required by OSHA 1910.1030.

6.0.1.10 Personal Protective Equipment Provided and Disposed

PPE shall be provided and properly disposed.

6.1 Qualified Operator Training

6.1.1[A] Qualified Operator Qualifications and Certification

6.1.1.1 Qualifications

A QUALIFIED OPERATOR of an AQUATIC FACILITY shall have completed an operator training course that is recognized by the AHJ.

6.1.1.2 Training Documentation

A QUALIFIED OPERATOR shall have a current certificate or written documentation acceptable to the AHJ showing completion of an operator training course.

6.1.1.2.1 Certificate Available

Originals or copies of such certificate or documentation shall be available on site for inspection by the AHJ for each QUALIFIED OPERATOR employed at or contracted by the site, as specified in this CODE.

6.1.1.2.2 Originals

Originals shall be made available upon request by the AHJ.

6.1.2[A] Essential Topics in Qualified Operator Training Courses

6.1.2.1 Course Content

All operator training courses recognized by the AHJ shall include, at a minimum, the following teaching elements:

1) Water disinfection,
2) Water chemistry,
3) Mechanical systems, and
4) Health and SAFETY operations.

6.1.2.1.1[A] Water Disinfection

Water DISINFECTION including:

1) Water disinfection,
2) CT or Concentration X Time values,
3) Chlorine,
4) CYA,
5) Bromine,
6) Breakpoint,
7) Superchlorination,
8) Hyperchlorination,
9) Combined CHLORINE,
10) Secondary disinfection, and
11) Supplemental treatment.

6.1.2.1.1.1 Disinfectants

DISINFECTANT types including:

1) Descriptions of different types of DISINFECTANTS,
2) Their unique physical *(e.g., shape or state [solid, liquid, or gas])* and chemical properties *(e.g., how it reacts with acids or bases),*
3) How they disinfect and impact water chemistry and MONITORING systems,
4) How to calculate dosing,
5) How they are used safely, and
6) The advantages or disadvantages of using each DISINFECTANT.

6.1.2.1.1.2 CT Inactivation Values

CT or Concentration x Time values including:

1) How to calculate the amount of time needed to inactivate PATHOGENS at a given concentration of a DISINFECTANT, and
2) The importance and reasons for maintaining appropriate water pH and temperature.

6.1.2.1.1.3 Bromine

Bromine including:

1) Definition of bromine as an element,
2) Its use as a residual disinfectant and OXIDIZER in water,
3) Bromine chemistry,
4) The DISINFECTION role of HOBr,
5) On site generation,
6) pH meter requirements to prevent false readings, and
7) Bromine reuse.

6.1.2.1.1.4 Chlorine

CHLORINE including:

1) Definition of CHLORINE as an element,
2) Its use as a residual disinfectant and OXIDIZER in water,
3) CHLORINE chemistry and the role of PH,
4) The DISINFECTION role of HOCl,
5) Unstabilized products *(sodium hypochlorite, calcium hypochlorite, lithium hypochlorite, and CHLORINE gas)*,
6) Stabilized products *(sodium dichloro-s-triazinetrione and trichloro-s-triazinetrione)*,
7) Safe chemical handling, and
8) On-site CHLORINE generation.

6.1.2.1.1.5 Cyanuric Acid

CYA and stabilized CHLORINE product use including:

1) Description of CYA and how CHLORINE is bound to it;
2) Description of CYA use via addition of stabilized CHLORINE compounds or addition of CYA alone;
3) Response curves showing the impact of CYA on stabilization of CHLORINE residuals in the presence of UV;
4) Dose response curves showing the impact of CYA on CHLORINE kill rates including the impact of CYA concentrations on diarrheal fecal incident remediation procedures;
5) Strategies for controlling the concentration of CYA; and
6) Strategies for reducing the concentration of CYA when it exceeds the maximum allowable level.

6.1.2.1.1.6 Breakpoint/ Super-Chlorination

BREAKPOINT CHLORINATION including how to achieve it through calculation of chemical dosing to reach the desired free CHLORINE level and its relationship to reducing and controlling formation of combined CHLORINE including guidance for how to perform BREAKPOINT CHLORINATION in indoor aquatic settings.

6.1.2.1.1.7 Hyperchlorination

HYPERCHLORINATION including procedures for implementation of fecal/vomit/blood contamination response.

6.1.2.1.1.8 Combined Chlorine

Combined CHLORINE including:

1) How different combined CHLORINE and DBPs are formed in the water and air;
2) The maximum acceptable level of combined CHLORINE;
3) How methods such as water replacement, BREAKPOINT CHLORINATION, UV light, ozone, ventilation, and use of other OXIDIZERS can reduce combined CHLORINE level;
4) The advantages and disadvantages of each; and
5) Possible health effects of combined CHLORINE products in the air, particularly in INDOOR AQUATIC FACILITIES.

6.1.2.1.1.9 Secondary Disinfection

Secondary disinfection systems including:

1) How ozone and UV disinfectants are used in conjunction with residual disinfectants to inactivate pathogens, and
2) Sizing guidelines/dosing calculations, safe use, and advantages and disadvantages of each method.

6.1.2.1.1.10 Supplemental Treatment

SUPPLEMENTAL TREATMENT including other DISINFECTION chemicals or systems on the market and their effectiveness in water treatment.

6.1.2.1.2 Water Chemistry

Course work for water chemistry shall include:

1) Source water,
2) Water balance,
3) Saturation index,
4) Water clarity,
5) pH,
6) Total alkalinity,
7) Calcium hardness,
8) Water temperature,
9) Total dissolved solids,
10) Water treatment systems, and
11) Water testing.

6.1.2.1.2.1 Source Water

Source water including requirements for supply and pre-treatment.

6.1.2.1.2.2 Water Balance

Water balance including:

1) Effect of unbalanced water on DISINFECTION, AQUATIC FEATURE surfaces, mechanical equipment, and fixtures; and
2) Details of water balance including pH, total alkalinity, calcium hardness, temperature, and TDS.

6.1.2.1.2.3 Saturation Index

SATURATION INDEX including calculations, ideal values, and effects of values which are too low or too high.

6.1.2.1.2.4 Water Clarity

Water clarity including:

1) Reasons why water quality is so important;
2) Causes of poor water clarity;
3) Maintenance of good water clarity; and
4) Closure requirements when water clarity is poor.

6.1.2.1.2.5 pH

pH including:

1) How pH is a measure of the concentration of hydrogen ions in water;
2) Effects of high and low pH on BATHERS and equipment;
3) Ideal pH range for BATHER and equipment;
4) Factors that affect pH;
5) How pH affects disinfectant efficacy; and
6) How to decrease and increase pH.

6.1.2.1.2.6 Total Alkalinity

Total alkalinity including:

1) How total alkalinity relates to pH;
2) Effects of low and high total alkalinity;
3) Factors that affect total alkalinity;
4) Ideal total alkalinity range, and
5) How to increase or decrease total alkalinity.

6.1.2.1.2.7 Calcium Hardness

Calcium hardness including:

1) Why water naturally contains calcium;
2) How calcium hardness relates to total hardness and temperature;
3) Effects of low and high calcium hardness;
4) Factors that affect calcium hardness;
5) Ideal calcium hardness range; and

6) How to increase or decrease calcium hardness.

6.1.2.1.2.8 Temperature

Water temperature including:

1) How low and high water temperatures increase the likelihood of corrosion and scaling, respectively;
2) Effect on DISINFECTION, its health effects, and other operational considerations;
3) Health effects; and
4) Other operational considerations.

6.1.2.1.2.9 Total Dissolved Solids

TDS including:

1) Why the concentration of TDS increases over time;
2) Association with conductivity and organic CONTAMINANTS; and
3) Key TDS levels as they relate to starting up an AQUATIC FACILITY and galvanic corrosion.

6.1.2.1.2.10 Water Treatment Systems

Water treatment systems including:

1) Descriptions of system use, MONITORING, calibration, and maintenance of automatic controllers;
2) Descriptions of common types of liquid, dry chemical, and gas mechanical feeders;
3) CHLORINE, bromine, and ozone generators;
4) UV light systems;
5) Unique features of feeders, generators, and systems;
6) How to generally operate and maintain them;
7) Advantages and disadvantages of different feeders, UV light systems, and ozonator types; and
8) Alternate treatment methods.

6.1.2.1.2.11 Water Testing

Water testing including:

1) How different methods *(including but not limited to colorimetric, titrimetric, turbidimetric, and electronic)* test water to determine the following levels:
    a. Free available and total CHLORINE,
    b. Total bromine,
    c. pH,
    d. Total alkalinity,
    e. Calcium hardness,
    f. Temperature,
    g. TDS,
    h. CYA,

i. Metals, and
j. Any other tests *(including but not limited to salt concentrations, phosphates, nitrates, potassium monopersulfate, copper, iron, and bacterial testing)*;

2) The advantages and disadvantages of each method;
3) How to maintain testing equipment;
4) How to collect water samples;
5) How to perform and interpret tests;
6) How frequently to test;
7) The steps of the dilution method; and
8) How to calculate combined CHLORINE levels.

6.1.2.1.3 Mechanical Systems

Course work for mechanical systems shall include:

1) Calculations,
2) Circulation,
3) Main drains,
4) Gutters and surface SKIMMERS,
5) Mechanical system balance,
6) Circulation pump and motor,
7) Valve,
8) Return INLETS,
9) Filtration, and
10) Filter backwashing/cleaning.

6.1.2.1.3.1 Maintenance Calculations

Calculations including:

1) Explanations of why particular calculations are important;
2) How to convert units of measurement within and between the English and metric systems;
3) How to determine the surface area of regularly and irregularly shape AQUATIC VENUES;
4) How to determine the water volume of regularly and irregularly shaped AQUATIC VENUES; and
5) Why proper sizing of filters, pumps, pipes, and feeders is important.

6.1.2.1.3.2 Circulation

Circulation including:

1) Why circulation is needed;
2) Factors that affect water flow;
3) How direct suction and overflow systems work;
4) How to calculate TURNOVER and flow rates;
5) How the following components of the circulation system relate to each other:
   a. Main drains,

b. Gutters and surface SKIMMERS,
c. Circulation pump and motor,
d. Surge tanks,
e. Vacuum ports,
f. Valves, and
g. Return INLETS;

6) How to read flow meters;
7) How to safely operate pressurized systems after the pump;
8) Information on dye testing;
9) An understanding of TDH;
10) How it TDH calculated;
11) How TDH is field-determined using vacuum and pressure gauges;
12) TDH effect on pump flow; and
13) Cross connections.

6.1.2.1.3.3 Main Drains

Main drains including:

1) A description of the role of main drains;
2) Why they should not be resized without engineering and public health consultation;
3) The importance of daily inspection of structural integrity; and
4) Discussion on balancing the need to maximize surface water flow while minimizing the likelihood of entrapment.

6.1.2.1.3.4 Gutters & Surface Skimmers

Gutters and surface SKIMMERS including:

1) Why it is important to collect surface water;
2) A description of different gutter types *(at a minimum: scum, surge, and rim-flow)*;
3) How each type generally works;
4) The advantages and disadvantages of each; and
5) Description of the components of SKIMMERS *(e.g., weir, basket, and equalizer assembly)* and their respective roles.

6.1.2.1.3.5 Mechanical System Balance

Mechanical system balance including:

1) An understanding of mechanical system balancing;
2) Methodology for setting proper operational water levels;
3) Basic hydraulics which affect proper functioning of the balance tank and AQUATIC VENUE;
4) Methods of setting and adjusting modulation valves;
5) Balance lines;
6) Skimmers;
7) Main drains;
8) The operation of the water make-up system;

9) Collector tanks/gravity drainage systems; and
10) Automatic controllers.

6.1.2.1.3.6 Circulation Pump & Motor

Circulation pump and motor including:

1) Descriptions of the role of the pump and motor;
2) Self-priming and flooded suction pumps;
3) Key components of a pump and how they work together;
4) Cavitation;
5) Possible causes of cavitation; and
6) Troubleshooting problems with the pump and motor.

6.1.2.1.3.7 Valves

Valves including descriptions of different types of valves *(e.g., gate, ball, butterfly/wafer, multi-port, globe, modulating/ automatic, and check)* and their safe operation.

6.1.2.1.3.8 Return Inlets

Return INLETS including a description of the role of return INLETS and the importance of replacing fittings with those that meet original specifications.

6.1.2.1.3.9 Filtration

Filtration including:

1) Why filtration is needed;
2) A description of pressure and vacuum filters and different types of filter media;
3) How to calculate filter surface area;
4) How to read pressure gauges;
5) A general description of sand, cartridge, and diatomaceous earth filters and alternative filter media types to include, at a minimum, perlite, zeolite, and crushed glass;
6) The characteristic flow rates and particle size entrapment of each filter type;
7) How to generally operate and maintain each filter type;
8) Troubleshooting problems with the filter; and
9) The advantages and disadvantages of different filters and filter media.

6.1.2.1.3.10 Filter Backwashing/Cleaning

Filter backwashing/cleaning including:

1) Determining and setting proper backwash flow rates;
2) When backwashing/cleaning should be done and the steps needed for clearing a filter of fine particles and other CONTAMINANTS;
3) Proper disposal of waste water from backwash; and
4) What additional fixtures/equipment may be needed *(i.e., sump, separation tank)*.

6.1.2.1.4 Health and Safety

Course work for health and SAFETY shall include:

1) Recreational water illness,
2) RWI prevention,
3) Risk management,
4) Record keeping,
5) Chemical SAFETY,
6) Entrapment prevention,
7) Electrical SAFETY,
8) Rescue equipment,
9) Injury prevention,
10) Drowning prevention,
11) Barriers,
12) Signage and depth markers,
13) Facility sanitation,
14) Emergency response, and
15) Surveillance and supervision.

6.1.2.1.4.1[A] Recreational Water Illness

Recreational water illness *(RWI)* including:

1) How water can contain or become contaminated with parasites, bacteria, viruses, fungi, DBPs, or unsafe levels of chemicals; and
2) The role of the operator in reducing risk.

6.1.2.1.4.2 Causes of RWIs

Common infectious and chemical causes of RWIs, including but not limited to:

1) Diarrheal illness *(Cryptosporidium, Giardia, Shigella, and norovirus)*;
2) Skin rashes *(Pseudomonas aeruginosa, molluscum contagiosum)*;
3) Respiratory illness *(Legionella)*;
4) Neurologic infections *(echovirus, Naegleria)*;
5) Eye/ear illness *(Pseudomonas aeruginosa, adenovirus, Acanthamoeba);*
6) Hypersensitivity reactions *(Mycobacterium avium complex, Pontiac fever, endotoxins)*; and
7) Health effects of chloramines and DBPs.

6.1.2.1.4.3[A] RWI Prevention

Recreational water illness *(RWI)* prevention including:

1) Methods of prevention of RWIs, including but not limited to chemical level control;
2) Why public health, operators, and PATRONS need to be educated about RWIs and collaborate on RWI prevention;
3) The role of showering;
4) The efficacy of swim diapers;
5) Formed-stool and diarrheal fecal incident response; and

6) Developing a plan to minimize PATHOGEN and other biological *(e.g., blood, vomit, sweat, urine, and skin and hair care products)* contamination of the water.

6.1.2.1.4.4 Risk Management

Risk management including techniques that identify hazards and risks and that prevent illness and injuries associated with AQUATIC FACILITIES open to the public.

6.1.2.1.4.5 Record Keeping

Record keeping including the need to keep accurate and timely records of the following areas:

1) Operational conditions *(e.g., water chemistry, water temperature, filter pressure differential, flow meter reading, and water clarity)*;
2) Maintenance performed *(e.g., backwashing, change of equipment)*;
3) Incidents and response *(e.g., fecal incidents in the water and injuries)*; and
4) Staff training and attendance.

6.1.2.1.4.6[A] Chemical Safety

Chemical SAFETY including steps to safely store and handle chemicals including:

1) How to read labels and SDS;
2) How to prevent individual chemicals and inorganic and organic CHLORINE products from mixing together or with other substances *(including water)* or in chemical feeders; and
3) Use of PPE.

6.1.2.1.4.7[A] Entrapment Prevention

Entrapment prevention including:

1) Different types of entrapment *(e.g., hair, limb, body, evisceration/disembowelment, and mechanical)*;
2) How to prevent and/or decrease likelihood of entrapment; and
3) Requirements of the Virginia Graeme Baker Pool and Spa Safety Act.

6.1.2.1.4.8 Electrical Safety

Electrical SAFETY including possible causes of electrical shock and steps that can be taken to prevent electrical shock *(e.g., bonding, grounding, ground fault interrupters, and prevention of accidental immersion of electrical devices)*.

6.1.2.1.4.9 Rescue Equipment

Rescue equipment including a description and rationale for the most commonly found rescue equipment including:

1) Rescue tubes,
2) Reaching poles,
3) Ring buoys and throwing lines,

4) Backboards,
5) First aid kits,
6) Emergency alert systems,
7) Emergency phones with current numbers posted, and
8) Resuscitation equipment.

6.1.2.1.4.10 Injury Prevention

Injury prevention including basic steps known to decrease the likelihood of injury, at a minimum:

1) Banning glass containers at AQUATIC FACILITIES,
2) PATRON education, and
3) Daily visual inspection for hazards.

6.1.2.1.4.11 Drowning Prevention

Drowning prevention including causes and prevention of drowning.

6.1.2.1.4.12 Barriers

BARRIERS including descriptions of how fences, gates, doors, and SAFETY covers can be used to prevent access to water; and basics of design that effectively prevent access to water.

6.1.2.1.4.13 Signage & Depth Markers

Signage and depth markers including the importance of maintaining signage and depth markers.

6.1.2.1.4.14 Facility Sanitation

Facility sanitation including:

1) Steps to clean and disinfect all surfaces that PATRONS would commonly come in contact with *(e.g., DECK, restrooms, and diaper-changing areas)*, and
2) Procedures for implementation of MAHC 6.5: *Fecal-Vomit-Blood Contamination Response*, in relation to responding to a body fluid spill on these surfaces.

6.1.2.1.4.15 Emergency Response Plan

Emergency response plan including:

1) Steps to respond to emergencies *(at a minimum, severe weather events, drowning or injury, contamination of the water, chemical incidents)*; and
2) Communication and coordination with emergency responders and local health department notification as part of an EAP.

6.1.2.1.5[A] Operations

Course work for operations shall include:

1) Regulations,
2) The role of local and state health departments,
3) Aquatic facility types,
4) Daily/routine operations,
5) Preventive maintenance,
6) Weatherizing,
7) AQUATIC FACILITY renovation and design,
8) Heating,
9) Air circulation, and
10) Spa and therapy pool issues.

6.1.2.1.5.1 Regulations

Regulations including the application of local, regional, state, and federal regulations and STANDARDS relating to the operation of AQUATIC FACILITIES.

6.1.2.1.5.1.1 Immediate Closure

Course work shall also highlight reasons why an inspector or operator would immediately close an AQUATIC FACILITY.

6.1.2.1.5.2 Local & State Health Departments

Duties and responsibilities of local and state health departments including stressing the importance of a good working relationship with the local and state health department.

6.1.2.1.5.3 Aquatic Facility Types

AQUATIC FACILITY types including common AQUATIC VENUE types and settings and a discussion of features and play equipment that require specific operation and maintenance steps.

6.1.2.1.5.4 Daily/Routine Operations

Daily/routine operations including listing and describing the daily inspection and maintenance requirements of an AQUATIC FACILITY including, but not limited items listed:

1) Walkways/DECK and exits are clear, clean, free of debris;
2) Drain covers, vacuum fitting covers, SKIMMER equalizer covers, and any other suction outlet covers are in place, secure, and unbroken;
3) SKIMMER baskets, weirs, lids, flow adjusters, and suction outlets are free of any blockage;
4) INLET and return covers and any other fittings are in place, secure, and unbroken;
5) SAFETY warning signs and other signage are in place and in good repair;
6) Entrapment prevention systems are operational;
7) Recirculation, DISINFECTION systems, controller*(s)*, and probes are operating as required;
8) SECONDARY DISINFECTION SYSTEMS and/or SUPPLEMENTAL TREATMENT SYSTEMS are operating as required;
9) Underwater lights and other lighting are intact with no exposed wires or water in lights;

10) Slime and biofilm has been removed from accessible surfaces of AQUATIC VENUE, SLIDES, and other AQUATIC FEATURES;
11) Doors to nonpublic areas *(CHEMICAL STORAGE SPACES, offices, etc.)* are locked;
12) First aid supplies are stocked;
13) Emergency communication equipment and systems are operational;
14) Fecal/vomit/blood incident contamination response protocols, materials, and equipment are available;
15) AQUATIC FEATURES and amenities are functioning in accordance with the manufacturer's recommendations;
16) Fencing/BARRIERS, gates, and self-latching or other locks are tested and are intact and functioning properly, and BARRIERS do not have nearby furniture to encourage climbing;
17) Drinking fountains are clean and in functional condition;
18) Electrical devices are in good working condition and meet the requirements specified in the NEC and MAHC;
19) Alarms, if required, are tested and functioning properly;
20) Assessing glare conditions throughout operating hours to assess whether the bottom and objects in the POOL are clearly visible;
21) Play structures and diving boards are in good condition;
22) SAFETY equipment as required by this CODE is in good condition, properly secured, accessible for intended use, and shall include at a minimum:
    a. Emergency instructions and phone numbers
    b. Rescue tubes,
    c. Resuscitation masks with one-way valve,
    d. First aid kits,
    e. AEDs,
    f. Emergency oxygen,
    g. Backboard, head immobilizer, straps, and
    h. Lifeguard stands;
23) Emergency shut-off systems *(SLIDES, water features, pumps, etc.)* function properly;
24) Depth markings are clearly visible;
25) Lifelines and buoys are in place and in good working order;
26) Ladders are non-slip and rungs secured tightly;
27) WATERSLIDES are in functional, safe condition;
28) Moveable fulcrum is adjusted properly to control spring in the board as necessary;
29) Moveable starting platforms are properly stored;
30) Access to permanent starting platforms is restricted or controlled when not in use by swim teams and prohibited when not in use by competitive swimming or swimming practice that is under direct supervision of an instructor or coach;
31) Railings are secure;
32) SVRS is functioning according to manufacturer’s guidelines;
33) SKIMMER baskets and covers are clean and in place;
34) Water quality and clarity is MAHC compliant;
35) Water level is appropriate;
36) Pumps retain the appropriate pressure;

37) Play structures are secure *(consider water velocity and reference manufacturers recommended levels)*;
38) Verify required documentation and records are in place and signed by the appropriate personnel; and
39) Soap dispensers in lavatories and SHOWERS are functional and supplied with soap.

6.1.2.1.5.5 Preventive Maintenance

Preventive maintenance including how to develop:

1) A preventive maintenance plan,
2) Routine maintenance procedures, and
3) Record keeping system needed to track maintenance performed.

6.1.2.1.5.6 Weatherizing

Weatherizing including the importance of weatherizing and the steps to prevent damage to AQUATIC FACILITIES and their mechanical systems due to very low temperatures or extreme weather conditions *(e.g., flooding)*.

6.1.2.1.5.7 Facility Renovation & Design

AQUATIC FACILITY renovation and design including:

1) Definitions of AQUATIC FACILITY renovation, remodeling, and SUBSTANTIAL ALTERATION;
2) When it is necessary to renovate;
3) When it is necessary to notify the AHJ of planned renovations and remodeling; and
4) Current trends in facility renovation and design.

6.1.2.1.5.8 Heating

Heating issues including:

1) Recommended water temperatures and limits,
2) Factors that contribute to the water's heat loss and gain,
3) Heating equipment options,
4) Sizing gas heaters, and
5) How to troubleshoot problems with heaters.

6.1.2.1.5.9 Air Circulation

Air circulation including:

1) Air handling system considerations for an indoor aquatic facility,
2) The importance of regulating humidity,
3) The need to maintain negative pressure,
4) How poor indoor air quality can affect PATRONS and staff, and
5) How to balance air change and energy efficiency.

6.1.2.1.5.10 Spa & Therapy Pool Issues

SPA and THERAPY POOL issues including:

1) Operational implications of smaller volumes of water and HOT WATER,
2) How to maintain water chemistry,
3) Typical water temperature ranges highlighting maximum temperatures,
4) Risks of hyperthermia and hypothermia,
5) Need for emergency shut-off switches, and
6) Frequency of cleaning, draining, and DISINFECTION.

6.1.3 General Requirements for Operator Training Courses

6.1.3.1 Course Providers

6.1.3.1.1 Recognized Courses

Providers of recognized operator training courses, if required by the AHJ to verify that the course meets the requirements and intent of this CODE, shall submit course information including:

1) Course development expertise,
2) Course content,
3) Course length,
4) Instructor qualifications,
5) Exam administration,
6) Certificate procedures, and
7) Updates of information as changes are made.

6.1.3.1.2 Providers

Operator training courses shall be developed by individuals or organizations with expertise in AQUATIC FACILITY operation and maintenance and expertise in education or training as evidenced by combined work experience and training.

6.1.3.2 Course Content

Training materials at a minimum, covering all of the essential topics as outlined in MAHC 6.1.2.1 shall be provided and used in operator training courses.

6.1.3.3[A] Course Length

Course agenda or syllabus shall show time planned for each essential topic.

6.1.3.4[A] Instructor Requirements

Operator training course providers shall furnish course instructor information including:

1) Expertise in AQUATIC FACILITY operation and maintenance—as evidenced by work experience and/or training;

2) Completion of an operator training course, which at a minimum, covers all of the essential topics as outlined in MAHC 6.1.2.1, including passing the final exam;
3) Successful completion of an operator training instructor course; and
4) If the operator training course is online, procedures which make such an instructor available to answer students' questions during normal business hours.

6.1.3.5[A] Final Exam

Operator training course providers shall furnish course final exam information including:

1) Final exam*(s)*, which at a minimum, covers all of the essential topics as outlined in MAHC 6.1.2.1;
2) Final exam passing score criteria; and
3) Final exam security procedures.

6.1.3.5.1 Final Exam Administration

Operator training course providers shall provide final exam administration, proctoring and security procedures including:

1) Checking student's government-issued photo identification, or another established process, to ensure that the individual taking the exam is the same person who is given a certificate documenting course completion and passing of exam,
2) Final exam completion is without assistance or aids that are not allowed by the training agency, and
3) Final exam is passed, prior to issuance of a QUALIFIED OPERATOR certificate.

6.1.3.6[A] Course Certificates

Operator training course providers shall furnish course certificate information including:

1) Procedures for issuing nontransferable certificates to the individuals who successfully complete the course work and pass the final exam;
2) Procedures for delivery of course certificates to the individuals who successfully complete the course work and pass the final exam;
3) Instructions for the participant to maintain their originally issued certificate, or a copy thereof, for the duration of its validity; and
4) Procedures for the operator training course provider to maintain an individual's training and exam record for a minimum period of five years after the expiration of the individual's certificate.

6.1.3.7[A] Continuing Education [N/A]

6.1.3.8[A] Certificate Renewal

Operator training course providers shall furnish course certificate renewal information including:

1) Criteria for re-examination with a renewal exam that meets the specifications for initial exam requirements and certificate issuance specified in this CODE; or

2) Criteria for a refresher course with an exam that meets the specifications for the initial course, exam, and certificate issuance requirements specified in this CODE.

6.1.3.9[A] Certificate Suspension and Revocation

Course providers shall have procedures in place for the suspension or revocation of certificates.

6.1.3.9.1 Evidence of Health Hazard

Course providers may suspend or revoke a QUALIFIED OPERATOR'S certificate based on evidence that the QUALIFIED OPERATOR'S actions or inactions unduly created SAFETY and health hazards.

6.1.3.9.2 Evidence of Cheating

Course providers may suspend or revoke a QUALIFIED OPERATOR'S certificate based on evidence of cheating or obtaining the certificate under false pretenses.

6.1.3.10[A] Additional Training or Testing

The AHJ may, at its discretion, require additional operator training or testing.

6.1.3.11[A] Certificate Recognition

The AHJ may, at its discretion, choose to recognize, not to recognize, or rescind a previously recognized certificate of a QUALIFIED OPERATOR based upon demonstration of inadequate knowledge, poor performance, or due cause.

6.1.3.12[A] Course Recognition

The AHJ may, at its discretion, recognize, choose not to recognize, or revoke a previously accepted course based upon demonstration of inadequate knowledge or poor performance of its QUALIFIED OPERATORS, or due cause.

6.1.3.13[A] Length of Certificate Validity

The maximum length of validity for QUALIFIED OPERATOR training certificate shall be five years.

6.2[A] Lifeguard Training

6.2.1[A] Lifeguard Qualifications

A qualified lifeguard shall:

1) Have successfully completed an AHJ-recognized lifeguard training course offered by an AHJ-recognized training agency,
2) Possess a current certificate for such training,
3) Have met all pre-service requirements, and
4) Participate in continuing in-service training requirements of the AQUATIC FACILITY.

6.2.1.1[A] Course Content

Lifeguard Training Courses shall include but not be limited to:

1) Hazard identification and injury prevention,
2) Emergencies,
3) CPR,
4) AED use,
5) BVM (adult & pediatric) use,
6) First aid, and
7) Legal issues.

6.2.1.1.1[A] Hazard Identification and Injury Prevention

Hazard identification and injury prevention shall include:

1) Identification of common hazards or causes of injuries and their prevention;
2) Responsibilities of a QUALIFIED LIFEGUARD in prevention strategies;
3) Victim recognition;
4) Victim recognition scanning strategies;
5) Factors which impede victim recognition;
6) Health and SAFETY issues related to lifeguarding; and
7) Prevention of voluntary hyperventilation and extended breath holding activities.

6.2.1.1.2[A] Emergency Response Skill Set

Emergency response content shall include:

1) Responsibilities of a QUALIFIED LIFEGUARD in reacting to an emergency;
2) Recognition and identification of a person in distress and/or drowning;
3) Methods to communicate in response to an emergency;
4) Rescue skills for a person who is responsive or unresponsive, in distress, or drowning;
5) Skills required to rescue a person to a position of SAFETY;
6) Skills required to extricate a person from the water with assistance from another lifeguard*(s)* and/or PATRON(S); and
7) Knowledge of the typical components of an EAP for AQUATIC VENUES.

6.2.1.1.3[A] Resuscitation Skills

CPR/AED, AED use, BVM *(adult & pediatric)* use, and other resuscitation skills shall be professional level skills that follow treatment protocols consistent with the current ECCU and/or, the ILCOR guidelines for cardiac compressions, foreign body restriction removal, and rescue breathing for infants, children, and adults.

6.2.1.1.4[A] First Aid

First Aid training shall include:

1) Basic treatment of bleeding, shock, sudden illness, and muscular/skeletal injuries as per the guidelines of the National First Aid Science Advisory Board;
2) Knowing when and how to activate the EMS;
3) Rescue and emergency care skills to minimize movement of the head, neck and spine until EMS arrives for a person who has suffered a suspected spinal injury on land or in the water; and
4) Use and the importance of universal precautions and PPE in dealing with body fluids, blood, and preventing contamination according to current OSHA guidelines.

6.2.1.1.5[A] Legal Issues

Course content related to legal issues shall include but not be limited to:

1) Duty to act,
2) STANDARD of care,
3) Negligence,
4) Consent,
5) Refusal of care,
6) Abandonment,
7) Confidentiality, and
8) Documentation.

6.2.1.2 Lifeguard Training Delivery

6.2.1.2.1[A] Standardized and Comprehensive

The educational delivery system shall include standardized student and instructor materials to convey all topics including but not limited to those listed per MAHC 6.2.1.1.

6.2.1.2.2[A] Skills Practice

Physical training of lifeguarding skills shall include in-water and out-of-water skill practices led by an individual currently certified as an instructor by the training agency which developed the lifeguard course materials.

6.2.1.2.3[A] Shallow Water Training

If a training agency offers a certification with a distinction between “shallow water” and “deep water” lifeguards, candidates for shallow water certification shall have training and evaluation in the deepest depth allowed for the certification.

6.2.1.2.4[A] Deep Water Training

If a training agency offers a certification with a distinction between “shallow water” and “deep water” lifeguards, candidates for deep water certification shall have training and evaluation in at least the minimum depth allowed for the certification.

6.2.1.2.5[A] Sufficient Time

Course length shall provide sufficient time to cover content, practice, skills, and evaluate competency for the topics listed in MAHC 6.2.1.1.

6.2.1.2.6[A] Certified Instructors

Lifeguard instructor courses shall be taught only by individuals currently certified as instructor trainers by the training agency which developed the lifeguard course materials.

6.2.1.2.6.1[A] Minimum Prerequisites

Lifeguard training agencies shall develop minimum instructor prerequisites that include, but are not limited to those outlined in MAHC 6.2.1.2.6.2.

6.2.1.2.6.2[A] Completed Training

Prior to instructing lifeguard training, instructors are required to have successfully completed a lifeguard training course which complies with MAHC 6.2.1.1 and a lifeguard instructor training course which includes, at a minimum, the following:

1) Mastery and knowledge of lifeguard training course content;
2) Demonstration of the ability to effectively deliver lifeguard training course content;
3) An evaluation and feedback process to improve instructor candidate presentation skills/techniques;
4) Course management and administration procedures; and
5) Testing and evaluation procedures.

6.2.1.2.6.3[A] Instructor Renewal/Recertification Process

Lifeguard training agencies shall have a lifeguard instructor renewal/recertification process.

6.2.1.2.6.4[A] Quality Control

Training agencies shall have a quality control system in place for evaluating a lifeguard instructor's ability to conduct courses.

6.2.1.2.7[A] Training Equipment

All lifeguard training courses shall have, at a minimum, the following pieces of equipment available in appropriate student to equipment ratios during the course:

1) Rescue Tubes,
2) Backboard with head immobilizer and sufficient straps to immobilize the victim to the backboard,
3) CPR manikins *(Adult and infant)*,
4) Resuscitation mask with one-way valve,
5) BVM *(Adult and Pediatric)*,
6) Disposable gloves,
7) AED Trainer with adult and pediatric training pads,
8) First Aid Supplies for first aid training, and
9) Manikin cleaning supplies.

6.2.1.3 Competency and Certification

6.2.1.3.1 Proficiency

Lifeguarding skills per MAHC 6.2.1.1 shall be tested, by a certified instructor, to a level of proficiency accepted by the training agency.

6.2.1.3.2[A] Requirements

Lifeguard training course providers shall have a final exam including but not limited to:

1) Written and practical exams covering topics outlined in MAHC 6.2.1.1;
2) Final exam passing score criteria including the level of proficiency needed to pass practical and written exams; and
3) Security procedures for proctoring the final exam to include:
    a. Checking student's government-issued photo identification, or another established process, to ensure that the individual taking the exam is the same person who is given a certificate documenting course completion and passing of exam; and
    b. Final exam is passed, prior to issuance of a certificate.

6.2.1.3.3[A] Instructor Physically Present

The instructor of record shall be physically present and actively administering the practical testing.

6.2.1.3.4[A] Certifications

Lifeguard and lifeguard instructor certifications shall be issued to recognize successful completion of the course as per the requirements of MAHC 6.2.1.1 through 6.2.1.3.8.

6.2.1.3.5[A] Number of Years

Length of valid certification shall be a maximum of two years for lifeguarding and first aid, and a maximum of one year for Cardiopulmonary Resuscitation *(CPR/AED)*.

6.2.1.3.6[A] Documentation

Course documentation of training and certificates shall identify the following:

1) Name of trainee,
2) Level of training,
3) Expiration date,
4) Restrictions on depth of water for which the lifeguard is qualified,
5) Identifier of the instructor of record,
6) Any other restrictions that maybe applied by the training agency, and
7) Identifier of the agency providing the certification.

6.2.1.3.7[A] Expired Certificate

When a certificate has expired for more than 45 days, the QUALIFIED LIFEGUARD shall retake the course.

6.2.1.3.7.1 Expired Less than 45 Days

When a certificate has expired for 45 days or less, the QUALIFIED LIFEGUARD shall retake the course or complete a challenge program.

6.2.1.3.7.2[A] Challenge Program

A QUALIFIED LIFEGUARD challenge program, when utilized, shall be completed in accordance with the training of the original certifying agency, by an instructor certified by the original certifying agency, and include but not be limited to:

1) Pre-requisite screening;
2) A final practical exam, with certified instructor present, demonstrating all skills, in and out of the water required in the original lifeguard course for certification, which complies with MAHC 6.2.1.1, and uses the equipment specified in MAHC 6.2.1.2.7; and
3) Final written, proctored exam.

6.2.1.3.7.3[A] Certificate Renewal

Certificate renewal, when used, shall include the following:

1) Completion no later than 45 days after certificate expiration;
2) Conducted in accordance with the training of the original certifying agency;
3) Taught by an instructor certified by the original certifying agency;
4) Conducted with a demonstration of skills, in and out of the water, required in the original course, which complies with MAHC 6.2.1.1, and uses the equipment specified in MAHC 6.2.1.2.7;
5) A final written, proctored exam; and
6) A final practical exam with a certified instructor(s) of record present and actively administering the practical testing; or
7) Completion of a Challenge Program in accordance with MAHC 6.2.1.3.7.2, no later than 45 days after certificate expiration.

6.2.1.3.8[A] Certificate Suspension and Revocation

Lifeguard training agencies shall have procedures in place for the suspension or revocation of certificates.

6.2.2 Lifeguard Supervisor Training

6.2.2.1[A] Lifeguard Supervisor Candidate Prerequisites

LIFEGUARD SUPERVISOR candidate prerequisites shall include but not be limited to:

1) Successful completion of a lifeguard training course in the past;
2) Previous experience as a lifeguard of at least three months; and
3) Ability to effectively communicate verbally in English.

6.2.2.2[A] Lifeguard Supervisor Training Elements

LIFEGUARD SUPERVISOR training shall include, at a minimum, the following:

1) Activation and execution of EAPs,
2) CPR/AED and first aid training that complies with MAHC 6.2.1.1.3 and 6.2.1.1.4 or present an unexpired certificate issued by an AHJ-approved agency documenting the required training has been completed;
3) Scanning and vigilance requirements and how to ensure that systems which accomplish these goals are in place and operational;
4) Development and evaluation of zones of BATHER surveillance responsibility diagrams for an AQUATIC VENUE;
5) MONITORING lifeguard performance as it relates to lifeguard and facility-specific training, including pre-service assessments;
6) Strategies to reduce risk and mitigate the health and SAFETY hazards to both the PATRONS and the staff;
7) Knowledge of the legal issues and responsibilities relating to lifeguarding as listed in MAHC 6.2.1.1.5; and
8) Knowledge of the proper use and maintenance of the equipment required per MAHC 5.8.5.

6.2.2.3 Lifeguard Supervisor Training Delivery

6.2.2.3.1[A] Standardized and Comprehensive

6.2.2.3.1.1 Traditional and Blended Courses

For traditional and blended learning courses, the educational delivery system shall include standardized student and instructor content and delivery to convey all topics including but not limited to those listed per MAHC 6.2.2.2.

6.2.2.3.1.2 E-Learning Courses

For e-learning courses, the educational delivery system shall include defined learning objectives, and standardized student content and delivery to convey all topics including but not limited to those listed per MAHC 6.2.2.2.

6.2.2.3.2[A] Sufficient Time

6.2.2.3.2.1 Traditional and Blended Courses

For traditional and blended learning classes, course length shall provide sufficient time to cover content, demonstration, skill practice, and evaluate competency for the topics listed in MAHC 6.2.2.2.

6.2.2.3.2.2 E-Learning Courses

For e-learning courses, course length shall provide sufficient time to cover content, provide for on-line activities relating to content as necessary to reinforce comprehension of learning objectives, and assessments sufficient to evaluate competency for the topics listed in MAHC 6.2.2.2.

6.2.2.3.3 Course Setting

LIFEGUARD SUPERVISOR training courses shall be:

1) Taught in person by a trained LIFEGUARD SUPERVISOR instructors; or
2) Blended learning offerings with electronic content deliverables created, and presented by, and in-person portions taught by, trained LIFEGUARD SUPERVISOR instructors; or
3) On-line offerings created and presented by trained LIFEGUARD SUPERVISOR instructors.

6.2.2.3.4[A] Lifeguard Supervisor Course Instructor Certification

LIFEGUARD SUPERVISOR course instructors shall be certified through a training agency or by the facility whose training programs meets the requirements specified in MAHC 6.2.2.

6.2.2.3.4.1 Lifeguard Supervisor Course Instructor

LIFEGUARD SUPERVISOR course shall be taught by trained LIFEGUARD SUPERVISOR instructors through a training agency or by the facility whose training programs meets the requirements specified in MAHC 6.2.2.

6.2.2.3.4.2[A] Minimum Prerequisites

Course providers shall develop minimum instructor prerequisites that include, but are not limited to:

1) Successful completion of a lifeguard training course in the past;
2) Successful completion of a LIFEGUARD SUPERVISOR training course that complies with MAHC 6.2.2.2;
3) Ability to effectively communicate in English;
4) Has completed a LIFEGUARD SUPERVISOR instructor training course which includes, at a minimum, the following:
    a. Mastery and knowledge of LIFEGUARD SUPERVISOR training course content,
    b. Demonstration of the ability to effectively deliver LIFEGUARD SUPERVISOR training course content,
    c. An evaluation and feedback process to improve instructor candidate presentation skills/techniques,
    d. Course management and administration procedures, and
    e. Testing and evaluation procedures.

6.2.2.3.4.3[A] Quality Control

Course provider shall have a quality control system in place for evaluating a LIFEGUARD SUPERVISOR instructor's ability to conduct courses.

6.2.2.3.4.4 Lifeguard Supervisor Renewal & Recertification

LIFEGUARD SUPERVISOR training agencies shall have a LIFEGUARD SUPERVISOR instructor renewal/recertification process.

6.2.2.4 Competency and Certificate of Completion

6.2.2.4.1[A] Lifeguard Supervisor Proficiency

LIFEGUARD SUPERVISOR training course providers shall have a method to evaluate proficiency of the content in MAHC 6.2.2.2.

6.2.2.4.2A Lifeguard Supervisor Certificate of Completion

LIFEGUARD SUPERVISOR certificates of completion shall be issued by the course provider to recognize successful completion of the course as per the requirements of MAHC 6.2.2.2.

6.3 Facility Staffing

6.3.1 Qualified Operator Requirements and Availability

6.3.1.1 On-Site Qualified Operator Requirements

6.3.1.1.1 At Adoption

The following MAHC sections shall be required for all AQUATIC FACILITIES at time of adoption:

1) MAHC 6.3.1.1: On-Site QUALIFIED OPERATORS, and
2) MAHC 6.3.1.2: Contracted Off-Site QUALIFIED OPERATORS.

6.3.1.1.2 Size and Use

A QUALIFIED OPERATOR shall be on-site or immediately available within two hours during all hours of operation at an AQUATIC FACILITY that has:

1) More than two AQUATIC VENUES; or
2) An AQUATIC VENUE of over 50,000 gallons of water; or
3) AQUATIC VENUES that include AQUATIC FEATURES with recirculated water; or
4) An aquatic venue used as a therapy pool; or
5) An AQUATIC VENUE used to provide swimming training.

6.3.1.1.3 Bathers and Management

A QUALIFIED OPERATOR shall be on site or immediately available within two hours during all hours of operation at an AQUATIC FACILITY that is:

1) Permitted BATHER COUNT is greater than 200 BATHERS daily; or
2) Operated by a municipality; or
3) Operated by a school.

6.3.1.1.4 Compliance History

A QUALIFIED OPERATOR shall be available on-site or immediately available within two hours during all hours of operation at an AQUATIC FACILITY that has a history of CODE violations which in the opinion of the permit issuing official require one or more on-site QUALIFIED OPERATORS.

6.3.1.2 Contracted Off-site Qualified Operators

All other AQUATIC FACILITIES shall have an on-site QUALIFIED OPERATOR immediately available within two hours or a contract with a QUALIFIED OPERATOR for a minimum of weekly visits and assistance whenever needed.

6.3.1.2.1 Visit Documentation

Written documentation of these visits for contracted off-site QUALIFIED OPERATOR visits and assistance consultations shall be available at the AQUATIC FACILITY for review by the AHJ.

6.3.1.2.2 Documentation Details

The written documentation shall indicate the checking, MONITORING, and testing outlined in MAHC 6.4.1.2.

6.3.1.2.3 Visit Corrective Actions

The written documentation shall indicate what corrective actions, if any, were taken by the contracted off-site QUALIFIED OPERATOR during the scheduled visits or assistance requests.

6.3.1.2.4 Onsite Responsible Supervisor

All AQUATIC FACILITIES without a full time on-site QUALIFIED OPERATOR shall have a designated on-site RESPONSIBLE SUPERVISOR.

6.3.1.2.5 Onsite Responsible Supervisor Duties

The designated on-site RESPONSIBLE SUPERVISOR shall:

1) Be capable of testing and recording the water quality parameters required by this CODE;
2) Know how to make adjustments, as needed, to maintain required water quality parameters required by this CODE;
3) Know general maintenance procedures as required by daily operational verifications or adjustments required by this CODE;
4) Know when the AQUATIC FACILITY or individual AQUATIC VENUE should be closed; and
5) Know how and when to contact the contracted off-site QUALIFIED OPERATOR.

6.3.2[A] Aquatic Facilities Requiring Qualified Lifeguards

AQUATIC VENUES with standing water and with any of the following conditions listed in MAHC 6.3.2.1 shall be required to have a lifeguard*(s)* conducting PATRON surveillance at all times the AQUATIC VENUE is open.

6.3.2.1 List of Aquatic Facilities Requiring Qualified Lifeguards

Note: This list includes but shall not be limited to the following:

1) For new construction occurring from the date of acceptance of this CODE, any AQUATIC VENUE deeper than five feet *(1.5 m)* at any point;

2) Any AQUATIC VENUE that allows for unsupervised children under the age of 14 years;
3) Any AQUATIC VENUE while it is being used for the recreation of youth groups, including but not limited to childcare usage or school groups;
4) Any AQUATIC VENUE while it is being used for group training must have dedicated lifeguards on DECK for class surveillance, sufficient to meet the requirements of MAHC 6.3.3.1, including but not limited to competitive swimming and/or sports, lifeguard training, exercise programs, and swimming lessons;
5) Any AQUATIC VENUE with a configuration in which any point on the AQUATIC VENUE surface exceeds 30 feet *(9.1 m)* from the nearest DECK;
6) Any AQUATIC VENUE with an induced current or wave action including but not limited to WAVE POOLS and LAZY RIVERS;
7) Waterslide landing pools; and
8) Any AQUATIC VENUE in which BATHERS enter the water from any height above the DECK including but not limited to diving boards, DROP SLIDES, starting platforms, and/or climbing walls. This does not include POOL SLIDES.

6.3.3[A] Safety Plan

All AQUATIC FACILITIES shall create and implement a SAFETY PLAN to include, but not be limited to the following elements:

1) Staffing Plan,
2) EAP,
3) Biohazard action plan,
4) Pre-Service Training Plan, and
5) In-service Training Plan.

6.3.3.1[A] Code Compliance Staff Plan

Staffing plans shall designate person(s) as members of the SAFETY TEAM and person(s) for the following responsibilities:

1) Identifying and communicating health and SAFETY hazards;
2) Mitigating health and SAFETY hazards and closing the facility if needed;
3) Interfacing with the AHJ related to the requirements of this CODE;
4) Maintaining water quality and, if required, air quality;
5) Enforcing the AQUATIC FACILITY rules and regulations;
6) Responding to reported emergencies;
7) Supervising the SAFETY TEAM;
8) Conducting pre-service evaluations; and
9) Conducting in-service training.

6.3.3.1.1[A] Zone of Patron Surveillance

When QUALIFIED LIFEGUARDS are used, the staffing plan shall include diagrammed zones of PATRON surveillance for each AQUATIC VENUE such that:

1) The QUALIFIED LIFEGUARD is capable of viewing the entire area of the assigned zone of PATRON surveillance,

2) The QUALIFIED LIFEGUARD is able to reach the furthest extent of the assigned zone of PATRON surveillance within 20 seconds,
3) Identify whether the QUALIFIED LIFEGUARD is in an elevated stand, walking, in-water and/or other approved position,
4) Identifying any additional responsibilities for each zone, and
5) All areas of each AQUATIC VENUE are assigned a zone of PATRON surveillance.

6.3.3.1.2[A] Rotation Procedures

When QUALIFIED LIFEGUARDS are used, the staffing plan shall include QUALIFIED LIFEGUARD rotation procedures such that:

1) Identifying all zones of PATRON surveillance responsibility at the AQUATIC FACILITY;
2) Operating in a manner so as to provide an alternation of tasks such that no QUALIFIED LIFEGUARD conducts PATRON surveillance activities for more than 60 continuous minutes; and
3) Have a practice of maintaining coverage of the zone of PATRON surveillance during the change of the QUALIFIED LIFEGUARD.

6.3.3.1.3 Alternation of Tasks

Alternation of tasks may include any one of the following:

1) Change of zone of PATRON surveillance where the QUALIFIED LIFEGUARD must walk or be transported to another zone of PATRON surveillance.
2) Have a period of at least 10 minutes of non-PATRON surveillance activity such as taking a break, conducting maintenance, or conducting ride dispatch.

6.3.3.1.4 Supervision Protocols

When QUALIFIED LIFEGUARDS are used, the STAFFING PLAN shall include lifeguard supervision protocols to achieve the requirements of MAHC 6.3.3.

6.3.3.2[A] Emergency Action Plan

EAPs and operating procedures shall include but not be limited to:

1) Outline types of emergencies and IMMINENT HEALTH HAZARDS, as per MAHC 6.6.3;
2) Outline the methods of communication between responders, emergency services, and PATRONS;
3) Identify each anticipated responder;
4) Outline the tasks of each responder;
5) Identify required equipment for each task; and
6) Emergency closure requirements.

6.3.3.2.1[A] Coordination of Response

When one or more QUALIFIED LIFEGUARDS are used, the SAFETY PLAN and the EAP shall identify the best means to provide additional persons to rapidly respond to the emergency to help the initial rescuer.

6.3.3.3 Pre-Service Requirements

The Pre-Service Plan shall include:

1) Policies and procedure training specific to the AQUATIC FACILITY,
2) Demonstration of SAFETY TEAM skills specific to the AQUATIC FACILITY prior to assuming on-duty lifeguard responsibilities, and
3) Documentation of training.

6.3.3.3.1[A] Safety Team EAP Training

Prior to active duty, all members of the SAFETY TEAM shall be trained on, and receive a copy of, and/or have a copy posted and always available of the specific policies and procedures for the following:

1) Staffing Plan,
2) EAP,
3) Emergency closure, and
4) Fecal, vomit, and blood contamination on surfaces and in the water as outlined in MAHC 6.5.

6.3.3.3.2[A] Safety Team Skills Proficiency

Prior to active duty, all members of the SAFETY TEAM shall demonstrate knowledge and skill competency specific to the AQUATIC FACILITY for the following criteria:

1) Understand their responsibilities and of others on the AQUATIC FACILITY SAFETY TEAM;
2) Ability to execute the EAP;
3) Know what conditions require closure of the facility; and
4) Know what actions to take in response to a fecal, vomit, or blood contamination on a surface and in the water as outlined in MAHC 6.5.

6.3.3.3.3[A] Qualified Lifeguard Emergency Action Plan Training

When QUALIFIED LIFEGUARDS are used, they shall be trained on, and receive a copy of, and/or have a copy of the EAP posted and always available at the AQUATIC FACILITY, the specific policies and procedures for the following:

1) Zone of PATRON Surveillance Plan,
2) Rotation Plan,
3) Minimum Staffing Plan, and
4) Rescue/First Aid Response plan.

6.3.3.3.4[A] Qualified Lifeguard Skills Proficiency

When QUALIFIED LIFEGUARDS are used, they shall demonstrate knowledge and skill competency specific to the AQUATIC FACILITY for the following criteria:

1) Ability to reach the bottom at the maximum water depth of the venue to be assigned;
2) Ability to identify all zones of BATHER surveillance responsibility to which they could be assigned;
3) Ability to recognize a victim in their assigned zone of BATHER surveillance;
4) Ability to reach the furthest edge of assigned zones of BATHER surveillance within 20 seconds;
5) Water rescue skills outlined in MAHC 6.2.1.1.2;
6) CPR/AED and First Aid;
7) Ability to execute EAP;
8) Emergency closure issues; and
9) Fecal, vomit, and blood contamination incident response as outlined in MAHC 6.5.

6.3.3.3.5 CPR / AED and First Aid Certificate

The designated person*(s)* with CPR/AED and first aid training shall present unexpired certificate*(s)* as per MAHC 6.2.1.1.3 and 6.2.1.1.4 prior to active duty.

6.3.3.3.5.1 Copies Maintained

Originals or copies of certificates shall be maintained at the AQUATIC FACILITY and be available for inspection.

6.3.3.3.6[A] Documentation of Pre-Service Training

Documentation verifying the pre-service requirements shall be completed by the person conducting the pre-service training, maintained at the facility for three full years, and be available for inspection.

6.3.3.3.6.1 Lifeguard Certificate

When QUALIFIED LIFEGUARDS are used, they shall present an unexpired certificate as per MAHC 6.2.1.3.4 prior to assuming on-duty lifeguard responsibilities.

6.3.3.3.6.2 Copies Maintained

Originals or copies of certificates shall be maintained at the facility and be available for inspection.

6.3.3.4 In-Service Training

During the course of their employment, AQUATIC FACILITY staff shall participate in periodic in-service training to maintain their skills.

6.3.3.4.1[A] Documentation of In-Service Training

Documentation verifying the in-service requirements shall be completed by the person conducting the in-service training, maintained at the AQUATIC FACILITY for three years, and available for inspection.

6.3.3.4.2[A] In-Service Documentation

Documentation shall include:

1) Names of attendees,
2) Content of training,
3) Date of training, and
4) Name of the trainer*(s)*.

6.3.3.4.3[A] In-Service Training Plan

The in-service training plan shall include:

1) In-service training frequency,
2) Documentation of in-service training,
3) Maintenance of certifications, and
4) Demonstration of test-ready skills.

6.3.3.4.4 Maintain Certificates

The designated person*(s)* with CPR/AED and first aid training shall maintain certifications to show the following:

1) CPR/AED training is completed annually and certificates are unexpired, and
2) First aid training certificates are unexpired.

6.3.3.4.5[A] Competency Demonstration

When QUALIFIED LIFEGUARDS are used, they shall be able to demonstrate proficiency in the skills as outlined by MAHC 6.2.1 and have the ability to perform the following water rescue skills consecutively so as to demonstrate the ability to respond to victim and complete the rescue:

1) Reach the furthest edge of zones of BATHER surveillance within 20 seconds;
2) Recover a simulated victim, including extrication to a position of SAFETY consistent with MAHC 6.2.1.1.2; and
3) Perform resuscitation skills consistent with MAHC 6.2.1.1.3.

6.3.3.5[A] AHJ Authority to Approve Safety Plan

The AHJ shall have the authority, if they so choose, to require:

1) Submittal of the SAFETY PLAN for archiving and reference, or
2) Submittal of the SAFETY PLAN for review and approval prior to opening to the public.

6.3.3.5.1[A] Safety Plan on File

The SAFETY PLAN shall be kept on file at the AQUATIC FACILITY.

6.3.3.5.2[A] Safety Plan Implemented

The elements detailed in the SAFETY PLAN must be implemented and in evidence in the AQUATIC FACILITY operation and is subject to review for compliance by the AHJ at any time.

6.3.4 Staff Management

6.3.4.1 Staff Provided Prior to Aquatic Venue Use

Prior to use of any AQUATIC VENUE, the AQUATIC FACILITY shall provide staff required per the provisions of the SAFETY PLAN as stated in MAHC 6.3.2.

6.3.4.2 Safety Team Responsibilities

SAFETY TEAM responsibilities shall include but not be limited to:

1) Enforcing the AQUATIC FACILITY rules and regulations by interfacing with PATRONS;
2) Respond to reported emergencies;
3) Identify health and SAFETY hazards and take action to mitigate or avoid the hazard;
4) Know where PPE is located and use it when required; and
5) Interface with the AHJ related to the requirements of this CODE.

6.3.4.3 Lifeguard Staff

6.3.4.3.1[A] Minimum Number of Lifeguards

Where QUALIFIED LIFEGUARDS are used, the AQUATIC FACILITY shall provide, prior to opening the AQUATIC FACILITY to the public, the minimum number of QUALIFIED LIFEGUARDS and staff required per the provisions of the SAFETY PLAN such that:

1) All zones of PATRON surveillance are staffed during operation;
    a. Zones of PATRON surveillance for individual AQUATIC VENUES not open for use, must also be staffed unless an effective means is provided to restrict and monitor access to the AQUATIC VENUE;
2) Rotations can be conducted while all zones are staffed;
3) LIFEGUARD SUPERVISOR, where required by MAHC 6.3.4.4.1, is present; and
4) Additional person*(s)* to rapidly respond to an emergency to help the initial rescuer, as required in MAHC 6.3.3.2.1, are present.

6.3.4.3.2[A] Lifeguard Responsibilities

QUALIFIED LIFEGUARD responsibilities shall include but not be limited to:

1) Monitor PATRONS within the zone of PATRON surveillance responsibility;
2) Enforce facility rules;
3) Respond to emergencies including water rescue, CPR, AED use if equipment is provided with established local protocols, and First Aid;
4) Identify health and SAFETY hazards and take action to mitigate or avoid the hazard;
5) Maintain skills at a test-ready level of proficiency;
6) Wear the identifying uniform;
7) If needed for effective PATRON surveillance, wear corrective eyewear as necessary to correct poor vision and wear polarized sunglasses;
8) If exposed to UV, wear SPF 15 or greater UV protection; and
9) Know where PPE is located and use it when required.

6.3.4.3.3[A] Shallow Water Certified Lifeguards

QUALIFIED LIFEGUARDS certified for shallow water depths shall not be assigned to a BODY OF WATER in which any part of the water's depth is greater than the depth for which they are certified.

6.3.4.3.4[A] Direct Surveillance

QUALIFIED LIFEGUARDS assigned responsibilities for PATRON surveillance shall not be assigned other tasks that intrude on PATRON surveillance while performing those surveillance activities.

6.3.4.3.5[A] Distractions

While conducting BATHER surveillance, QUALIFIED LIFEGUARDS shall not engage in social conversations or have on their person or lifeguard station, reading materials, cellular telephones, texting devices, music players, or other similar non-emergency electronic devices.

6.3.4.4 Supervisor Staff

6.3.4.4.1[A] Lifeguard Supervisor Required

AQUATIC FACILITIES that are required to have two or more QUALIFIED LIFEGUARDS per the zone plan of BATHER surveillance responsibility in MAHC 6.3.3.1.1 shall have at least one person located at the AQUATIC FACILITY during operation designated as the LIFEGUARD SUPERVISOR who meets the requirement of MAHC 6.2.2.

6.3.4.4.2[A] Designated Supervisor

One of the QUALIFIED LIFEGUARDS as per MAHC 6.3.3.1.1 may be designated as the LIFEGUARD SUPERVISOR in addition to fulfilling the duties of QUALIFIED LIFEGUARD.

6.3.4.4.2.1 Lifeguard Supervisor Duties

LIFEGUARD SUPERVISOR duties shall not interfere with the primary duty of PATRON surveillance.

6.3.4.4.3 Lifeguard Supervisor

LIFEGUARD SUPERVISOR responsibilities shall include but not be limited to:

1) Monitor performance of QUALIFIED LIFEGUARDS in their zone of BATHER surveillance responsibility;
2) Make sure the rotation is conducted in accordance with the SAFETY PLAN;
3) Coordinate staff response and BATHER care during an emergency;
4) Identify health and SAFETY hazards and communicate to staff and management to mitigate or otherwise avoid the hazard; and
5) Make sure the required equipment per MAHC 5.8.5 is in place and in good condition.

6.3.4.5 Emergency Response and Communications Plans

6.3.4.5.1[A] Emergency Response and Communication Plan

AQUATIC FACILITIES shall create and maintain an operating procedure manual containing information on the emergency response and communications plan including an EAP, Facility Evacuation Plan, and Inclement Weather Plan.

6.3.4.5.2 Emergency Action Plan

A written EAP shall be developed, maintained, and updated as necessary for the AQUATIC FACILITY.

6.3.4.5.3 Annual Review and Update

The EAP shall be reviewed with the AQUATIC FACILITY staff and management annually or more frequently as required when changes occur with the dates of the review recorded in the EAP.

6.3.4.5.4 Available for Inspection

The written EAP shall be kept at the AQUATIC FACILITY and available for emergency personnel and/or AHJ upon request.

6.3.4.5.5[A] Training Documentation

Documentation from employees trained in current EAP shall be available upon request.

6.3.4.5.6 Components

The EAP shall include at a minimum:

1) A diagram of the AQUATIC FACILITY;
2) A list of emergency telephone numbers;
3) The location of first aid kit and other rescue equipment *(BVM, AED, if provided, backboard, etc.)*;
4) An emergency response plan for accidental chemical release; and
5) A fecal/vomit/blood CONTAMINATION RESPONSE PLAN as outlined in MAHC 6.5.1.

6.3.4.5.6.1 Accidental Chemical Release Plan

The accidental chemical release plan shall include procedures for:

1) How to determine when professional HAZMAT response is needed,
2) How to obtain it,
3) Response and cleanup,
4) Provision for training staff in these procedures, and
5) A list of equipment and supplies for clean-up.

6.3.4.5.6.2 Remediation Supplies

The availability of equipment and supplies for remediation procedures shall be verified by the operator at least weekly.

6.3.4.5.7 Facility Evacuation Plan

A written Facility Evacuation Plan shall be developed and maintained for the facility.

6.3.4.5.7.1 Evacuation Plan Components

This plan shall include at a minimum:

1) Actions to be taken in cases of drowning, serious illness or injury, chemical handling accidents, weather emergencies, and other serious incidents; and
2) Defined roles and responsibilities for all staff.

6.3.4.5.8 Communication Plan

A communication plan shall exist to facilitate activation of internal emergency response centers and/or community 911/EMS as necessary.

6.3.4.5.8.1 Communication Plan Components

At a minimum, this plan shall include:

1) Provision and use of readily accessible, appropriate communication devices such as telephones, call boxes, and mobile devices;
2) Signage;
3) Procedures to be followed during staffed and unstaffed time periods;
4) Acceptable alternative communication during loss of power; and
5) Training of all personnel.

6.3.4.5.8.2[A] Notification Procedures

The communication plan shall include a plan for notification to Federal, State, and local agencies in case of a chemical spill that exceeds the EPA reportable quantity.

6.3.4.5.9[A] Inclement Weather Plan

AQUATIC FACILITIES shall have a contingency/response plan for localized weather events that may affect their operation *(i.e. lightning, hurricanes, tornados, high winds, etc.)*.

6.3.4.5.9.1 Contingency Plan

Contingency plans shall include training for employees, evacuation procedures, and determining when it is acceptable to re-open a facility for operation.

6.3.4.6[A] Remote Monitoring Systems

6.3.4.6.1[A] Lifeguard-Based

Lifeguard-based remote SAFETY MONITORING systems shall not replace the need for QUALIFIED LIFEGUARDS.

6.3.4.6.1.1 No Substitute

Remote SAFETY MONITORING systems may be used to aid the operation but not as a substitute for QUALIFIED LIFEGUARDS/SLIDE operators when critical areas such as blind

spots in an AQUATIC VENUE or area of a SLIDE cannot be viewed by QUALIFIED LIFEGUARDS/SLIDE operators.

6.3.4.6.2[A] Operator-Based

QUALIFIED OPERATOR-based remote water quality MONITORING systems shall not be a substitute for manual water quality testing of the AQUATIC VENUE.

6.3.4.6.3 Training

When QUALIFIED LIFEGUARD- or QUALIFIED OPERATOR-based remote MONITORING systems are used, AQUATIC FACILITY staff shall be trained on their use, limitations, and communication and response protocols for communications with the MONITORING group.

6.3.4.7[A] Employee Illness and Injury Policy

6.3.4.7.1 Illness Policy

Supervisors shall not permit employees who are ill with diarrhea to enter the water or perform in a QUALIFIED LIFEGUARD role.

6.3.4.7.2 Open Wounds

Supervisors shall permit employees with open wounds in the water or in a QUALIFIED LIFEGUARD role only if they have healthcare provider approval or wear a waterproof, occlusive bandage to cover the wound.

6.4[A] Aquatic Facility Management

6.4.1 Operations

6.4.1.1 Operations Manual

6.4.1.1.1[A] Develop

Each AQUATIC FACILITY shall develop an operations manual to keep at the AQUATIC FACILITY in both printed and electronic formats.

6.4.1.1.2[A] Include

The manual shall at minimum include, but not be limited to the following items:

1) AQUATIC VENUE and AQUATIC FEATURE description*(s)* and locations,
2) Facility communication,
3) List of chemicals and system information,
4) Fecal/vomit and body fluid contamination response protocols,
5) Preventive maintenance plan, and
6) Any other STANDARD operation and maintenance policies and instructions or applicable information for each AQUATIC VENUE and AQUATIC FEATURE at the facility.

6.4.1.2 Operation Records

AQUATIC FACILITIES shall keep records pertaining to the operation, maintenance, and management of the AQUATIC FACILITY on a minimum schedule as prescribed under MAHC 6.4.1.2.

6.4.1.2.1 Record Maintenance

AQUATIC FACILITY records shall be:

1) Kept for a minimum of three years, and
2) Available upon request by the AHJ.

6.4.1.2.2 Additional Documentation

Local CODES may require additional records, documentation, and forms.

6.4.1.3 Safety and Maintenance Inspection and Recordkeeping

The QUALIFIED OPERATOR or RESPONSIBLE SUPERVISOR shall ensure that SAFETY and preventive maintenance inspections are done at the AQUATIC FACILITY during seasons or periods when the AQUATIC FACILITY is open and that the results are recorded in a log or form maintained at the AQUATIC FACILITY.

6.4.1.3.1 Daily Inspection Items

The QUALIFIED OPERATOR or RESPONSIBLE SUPERVISOR shall ensure that a daily AQUATIC FACILITY preventive maintenance inspection is done before opening and that it shall include:

1) Walkways/DECK and exits are clear, clean, free of debris;
2) Drain covers, vacuum fitting covers, SKIMMER equalizer covers, and any other suction outlet covers are in place, secure, and unbroken;
3) SKIMMER baskets, weirs, lids, flow adjusters, and suction outlets are free of any blockage;
4) INLET and return covers and any other fittings are in place, secure, and unbroken;
5) SAFETY warning signs and other signage are in place and in good repair;
6) SAFETY equipment as required by this CODE are in place and in good repair, including emergency instructions and phone numbers;
7) Entrapment prevention systems are operational;
8) Recirculation, DISINFECTION systems, controller*(s)*, and probes are operating as required;
9) SECONDARY DISINFECTION SYSTEMS and/or SUPPLEMENTAL TREATMENT SYSTEMS are operating as required;
10) Underwater lights and other lighting are intact with no exposed wires or water in lights;
11) Slime and biofilm has been removed from accessible surfaces of AQUATIC VENUES, SLIDES, and other AQUATIC FEATURES;
12) Doors to nonpublic areas *(CHEMICAL STORAGE SPACES, offices, etc.)* are locked;
13) First aid supplies are stocked;

14) Emergency communication equipment and systems are operational;
15) Fecal/vomit/blood incident contamination response protocols, materials, and equipment are available;
16) Water features and amenities are functioning in accordance with the manufacturer's recommendations;
17) Fencing/BARRIERS, gates, and self-latching or other locks are tested and are intact and functioning properly, and BARRIERS do not have nearby furniture to encourage climbing;
18) Drinking fountains are clean and in functional condition;
19) Electrical devices are in good working condition and meet the requirements specified in the NEC and MAHC;
20) Alarms, if required, are tested and functioning properly; and
21) Assessing water clarity such that the bottom and objects in the POOL are clearly visible.

6.4.1.3.2 Other Inspection Items

The QUALIFIED OPERATOR or RESPONSIBLE SUPERVISOR shall ensure that the AQUATIC FACILITY preventive maintenance inspections shall also include:

1) Monthly tests of GFCI devices,
2) Inspections every six months of bonding conductors, where accessible.

6.4.1.4[A] Illness and Injury Incident Reports

6.4.1.4.1 Incidents to Record

The owner/operator shall ensure that a record is made of all injuries and illness incidents at the AQUATIC FACILITY which:

1) Results in deaths;
2) Requires resuscitation, CPR, oxygen or AED use;
3) Requires transportation of the PATRON to a medical facility; or
4) Is a PATRON illness or disease outbreak associated with water quality.

6.4.1.4.2 Info to Include

Illness and injury incident report information shall include

1) Date,
2) Time,
3) Location,
4) Incident including type of illness or injury and cause or mechanism,
5) Names and addresses of the individuals involved,
6) Actions taken,
7) Equipment used, and
8) Outcome of the incident.

6.4.1.4.3[A] Notify the AHJ

In addition to making such records, the owner/operator shall ensure that the AHJ is notified within 24 hours of the occurrence of an incident recorded in MAHC 6.4.1.4.1.

6.4.1.4.4[A] Lifeguard Rescue Records

The owner/operator shall also record all lifeguard rescues where the QUALIFIED LIFEGUARD enters the water and activates the aquatic EAP.

6.4.1.4.4.1 Info to Include

These records shall include the date, time, QUALIFIED LIFEGUARD, and PATRON names and reason the rescue was needed.

6.4.1.5 Chemical Inventory Log

A chemical inventory log shall be maintained on site to provide a list of chemicals used in the AQUATIC VENUE water and surrounding DECK that could result in water quality issues, chemical interactions, or PATRON exposure.

6.4.1.5.1 Expiration Dates

These records shall include the expiration date for water quality chemical testing reagents.

6.4.1.6[A] Daily Water Monitoring and Testing Records

Daily, or as often as required, MONITORING and testing records shall include, but are not limited to the following:

1) pH level,
2) Disinfectant residuals,
3) Combined CHLORINE concentrations,
4) Operating pressures of water recirculation pumps and filters or the corresponding flow rate from flow meter readings,
5) CYA levels, if used,
6) Maintenance and malfunctioning of equipment, including dates and time of all equipment calibration including WQTDs,
7) If heated, AQUATIC VENUE water temperature,
8) The time of filter backwash or cleaning,
9) Calcium hardness,
10) Total alkalinity,
11) Saturation index,
12) Microbiological testing, if applicable, dates/times samples were taken and results,
13) Any equipment failure, power outage, or error resulting in the interruption of the circulation, filtration, or DISINFECTION systems for more than one hour,
14) The daily attendance at the AQUATIC FACILITY; in POOLS where attendance is not ordinarily recorded, a guest sign in book can be used to track attendance, and
15) SECONDARY DISINFECTION SYSTEMS as outlined in MAHC 5.7.3.7.7 and 5.7.3.7.8.

6.4.1.7 Staff Certifications on File

The originals or copies of all required QUALIFIED LIFEGUARD, LIFEGUARD SUPERVISOR, or QUALIFIED OPERATOR certificates shall be maintained at the AQUATIC FACILITY and made available to AHJ, staff, and PATRONS upon request.

6.4.1.7.1 Multiple Facilities

A copy of the original certificate shall be made available when employees work at multiple AQUATIC FACILITIES.

6.4.1.8[A] Bodily Fluids Remediation Log

6.4.1.8.1[A] Contamination Incidents

A Body Fluid Contamination Response Log shall be maintained to document each occurrence of contamination of the water or its immediately adjacent areas by formed or diarrheal fecal material, whole stomach discharge of vomit, and blood.

6.4.1.8.2 Standard Operating Procedures

The AQUATIC FACILITY'S STANDARD operating procedures for responding to these contamination incidents shall be readily available for review by the AHJ.

6.4.1.8.3 Required Information

The log shall include the following information recorded at the time of the incident:

1) Person conducting response;
2) Qualified operator or on-site responsible supervisor on duty;
3) Date and time of incident response;
4) Specific area, if not in the water, contaminated by incident;
5) BATHER COUNT or reasonable approximation of the number of BATHERS in the AQUATIC VENUE at the time of incident *(if applicable)*;
6) Type and form of body fluid observed *(for example, diarrheal or formed stool, vomitus, or blood)*;
7) Date and time when the area was closed;
8) Whether the POOL uses CHLORINE stabilizer and concentration at time of incident;
9) Free residual disinfectant and pH levels at the time of incident;
10) Remediation procedures used after the incident including contact time, if applicable;
11) Free residual disinfectant and pH level at the time of reopening the AQUATIC VENUE to the public;
12) Stabilizer concentration, if used, at the time of reopening; and
13) Date and time of reopening.

6.4.2 Patron-Related Management Aspects

6.4.2.1 Bather Count

6.4.2.1.1[A] User Guidelines

AQUATIC FACILITIES shall have a plan in place to address fluctuations in BATHER occupancy to ensure proper maintenance and staffing.

6.4.2.1.2 Maximum Occupancy

Such plans shall not exceed the maximum designed THEORETICAL PEAK OCCUPANCY for the individual AQUATIC VENUES or the AQUATIC FACILITY.

6.4.2.2[A] Signage

6.4.2.2.1 Facility Rules

The operator shall post and enforce the AQUATIC FACILITY rules governing health, SAFETY, and sanitation.

6.4.2.2.2 Lettering

The lettering shall be legible and at least one inch *(25.4 mm or 36 point type)* high, with a contrasting background.

6.4.2.2.3[A] Sign Messages

Signage shall be placed in a conspicuous place at the entrance of the AQUATIC FACILITY communicating expected and prohibited behaviors and other information using text that complies with the intent of the following information:

1) In case of an emergency, dial 911 or other emergency instructions, per MAHC 6.3.4.5.8;
2) Hours of operation;
3) Theoretical peak occupancy;
4) Pollution of AQUATIC VENUE prohibited;
5) Do not swim if you have open wounds;
6) Do not swim if you are ill with diarrhea or have had diarrhea within the past two weeks;
7) Shower before entering the water;
8) No glass items in the AQUATIC VENUE or on the DECK;
9) Do not swallow or spit water;
10) Diaper changing on the DECK is prohibited;
11) No Diving, as applicable per MAHC 5.5.5;
12) Intentional hyperventilation or extended breath holding activities are dangerous and prohibited;
13) No animals in the AQUATIC VENUE and no animals on the DECK, except service animals, if applicable;
14) No rough play; and
15) Children must be supervised by a responsible adult (parent or caregiver) up to the minimum age established by the AQUATIC FACILITY.

6.4.2.2.3.1 Aquatic Facilities with On-site Emergency Personnel

MAHC 6.4.2.2.3 signage requirement number one may be amended to include on-site emergency staff contact information if emergency trained personnel are on site so that the response would be faster than calling 911.

6.4.2.2.3.2 Diving Well

AQUATIC FACILITIES with diving wells may amend signage requirement number 11 to read that diving is not allowed in all AQUATIC VENUES except for the diving well.

6.4.2.2.3.3 Posters

Recreational water illness prevention posters shall be posted conspicuously in the AQUATIC FACILITY at all times.

6.4.2.2.3.4 Unstaffed Aquatic Facilities without Lifeguards

In addition to signage messages one through 13, unstaffed AQUATIC FACILITIES shall also include signage messages covering:

1) No Lifeguard on Duty: Children under 14 years of age must have adult supervision, and
2) Hours of operation; AQUATIC FACILITY use prohibited at any other time.

6.4.2.2.3.4.1 Posters

In AQUATIC FACILITIES not requiring lifeguards, CPR posters reflecting the latest STANDARDS shall be posted conspicuously at all times.

6.4.2.2.3.5 Multiple Aquatic Venues

For AQUATIC FACILITIES with multiple AQUATIC VENUES, MAHC 6.4.2.2.3 signage items numbers three and, if applicable, number 11, or text complying with the intent of the information, shall be posted at the entrance to each AQUATIC VENUE except such posting is not required at WATERSLIDES.

6.4.2.2.3.6 Movable Bottom Floor Signage

In addition to the MAHC 6.4.2.2.3 requirements, AQUATIC VENUES with moveable bottom floors shall also have the following information or text complying with the intent of the following information:

1) A sign for AQUATIC VENUE water depth in use shall be provided and clearly visible;
2) A "NO DIVING" sign shall be provided; and
3) The floor is movable and AQUATIC VENUE depth varies.

6.4.2.2.3.7[A] Spa Signs

In addition to the MAHC 6.4.2.2.3 requirements, SPAS shall also have the following information or text complying with the intent of the following information:

1) Maximum water temperature is 104° F *(40°C)*;
2) Children under age five and people using alcohol or drugs that cause drowsiness shall not use SPAS;

3) Pregnant women and people with heart disease, high blood pressure or other health problems should not use SPAS without prior consultation with a healthcare provider;
4) Children under 14 years of age shall be supervised by an adult; and
5) Use of the SPA when alone is prohibited *(if no lifeguards on site).*

6.4.2.2.4 Hygiene Facility Signage

Signage shall be posted at the HYGIENE FACILITY exit used to access AQUATIC VENUES stating or containing information, or text complying with the intent of the following information:

1) Do not swim when ill with diarrhea;
2) Do not swim with open wounds and sores;
3) Shower before entering the water;
4) Check your child's swim diapers/rubber pants regularly;
5) Diaper changing on the DECK is prohibited;
6) Do not poop or pee in the water;
7) Do not swallow or spit water; and
8) Wash hands before returning to the POOL.

6.4.2.2.5 Diaper-Changing Station Signage

Signage shall be posted at DIAPER-CHANGING STATIONS stating or containing information, or text complying with the intent of the following information:

1) Dispose of used disposable diapers in the diaper bucket or receptacle provided;
2) Dump contents from reusable diapers into toilets and bag diapers to take home;
3) Use the materials provided to clean/SANITIZE the surface of the DIAPER-CHANGING STATION before and after each use;
4) Wash your hands and your child's hands after diapering; and
5) Do not swim if ill with diarrhea.

6.4.2.3 Swimmer Empowerment Methods

6.4.2.3.1[A] Public Information and Health Messaging

The owner/operator shall ensure that a public information and health messaging program to inform INDOOR AQUATIC FACILITY PATRONS of their impact on INDOOR AQUATIC FACILITY air quality is developed and implemented.

6.4.2.3.2[A] Post Inspection Results

The results of the most recent AHJ inspection of the AQUATIC FACILITY shall be posted at the AQUATIC FACILITY in a location conspicuous to the public.

6.5[A] Fecal/Vomit/Blood Contamination Response

6.5.1[A] Contamination Response Plan

6.5.1.1 Contamination Response Plan

All AQUATIC FACILITIES shall have a CONTAMINATION RESPONSE PLAN within the EAP for responding to formed-stool contamination, diarrheal-stool contamination, vomit contamination, and contamination involving blood.

6.5.1.2 Contamination Training

The CONTAMINATION RESPONSE PLAN shall include procedures for response and cleanup, provisions for training staff in these procedures, and a list of equipment and supplies for clean-up.

6.5.1.2.1[A] Minimum

A minimum of one person on-site while the AQUATIC FACILITY is open for use shall be:

1) Trained in the procedures for response to formed-stool contamination, diarrheal contamination, vomit contamination, and blood contamination; and
2) Trained in PPE and other OSHA measures including the Bloodborne Pathogens Standard 29 CFR 1910.1030 to minimize exposure to bodily fluids that may be encountered as employees in an aquatic environment.

6.5.1.2.2 Informed

Staff shall be informed of any updates to the response plan.

6.5.1.3 Equipment and Supply Verification

The availability of equipment and supplies for remediation procedures shall be verified by the QUALIFIED OPERATOR at least weekly.

6.5.1.4 Plan Review

The response plan shall be reviewed at least annually and updated as necessary.

6.5.1.5 Plan Availability

The response plan shall be kept on site and available for viewing by the AHJ.

6.5.2 Aquatic Venue Water Contamination Response

6.5.2.1 Closure

In the event of a fecal or vomit contamination in an AQUATIC VENUE, the QUALIFIED OPERATOR shall immediately close the AQUATIC VENUE to swimmers until remediation procedures are complete.

6.5.2.1.1 Closure Includes

This closure shall include the affected AQUATIC VENUE and other AQUATIC VENUES that share the same RECIRCULATION SYSTEM.

6.5.2.2 Physical Removal

Contaminating material shall be removed *(e.g., using a net, scoop, or bucket)* and disposed of in a sanitary manner.

6.5.2.2.1 Clean / Disinfect Net or Scoop

Fecal or vomit contamination of the item used to remove the contamination *(e.g., the net or bucket)* shall be removed by thorough cleaning followed by DISINFECTION *(e.g., after cleaning, leave the net, scoop, or bucket immersed in the POOL during the DISINFECTION procedure prescribed for formed-stool, diarrheal-stool, or vomit contamination, as appropriate)*.

6.5.2.2.2[A] No Vacuum Cleaners

Aquatic vacuum cleaners shall not be used for removal of contamination from the water or adjacent surfaces unless vacuum waste is discharged to a sanitary sewer and the vacuum equipment can be adequately disinfected.

6.5.2.3[A] Treated

AQUATIC VENUE water that has been contaminated by feces or vomit shall be treated as follows:

1) Check to ensure that the water's pH is 7.5 or lower and adjust if necessary;
2) Verify and maintain water temperature at 77°F (25°C) or higher;
3) Operate the filtration/RECIRCULATION SYSTEM while the POOL reaches and maintains the proper free CHLORINE concentration during the remediation process;
4) Test the CHLORINE residual at multiple sampling points to ensure the proper free CHLORINE concentration is achieved throughout the POOL for the entire DISINFECTION time; and
5) Use only non-stabilized CHLORINE products to raise the free CHLORINE levels during the remediation.

6.5.3 Aquatic Venue Water Contamination Disinfection

6.5.3.1[A] Formed-Stool Contamination

Formed-stool contaminated water shall have the FREE CHLORINE RESIDUAL checked and the FREE CHLORINE RESIDUAL raised to 2.0 mg/L *(if less than 2.0 mg/L)* and maintained for at least 25 minutes *(or an equivalent time and concentration to reach the CT INACTIVATION VALUE)* before reopening the AQUATIC VENUE.

6.5.3.1.1[A] Pools Containing Chlorine Stabilizers

In AQUATIC VENUE water that contains CYA or a stabilized CHLORINE product, water shall be treated by doubling the inactivation time required under MAHC 6.5.3.1.

6.5.3.1.2 Measurement of Inactivation Time

Measurement of the inactivation time required shall start when the AQUATIC VENUE reaches the intended free CHLORINE level.

6.5.3.2[A] Diarrheal-Stool Contamination

Diarrheal-stool contaminated water shall:

1) Check the FREE CHLORINE RESIDUAL and then raise the FREE CHLORINE RESIDUAL to 20.0 mg/L and maintain for at least 12.75 hours (*or an equivalent time and concentration to reach the CT INACTIVATION VALUE*) before reopening the AQUATIC VENUE, or
2) Circulate the water through a SECONDARY DISINFECTION SYSTEM to theoretically reduce the number of *Cryptosporidium* OOCYSTS in the AQUATIC VENUE below one OOCYST/100 mL as outlined in MAHC 4.7.3.3.2.4.

6.5.3.2.1[A] Pools Containing Chlorine Stabilizers

In AQUATIC VENUE water that contains CYA or a stabilized CHLORINE product, water shall be treated by:

1) HYPERCHLORINATION accomplished by:
    a. Following the preparatory guidance outlined in MAHC 6.5.2.3;
    b. Lowering the CYA concentration to less than or equal to 15 ppm by draining, if necessary;
    c. Raising the FREE CHLORINE RESIDUAL to 20 mg/L for at least 28 hours; 30 mg/L for at least 18 hours; 40 mg/L for at least 8.5 hours; or an equivalent time and concentration needed to reach the CT INACTIVATION VALUE;
    d. Measurement of the inactivation time required shall start when the AQUATIC VENUE reaches the intended FREE CHLORINE RESIDUAL level or;
2) Circulating the water through a SECONDARY DISINFECTION SYSTEM to theoretically reduce the number of *Cryptosporidium* OOCYSTS in the AQUATIC VENUE below one OOCYST/100 mL as outlined in MAHC 4.7.3.3.2.4 or;
3) Draining the AQUATIC VENUE completely.

6.5.3.3[A] Vomit-Contamination

Vomit-contaminated water shall have the FREE CHLORINE RESIDUAL checked and the FREE CHLORINE RESIDUAL raised to 2.0 mg/L *(if less than 2.0 mg/L)* and maintained for at least 25 minutes (*or an equivalent time and concentration to reach the CT INACTIVATION VALUE*) before reopening the AQUATIC VENUE.

6.5.3.3.1 Pools Containing Chlorine Stabilizers

In AQUATIC VENUE water that contains CYA or a stabilized CHLORINE product, water shall be treated by doubling the inactivation time required under MAHC 6.5.3.3.

6.5.3.3.2 Measurement of the Inactivation Time

Measurement of the inactivation time required shall start when the AQUATIC VENUE reaches the intended free CHLORINE level.

6.5.3.4[A] Blood-Contamination

Blood contamination of a properly maintained AQUATIC VENUE'S water does not pose a public health risk to swimmers.

6.5.3.4.1 Operators Choose Treatment Method

Operators may choose whether or not to close the AQUATIC VENUE and treat as a formed stool contamination as in MAHC 6.5.3.1 to satisfy PATRON concerns.

6.5.3.5[A] Procedures for Brominated Pools

Formed-stool, diarrheal-stool, or vomit-contaminated water in a brominated AQUATIC VENUE shall have CHLORINE added to the AQUATIC VENUE in an amount that will increase the FREE CHLORINE RESIDUAL to the level specified for the specific type of contamination for the specified time.

6.5.3.5.1 Bromine Residual

The bromine residual shall be adjusted if necessary before reopening the AQUATIC VENUE.

6.5.4 Surface Contamination Cleaning and Disinfection

6.5.4.1[A] Limit Access

If a bodily fluid, such as feces, vomit, or blood, has contaminated a surface in an AQUATIC FACILITY, facility staff shall limit access to the affected area until remediation procedures have been completed.

6.5.4.2[A] Clean Surface

Before DISINFECTION, all visible CONTAMINANT shall be cleaned and removed with disposable cleaning products effective with regard to type of CONTAMINANT present, type of surface to be cleaned, and the location within the facility.

6.5.4.3[A] Contaminant Removal and Disposal

CONTAMINANT removed by cleaning shall be disposed of in a sanitary manner or as required by law.

6.5.4.4[A] Disinfect Surface

Contaminated surfaces shall be disinfected with one of the following DISINFECTION solutions:

1) A 1:10 dilution of fresh household bleach with water; or
2) An equivalent EPA REGISTERED disinfectant that has been approved for body fluids DISINFECTION.

6.5.4.5 Soak

The disinfectant shall be left to soak on the affected area for a minimum of 20 minutes or as otherwise indicated on the disinfectant label directions.

6.5.4.6 Remove

Disinfectant shall be removed by cleaning and shall be disposed of in a sanitary manner or as required by the AHJ.

6.6 AHJ Inspections

6.6.1[A] Inspection Process

6.6.1.1 Inspection Authority

The AHJ shall have the right to inspect or investigate the operation and management of an AQUATIC FACILITY.

6.6.1.2 Inspection Scope and Right

Upon presenting proper identification, an authorized employee or agent of the AHJ shall have the right to and be permitted to enter any AQUATIC FACILITY or AQUATIC VENUE area, including the recirculation equipment and piping area, at any reasonable time for the purpose of inspecting the AQUATIC VENUE or AQUATIC FEATURES to do any of the following:

1) Inspect, investigate, or evaluate for compliance with this CODE;
2) Verify compliance with previously written violation orders;
3) Collect samples or specimens;
4) Examine, review, and copy relevant documents and records;
5) Obtain photographic or other evidence needed to enforce this CODE; or
6) Question any person.

6.6.1.3 Based on Risk

An AQUATIC FACILITY'S inspection frequency may be amended based on a risk of recreational water injury and illness.

6.6.1.4 Inspection Interference

It is a violation of this CODE for a person to interfere with, deny, or delay an inspection or investigation conducted by the AHJ.

6.6.2 Publication of Inspection Forms

6.6.2.1 Inspection Form Publication

The AHJ may publish or post on the web or other source the reports of AQUATIC FACILITY inspections.

6.6.3 Imminent Health Hazards

6.6.3.1[A] Violations Requiring Immediate Correction or Closure

Any of the following violations are IMMINENT HEALTH HAZARDS which shall require immediate correction or immediate POOL closure:

1) Failure to provide adequate supervision and staffing of the AQUATIC FACILITY as prescribed in this CODE;
2) Failure to provide the minimum DISINFECTANT residual levels listed in various sections of this CODE;
3) pH level below 6.5;
4) pH level above 8.0;
5) Failure to continuously operate the AQUATIC VENUE filtration and DISINFECTION equipment;
6) Use of an unapproved or contaminated water supply source for potable water use;
7) Unprotected overhead electrical wires within 20 feet horizontally of the AQUATIC VENUE;
8) Non GFCI protected electrical receptacles within 20 feet of the inside wall of the AQUATIC VENUE;
9) Failure to maintain an emergency lighting source;
10) Absence of all required lifesaving equipment on DECK;
11) AQUATIC VENUE bottom not visible;
12) Total absence of or improper depth markings at an AQUATIC VENUE;
13) Plumbing CROSS-CONNECTIONS between the drinking water supply and AQUATIC VENUE water or between sewage system and the AQUATIC VENUE including filter backwash facilities;
14) Failure to provide and maintain an ENCLOSURE or BARRIER to inhibit unauthorized access to the AQUATIC FACILITY or AQUATIC VENUE when required;
15) Use of unapproved chemicals or the application of chemicals by unapproved methods to the AQUATIC VENUE water;
16) Broken, unsecured, or missing main drain grate or any submerged suction outlet grate in the AQUATIC VENUE;
17) Number of bathers/patrons exceeds the theoretical peak occupancy;
18) Broken glass or sharp objects in AQUATIC VENUE or on DECK area; or
19) Any other item determined to be a public health hazard by the AHJ.

6.6.3.1.1 Low pH Violations

If pH testing equipment doesn't measure below 6.5, pH level must be at or below the lowest value of the test equipment.

6.6.3.1.2 High pH Violations

If pH testing equipment doesn't measure above 8.0, pH level must be at or above the highest value of the test equipment.

6.6.4 Enforcement

6.6.4.1 Placarding of Pool

Where an imminent public health hazard is found and remains uncorrected, the AQUATIC VENUE shall be placarded to prohibit use until the hazard is corrected in order to protect the public health or SAFETY of BATHERS.

6.6.4.2 Placard Location

When a placard is used, it shall be conspicuously posted at each entrance leading to the AQUATIC VENUE.

6.6.4.2.1 State Authority

When placed by the AHJ, the placard shall state the authority responsible for its placement.

6.6.4.2.2 Tampering with Placard

When placed by the AHJ, the placard shall indicate that concealment, mutilation, alteration, or removal of it by any person without permission of the AHJ shall constitute a violation of this CODE.

6.6.4.3 Operator Follow-up

Within 15 days of the AHJ placarding an AQUATIC FACILITY, the operator of such AQUATIC FACILITY shall be provided with an opportunity to be heard and present proof that continued operation of the facility does not constitute a danger to the public health.

6.6.4.3.1 Correction of Violation

If the IMMINENT HEALTH HAZARD(S) have been corrected, the operator may contact the AHJ prior to the hearing and request a follow-up inspection.

6.6.4.3.2 Hearing

The hearing shall be conducted by the AHJ.

6.6.4.4 Follow-up Inspection

The AHJ shall inspect the premises within two working days of notification that the hazard has been eliminated to remove the placards after verifying correction.

6.6.4.4.1 Other Evidence of Correction

The AHJ may accept other evidence of correction of the hazard in lieu of inspecting the premises.

6.6.5[A] Enforcement Penalties

6.6.5.1 Liability and Jurisdiction

It shall be a violation for any person to fail to comply with any of the regulations promulgated pursuant to this CODE and as adopted by the AHJ.

6.6.5.1.1 Failure to Comply

Any person who fails to comply with any such regulation shall be in violation of this CODE.

6.6.5.1.2 Civil Penalty

For each such offense, violators shall be liable for a potential civil penalty.

6.6.5.2 Continued Violation

Each day, or any part thereof, during which a willful violation of this CODE exists or persists shall constitute a separate violation of this CODE.

6.6.5.3 Falsified Documents

Falsifying or presenting to the AHJ falsified documentation and or certificates shall be a civil violation as specified by the AHJ.

6.6.5.4 Enforcement Process

Upon determining that one or more violations of this CODE exists, the AHJ shall cause a written notice of the violation or violations to be delivered to the owner or operator of the AQUATIC FACILITY that is in violation of this CODE.