

# Swimming Pool & Hot Tub Enforcement Manual

Division of Food and General Environmental Services

Version 1.0



## Acronyms

BIO	Building Inspection Office
CDC	Centers for Disease Control and Prevention
CMAHC	Council for the Model Aquatic Health Code
COS	Corrected on Site
GFCI	Ground Fault Circuit Interrupter
HOCl	Hypochlorous acid
IFFC	Informal Fact-finding Conference
LHD	Local Health Department
MAHC	Model Aquatic Health Code
NOAV	Notice of Alleged Violation
OEHS	Office of Environmental Health Services
PPE	Personal Protection Equipment
ppm	parts per million
RWI	Recreational Water Illness
VDH	Virginia Department of Health
VGBA	Virginia Graeme Baker Act
USBC	Virginia Uniform Statewide Building Code

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## **Introduction**

Swimming is a popular recreational activity, sport, and a great way to get exercise. The public perceives pools and spas as safe alternatives to natural bodies of water, as the depth of water is marked, the water is usually clear, supervision may be present, and water hazards are perceived to be at a minimum. The presence of other people may also contribute to a false sense of safety and security. Fatal and nonfatal drowning, and other injuries in pools and spas, continue to be a significant public health issue across the Commonwealth. Despite their tragic impact on individuals, families, and communities, drowning-related fatalities and injuries are largely preventable. Recreational Water Illnesses, or RWIs, are diseases that people can get from the water in which they swim and play. RWIs can cause diarrhea or other gastrointestinal issues, as well as skin, ear, respiratory, eye, and other infections. RWI outbreaks are reported to the CDC, and nationally the number reported annually has increased significantly in recent years, especially the number of outbreaks associated with treated recreational water venues (e.g., pools and hot tubs/spas).<sup>1</sup>

Virginia public pools are regulated by the Virginia Department of Health (VDH). Enforcement of the pool regulations may provide complex scenarios for local health departments (LHDs) as the state pool regulations do not specify or provide codified enforcement processes for non-compliance with the regulations. A locality, such as a county or city, may implement a local pool ordinance to supplement state requirements, and often these ordinances address enforcement. These ordinances are enforced by local environmental health staff through local government agreements. The VDH Office of Environmental Health Services (OEHS) has no role in enforcement of local pool ordinances; however, OEHS may provide technical advice to local health departments regarding these local ordinances. This manual is intended to assist localities if applicable; otherwise, the manual is specifically designed to address the state regulations and not locally administered ordinances and enforcement.

This manual is intended to assist LHD environmental health staff navigate the enforcement processes of the Virginia regulatory pool program (12VAC5-460 and 462). In the context of this manual, environmental health staff may include Environmental Health Associates, Specialists, Supervisors, Managers, or other LHD staff designated by the Environmental Health Manager, Supervisor, or District Director. The manual will:

1. Provide an in-depth review of VDH authority derived from regulation and the Code of Virginia;
2. Discuss observations that may constitute a public health threat that may require immediate correction;
3. Outline enforcement and corrective action processes including:
  - a. Inspections and inspection reports
  - b. Follow-up inspections

- c. Notice of Alleged Violations and Informal Fact-finding Conferences
  - d. Suspension or Revocation of associated permits
  - e. Public Health Orders for pool closure
  - f. Emergency Orders, criminal misdemeanor, injunction, mandamus, or other processes
4. Provide field resources to assist in corrective actions, follow-up, and enforcement, including:
    - a. Appendix A: Aquatic Facility Enforcement Field Guide
    - b. Appendix B: Other Possible Public Health Threats & Best Practices

This enforcement manual discusses VDH authority to enforce state pool regulations, identifies public health threats specific to aquatic venues as well as what types of observations should trigger enforcement or corrective action, and outlines different enforcement activities that the LHD can pursue.

This manual is intended to be used in conjunction with the Swimming Pool and Hot Tub Inspection and Marking Instructions job aid and the pool regulations [12VAC5-460](#) and [12VAC5-462](#). The inspection and marking instructions provide an overview of the inspection process and marking instructions for each pool regulation listed on the inspection form. Effective and adequate documentation is essential to any type of enforcement, and the discussions within this document assume the reader is well-versed in the inspection process and has thoroughly read the regulations and the inspection and marking instructions.

Environmental health staff are encouraged to refer to best practice guidelines provided by the Centers for Disease Control and Prevention (CDC) Model Aquatic Health Code (MAHC) and the MAHC Annex for understanding and discussing risk associated with aquatic facilities. The MAHC and Annex are public health guidance documents provided by the CDC specific to the management of public aquatic facilities. Through scientific data and industry best practices, the MAHC provides uniform national guidelines related to the design and construction, operation and maintenance, and policies and management of swimming pools, spas, and other public disinfected aquatic facilities.<sup>1</sup> The MAHC is available online at [www.cdc.gov/mahc](http://www.cdc.gov/mahc). In the context of this document, the MAHC is used solely as guidance for identification of, and response to, public health threats at public pools for the purpose of improving the health and safety of Virginia's public aquatic facilities.

## PART I - AUTHORITY & ENFORCEMENT

### 1. Regulatory Authority for Enforcement Actions

The Regulations Governing Tourist Establishment Swimming Pools and Other Public Pools (12VAC5-460) apply to pools located at permitted overnight facilities, such as hotels, campgrounds, or summer camps. These regulations direct pool operators to meet local requirements (12VAC5-460-20), outline the process for a plan review (12VAC5-460-30) prior to operation of a pool, and refer to the Virginia Uniform Statewide Building Code (USBC) for construction and design. These regulations provide pool operation and maintenance requirements but do not provide references or processes for maintaining compliance with the regulations or how to respond to non-compliance.

The Swimming Pool Regulations Governing the Posting of Water Quality Test Results (12VAC5-462) apply to any public pool, whether located at a permitted facility or not, including those at fitness centers, parks, or neighborhood pools. These regulations provide enforcement actions related to non-compliance; however, the regulations are limited in scope and apply to the posting of water quality test results (12VAC5-462-280), water quality standards (12VAC5-462-290), and test kits (12VAC5-462-300) only.

This section discusses the regulatory language relative to enforcement within the regulations and Code of Virginia. The intent of this section is to provide an overview of authority and general understanding of the LHD's ability to respond to observed violations. The reader should keep in mind that this is an overview of authority, and that specific response and action will be addressed in greater detail in subsequent sections.

#### A. Right of Entry (all public pools)

Right of entry is provided for any pool under any set of regulation, either through that regulation or the applicable section of the Code of Virginia.

***12VAC5-462-50. Right of entry and inspections.***

*In accordance with the provisions of § 32.1-25 of the Code of Virginia, the commissioner or his designee shall have the right to enter any property to ensure compliance with these regulations.*

***§ 35.1-5. Right of entry to inspect, etc.; warrants.***

*Upon presentation of appropriate credentials and upon consent of the owner or custodian, the Commissioner or his designee shall have the right to enter at any reasonable time onto the premises of any hotel, restaurant, summer camp, or campground to inspect, investigate, evaluate, conduct tests, or take samples for testing as he reasonably deems necessary in order to determine whether any provision of this title, any regulation of the Board, any order of the Board or Commissioner, or any condition in a license issued by the Board or Commissioner pursuant to this title is being violated.*

*If the Commissioner or his designee is denied entry, he may apply to an appropriate circuit court for an inspection warrant authorizing such investigation, evaluation, inspection, testing, or taking of samples for testing as provided in Chapter 24 (§ 19.2-393 et seq.) of Title 19.2.*

The LHD has the right of entry pursuant to 12VAC5-462-50, §§ 32.1-25 or 35.1-5 of the Code of Virginia. This right of entry to a pool facility is similar to that stated in any other state regulatory program. If in the midst of conducting an inspection, environmental health staff are requested to leave, they should immediately inform the owner or operator of the department's authority, the ramification of such a refusal, and the likelihood of subsequent legal action based on that inspection refusal. If a public health threat is observed, environmental health staff should notify the owner or operator, if possible. The environmental health staff should then honor the request and leave the premises. Staff should not argue or escalate the situation. Environmental health staff shall document on an inspection report form any details reflective of the encounter and any pertinent conditions that existed as they attempted to conduct an inspection. Staff should immediately notify the district management team per district policy regarding an inspection refusal and/or any existing public health risk or threat. Further enforcement action may be necessary.

**B. Water Quality - 12VAC5-462 (all public pools)**

All public pools and aquatic facilities that meet the definition of a public pool are subject to 12VAC5-462. The following compliance and enforcement discussion applies only to the water quality posting, water quality standards, and test kit requirements. The authority and actions described below only apply to regulations applicable to 12VAC5-462 and do not apply to compliance issues outlined in 12VAC5-460.

***12VAC5-462-80. Powers and procedures of chapter not exclusive.***

*The commissioner may enforce this chapter through any means lawfully available.*

This regulation does not mean that environmental health staff have the authority to close a pool immediately. Environmental health staff should discuss the alleged violation with the pool owner or operator and attempt to negotiate correction on site, or a compliance deadline appropriate for the alleged violation. If compliance is not forthcoming or the owner or operator is not amenable to corrective action, then other means of enforcement may be necessary.

***12VAC5-462-90. Notice.***

*Subject to the exceptions below, whenever the commissioner or the district or local health department has reason to believe a violation of any of these regulations has occurred or is occurring, the alleged violator shall be notified. Such notice shall be made in writing, shall be delivered personally or sent by certified mail, shall cite the regulation or regulations that are allegedly being violated, shall state the facts which form the basis for believing the violation has occurred or is occurring, shall include a request for a specific action by the recipient by a specified time and shall state the penalties associated with*

*such violation. When the commissioner deems it necessary, he may initiate criminal prosecution or seek civil relief through mandamus or injunction prior to giving notice.*

12VAC5-462-90 requires that a pool owner be notified of the alleged violation and the facts (or observations) that form the basis of the alleged violation. The pool owner or operator must receive a request for corrective action; an inspection report initially acts as this notice. A time for correction of the violation must be stated within the inspection report. If corrective action is not forthcoming, a Notice of Alleged Violation (NOAV) may be issued and, as necessary, an informal fact-finding conference (IFFC) may be conducted. The NOAV may also notify the pool owner or operator that, if applicable, the facility permit to operate a hotel, campground, or summer camp could be suspended or revoked if corrective actions are not implemented or successful. The district management team will assist environmental health staff in implementing these enforcement actions with the local health director and, if necessary, the Office of Environmental Health Services (OEHS).

The issuance of NOAVs and the IFFC process are further discussed in Part III, Section 1.C.

***12VAC5-462-100. Orders.***

*Pursuant to the authority granted in § 32.1-26 of the Code of Virginia, the commissioner may issue orders to require any owner, or other person, to comply with the provisions of this chapter. The order shall be signed by the commissioner and may require:*

- 1. The immediate cessation and correction of the violation;*
- 2. Appropriate remedial action to ensure that the violation does not recur;*
- 3. The submission of a plan to prevent future violation to the commissioner for review and approval;*
- 4. The submission of an application for a variance; or*
- 5. Any other corrective action deemed necessary for proper compliance with this chapter.*

If corrective action cannot be achieved and/or egregious conditions exist, 12VAC5-462-100 allows an order to be issued by the State Health Commissioner. The order will state the requirements of the order and an expected response from the pool owner that may include immediate cessation and correction of the specified violation (pool closure or correction of the observed violation), remedial action to prevent reoccurrence, a corrective action plan, a variance submittal, or other appropriate action.

Orders are issued by the State Health Commissioner and are further discussed in Part III, Section 1.E.

***12VAC5-462-110. Hearing before the issuance of an order.***

*Before the issuance of an order described in 12VAC5-462-100, a hearing must be held, with at least 30 days notice by certified mail to the affected owner or other person of the time, place and purpose thereof. The procedures at the hearing shall be in accordance*

*with 12VAC5-462-230 or 12VAC5-462-240 and with §§ 2.2-4019 through 2.2-4020 of the Code of Virginia.*

Prior to the issuance of an order (12VAC5-462-110), a hearing must be held with at least 30 days' notice. After the issuance of the order, 12VAC5-462-120 states that an order is effective not less than 15 days after mailing a copy of the order. This process may involve a lot of time while the pool operation continues under conditions that may result in illness, injury, or death of patrons. Time may be a factor, and the LHD may need to consider an alternate process, such as a NOAV with recommendations or other immediate actions.

Orders are issued by the State Health Commissioner and are further discussed in Part III, Section 1.E.

***12VAC5-462-140. Not exclusive means of enforcement.***

*Nothing contained in Article 2 of this part shall be interpreted to require the commissioner to issue an order prior to commencing administrative proceedings or seeking enforcement of any regulations or statute through an injunction, mandamus or criminal prosecution, nor shall anything in this chapter affect the authority of the board or commissioner from issuing an emergency order under § 32.1-13 of the Code of Virginia.*

In the event the LHD observes a violation or egregious condition that constitutes a public health threat, or other dangers to public health and safety, and compliance through corrective action cannot be achieved, the LHD can pursue criminal charges for the violation of the applicable regulation. Prior to filing charges, the environmental health staff shall consult with the district management team, who may then consult with OEHS. The consultation with OEHS could provide context and consideration of other enforcement options (including injunctions or emergency orders). If filing charges is determined to be warranted during the consultation, the LHD will file through the local magistrate per local and district policy.

**C. Other methods of enforcement (tourist facility pools - 12VAC5-460 & 12VAC5-462)**

If the enforcement options available in the applicable pool regulations have been exhausted, the LHD may use the regulations associated with the permitted transient facility to pursue enforcement action. When non-compliance of the pool regulations is a violation of the permitted facility regulations, the permit may be in jeopardy, and the LHD may initiate enforcement action through the regulatory requirements and processes applicable to the permitted facility.

For example, a pool at a hotel that is not in compliance with 12VAC5-460 may need to rely on the enforcement actions outlined in the hotel regulations. 12VAC5-431-390 requires any spa, swimming pool, or other swimming facility located at or operated in connection with a hotel to comply with the department's swimming pool regulations as specified in 12VAC5-431-30

(which references 12VAC5-460 & 462). Therefore, any egregious pool violation at a hotel that cannot be resolved through corrective actions shall be addressed in accordance with the administrative processes of 12VAC5-431 (Sections 80, 110, 210, 220, and 270). Enforcement of pools associated with campgrounds will follow a similar logic through 12VAC5-450-60.

In situations where regulations lack prescribed administrative and enforcement actions, such as in the summer camp regulations, staff may refer to the Code of Virginia § 35.1. Orders and the associated potential penalties are outlined in § 35.1-6, and Penalties, injunctions, civil penalties, and charges for violations are outlined in § 35.1-7. If at any time environmental health staff are considering the need to issue an order or seek penalties, they shall consult with their district management team and, if needed, OEHS for consultation and guidance. Many of these actions may warrant awareness or approval from the State Health Commissioner. At no time should environmental health staff issue an order for immediate closure.

#### **D. Non-Compliance and Corrective Action (all pools)**

The aforementioned enforcement actions should not be your primary methodology for obtaining compliance with the pool regulations. The LHD should work with the pool owner or operator to resolve any violations at the time of the inspection or within a reasonable time as risk allows.

Understanding pool operations and possessing the skills to conduct effective inspections are essential to environmental health staff's ability to develop a rapport with the pool operator. A pool operator is more likely to comply and will be more open to suggestions from the LHD if environmental health staff are knowledgeable and offer alternatives or suggestions for compliance. Environmental health staff should ensure that the pool operator is aware of and understands any violation and safety hazard and the public health rationale behind the requirement. Environmental health staff should assist the pool operator in determining the reasons for the violation and let them participate in and determine the solutions. It is not environmental health staff's responsibility to "fix" the issue at the facility. Rather, facilitating a robust conversation and providing pool management resources will help improve the pool operator's understanding of the issue and promote voluntary corrective action. Thus, environmental health staff will be more likely to achieve compliance from the operator through a respectful working relationship.

It is important for environmental health staff to develop trusting relationships and successfully communicate with pool operators about health and safety concerns. Compliance obtained through a good working relationship between the LHD and the pool operator will prove to be more efficient, more effective, and more permanent over time. Ultimately, compliance with the pool regulations and cooperation between pool operators will reduce the risk of injury and waterborne illness.

## **PART II – RISK ASSESSMENT, ADMINISTRATIVE PROCESSES, & ENFORCEMENT**

### **1. Risk Assessment and Public Health Threats**

Virginia pool regulations do not assign risk to specific regulatory violations. Risk must be assessed and determined by environmental health staff during the inspection. Therefore, it is essential that environmental health staff understand and determine the relative risks associated with the operation, maintenance, and use of an aquatic venue. This manual is to be used as a guide on how LHDs can enforce pool violations and better protect public health and safety through understanding and assessing risk associated with observed regulatory violations.

To assist the LHD in determining risk, this manual identifies specific regulations that may present the greatest risk to pool operation and use. This manual cannot capture all potential risk; rather, it provides context and discussion on risk specific to regulations and observations that may occur during an inspection. For each regulatory section discussed, the manual provides a brief public health rationale and a brief discussion on potential public health threats, or situations that may contribute to pool conditions that negatively affect the public health, welfare, and safety.

The manual references guidance from the Model Aquatic Health Code (MAHC: <https://www.cdc.gov/mahc/index.html>). The MAHC is a national set of standards, based on available science and best practices, for aquatic facilities. It was created by the CDC through the input of industry experts, academics, regulators, and other stakeholders. It is maintained with the assistance of The Council for the Model Aquatic Health Code (CMAHC), a 501(c)(3) non-profit that engages stakeholder and regulator input and facilitates member voting recommendations to provide recommended updates to the CDC every three years. It is a peer-reviewed document. The scientific rationale for the standards in the MAHC is provided in the Annex to the Model Aquatic Health Code (Annex). While both documents are nationally recognized guidance documents, they cannot address all health and safety concerns, and it is the responsibility of the inspector to determine compliance with the Virginia pool regulations and assess risk based on direct observations of each facility.

Public health threats pose a significant threat or danger to health and can include situations, circumstances, behaviors, or actions that may lead to immediate and severe impact to health and safety of the public or environment. Public health threats can vary depending on location, venue type, environmental and social conditions, and they can evolve with time and circumstance. Public health threats cannot be strictly defined; the determination of a public health threat is dependent upon observation and knowledge and awareness of the situation and potential risk.

In the context of public aquatic facilities, a public health threat may include elements, such as imminent health hazards as defined by the MAHC, that pose a significant threat or danger to

health and are considered to exist when there is evidence sufficient to show that a product, practice, circumstance, or event creates a situation that requires immediate correction or cessation of operation to prevent injury based on the number of potential injuries and the nature, severity, and duration of the anticipated injury or illness.<sup>1</sup> These hazards are considered throughout the manual and are identified as potential public health threats where applicable to a regulation.

Awareness and understanding of risk and potential health hazards can assist environmental health staff in establishing a level of risk to an observed violation. This manual considers certain violations to be high-risk, moderate-risk, or low-risk.

- High-risk violations are observations that pose an immediate public health threat to the public, such as situations that could immediately contribute to injury or death. High-risk violations may warrant the LHD recommendation of immediate closure of the aquatic venue.
- Moderate-risk violations pose a threat or danger to health and safety if allowed to continue for a prolonged period of time, and they should be remediated immediately or within 24 hours or as otherwise prescribed by the LHD. If 24-hour compliance is not achieved, and if the situation warrants, a moderate-risk violation may be considered high-risk and the LHD may consider recommending the aquatic venue be closed until violations are corrected.
- Low-risk violations will likely not result in immediate injury or pose an immediate impact on health and safety. A compliance deadline may be established by the LHD depending upon the facility, patronage, and situation.

The LHD shall take action if they find continued operation of a public aquatic facility constitutes a substantial and imminent threat to the public health (§§ 32.1-2, 35.1-2, 35.1-10, and 35.1-11). The determination of a potential or observed public health threat can be made by environmental health staff during inspections and shall be reported to district management. The determination of and action in response to an observed public health threat is ultimately up to district management as determined by the State Health Commissioner and local health director. Environmental health management shall consult with the local health director on notification and enforcement processes in response to public health threats at public aquatic venues. This manual provides the regulatory context, potential risk associated with observed violations, and suggested or potential enforcement for non-compliance.

Field guides and additional information related to risk are provided as appendices:

- The Aquatic Facility Enforcement Field Guide (Appendix A) tabulates all of the regulations, potential levels of risk, and recommendations for corrective action and enforcement.

- Other Possible Public Health Threats & Best Practices (Appendix B) identifies other potential public health threats that may be observed but that may fall under the jurisdiction of other agencies. The appendix provides context, discussion, and recommendations if such observations occur at an aquatic facility.

## **2. Plan Review, Administrative Enforcement, and Corrective Action**

This section applies to the Regulations Governing Tourist Establishment Swimming Pools and Other Public Pools (12VAC5-460) only. Chapter 462 does not provide a plan review requirement, and nothing in this section will apply to pools regulated solely under 12VAC5-462.

12VAC5-460-30 (Plan review) requires that any person planning to open a swimming pool after construction, remodeling, or major alteration must—prior to operation of the swimming pool—submit to the LHD a plan review application and plans. The plan review may include complete pump and recirculation plans, filter room plans, operation and maintenance information, water source and wastewater disposal information, operator or owner contact information, and any other information as requested by the LHD.

On occasion, a LHD may determine that pool plans were not submitted prior to the opening of a newly constructed pool, or that pool modifications were made without the required plan review and approval. If this determination is made, the LHD shall consult with the Building Inspection Office (BIO) to determine if the BIO is aware of and has reviewed the design plans and construction. If consultation with the BIO determines that a pool was in fact constructed or remodeled without VDH review, the LHD should issue a NOAV with the recommendation that the pool remain closed until the LHD reviews and approves the plans, and that the plans be submitted to the LHD as soon as possible (12VAC5-460-30). If a NOAV is issued, the pool is closed until the plan review is completed, and the BIO has already approved the design plans and/or construction, the LHD should be cognizant of time and conduct the plan review as soon as possible.

When, upon review of the plans, the LHD is satisfied that the proposed plans, if executed, will meet the requirements of the regulations and other pertinent laws and regulations designed to protect the public health, written approval shall be issued by the LHD (12VAC5-460-30.B).

If review of the plans by the LHD and/or the BIO indicates extensive changes or revisions are necessary, or that the proposed plans prevent a safe sanitary operation, the plans shall be disapproved, and the applicant shall be notified in writing of any deficiency in the plans that constitute the basis for disapproval (12VAC5-460-30.C). The applicant shall be notified of the opportunity for administrative process as provided by the Administrative Process Act (§ 2.2-4000 et seq. of the Code of Virginia). It may also prove beneficial to conduct an IFFC to ensure the applicant has the ability to discuss and defend the situation, and to allow for the discussion or development of a corrective action plan and timeline. It is recommended that the LHD consult with OEHS in the event of an IFFC or case decision.

### 3. Risk-based Enforcement and Corrective Action

The following sections outline the regulations and recommended enforcement actions specific to increased risk and potential threats to public health. The content is not all inclusive as situations and conditions will determine the overall risk at a facility. The items listed are considered common potential health hazards that warrant additional discussion. If environmental health staff observe a violation not within this list, and they consider it high-risk or a potential public health threat, they should immediately consult with their supervisor. This document is intended to act as a guide to possible observations and situations and cannot cover every possible observation or instance.

If a violation is observed that is not a public health threat, the LHD shall proceed with regular enforcement as prescribed by the regulations (12VAC5-431, 12VAC5-450, 12VAC5-460, and 12VAC-462), Code of Virginia (§ 32.1-248.1, § 35.1-2, and § 35.1-5) and General Enforcement & Corrective Action section of this manual (Part III).

This risk-based enforcement and corrective action section is formatted to correspond to the topic areas outlined on the inspection form and include:

- A. Water Quality,
- B. Pool/Spa Area, and
- C. Equipment Room.

#### A. 12VAC5-462 - Water Quality (all public pools)

##### 12VAC5-462-290. Water quality standards.

The regulation provides that free chlorine and bromine residuals and pH values and temperature shall be continuously maintained within ranges tabulated in the regulation. Environmental health staff should use professional discretion with regard to enforcement of these requirements.

#### Disinfectant and pH

When evaluating disinfectant and pH, consider the level of residual disinfectant or pH and how far the observed level is from the standard when determining if the disinfectant level constitutes a public health threat. For example, if the minimum chlorine range is 1.0 ppm, and the venue level is 0.9 ppm or 0.8 ppm, it may be appropriate to have the operator correct the levels and environmental health staff either conduct a follow up inspection or have the operator notify them of the corrected value. If the levels are observed as 0.5 ppm, 0.1, or 0 ppm, this could be considered high-risk or a public health threat, and immediate corrective action should be taken. Similarly, if pH is observed at 7.0, it may be appropriate to have the operator adjust the level, whereas a pH value of 6.5 or lower, or a pH value over 8, may be considered high-risk or a public health threat where immediate corrective action is necessary.

## Temperature

Hot water temperatures can be hazardous to bathers (overheating, heart conditions, etc.) and can severely impact disinfection capabilities. Environmental health staff should use discretion when determining a temperature violation. Communication regarding temperature and its impact on public health may include the inactivation of disinfectant levels and swimmer safety, especially regarding small children or adults with compromised health conditions. A heated venue exceeding the temperature requirement is out of compliance with the regulations, and environmental health staff may determine the course of action depending on the situation and temperature.

*Public Health Rationale:* Free available disinfectant is the amount of the active disinfectant remaining in the water after a certain period or contact time after its initial application. It constitutes an important safeguard against the risk of subsequent microbial contamination after treatment, and thus prevents waterborne illnesses. Low or absent disinfectant levels lead to reduced inactivation of pathogens, and these conditions have been associated with infectious disease outbreaks.<sup>2</sup>

pH is a measure of the acidity or alkalinity of the pool water; it is important to keep the swimming pool pH levels in balance at all times. If the pH is too low, it could cause skin and eye irritation and corrode metal parts on the pool. Low pH has been associated with loss of dental enamel. If the pH is too high, it could create a situation where the chlorine in the pool is not as effective. High pH reduces the efficacy of chlorine-based disinfection by reducing the amount of molecular Hypochlorous acid (HOCl), the active form that is available for disinfection.<sup>2</sup>

High water temperatures may create an environment that can result in hyperthermia. Hyperthermia is an elevation in body temperature beyond what is considered normal; body temperatures above 104° Fahrenheit (40° Celsius) can be life-threatening (unconsciousness and, consequently, drowning) and/or cause heat stroke. Additionally, higher temperatures can be dangerous to children under the age of 5 and may influence underlying health concerns in bathers of all ages. Furthermore, high temperatures may decrease the effectiveness of disinfectant.

*Potential Public Health Threat:* Public health threats may include severe deviation from the regulatory disinfection limits or the complete absence of disinfectant residual, as well as extreme pH levels. Improper disinfection can lead to RWIs, potential outbreaks, and possible death. Improper pH and high temperatures can cause physical discomfort, damage to bathers, and can negatively affect disinfection capabilities that may cause RWIs and outbreaks.

*Enforcement:* Any water quality violation that is not immediately addressed by the operator or occurs as a habitual repeat violation may warrant a NOAV with recommended closure or corrective actions (12VAC5-462-90).

## **B. 12VAC5-460 - Pool / Spa Area**

### 12VAC5-460-60. Materials of pool shell.

The regulation provides that the pool shell or interior finish shall be maintained so that it does not obscure objects or surfaces in the pool or spa. If in the event the finish or condition of the shell prohibits the ability to clearly see the bottom of the pool or spa, or that the presence of a body at the bottom of the pool or spa cannot be easily seen, this would constitute an immediate hazard for the health and safety of bathers.

Instances where the pool shell or finish would inhibit the ability to see the bottom of the venue may result from an unclean pool shell and poor water clarity, or a dark finish may result in variable visibility or compromised clarity during low light or nighttime conditions. This situation could occur in the event a residential pool is converted into a public pool, such as a bed and breakfast or other facility converting from residential to commercial use. Communication with the pool operator and the BIO would be warranted to determine corrective actions that would ensure the ability to constantly view the venue bottom, such as considering additional lighting if used at night, or changing the pool shell color or finish (if applicable).

*Public Health Rationale:* Dark or obscure linings make it hard or impossible to see drowning in progress under the surface of the water or at the bottom of the pool. The inability to see the bottom of the venue is a public health hazard as a drowning individual could not be identified at the bottom of the venue, so rescue efforts would be inhibited.

*Potential Public Health Threat:* Public health threats may include non-compliance with VDH and the BIO requirements to address improper pool shell materials or finish, as well as pool shell violations in combination with water clarity and water quality issues that may immediately impact swimmer safety.

*Enforcement:* If the LHD and BIO determines that the facility shell is prohibiting clear view of the venue bottom and is in violation of the USBC, the LHD shall issue a NOAV to the operator with the recommendation of closure until the violation is corrected to the satisfaction of the BIO (§ 35.1-2, 12VAC5-431-290, 12VAC5-431-390, 12VAC5-450-140, 12VAC5-460-20, or 12VAC5-460-60). Or, through consultation with the BIO, the operator may determine and propose temporary mitigation for interim protective measures.

### 12VAC5-460-90. Fences.

The regulation provides that any fences or barriers, gates, and latches required by the USBC shall be properly maintained and in good condition. The regulation does not prescribe the height, construction, or design of fences, gates, or latches. Therefore, it is essential that the LHD consult with the BIO immediately to ascertain the compliance requirements and involve the BIO to determine enforcement actions.

The potential fencing-related violations include:

- Barrier height is not adequate (typically <48 inches or as prescribed at time of construction; consult with BIO),
- Barrier construction is not adequate (material or design may provide unintended entry; consult with BIO),
- Gates/doors are not self-closing,
- Self-latching mechanism is not adequate, or
- Gates/doors are not properly locked during periods facility is closed to public.

*Public Health Rationale:* Adequate barriers will prevent unauthorized or unintended access to the venue and can reduce the potential for injury and drowning. Maintenance of a barrier around the pool prevents unaccompanied children or impaired persons from unsupervised entry and subsequent drowning.

*Potential Public Health Threat:* Public health threats may include continued non-compliance with VDH and the BIO requirements to address any improper barrier construction that is observed to potentially cause immediate harm or any conditions that allow for the unauthorized use of the venue and that create a potential injury or drowning concern.

*Enforcement:* If the BIO determines that the facility barrier is inadequate and in violation of the USBC, or if environmental health staff note obvious violations of the regulations (absence of fence, broken gates, etc.) that are not corrected within a prescribed timeframe, the LHD should issue a NOAV to the operator with the recommendation of closure until the violation is corrected to the satisfaction of the LHD (§ 35.1-6., 12VAC5-431-80, or 12VAC5-450-60) and/or BIO, or, through consultation with the BIO, determine a compliance deadline. In either case, temporary mitigation for interim protective measures should be considered and implemented through consultation with the BIO.

#### 12VAC5-460-120. Inlets and outlets.

The regulation states that a direct connection to a sanitary sewer shall not be permitted. Typically, this determination would be made at the time of plan review. However, unapproved or unknown repairs or renovations may contribute to the occurrence of a direct connection to a sanitary sewer. This discovery could be made during an inspection or through conversations with the pool operator or other maintenance personnel. If in the event environmental health staff suspect through observation or communication that the pool system has a direct connection to a sanitary sewer, the environmental health staff shall communicate the findings with their supervisor and the BIO. The BIO will confirm or deny the existence of a direct connection and will establish any corrective action needed.

The regulation provides that, when not otherwise prescribed by the USBC in effect at the time of the pool's construction, the outlet drain shall be covered with a grate of such design that it cannot

be readily removed by, or produce any hazard to, bathers. Any drain on the suction side of the venue is an outlet drain; this includes skimmers associated with the overflow facilities and main drains. Any broken, unsecured, or missing main drain grate or any submerged suction outlet grate in the aquatic venue could be considered a public health threat and may result in the recommended closure of the venue. It is essential that the LHD consult with the BIO immediately to ascertain the compliance requirements and involve the BIO to determine enforcement actions.

*Public Health Rationale:* Prohibiting a direct connection to a sanitary sewer prevents sewage from backing up into the aquatic venue water. This isolates the treated system and does not allow mixing of other sources of water that could contaminate the venue.<sup>2</sup>

The [Virginia Graeme Baker \(VGB\) Act](#) is a law in effect to prevent and/or decrease the likelihood of entrapment that can lead to drowning, evisceration, injury, or death.<sup>1</sup> Maintaining approved suction covers, in addition to other requirements, can help reduce injury and death.

*Potential Public Health Threat:* Public health threats may include a confirmed direct connection to a sanitary sewer (as severe water contamination could occur that would directly affect bathers) or a confirmed violation of the VGBA as determined by the BIO (as severe bodily harm or drowning could occur if left in operation).

*Enforcement:* In the event the facility is confirmed to be out of compliance with the requirement to prohibit a direct connection to a sanitary sewer, an LHD should issue a NOAV with recommendations to close the venue until the connection is corrected (§ 35.1-6., 12VAC5-431-80, or 12VAC5-450-60) and approved by the BIO.

If the BIO determines that the facility outlet cover or grate is inadequate and in violation of the USBC, the LHD shall issue a NOAV to the operator with the recommendation of immediate closure until the violation is corrected to the satisfaction of the BIO, or, through consultation with the BIO, determine a compliance schedule and temporary mitigation for interim protective measures.

#### 12VAC5-460-130. Depth marking.

The regulation states that depth markers be plainly visible and maintained in accordance with the USBC, and if not prescribed by the USBC at the time of construction, that steps are taken to ensure that the depth of all sections of the pool can be determined by swimmers. The absence of depth markers is considered a public health threat and could necessitate closure if not corrected on site. The LHD should notify and consult with the BIO regarding depth marker requirements; however, the regulations provide VDH the authority to require depth markers of some sort regardless of USBC. How a facility provides depth information, if not required by USBC, shall be determined by the LHD and the facility.

*Public Health Rationale:* Depth markings prevent drownings through awareness of the water depth. An operator can refer to Section 4.5.19 the MAHC for depth markers and marking best practices or consult with the local BIO for current building code requirements.

*Potential Public Health Threat:* Public health threats may include the absence of depth markers or an operator's inability or unwillingness to provide depth markers.

*Enforcement:* If the facility operator refuses or is unable to provide depth markers or otherwise work with the LHD to provide an immediate corrective action, the LHD shall issue a NOAV to the operator with the recommendation of closure until the violation is corrected or require a temporary mitigation measure and a compliance deadline for a long-term correction (§ 35.1-6., 12VAC5-431-80, or 12VAC5-450-60).

#### 12VAC5-460-150. Lighting.

The regulation describes lighting requirements after dark and for lifeguard visual requirements. The regulation also states that fixtures shall not create a hazard to the bathers and that electrical grounding of all submarine lights shall be properly maintained. While lighting and visual requirements may not always constitute high risk, hazardous electrical fixtures or issues within or near water could cause electrocution and death.

*Public Health Rationale:* Adequate pool lighting ensures visibility necessary to prevent drowning accidents. Properly installed, maintained, and grounded lighting prevents accidents and electrocution.

*Potential Public Health Threat:* Public health threats may include the absence of lighting in areas of low visibility; venues open after dark with insufficient lighting needed to illuminate all parts of the venue; or lighting fixtures that cause a hazard to bathers, including injury or electrocution.

*Enforcement:* If environmental health staff encounter after-dark swimming or other situations without adequate lighting, the staff shall consider the situation, consult with the district management team and BIO, and address the situation collectively. If warranted, a NOAV could be issued with recommendations of closure or the discontinuation of night swimming until the issue is resolved (§ 35.1-6., 12VAC5-431-80, or 12VAC5-450-60).

If environmental health staff encounter electrical concerns, they should immediately consult with the BIO, facility operator, and LHD district management team regarding the need for immediate closure. If in the event the electrical hazards constitute a high risk and continued operation constitutes a substantial and imminent public health threat, the State Health Commissioner may summarily suspend the permit to operate the facility in which the pool is located.

12VAC5-460-300. Filtration; water clarity.

The regulation requires that, at all times, pool water shall be sufficiently clear to view a black and white disc at the deepest point of a pool within a horizontal distance of ten yards. Observation of the main drain in the deepest part of the pool is an acceptable alternative reference point for determining water clarity (in the absence of a disc).

*Public Health Rationale:* Cloudy water that prohibits the ability to see a swimmer at the bottom of the pool prevents any rescue attempt and can lead to drowning injury or death.

*Potential Public Health Threat:* Public health threats may include the inability to see the bottom of the pool or the main drain at the bottom of the pool, the inability to discern objects at the bottom of the pool, or the inability to otherwise confirm clear visibility of the bottom of the pool at the deepest point.

*Enforcement:* If in the event environmental health staff observe unacceptable water clarity, the venue would be in violation and the observation considered high-risk, or a potential public health threat with cause for immediate closure. The LHD shall issue a NOAV to the operator with the recommendation of closure until the violation is corrected (§ 35.1-6., 12VAC5-431-80, or 12VAC5-450-60). If the operator fails to close the pool or remove bathers immediately, environmental health staff should consult with the district management team to determine if immediate facility permit (e.g., the hotel permit) suspension is warranted. Insufficient water clarity could be considered high-risk, and continued operation constitutes a substantial and imminent public health threat.

If the venue water is cloudy or hazy, environmental health staff should discuss with the pool operator the risk associated with the situation and request the operator correct the clarity concern within 24 hours. The LHD should conduct a follow-up inspection to determine if enforcement action is needed, or if the situation has been corrected. If a follow-up inspection reveals conditions remain the same, environmental health staff can advise the pool operator to consult with a pool professional to remedy the clarity concern as soon as possible.

12VAC5-460-320. Lifeguards.

**Lifeguards**

The regulations require that the “management of any transient lodging establishment where a swimming pool has been provided for the use of guests shall designate and have on duty *a reliable and competent person* as a lifeguard...” The regulations do not require a certified lifeguard. In response to this allowance, and past correspondence, an administrative policy was established in 1974 ([Policy Memo #1-74](#)). The policy states:

No bather shall be permitted to enter a swimming pool or swimming pool enclosure unless a life guard is present EXCEPT where pools serve restricted clientele only, such as motels, apartment houses, campgrounds, or similar installations.

In such places where no life guard service is provided, a warning sign shall be placed in clear view, and shall state in clearly legible letters at least 4 inches high: WARNING - NO LIFE GUARD ON DUTY.

In addition, the sign shall also state: CHILDREN SHOULD NOT USE POOL WITHOUT AN ADULT IN ATTENDANCE.

In 1994, a letter was published as part of the policy that clarified the lifeguard requirement interpretation for tourist establishments with pools. The letter states:

Life Guards, of these Regulations (12VAC5-460) has been interpreted by the attached April 10, 1974 [Policy Memo #1-74](#) as **someone on the tourist establishment staff who can perform the functions as a lifeguard in case of an emergency**. This person may not necessarily be stationed at the pool for this designated duty. Also, since in many cases there is no lifeguard stationed at the pool, a warning sign is recommended by policy.

*Public Health Rationale:* The presence of lifeguards helps to reduce the risk of injury and drowning. When a lifeguard is not present, management must provide signage to notify the pool patrons that a lifeguard is not on duty and to swim at their own risk. In addition, facility management should consider taking precautions to prevent accidents and drownings.

*Potential Public Health Threat:* Public health threats may include the absence of a lifeguard or alternate required signage.

*Enforcement:* According to the [Policy Memo #1-74](#) and the regulation language, either (i) a lifeguard is required at the pool or (ii) if a lifeguard is not stationed at the pool, a sign is required and a lifeguard or reliable and competent person that can act as a lifeguard must be on duty. In general, a lifeguard does not have to be present at the pool, and if a lifeguard is not present at the pool, a facility staff member shall be designated as the responsible person capable of acting as a lifeguard in the event of an emergency, and signage is required.

If environmental health staff determine that the facility is out of compliance with the lifeguard or signage requirement, they should communicate with the pool operator about the requirement and safety considerations. The operator will need to comply with the applicable requirement or the LHD shall issue a NOAV to the operator with the recommendation of closure until the violation is corrected (§ 35.1-6., 12VAC5-431-80, or 12VAC5-450-60).

## **Lifesaving equipment**

The regulations also provide that "...management shall further provide for the use of this lifeguard, such life saving equipment *as may be required* depending upon the size and depth of the pool." The regulations do not specify what lifesaving equipment is required nor is there guidance on how pool size and depth determine necessary equipment. Typical safety equipment includes a shepherd's hook/crook, and a throw ring or life preserver with a line. The presence of one piece of safety equipment in usable condition will meet the regulatory requirement.

*Public Health Rationale:* Drownings may be prevented in the pool when lifesaving equipment is easily available. The presence of adequate and functional lifesaving equipment may facilitate the rescue of distressed or drowning bathers and reduce injury, drowning, and death. Section 5.8.5 (Lifeguard- and Safety-Related Equipment) of the MAHC discusses recommended lifesaving equipment in relation to the size and depth of the pool and may be used for reference and education for pool operators.

*Potential Public Health Threat:* Public health threats may include the absence of adequate and functioning lifesaving equipment. A public health threat may exist in the absence of equipment or personnel that affect the ability of a lifeguard or responsible person to perform water rescue.

*Enforcement:* The absence or inaccessibility of any safety equipment, or presence of equipment that is unusable or in disrepair, would be a violation and may warrant immediate corrective action (replacement or provision of satisfactory equipment in good repair) or the LHD shall issue a NOAV to the operator with the recommendation of closure until the violation is corrected (§ 35.1-6., 12VAC5-431-80, or 12VAC5-450-60).

### **C. 12VAC5-460 - Equipment Room**

#### 12VAC5-460-40. Water supplies.

The regulation states that all water used in swimming pools shall be from sources that are approved by the State Health Commissioner. This requirement indicates that pool water shall be sourced from an approved water supply: public water works as approved by the Office of Drinking Water (12VAC5-590) or an approved private well (12VAC5-630). Note: if an approved private well is used and the pool is located within a campground, the water testing requirements of 12VAC5-450 shall apply. If a facility has water hauled in to fill the venue, the inspector should ensure that the source of the hauled water is approved. Natural surface waters are not an approved water source. The inspector should make inquiries regarding the source of the pool water. A pool operator should know where the pool water is sourced as pool water levels may need to be adjusted regularly depending upon water loss from splash out, evaporation, and backwashing. The operator should be aware of the source of the venue makeup water as well as the source for filling an entire venue. However, an operator not knowing the venue water

source would not constitute an immediate violation. The LHD may have to work with the operator or water provider to determine and confirm the water source.

The regulation further requires that no sewage or wastewater shall be allowed to enter the swimming pool water system. This concern may be addressed by the BIO during plan review and the installation of adequate air gaps or other backflow prevention methods. In the event of runoff from sewage on the ground or other occurrence where wastewater is entering the pool, this incident could negatively impact the water quality and lead to an increased risk of RWIs to patrons.

Finally, the regulation states that no water from the swimming pool shall be allowed to enter the make-up water supply. Pool water may be contaminated and could compromise the makeup water supply. This could impact refill or dilution efforts by reintroducing contaminants into the venue water.

*Public Health Rationale:* An approved and clean water supply is required to ensure that pool water is safe and not a source for transmission of communicable diseases.

*Potential Public Health Threat:* Public health threats may include confirmed use of an unapproved water source, sewage or wastewater is observed entering the aquatic venue water system, or venue water is observed or confirmed to be entering the make-up water supply.

*Enforcement:* If the facility is in violation of water supply requirements, the LHD shall issue a NOAV to the operator with the recommendation of closure until the situation is corrected (§ 35.1-6., 12VAC5-431-80, or 12VAC5-450-60). The LHD shall also notify the BIO for any necessary follow up or related permitting requirements. Any violation of the Sewage and Handling and Disposal Regulations (12VAC5-610) shall be addressed under the applicable processes and enforcement procedures.

#### 12VAC5-460-120. Inlets and outlets.

12VAC5-460-120 (circulation) is not identified under the Equipment Room section of the inspection form. 12VAC5-460-120 is considered under the Pool/Spa Area section of the inspection report; however, the regulation states that direct connection to a sanitary sewer shall not be permitted. Section 120 complements 12VAC5-460-40 (water supply) to ensure an aquatic venue is provided with approved water at all times. Direct connections of the venue water supply or recirculation system to a sanitary sewer would be determined by the BIO during the design and construction plan review.

*Public Health Rationale:* A clean water supply and adequate plumbing connections are required to ensure that pool water is safe and not a source for transmission of communicable diseases.

*Potential Public Health Threat:* Public health threats may include a confirmed (by the BIO) direct connection of the sanitary sewer to the aquatic venue water system.

*Enforcement:* If environmental health staff observe or is otherwise aware of conditions that would indicate a possible direct sanitary sewer connection (and these observations will likely occur in or near the equipment room), the LHD shall immediately notify the BIO for follow up. It is recommended that the LHD accompany the BIO on an inspection to provide adequate inspection documentation in the event a direct connection does exist. If the BIO confirms a direct connection, the LHD shall issue a NOAV to the operator with recommendation of closure until the violation is corrected (§ 35.1-6., 12VAC5-431-80, or 12VAC5-450-60). Confirmation of the correction should come from the BIO.

12VAC5-460-180. Filter rooms.

Environmental health staff should be aware of the possible hazards associated with a filter or equipment room. Chlorine gas can present a health and safety concern to pool and VDH employees, as can filter, pump, or other equipment rooms that are located below ground surface. The regulations require that all entrances below ground surface shall be by stairway and vertical door; adequate headroom shall be provided above all filters; and below-ground filter rooms shall be provided with mechanical ventilation. Many of these requirements will coincide with the USBC, but staff should be aware of occupational hazards associated with confined spaces. A [confined space](#) has limited or restricted means for entry or exit and is not designed for continuous occupancy and may require training or a permit to enter. In addition, an underground pool filter, pump, or equipment room has the potential to create or contain a hazardous atmosphere.

*Public Health Rationale:* An improperly designed and constructed filter room may hinder the operator's ability to maintain the recirculation system; it may also jeopardize an employee's safety when the employee attempts to work in a substandard filter room.

*Potential Public Health Threat:* Public health threats may include a confirmed (by the BIO) confined space or unapproved underground filter room that may endanger persons using the room to service the aquatic venue; inadequate ventilation may contribute to dangerous conditions in a filter room.

*Enforcement:* **If environmental health staff encounter a filter, pump, or equipment room that is below ground surface and does not have a doorway or stairwell, the staff shall not enter the room.** Environmental health staff will consult with the district management team and the BIO about the filter room and entry requirements and safety considerations for pool operation, and request the BIO confirm the condition and requirements of the space. In the event the filter room does not meet building or fire code or other safety requirements, the LHD shall issue a NOAV with immediate closure recommendations until adequate safety requirements of

the underground room can be established and met (§ 35.1-6., 12VAC5-431-80, or 12VAC5-450-60).

#### 12VAC5-460-190. Pumps.

The regulation requires that pump(s) have sufficient capacity to provide a proper turnover rate and backwash sand filters. If the pump is not operating, it is unable to turn over the pool or backwash filters and constitutes a violation. The failure to continuously operate the venue filtration and disinfection equipment may constitute a public health threat as an inoperable pump would prevent the filtration and disinfection equipment from operating.

A violation of 460-190 may also result in a violation of 460-170 (recirculation systems) as the pump, filter, or disinfection equipment is not maintained in working order as designed. Other violations may be observed that are impacted by the pump system not operating correctly and, when compounded, may constitute many possible public health threats.

*Public Health Rationale:* The pump is the “heart” of the recirculation system and is directly responsible for a proper turnover rate to ensure clarity and water balance.

*Potential Public Health Threat:* Public health threats may include an inoperable pump that prevents the filtration and disinfection equipment from operating; insufficient pump operation that contributes to water quality violations threatens the health and safety of bathers.

*Enforcement:* If a pump is not operating, it is not able to provide the required turnover. Environmental health staff shall require corrective action within a determined deadline (either immediately, within 24 hours, or as determined by the BIO or LHD). If the pump is operable but cannot meet the required turnover, and all other pool components are operating and water quality is sufficient, the LHD may consider a corrective action deadline for pump repair or replacement (as needed) in lieu of a NOAV. If the corrective action deadline is not met, or conditions worsen or develop that create a water quality issue, the LHD may consider a NOAV in response to the observations and conditions at the facility (§ 35.1-6., 12VAC5-431-80, or 12VAC5-450-60).

In the event of an inoperable pump (broken or otherwise not pumping, or pumping at reduced rate, etc.) without an immediate fix, the LHD should issue a NOAV with a recommendation of closure until the pump is fixed and capable of meeting system demand.

#### 12VAC5-460-210. Filters.

The regulations prescribe that the filtration system shall be maintained and operated as designed. The regulations also prescribe the filter makeup, media size, and pressure filter and gauge requirements beyond that of manufacturers design. The LHD shall ensure that the pool filtration system is approved through the BIO and is operating as designed and that the operator can ensure that the system is maintained and operating per manufacturer instructions. The failure to

continuously operate the venue filtration and disinfection equipment may be considered a public health threat.

If the filter is found leaking or otherwise damaged in a way that does not cause complete failure; if gauges, valves, or levers are damaged or missing; or if other minor components need repair; these observations may not constitute a public health threat, and a corrective action deadline established on an inspection report may be considered instead of a NOAV.

*Public Health Rationale:* A filter that meets the prescriptive parameters ensures effective treatment and filtration of the pool water and prevents the transmission of waterborne illness.

*Potential Public Health Threat:* Public health threats may include a filter that is not operating or is severely malfunctioning and is incapable of adequate filtration.

*Enforcement:* If environmental health staff observe or otherwise discover that the filter is not operating or is severely malfunctioning while the pool is in operation, and therefore is incapable of adequate filtration, this could constitute a public health threat. The LHD should issue a NOAV with a recommendation of closure until the filtration system is fixed and capable of meeting system demand (§ 35.1-6., 12VAC5-431-80, or 12VAC5-450-60).

If the filter has been replaced with a filter different from the original design, the LHD shall consult with the BIO on whether the filter type is appropriate for the venue operations. If in the event the corrective action deadline is not met, or conditions worsen or develop that creates a water quality issue, the LHD may consider a NOAV in response to the observations and conditions at the facility.

#### 12VAC5-460-240. Chemical feeding equipment.

The regulation states that chemicals shall be automatically fed into the water in the recirculation system by mechanically operated, positive chemical feeders, or open-type chemical machines and that closed-type solution pots are prohibited. This section applies to the mechanical addition of disinfectant and pH controlling chemicals. Practices such as putting chlorine tabs in a skimmer basket, or free floating in-pool chlorinators often used in residential settings are prohibited. This also means that regular hand feeding of disinfectant and pH controlling chemicals is not acceptable.

Supplemental chemicals such as balancing chemicals, sequestering agents, clarifiers, flocculants, CYA, and algaecides are not disinfectants and therefore are not considered to be under the regulatory scope for the requirement of continuous and mechanical feeding. These supplemental chemicals may be added by hand during non-swimming hours, or otherwise when there are no bathers within the aquatic venue. Alternatively, these supplemental chemicals may be slurry fed directly into the filtration system while the venue is occupied per manufacturer instructions. In

addition, the process of breakpoint chlorination, superchlorinating, or “shocking” a pool with chlorine, may occur through hand feeding and is not considered “regular hand feeding.”

Regular hand feeding or other non-automated or non-mechanical methods do not meet the intent of “continuously operated” and therefore could constitute a public health threat. While the water quality and other pool parameters may be in compliance at a given time, and a pool operator may not consider regular hand feeding or other methods of disinfection as a public health concern, the hazards of direct exposure to chemicals by bathers and improper or inadequate disinfection is considered a high risk. In general, an operator should always follow the chemical’s manufacturer’s instructions and never add water to pool chemicals because a violent and explosive reaction can occur.

*Public Health Rationale:* Chemical feeding equipment ensures adequate, reliable, and consistent disinfection; automatic or mechanical feeding of routinely dispensed chemicals ensures safe and adequate applications and with less operator error.

*Potential Public Health Threat:* Public health threats may include the absence of automatic chemical feeding equipment or improper water quality standards or water clarity issues.

*Enforcement:* In the event environmental health staff encounter an aquatic venue that does not have automatic chemical feeding equipment, the potential high-risk considerations warrant the need for a NOAV with a recommendation of closure until the facility provides an acceptable plan to address the disinfection system and any necessary repair or replacement and is capable of meeting system demand (§ 35.1-6., 12VAC5-431-80, or 12VAC5-450-60). As part of the facility’s response to the NOAV, and/or IFFC, and as determined by the LHD, the facility may provide the LHD a corrective action plan with an acceptable timeline for compliance that meets the safety and disinfection concerns.

#### 12VAC5-460-250. Disinfection equipment.

The regulation requires that all swimming pools be provided with approved chlorine feeding equipment capable of applying a dose up to 6.0 ppm of chlorine at the rate of recirculation. The regulation also describes chlorine gas feeding equipment and room requirements, many of which may initially fall under the jurisdiction of the BIO during plan review and construction.

In addition, the regulation states that nothing shall be construed as debarring any other method of disinfection or filtration equipment demonstrated to be of at least equal efficiency and approved by the State Health Commissioner. 12VAC5-462 prescribes disinfection allowances for chlorine and bromine, therefore allowing the use of chlorine or bromine as a disinfectant. There are no other approved primary disinfectants other than chlorine or bromine allowed for public pools.

The failure to continuously operate the venue disinfection equipment, and/or the use of unapproved chemicals or the application of chemicals by unapproved methods to the aquatic

venue water may be considered a public health threat. Section 12VAC5-460-240 complements 460-250, and if 240 is out of compliance, then it is likely that 250 is also out of compliance. The enforcement logic for 240 would apply to 250 as it fits within the requirement to provide approved feeding equipment. The improper storage, handling, and mixing of pool chemicals can be very dangerous to pool operators, the public, and environmental health staff. In general, an operator should always follow the chemical's manufacturer's instructions and never add water to pool chemicals because a violent and explosive reaction can occur.

Chlorine gas is extremely toxic. Equipment failure or improper use can lead to exposure to bathers, staff, and the general public through a chlorine gas plume. This plume could be introduced into the air, or through the recirculation system lines into the venue. Such a release could lead to facility evacuation and emergency response, severe injury, or death. Environmental health staff shall exhibit caution when inspecting a facility with a compressed chlorine gas system and a violation of the regulation regarding compressed chlorine gas would likely constitute a public health threat.

*Public Health Rationale:* Appropriate chemical feeding equipment ensures adequate and reliable disinfection. Chlorine gas, while an effective disinfectant, is a restricted use pesticide because it is an extremely toxic respiratory irritant. The advantages and disadvantages for choosing chlorine gas should be weighed carefully and all precautions taken with its use.

*Potential Public Health Threat:* Public health threats may include equipment incapable of providing the required dosing level and water quality standard violations; chlorine gas equipment or cylinders observed in a state of disrepair or damaged, chlorine gas related rooms incapable of being locked, no ventilation or exhaust system installed or operational in chlorine gas storage rooms, storage location and chlorine gas equipment/cylinder exposure to the elements (sunlight, weather), unsecured chlorine gas equipment, and no chlorine gas related personal protective equipment (PPE present, or inadequate PPE provided, or PPE stored in an inappropriate location).

*Enforcement:* Disinfection dosing capabilities, as determined by manufacturer's specifications, may not constitute a public health threat depending on the severity of the issue, water quality, the ease and timing of remediation, and any outlying BIO considerations. A NOAV and/or corrective action deadline may be appropriate as determined by the LHD (§ 35.1-6., 12VAC5-431-80, or 12VAC5-450-60).

Compressed chlorine gas related violations that may not constitute a public health threat include compressed chlorine gas equipment or cylinders stored in a shared space with the filter room or ventilation concerns, unless otherwise determined by the LHD or BIO. In the event environmental health staff observe such a situation, they should consult with the BIO to confirm prior approval or the need to address the situation through building code.

#### **D. Broken glass or sharp objects in aquatic venue or on deck area**

Broken glass or sharp objects in an aquatic venue or deck area may be considered a public health threat. Glass is hard to see, and even harder to see in water or at the bottom of a pool or on an underwater step or ledge. Other sharp objects may include hypodermic needles.

Sharp objects can also damage the pool liner or recirculation system (filter, pump, etc.). Broken glass can come from a variety of sources, including drink and food containers, lights (including underwater lights), tabletops, and decorative items. Often a pool must be completely drained to properly remediate broken glass within the venue. VDH pool regulations do not specify any requirements or response to broken glass or sharps within the pool or around the deck. However, the hotel, campground, and summer camp regulations provide other avenues for enforcement.

An observation of glass on the deck or within an aquatic venue at a hotel could constitute a violation of 12VAC5-431-290 (General sanitation), whereas *all buildings, other facilities, equipment fixtures, furnishings and the premises of a hotel shall be kept clean, in good repair, and maintained so as to protect the health, safety, and well-being of persons using those facilities.*

An observation of glass on the deck or within an aquatic venue at a campground could constitute a violation of 12VAC5-450-150.E (Safety), whereas *broken bottles, glass, and other sharp objects shall not be allowed to create a hazard to children or others.*

An observation of glass at a summer camp could constitute a violation of Virginia Code 35.1-16 that requires the proper maintenance of buildings, grounds, and equipment and 12VAC5-440-60 B (General sanitation) that states *whereas all rooms, huts, shacks, tents and other buildings and all furniture and equipment therein shall be kept tidy, clean and in a sanitary condition.*

If a facility is in violation of general sanitation or safety regulatory requirements and cannot remediate the observed violation, environmental health staff should consult with the district management team on whether to issue a NOAV with the recommendation of closure or pursue immediate suspension. Determination of what kind of enforcement to pursue will be at the discretion of the LHD and should be based on the severity of the issue, the willingness of the operator to comply, and any other outstanding situations that lend themselves to the permitting of an establishment.

#### **E. Any other item determined to be a public health hazard by regulatory authority.**

There will be other situations or observations that are important to consider for the health and safety of the public and should be discussed with the operator, and if appropriate, concerns redirected to an applicable agency. If in the event a situation observed is a public health threat that does not have a direct correlation to the Virginia Pool Regulations, consult with the district management team, who may then consult with OEHS to determine if the situation warrants

immediate legal action. Appendix B - Other Possible Public Health Threats and Best Practices provides a summary of situations that are not addressed or included in the requirements of 12VAC5-462 or 12VAC5-460 but are otherwise determined to be potential public health threats. These potential public health threats may be addressed by another applicable regulation, local building code, local ordinance, or an order.

If environmental health staff observe a situation associated with an aquatic facility that they consider an immediate threat to public health not outlined within this guidance document or applicable regulations, staff shall immediately report to their supervisor the observation and concern. The district management team will determine if the observation warrants immediate action and may then consult with OEHS. As expressed in regulation, the director may suspend a permit to operate a facility without an informal conference if the director finds the continued operation constitutes a substantial and imminent threat to the public health (12VAC5-431-210 & 12VAC5-450-60). Any such action requires consultation and approval by the State Health Commissioner.

## **PART III – GENERAL ENFORCEMENT & CORRECTIVE ACTIONS**

### **1. General Enforcement & Corrective actions**

#### **A. Inspection reports**

The pool regulations (12VAC5-460 and 462) do not prescribe an inspection frequency or the requirement to record findings on an inspection report form. However, all environmental health staff shall record any inspection observations on an inspection report form. The standard state pool inspection report form (paper, electronic, or database form) includes the regulatory content for 12VAC5-462 and 12VAC5-460 and shall be used any time an inspection is conducted in accordance with state policy and processes. In addition, if an inspection coincides with a permitted facility inspection, an individual inspection report form shall be completed for both the facility and the pool. All inspection reports shall be entered in the state database and shall include all observations from the inspection. Any photographs or attachments should be uploaded into the database.

Inspection reports shall record environmental health staff's actual observations in a context that is easy to understand and shall be legible. The recorded observations should be easily decipherable by anyone reading the report. Staff shall ensure that observations are accurate, reflective of the facility and observation, properly spelled, and acronyms are identified. Inspection reports are legal documents and may be relied upon in IFFCs, case decisions, or court cases. Environmental health staff should be confident in the content within the report and capable of supporting and defending their observations. In the event of questionable observations, or when there is disagreement between environmental health staff and operator or owner, photographs may be beneficial to the case and will provide supporting evidence should the situation progress to enforcement. Photographs are also helpful when referring to issues in the past and can assist anyone in understanding the situation under review.

Immediate corrective actions should be recorded and noted as Corrected on Site (COS). High-risk violations and public health threats should be corrected immediately, or closure of the venue should be considered as described in previous sections. If high-risk violations are not COS and a NOAV will be pursued or considered, this information and the reasoning should be documented in the inspection report in the comments section of the report.

If environmental health staff determine that a compliance deadline is needed for moderate- or low-risk violations, the deadline(s) must be recorded via an inspection report, email, letter, or other means of communication and entered in the database. It is essential that the deadlines are recorded to ensure the operator and environmental health staff are mutually aware of the deadlines for completion. Recording the deadline(s) also provides documentation for further enforcement if the deadline is not met. Long-term compliance deadlines should not be used for

high-risk violations as they may warrant a NOAV if immediate corrective action cannot be accomplished.

### **B. Follow-up inspections**

When environmental health staff observe a high- or moderate-risk violation and corrective actions are not completed at the time of the inspection, a follow-up inspection should be scheduled within 1 to 3 days, depending on the severity of the violation. If a facility has closed the aquatic venue in response to a high-risk violation, it may be beneficial for environmental health staff to conduct a follow-up inspection to ensure the venue has remained closed. A follow-up inspection may also be appropriate in response to a notification from the operator that the violation has been corrected. Depending on the severity of the observation, a follow-up inspection with the BIO may be warranted and is encouraged any time compliance with regulations that refer to the building code is in question. As with routine or complaint inspections, the follow-up inspection shall be recorded on an inspection report.

At the discretion of the LHD, a follow-up inspection may be forgone if other methods can convey that the venue is in compliance. Photographs, work receipts or reports, or other documentation pertaining to the correction of a violation may be sufficient to ensure compliance with the regulations. Facility compliance history, the severity of the violation, and LHD policy should be considered before substituting a follow-up inspection with other means of documentation.

### **C. Notice of Alleged Violation & Informal Fact-Finding Conference**

A Notice of Alleged Violation (NOAV) is the recommended process to achieve immediate compliance of observed high-risk violations or public health threats. In the event a pool owner or operator is unable or unwilling to take immediate corrective actions to resolve a high-risk violation, the LHD shall issue a NOAV to the owner or operator as soon as possible (immediately or within 24 hours if possible) (§ 35.1-6., 12VAC5-431-80, or 12VAC5-450-60). LHD policy may require concurrence by a supervisor prior to the issuance of a NOAV, and the environmental health staff shall follow LHD policy related to the issuance of NOAVs.

Environmental health staff cannot predict when they will observe a high-risk violation or a situation that warrants the immediate issuance of a NOAV. Therefore, it is recommended that environmental health staff have a NOAV template ready and available for immediate delivery in the event a high-risk violation cannot be immediately resolved while staff are onsite. If LHD policy allows, environmental health staff could generate the NOAV onsite and hand deliver the NOAV to the operator immediately.

For high-risk violations, the NOAV will likely provide a recommendation of closure until the violation is fixed or the issue resolved. The NOAV may also include recommendations such as

consulting with the BIO, contracting with a pool management company, providing a corrective action timeline, or other appropriate recommendations as determined by the LHD.

In the event a facility has repeat violations and has undergone two or more follow-up inspections, issuance of a NOAV may be appropriate to document the repeat violations and to provide documentation should additional enforcement be warranted in the future. The NOAV will also provide the facility owner the opportunity to request an IFFC and either deny the allegations or provide a pathway to discuss corrective actions and an acceptable timeline with the LHD.

An Informal Fact-Finding Conference (IFFC) is offered in every NOAV per [§ 2.2-4019](#) of the Code of Virginia, and it provides the recipient the opportunity to provide additional information on the facility, inspection, and record of alleged violations outlined in the NOAV to the local health director. The IFFC can assist the local health director in determining whether conditions observed at the aquatic facility violated the regulations. The IFFC can also provide an avenue for the LHD to pursue and discuss the recommended actions, establish a corrective action plan, or identify other efforts the owner or operator may pursue to achieve compliance with the Regulations.

The LHD may, at any time, contact OEHS for assistance with determining the content of a NOAV or determining various recommendations or “next steps” that a facility may consider to achieve compliance.

#### **D. Suspension or Revocation of associated permits**

If high-risk violations are observed and the operator won't close the venue, staff may consult with district management to determine if immediate permit suspension is warranted, possibly alongside or instead of a NOAV. The LHD must consult OEHS before any immediate suspension.

If a high-risk violation poses an imminent public health threat, the local health director, with the State Health Commissioner's concurrence, may suspend the permit without an informal conference. The LHD must consult OEHS beforehand, and OEHS will assist with the suspension process.

In the event a facility flagrantly and continuously violates the regulations, the LHD may, after providing a notice of intent to revoke the permit, and after providing an opportunity for an IFFC, revoke the facility permit.

In pursuing a suspension or revocation of a facility permit, the LHD must follow the processes outlined in the applicable regulation dependent upon the type of facility where the pool is located.

**E. Public Health Order for pool closure (§ 32.1-26. Orders; hearing and notice & 12VAC5-462-100.) Order comes from the commissioner, not the LHD.**

A public health order is the prescribed method to require compliance with the provisions of the Swimming Pool Regulations Governing the Posting of Water Quality Test Results (12VAC5-462). Sections 12VAC5-462-100 through 130 outline the process and requirements for a public health order. The public health order option outlined in this section will apply only to the enforcement of facilities that are only regulated by 12VAC5-462, and not those that are regulated by both 12VAC5-460 and 12VAC5-462.

A public health order must come from the State Health Commissioner. Therefore, in response to an observed high-risk violation specific to 12VAC5-462, the LHD shall document the situation, observation, violation(s), and corrective action(s) and discuss with OEHS prior to the submission of a public order request to the State Health Commissioner.

While the regulations prescribe the process of a public health order, the amount of time required to issue such an order and when it becomes effective must be considered in the event of a high-risk violation and the threat to public health and safety. Therefore, it is recommended that the LHD consider the risk and the applicability of a NOAV with recommendations (if the operator will comply with the requests) in the event of a substantial and imminent threat to the public health.

Be advised that before the issuance of an order described in 12VAC5-462-100, a hearing must be held with at least 30 days' notice by certified mail to the affected owner or other person of the time, place, and purpose of the hearing. In response to a high-risk violation that has not been corrected, the LHD can issue a NOAV with a Notice of an IFFC and a Notice to Pursue a Public Health Order. This Notice shall include recommended actions the facility can take to negate the pursuit of a public health order. Any time a public health order is considered, the LHD shall consult with OEHS for guidance and assistance facilitating communication with the State Health Commissioner.

Following the issuance of an order, the order shall become effective not less than 15 days after mailing a copy by certified mail (documented hand delivery will suffice as delivery in lieu of certified mail, but the delivery must be signed for and otherwise documented).

The LHD must consult OEHS before pursuing a public health order, immediate suspension, or hearing, as approval from the State Health Commissioner is required.

**F. Penalties, criminal misdemeanor, injunction, mandamus, or other processes (§ 32.1-27. and § 35.1-7. Penalties, injunctions, civil penalties, and charges for violations).**

Virginia Code and the regulations provide the LHD or the State Health Commissioner the ability to pursue criminal misdemeanors, injunctions, and other processes to reduce or remove a public

health threat. However, the LHD should ensure that every effort has been taken at the local level to obtain compliance to avoid a public health threat before pursuing this level of enforcement. Continual and robust documentation of the ongoing violations and the attempts to gain compliance must be documented prior to pursuing an alternative enforcement action. The amount of time required to process such actions must be considered in the event of a high-risk violation and the threat to public health and safety. Therefore, it is recommended that the LHD consider the risk and the applicability of a NOAV with recommendations (if the operator will comply with the requests) or an immediate suspension of a facility permit (if applicable) in the event of a substantial and imminent threat to the public health.

The LHD must consult with OEHS prior to any pursuit of an injunction, immediate suspension without notice, or a hearing. Consultation with and approval by the State Health Commissioner is required for either action.

In the event the LHD intends to pursue criminal charges for the violation of the applicable regulation, it is recommended that they consult with OEHS prior to such action. The consultation with OEHS may provide context and consideration of other enforcement options (including injunctions or emergency orders). If filing charges is determined to be warranted during the consultation, the LHD will file through the local magistrate per local and district policy.

## **G. Reopening**

### **1. Reopening after closure**

If a facility or operator chooses to close the venue in response to an inspection and coinciding violation, the LHD may provide confirmation that it is acceptable for the operator to reopen the facility based on the situation and corrective actions taken. It is at the discretion of the LHD to determine how they will accept confirmation of the information provided (phone call, work order, follow up site visit, etc.). This determination should be made based on the working relationship that the LHD has with the operator and facility.

### **2. Reopening after NOAV**

In the event a NOAV is issued with the recommendation to close the aquatic venue, and the operator complies with the recommendations, and the operator states that the violations have been corrected and is requesting to reopen the venue, the LHD should conduct a site visit to confirm the corrective actions have been taken and to document the actions, efforts, and observations.

If corrective actions are in progress with documentation or updates, the LHD may accept emails, calls, or other communications as proof of compliance. However, upon completion of the corrective actions, it is recommended that the LHD conduct a final

inspection to determine the conditions at the venue and compliance with the recommendations and regulations.

Approval or confirmation of reopening of the facility shall be provided to the operator (email, letter, phone call) and shall be documented in the facility file and within the database.

### 3. Reopening after suspension

A facility suspension may be lifted at any time if the reason for suspension no longer exists. The conditions that warranted the suspension should be confirmed to no longer exist by the LHD and observations recorded either on an inspection form or outlined in communication to the facility.

The hotel regulations under 12VAC5-431-210 provide that the director may end the suspension at any time if the reasons for suspension no longer exist. Whereas the campground regulations, under 12VAC5-450-60.B, provide that the State Health Commissioner may end the suspension at any time if the reasons for the suspension no longer exist. However communicated, the lifting of the suspension should be documented within the facility file and database.

An application to reopen a facility is not required unless the circumstances required modification or construction at the facility that would require a plan review application. If a plan review is required based on circumstances, the owner will need to submit the plan review application as prescribed by the regulation and LHD policy (12VAC5-460-30).

### 4. Reopening after revocation

If a facility permit is revoked due to non-compliance with the pool regulations (12VAC5-460 and/or 462), and the LHD has determined that the violations have been corrected, the facility may reapply for a permit to operate the facility. The owner or operator may reapply by following the procedures outlined in the corresponding regulations pertaining to the facility type. This reapplication may require a plan review application based on the extent of corrective actions (12VAC5-460-30). The LHD shall consult with the BIO or the locality as necessary prior to issuing a permit.

### 5. Reopening after a public health or emergency order

A facility may reopen if the reason for the public health or emergency order no longer exists as determined by the State Health Commissioner. The conditions that warranted

the order should be confirmed to no longer exist by the LHD and observations recorded either on an inspection form and outlined in formal communication to the facility. The State Health Commissioner can lift the order, and the lifting of the order shall be documented within the facility file and database.

An application to reopen a facility is not required unless the circumstances required modification or construction at the facility that would require a plan review application. If a plan review is required based on circumstances, the owner will need to submit the plan review application as prescribed by the regulation and LHD policy (12VAC5-460-30).

## **PART IV - RESOURCES**

### **1. Citations & References**

<sup>1</sup> CDC. 2022. Healthy Swimming. <https://www.cdc.gov/healthywater/swimming/index.html>

<sup>2</sup> 2018 Model Aquatic Health Code (MAHC). 3rd Edition, July 2018. CS288986-A. U.S. Department of Health and Human Services: Centers for Disease Control and Prevention.

<sup>3</sup> 2018 Annex to the Model Aquatic Health Code. 3rd Edition, July 2018. CS288986-A. U.S. Department of Health and Human Services: Centers for Disease Control and Prevention.

## 2. Glossary

*Note: The terms defined in this document apply to this document only and are not regulatory definitions.*

**Backwash** - The process of cleaning a filter by reversing the flow of water through the filter.

**Bromine** - A generic term used to describe any chemical that releases hypobromous acid when dissolved in water.

**Chlorine** - A heavy green, highly poisonous gas compressed in liquid form and stored in heavy steel tanks, used as a disinfectant and algaecide. Extreme caution must be used in handling. When mixed with water, chlorine gas forms hypochlorous acid (HOCl), the primary chlorine-based disinfectant for public aquatic venues. Chlorine is often a general term used in this manual which refers to chlorine-based disinfectants, including free or combined chlorine.

**Confined space** - A space or area “not necessarily designed for people, they are large enough for workers to enter and perform certain jobs. A confined space also has limited or restricted means for entry or exit and is not designed for continuous occupancy. Confined spaces include, but are not limited to, tanks, vessels, silos, storage bins, hoppers, vaults, pits, manholes, tunnels, equipment housings, ductwork, pipelines, etc.” ([Confined Spaces](#), Occupational Safety and Health Administration, US Department of Labor).

**Corrected on site (COS)** - Observed violations that are corrected by the pool operator while the LHD inspector is present and onsite at the facility, during the inspection period.

**Disinfectant** - An agent that destroys microorganisms that might carry disease.

**Environmental Health Staff** - Health department staff that may include Environmental Health Associates, Specialists, Supervisors, Managers, or other local health department staff designated by the Environmental Health Manager, Supervisor, or District Director.

**Free chlorine** - The portion of total chlorine that is not combined chlorine and is available as a disinfectant (HOCl and OCl<sup>-</sup>). The portion of total chlorine that reacts with DPD. (FC; Free Available Chlorine)

**Informal Fact-finding Conference (IFFC)** - Appeals of agency allegations contained in a NOAV generally begin with the informal appeal – the Informal Fact-finding Conference (IFFC). This is an informal proceeding attended by LHD personnel and the owner/agent. By regulation, local health directors preside during IFFCs.

**High-risk** - High-risk violations are observations that pose an immediate public health threat to the public, such as situations that could immediately contribute to injury or death. High-risk violations may warrant immediate closure recommendations.

**Hypochlorous acid (HOCl)** - An unstable acid with excellent bactericidal and algicidal properties, the active agent by which chlorine serves as a disinfectant. Formed by dissolving

chlorine gas, hypochlorites, chlorinated isocyanurates, or any other chlorinating agent in water. It is in dynamic equilibrium with hypochlorite ion (OCl<sup>-</sup>) dependent on the pH of the water.

**Lifeguard** - A reliable and competent individual who can perform the functions and skills necessary to keep patrons of aquatic facilities safe in and around the water and in case of an emergency.

**Low-risk** - Low-risk violations will likely not result in immediate injury or pose an immediate impact on health and safety. A compliance schedule may be established by the LHD depending upon the facility, patronage, and situation.

**Make-up water supply** - Potable water used to fill or refill a pool or spa.

**Model Aquatic Health Code (MAHC)** - The [Model Aquatic Health Code](#) (MAHC) is guidance based on the latest science and best practices to help ensure healthy and safe experiences in public pools, hot tubs, and water playgrounds (such as those at apartment complexes, hotels, gyms, and waterparks). MAHC guidelines are all-inclusive and address the cutting-edge design, construction, operation, and management needs of today's public aquatic facilities.

**Model Aquatic Health Code Annex** - The [annex](#) is a scientific and best practices explanatory supplement to the MAHC to assist users in understanding the intent and scientific or best practices justification behind MAHC provisions.

**Moderate-risk** - Moderate-risk violations pose a threat or danger to health and safety if allowed to continue for a prolonged period of time and should be remediated immediately or within 24 hours, or as otherwise prescribed by the LHD. If 24-hour compliance is not achieved, and if the situation warrants, a moderate-risk violation may be considered high-risk and closure considered.

**Notice of Alleged Violation (NOAV)** - A written notice that informs an operator, facility owner, or other person in charge that an LHD observed certain conditions at a facility, which may constitute threats to public health and the environment.

**Parts per million (ppm)** - The amount of item being measured in one million units. In dilute water solutions, the weight volume relationship of milligrams per liter (mg/L) may be substituted.

**Pathogen** - A microorganism that causes disease in humans.

**Personal protective equipment (PPE)** - Personal protective equipment (PPE) is used by personnel to protect themselves and others when conducting inspections or otherwise performing work duties. PPE helps protect personnel from potential hazards encountered in workplace facilities and may include gloves, masks or face coverings, eye protection, gowns or coveralls, respirators or other protective equipment or clothing.

**pH** - The negative logarithm of the hydrogen ion concentration of a water solution. A measure of the degree of acidity or alkalinity of a solution. A pH below 7.0 is considered acid. A pH above 7.0 is considered alkaline.

**Plan review** - A plan review includes the LHD reviewing plans or statements related to new construction, remodeling, or alteration of a public pool at a VDH permitted facility (hotel, campground, summer camp). Plans must include information related to the pump and recirculation system, the basic operation and maintenance aspects of the pool operation, water supply and wastewater disposal, owner or operator contact information, and other information related to pool operations as required by the local health department. Plan reviews can occur before construction, remodeling, or major alteration, but must occur prior to operation of the swimming pool.

**Public Health Order** - An order or directive issued by the State Health Commissioner that may require any owner, or other person, to comply with the provisions of the regulations. The order shall be signed by the State Health Commissioner and may require the immediate cessation and correction of the violation; appropriate remedial action to ensure that the violation does not recur; the submission of a plan to prevent future violation to the State Health Commissioner for review and approval; the submission of an application for a variance; or any other corrective action deemed necessary for proper compliance with the regulations.

**Public health threat** – Public health threats pose a significant threat or danger to health and are considered to exist when there is evidence sufficient to show that a product, practice, circumstance, or event creates a situation that requires immediate correction or cessation of operation to prevent injury based on the number of potential injuries and the nature, severity, and duration of the anticipated injury or illness. These hazards are considered throughout the manual and are identified as potential public health threats where applicable to a regulation.

**Recreational Water Illness (RWI)** - RWIs are diseases that people can get from the water in which they swim and play. RWIs cause diarrhea or other gastrointestinal issues, as well as skin, ear, respiratory, eye, and other infections.

**Residual** - The concentration of a chemical (typically of disinfectant) in the pool water.

**Shepherd's crook (hook)** - “Shepherd’s crook” or “life-hook” or reaching pole. For safety, the hook must be a looped frame-type hook, and not a single metal hook. The hook protects the swimmer from being injured by the pole as well as allows an unresponsive swimmer to be pulled in.

**Throw ring** - A buoyant life ring, torpedo buoy, or other easily thrown buoyant device that is designed for a person on the deck to throw to a person in distress in the aquatic venue.

**Turnover rate** - The time it takes (in hours) to circulate an amount of water equivalent to the volume of the pool or spa.

**Virginia Graham Baker Act (VGBA)** - The VGBA is a federal law enacted in 2007 in response to child drownings in pools. Title 15 - Commerce and Trade, Chapter 106 - Pool and Spa Safety (15 USC Ch. 106: POOL AND SPA SAFETY) outlines protections that are intended to protect childhood swimmers through the designation of a consumer product safety rule, pool drain cover standards, and other public pool safety requirements. The VGBA requires public swimming pool or spa drain covers to comply with American Society of Mechanical Engineers and American

National Standards Institute entrapment protection standards. The law requires that public pools be equipped with anti-entrapment devices that comply with standards, have vacuum release systems in place, and have other protective systems such as venting, shut off, and disabling systems.

**Water clarity** - The degree of pool water transparency, characterized by the ease with which an object can be seen through a given depth of water or by use of a turbidity meter.

### **3. Appendices**

# **Appendix A**

## **Aquatic Facility Enforcement Field Guide**

**Aquatic Facility Enforcement Field Guide**

*This table is provided as an aid in determining risk and response and should not be considered as all inclusive. Observations and actions that are not listed or differ from those provided in this table may be applicable to the inspection and should be documented and environmental health staff discretion used in the follow up or enforcement of observations. This table is intended to be used in conjunction with the Pool and Hot Tub Enforcement Manual and not independent of applicable regulation and guidance.*

High-risk violations that may be cause for immediate repair or closure and are designated in **bold** and with an asterisk (\*).

Moderate-risk violations may require 24-hour compliance and are designated in **bold**. If 24-hour compliance is not achieved, they may become high-risk violations, at LHD discretion.

Low-risk violations may provide a variable compliance schedule, as determined by the LHD.

Water Quality (All Pools)				
CODE	OBSERVATION	RECOMMENDED CORRECTIVE ACTION	FOLLOW-UP/ RE-INSPECTION	RECOMMENDED ENFORCEMENT ACTION
12VAC5-462-280	Posting of water quality parameters on an inappropriate material that is not readily observable to the swimmers; posting is not occurring daily or accurately to reflect venue water conditions.	Temporary or permanent posting in an acceptable location while the inspector is on site.  Testing by pool operator while inspector is on site, test results confirmed by inspector and posted by operator.	Re-inspection at routine schedule or at a risk-based frequency to ensure compliance.	Repeat violations: NOAV with recommendations and scheduled IFFC
<b>12VAC5-462-290*</b>	<b>Disinfectant levels:</b>  <b>Very Low or Very High (very low ≤ 0.5ppm) (very high ≥10ppm)</b>	Recommend operator closes pool until corrected with VDH re-inspection; or operator may reopen the pool before re-inspection when disinfectant is at proper levels and has notified LHD; LHD provides approval.	Follow-up inspection is highly recommended by LHD after 24 hours and before the next routine inspection.	<b>NOAV with immediate closure recommendation*</b>  Through NOAV, LHD may recommend: Pool to close until disinfectant levels corrected; owner to send operating records for at least 1 week; and/or

				recommend training or consultation with pool management company to improve pool operations; and/or schedule IFFC.
<b>12VAC5-462-290</b>	Disinfectant levels:  Low – below minimum or High – above maximum	Discuss with operator that pool can remain open after implementing immediate corrective action and request operator submit records to LHD within 24 hours showing proper disinfection levels have been maintained.	Follow-up recommended by LHD after 24 hours and before next routine inspection.	<b>24-Hour Compliance</b>  If compliance is not met, issue NOAV. Through NOAV, LHD may recommend: Pool to close until levels are within regulatory limits; owner to send operating records for at least 1 week; and/or recommend training or consultation with pool management company to improve pool operations; and/or schedule IFFC.
<b>12VAC5-462-290*</b>	<b>pH levels:</b>  <b>Very Low – below 6.5, or Very High – above 8.0</b>	Recommend operator closes pool until corrected with VDH re-inspection; or operator may reopen the pool before re-inspection when pH is at proper levels and has notified LHD; LHD provides approval.	Follow-up inspection is highly recommended by LHD after 24 hours and before next routine inspection.	<b>NOAV with Immediate Closure recommendation*</b>  Through NOAV, LHD may recommend: pool to close until pH levels corrected; owner to send operating records for at least 1 week; and/or recommend training or consultation with pool management company to improve pool operations; and/or schedule IFFC.
<b>12VAC5-462-290</b>	pH levels:  pH low –below minimum, or	Discuss with operator that pool can remain open after implementing immediate corrective action and request	Follow-up recommended by LHD after 24 hours and before next routine inspection.	<b>24-Hour Compliance</b>  If compliance is not met, issue NOAV. Through NOAV, LHD

	pH high –above maximum	operator submit records to LHD within 24 hours showing proper pH levels have been maintained.		may recommend: Pool to close until levels are within regulatory limits; owner to send operating records for at least 1 week; and/or recommend training or consultation with pool management company to improve pool operations; and/or schedule IFFC.
<b>12VAC5-462-290*</b>	<b>Water temperature is <math>\geq 105^{\circ}\text{F}</math>.</b>	Recommend operator correct on site, or close pool until corrected with VDH re-inspection; or operator may reopen the pool before re-inspection when temperature is at $104^{\circ}\text{F}$ or lower and has notified LHD; LHD provides approval.	Follow-up inspection is highly recommended by LHD after 24 hours and before next routine inspection.	<b>NOAV with Immediate Closure recommendation*</b>  Through NOAV, LHD may recommend: pool to close until temperature corrected; owner to send operating records for at least 1 week; and/or recommend training or consultation with pool management company to improve pool operations; and/or schedule IFFC.
<b>12VAC5-462-290</b>	Water temperature is at or near $105^{\circ}\text{F}$ .	Request operator adjust temperature while inspector is on site.	Follow-up inspection is highly recommended by LHD after 24 hours and before next routine inspection.	<b>24-Hour Compliance</b>  If compliance is not met, issue NOAV. Through NOAV, LHD may recommend: Pool to close until levels are within regulatory limits; owner to send operating records for at least 1 week; and/or recommend training or consultation with pool management company to improve pool operations; and/or schedule IFFC.

12VAC5-462-300	Test kit is not adequate/available. An orthotolidine test kit only is on the premises.	Request operator acquire required test kit within determined compliance schedule.	Request owner to send proof of testing equipment purchase; and/or determine alternate compliance schedule; conduct follow up inspection as needed.	If compliance is not met, issue NOAV. Through NOAV, LHD may recommend: Pool to close until required equipment is obtained; owner to send operating records for at least 1 week; and/or recommend training or consultation with pool management company to improve pool operations; and/or schedule IFFC.
<b>Pool / Spa Area (Tourist Pools)</b>				
CODE	OBSERVATION	RECOMMENDED CORRECTIVE ACTION	FOLLOW-UP/ RE-INSPECTION	RECOMMENDED ENFORCEMENT ACTION
<b>Walking Perimeter, Surfaces, or Barriers</b>				
12VAC5-460-60	Colors, patterns, or finishes of the pool or spa <b>interior obscures objects or surfaces within the pool*</b> .  Pool surfaces are rough or damaged resulting in sides and bottom of the pool not clean.	BIO approves the construction of the pool lining.  LHD discretion to establish a compliance schedule depending on circumstance & BIO consultation.	Conduct joint inspection with BIO to determine compliance schedule.	<b>NOAV with Immediate Closure recommendation* IF</b> the pool shell or finish prohibits the ability to see the bottom of the venue*.  <b>Issue NOAV as needed</b> to establish a compliance schedule. Through NOAV, LHD may propose a revised compliance schedule to meet goals; or request owner to send proof of equipment purchase as evidence of meeting compliance schedule; or <b>recommend closure if public health threat is observed;</b> and/or schedule IFFC.

12VAC5-460-80	There are broken concrete or tiles, worn/slippy surfaces, pooling or standing water on the deck, or water is draining from the surface back into the pool.	LHD discretion to establish a compliance schedule depending on circumstance & BIO consultation.  Notify BIO of deck conditions and proposed maintenance plan for potential building construction permitting and approval.	Conduct joint inspection with BIO to determine compliance schedule. Temporary mitigation may be needed, which may require BIO consultation.	Issue NOAV as needed to ensure timely compliance.  Through NOAV, LHD may propose a revised compliance schedule to meet goals; or request owner to send proof of ongoing repairs or maintenance; or <b>recommend closure if public health threat is observed</b> ; and/or schedule IFFC.
<b>12VAC5-460-90*</b>	<b>Barrier height or construction is not adequate or intact.</b>  <b>Gates/doors are not self-closing; Self-latching mechanism is not adequate or operable.</b>  <b>Gates are not properly locked when pool is closed to the public.</b>	Recommend operator correct on site, or <b>close pool until corrected</b> with VDH re-inspection; BIO approves the construction of the pool barriers. <b>LHD consult with BIO.</b>  LHD discretion to establish a compliance schedule depending on circumstance & BIO consultation. Pool may remain open if immediate temporary repair or mitigation made with BIO approval.	Conduct joint inspection with BIO to determine compliance schedule.  Follow-up inspection is highly recommended by LHD after 24 hours to determine closure or compliance.	Based on determination of violation, <b>LHD issues NOAV with immediate closure recommendation* or a compliance schedule.</b> Through NOAV, LHD may recommend pool to close until barriers are within compliance as determined by BIO and re-inspection, pool open only with BIO & LHD approval; or owner to send proof of repair or temporary mitigation; and/or schedule IFFC.
<b>Steps and Ladders</b>				
12VAC5-460-100	Steps and ladders are not provided as required by USBC; are not maintained or in operable condition (ladder or handrails have been removed or are missing; treads of built in and ladder	Notify BIO of conditions and maintenance plan for potential building construction permitting and approval.  BIO approves the construction of the pool steps and ladders.	Consult with BIO for original approval of step/ladder construction and based on BIO decision, LHD discretion to establish a compliance schedule.	Based on circumstance and/or BIO determination of a violation, <b>LHD issues a NOAV and recommends a compliance schedule or closure*.</b>

	steps do not have a non-slip finish; ladder is missing step(s); ladder or steps are not securely attached).	LHD discretion to establish a compliance schedule depending on circumstance & BIO consultation.	If immediate fix is not an option some temporary mitigation may be needed, which will require BIO consultation.	Through NOAV, LHD may recommend pool closed until re-inspection; or pool open only with BIO and/or LHD approval; or compliance schedule; and/or owner to send proof of repair or temporary mitigation; and/or schedule IFFC.
<b>Overflow Facilities, Inlets &amp; Outlets</b>				
12VAC5-460-110	Overflow Facilities- Skimmers/Gutters are not in place or functioning improperly; waterline tiles are excessively soiled and/or there are excess leaves, sticks, scum or other floating debris on the surface of the pool water.	LHD discretion to establish a compliance schedule.  Notify BIO of conditions and maintenance plan for potential building construction permitting and approval.	Temporary mitigation may be needed, which may require BIO consultation.	If compliance is not met, issue NOAV. Through NOAV, LHD may recommend: Pool to close until requirements are met; revise or establish compliance schedule to meet goals; or request owner to send proof of repair or temporary mitigation; owner to send operating records for at least 1 week; and/or recommend training or consultation with pool management company to improve pool operation skills; and/or schedule an IFFC.
12VAC5-460-120	Water circulation is not uniform, and/or  Dead spots are observed in the venue.	LHD discretion to establish a compliance schedule.  Notify BIO of conditions and maintenance plan for potential building construction permitting and approval.	Conduct follow up inspection at LHD discretion.	If compliance is not met, issue NOAV. Through NOAV, LHD may recommend: Pool to close until requirements are met; revise or establish compliance schedule to meet goals; or request owner to send proof of repair or temporary mitigation; owner to send operating records for at least 1 week; and/or

				recommend training or consultation with pool management company to improve pool operation skills; and/or schedule an IFFC.
<b>12VAC5-460-120*</b>	<b>Direct connection of the pool circulation system to a sanitary sewer is determined.</b>	Consult with BIO to determine violation.  Recommend operator closes pool until corrected with VDH and BIO re-inspection; LHD provides approval.	Conduct joint inspection with BIO to determine violation and compliance options and schedule.	Consult with BIO and based on BIO determination of a violation, issue <b>NOAV with Immediate Closure recommendation*</b> and establish a recommended compliance schedule as determined by LHD and BIO.  Through NOAV, pool closed until re-inspection, pool open only with BIO & LHD approval; owner to send proof of repair or temporary mitigation as approved by BIO; and/or schedule IFFC.
<b>12VAC5-460-120*</b>	<b>Inlets and outlets are hazardous: Overflow system or skimmer equalizer line does not prevent entrapment</b> in accordance with VGBA, or  <b>Suction outlets are improperly secured or not intact</b> in accordance with VGBA, or  <b>Single main drain or spa drain without safety system</b>	<b>Identify violation with pool operator and recommend immediate closure of pool.</b>  Notify BIO of conditions and maintenance plan for potential building construction approval.	Conduct joint inspection with BIO to determine violation and compliance options and schedule.  Follow-up inspection is highly recommended by LHD after 24 hours to confirm closure or to document repeat non-compliance.	Depending on observation, issue <b>NOAV with Immediate Closure recommendation*</b> ; and/or consult with BIO and based on BIO determination of a violation, issue <b>NOAV with Immediate Closure recommendation*</b> and establish a recommended compliance schedule as determined by LHD and BIO.  Through NOAV, pool closed until re-inspection, pool open

	<b>or device in accordance with VGBA.</b>			only with BIO approval; owner to send proof of repair or temporary mitigation as approved by BIO; and/or schedule IFFC.
<b>Depth Markings, Lighting, Food &amp; Drink Facilities</b>				
<b>12VAC5-460-130*</b>	Depth markings are not adequate, <b>OR no steps have been taken to ensure swimmers can easily determine the depth of all sections of the pool.</b>	Recommend <b>operator closes pool until corrected</b> with VDH re-inspection; or operator may reopen the pool before re-inspection when adequate depth markings are provided and has notified LHD; LHD provides approval.  Notify BIO of conditions and maintenance plan for potential building construction approval.	Follow-up inspection is highly recommended by LHD after 24 hours or to confirm depth marking is continually adequate, and before next routine inspection.  Temporary mitigation may be allowed by LHD with BIO consultation.	<b>NOAV with Immediate Closure recommendation*</b>  Through NOAV, pool closed until depth marking corrected and re-inspection, pool open only with BIO or LHD approval; owner to send proof of repair or temporary mitigation as approved by LHD or BIO; and/or revise compliance schedule; and/or schedule IFFC.
<b>12VAC5-460-150*</b>	<b>Lighting after dark is insufficient to see the entire pool area as well as the bottom of the pool;</b> any installed lights are not working properly (in bad repair). <b>Proper grounding of the pool lights is not occurring and the fixtures create a hazard to the bathers* or clarity issue associated with the pool shell and after dark swimming without adequate lighting*.</b>	<b>If lighting creates a public health threat to bathers (electrocution or water clarity) recommend immediate closure.</b>  LHD discretion to establish a compliance schedule for minor violations.  Notify BIO of conditions and maintenance plan for potential building construction approval.	Conduct joint inspection with BIO to determine violation and compliance options and schedule.  Follow-up inspection is highly recommended by LHD after 24 hours to confirm closure or to document repeat non-compliance.	If lighting creates a public health threat to bathers <b>(electrocution or water clarity) issue NOAV with recommendation of immediate closure* or pursue immediate suspension of facility (by commissioner)*</b>  Through NOAV, or suspension hearing, LHD may recommend: pool to close until (insert item) corrected; revise compliance schedule to meet goals, and/or ask owner to send proof of

				repair or new installation; and/or schedule IFFC.
12VAC5-460-160	Food and drink are prepared and served by a vendor and consumed by patrons within an area that has not been approved for these purposes. (This is not for incidental consumption of food or drink by the pool patrons.)	Communicate violation with pool operator and request issue to be corrected on site.  Refer pool operator to Virginia Food Regulations.	Consult with BIO for any applicable building permits.	Follow enforcement actions in accordance with Virginia Food Regulations; issue NOAV; and/or schedule IFFC.
<b>Filtration; Water Clarity</b>				
<b>12VAC5-460-300*</b>	<b>Water clarity is unsatisfactory (main drain and pool bottom not visible).</b>	<b>Recommend operator closes pool until corrected</b> with VDH re-inspection; or operator may reopen the pool before re-inspection when water clarity is appropriate and has notified LHD; LHD provides approval.	Follow-up inspection is highly recommended by LHD after 24 hours.	<b>NOAV with Immediate Closure recommendation*</b>  Through NOAV, LHD may recommend: pool to close until water clarity corrected; owner to send operating records for at least 1 week; and/or recommend training or consultation with pool management company to improve pool operations; and/or schedule IFFC.
<b>12VAC5-460-300</b>	Water clarity is hazy or cloudy (water is hazy in appearance, but outline of main drain and floor IS visible).	Identify issue with pool operator and recommend immediate attention.  Check for sediment at bottom of pool or malfunctioning pool system equipment.	Follow-up inspection is highly recommended by LHD after 24 hours, and as needed to observe clarity conditions, and before next routine inspection.  Through corrective action recommendations, request owner to send operating records for at least 1 week.	<b>24-Hour Compliance</b> at LHD discretion. <b>If clarity worsens and violation occurs, issue NOAV with Immediate Closure recommendation*</b>  Through NOAV, LHD may recommend: pool to close until water clarity corrected; owner to send operating records for at least 1 week; and/or

				recommend training or consultation with pool management company to improve pool operations; and/or schedule IFFC.
<b>12VAC5-460-300</b>	The <b>recirculation’s filter system is not operating</b> at time of inspection and the pool is open to bathers/swimmers. (filter should operate 24 hours/day.)	Identify issue with pool operator and recommend immediate attention or <b>recommend operator closes pool until corrected</b> with VDH re-inspection; Pool operator resumes recirculation system if operable; continues to operate if water is balanced within required parameters and there is satisfactory water clarity.  Notify BIO of conditions and maintenance plan for potential building construction approval.	Follow-up inspection is highly recommended by LHD after 24 hours and before next routine inspection.  Operator may reopen pool before re-inspection when LHD has given approval.	<b>NOAV with Immediate Closure recommendation* if pool recirculation system is not operable and water clarity is in violation.</b>  Through NOAV, LHD may recommend: pool to close until recirculation filtration system corrected; owner to send operating records for at least 1 week; and/or recommend training or consultation with pool management company to improve pool operations; and/or schedule IFFC.
<b>Personnel</b>				
<b>12VAC5-460-320*</b>	<b>A lifeguard is not present at the pool and no sign is provided, or</b>  <b>A lifeguard is not present at the pool and a sign is provided, but a reliable and competent person that can act as a lifeguard is <u>not on duty</u> on premises, or</b>  <b>There is no signage posted in accordance with the <u>two</u></b>	<b>Recommend operator closes pool</b> until corrected with VDH re-inspection; or operator may reopen the pool before re-inspection when applicable lifeguard/competent person is on duty, or sign is provided and has notified LHD; LHD provides approval.	Follow-up inspection is highly recommended by LHD after 24 hours and before next routine inspection.	<b>NOAV with Immediate Closure recommendation*</b>  Through NOAV, LHD may recommend: pool to close until lifeguard or signage violation corrected; owner to send lifeguard/reliable person staffing records for at least 1 week; and/or recommend training to improve pool operations; and/or schedule IFFC.

	<b>VDH policy memos requirements pertaining to lifeguards.</b>			
<b>Lifesaving Equipment</b>				
<b>12VAC5-460-320*</b>	<b>Lifesaving equipment is not present and/or accessible for use at a swimming pool.</b> (Do not mark OUT when lifesaving equipment is not present at a hot tub, spa, or wading pool.)	Recommend operator correct on site or <b>closes pool until corrected</b> with VDH re-inspection; or operator may reopen the pool before re-inspection when applicable lifesaving equipment is provided and has notified LHD; LHD provides approval.	Follow-up inspection is highly recommended by LHD after 24 hours, as needed, and before next routine inspection.  Temporary emergency equipment provisions may be considered or the pool should remain closed.	<b>NOAV with Immediate Closure recommendation*</b>  Through NOAV, LHD may recommend: pool to close until lifesaving equipment violation corrected; owner to send operating records for at least 1 week; and/or recommend training or consultation with pool management company to improve pool operations; and/or schedule IFFC.
<b>Wading Pool</b>				
12VAC5-460-350-380	There are violations pertaining to the water supplies, lighting, floating material/scum, decking, or recirculation system.	Communicate violations with pool operator and encourage correction onsite, or other LHD determined corrective action schedule.	Follow-up and re-inspection action for the specific issue as it applies for the main pool.	Follow enforcement action for the specific issue as it applies for the main pool.
<b>Spray Pool</b>				
12VAC5-460-400-440	There are violations pertaining to the water supplies, lighting, floating material/scum, decking, or recirculation system.	Communicate violations with pool operator and encourage correction onsite, or other LHD determined corrective action schedule.	Follow-up and re-inspection action for the specific issue as it applies for the main pool.	Follow enforcement action for specific issues as it applies for the main pool.

Equipment Room (Tourist Pools)				
CODE	OBSERVATION	RECOMMENDED CORRECTIVE ACTION	FOLLOW-UP/ RE-INSPECTION	RECOMMENDED ENFORCEMENT ACTION
<b>Water Supply</b>				
12VAC5-460-40*	<b>Pool water is not from an approved source and/or the pool water is subject to contamination;</b> an approved sewage disposal system is not in place to <b>prevent contamination of the pool water; there are cross connections.</b>	Recommend operator closes pool until corrected with VDH re-inspection; or operator may reopen the pool before re-inspection when water supply and water quality standard requirements are met; LHD and BIO provides approval.  Notify BIO of conditions and maintenance plan for potential building construction approval.	Follow-up inspection is highly recommended by LHD and BIO until violation is corrected and pool ready to reopen	<b>NOAV with Immediate Closure recommendation*</b> (with BIO confirmation if applicable).  Through NOAV, pool closed until re-inspection or approval, pool open only with LHD and BIO approval; owner to send operating records for at least 1 week; and/or recommend training or consultation with pool management company to improve pool operations; and/or schedule IFFC.
<b>Recirculation Systems</b>				
12VAC5-460-170	After consultation with BIO, it is evident that recirculation components have been removed or been replaced with unacceptable substitutions.	Communicate observations with pool operator.  Consult BIO for original installations or replacement components.  LHD discretion, with BIO consultation, to establish a compliance schedule.  If immediate fix is not an option some temporary	Follow-up inspection is highly recommended by LHD and BIO until violation is corrected.  Include BIO on documented correspondence.	If BIO confirms violation, issue <b>NOAV as applicable</b> , with corrective action timeline. <b>Issue NOAV with Immediate Closure recommendation*</b> (with BIO confirmation if applicable) if system operation results in water quality or clarity violations.  Through NOAV, revise compliance schedule to meet goals or schedule an IFFC.

		mitigation may be needed as approved by BIO.		
12VAC5-460-170	Recirculation system is verified as not meeting a minimum turnover rate, and it is required by the building code.	Consult BIO for the minimum turnover rate for the type of pool.  LHD discretion, with BIO consultation, to establish a compliance schedule.  If immediate fix is not an option some temporary mitigation may be needed as approved by BIO.	Follow-up inspection is highly recommended by LHD and BIO until violation is corrected.  Include BIO on documented correspondence.	Issue <b>NOAV as applicable</b> , with corrective action timeline. <b>Issue NOAV with Immediate Closure recommendation*</b> (with BIO confirmation if applicable) if system operation results in water quality or clarity violations.  Through NOAV, establish or revise compliance schedule to meet goals; and/or schedule an IFFC.
<b>Filter Rooms</b>				
12VAC5-460-180	Filter room is not lighted and easily accessible; you cannot see or access the equipment. Backwash water is discharged onto the floor. <b>An underground filter room does not have a doorway and stairwell; access to a filter room is through a manhole or hatch.</b> A below ground filter room is not provided with mechanical ventilation.	<b><u>Safety first! Do not enter filter rooms that do not enter a filter, pump or equipment room that is below ground surface and does not have a doorway or stairwell.</u></b>  Consult BIO for installation and building requirements. Notify BIO of conditions and maintenance plan for potential building construction approval.  LHD discretion to establish a compliance schedule.	Follow-up inspection is highly recommended by LHD and BIO until violation is corrected.  Include BIO on documented correspondence.	If BIO confirms violation, issue NOAV as applicable, with corrective action timeline. <b>Issue NOAV with Immediate Closure recommendation*</b> (with BIO confirmation if applicable) if filter room design or operation results in inability of pool operator to safely enter room and operate venue for use.  Through NOAV, establish or revise compliance schedule to meet goals; and/or schedule an IFFC.
<b>Pumps</b>				
12VAC5-460-190*	<b>Pump is not operating or severely malfunctioning</b>	Recommend operator closes pool until corrected with VDH	Follow-up inspection is highly recommended by LHD and BIO	<b>NOAV with Immediate Closure recommendation*</b>

	<b>and the pool is in operation</b> (pump is non-functional or unable to provide turnover).	re-inspection; or operator may reopen the pool before re-inspection when pool pump requirements are met; LHD and BIO provides approval.  Notify BIO of conditions and maintenance plan for potential building department approval.	until violation is corrected and pool ready to reopen.	Through NOAV, LHD may recommend: pool to close until pump corrected; owner to send operating records for at least 1 week; and/or recommend training or consultation with pool management company to improve pool operations; and/or schedule IFFC.
12VAC5-460-190	Pump is running but there is a maintenance problem. An insufficient turnover rate is the result of poor pump performance, pump maintenance problems, or insufficient power to the pump.	LHD discretion to establish a compliance schedule.  Notify BIO of conditions and maintenance plan for potential building department approval.	Follow-up inspection or regular communication is highly recommended by LHD and BIO until violation is corrected.	Issue NOAV as applicable.  Through NOAV, LHD may recommend: pool to close until pump repaired or corrected; owner to send operating records for at least 1 week; and/or recommend training or consultation with pool management company to improve pool operations; and/or schedule IFFC.
<b>Hair &amp; Lint Catchers</b>				
12VAC5-460-200	A hair and lint catcher is not installed or cannot be opened; is not clean; is not operating properly to capture debris (needs maintenance).	LHD discretion to establish a compliance schedule.  Notify BIO of conditions and maintenance plan for potential building department approval.	Follow-up inspection or regular communication is highly recommended by LHD and BIO until violation is corrected.	Issue NOAV as applicable.  Through NOAV, establish or revise compliance schedule to meet goals; and/or ask owner to send proof of repair or new installation; and/or schedule IFFC.
<b>Filters</b>				
12VAC5-460-210*	<b>Filter is not operating or severely malfunctioning and the pool is in operation.</b>	If needed, consult BIO for confirmation of filter failure and any repair installation and	Follow-up inspection is highly recommended by LHD and BIO	<b>NOAV with Immediate Closure recommendation*</b>

		<p>building requirements. <b>If BIO confirms complete malfunction, recommend operator closes pool until corrected with VDH re-inspection;</b> or operator may reopen the pool before re-inspection when pool filter requirements are met; LHD and BIO provides approval.</p> <p>Notify BIO of conditions and maintenance plan for potential building construction approval.</p> <p>LHD discretion to establish a compliance schedule.</p>	<p>until violation is corrected and pool ready to reopen.</p>	<p>Through NOAV, LHD may recommend: pool to close until filter violation corrected; owner to send operating records for at least 1 week; and/or recommend training or consultation with pool management company to improve pool operations; and/or schedule IFFC.</p>
12VAC5-460-210	<p>Filter parameters: 1) Have been changed from the original design, AND 2) have not been approved by the building official, AND 3) do not meet the prescription in the VDH Pool Regulations.</p>	<p>Consult with BIO.</p> <p>LHD discretion to establish a compliance schedule</p>	<p>Notify BIO of conditions and maintenance plan for potential building department approval.</p>	<p>Issue NOAV as applicable. Through NOAV, establish or revise compliance schedule to meet goals; and/or ask owner to send proof of repair or new installation; and/or schedule IFFC.</p>
12VAC5-460-210	<p>Filter is not maintained and operated as designed. Filter is not capable of backwashing. Pressure gauges and air relief valves are not working on pressure filter. Manual valves or the multiport lever are leaking. Access hole is not large enough for inspection.</p>	<p>Consult with BIO.</p> <p>LHD discretion to establish a compliance schedule.</p>	<p>Notify BIO of conditions and maintenance plan for potential building department approval.</p>	<p>Issue NOAV as applicable. Through NOAV, establish or revise compliance schedule to meet goals; and/or ask owner to send proof of repair or new installation; and/or schedule IFFC.</p>

	There are visible signs of damage to the filter or filter components. There is no sight glass on waste discharge line or other means for checking the quality of water. A gravity type filter is installed and the filter is not equipped with loss of head gauges.			
<b>Rate of Flow Indicators</b>				
12VAC5-460-220	Flowmeter is not provided or inoperable. (If the bobber is stuck or incremental measurements are not legible).	LHD discretion to establish a compliance schedule.	Notify BIO of conditions and maintenance plan for potential building department approval.	Issue NOAV as applicable. Through NOAV, establish or revise compliance schedule to meet goals; and/or ask owner to send proof of repair or new installation; and/or schedule IFFC.
<b>Chemical Feeding Equipment</b>				
12VAC5-460-240*	<b>An automatic feeding system is not available for <u>all</u> routinely (regulated) dispensed chemicals, including disinfectants and pH.</b>	LHD discretion to establish a compliance schedule, or <b>recommend operator closes pool until corrected</b> with VDH re-inspection; or operator may reopen the pool before re-inspection when pool filter requirements are met; LHD and BIO provides approval.	Notify BIO of conditions and maintenance plan for potential building department approval.	<b>NOAV with Immediate Closure recommendation*</b>  Through NOAV, LHD may recommend: pool to close until automatic feeding violation corrected; establish or revise compliance schedule; owner to send operating records for at least 1 week; and/or recommend training or consultation with pool management company to improve pool operations; and/or schedule IFFC.

Disinfection Equipment				
12VAC5-460-250*	<b>An automatic feeding system for chlorine is not capable of applying a minimum dose and/or is not working properly. Gas chlorine is used and there is no separate, lockable room with a forced air exhaust system; the gas tanks are not properly stored; or no gas mask is available outside the room. Automatic feeding equipment is not used as intended and in accordance with manufacturer's recommendations including installation, maintenance, and operation.</b>	<b>Recommend operator closes pool until corrected with VDH re-inspection;</b> or operator may reopen the pool before re-inspection when pool filter requirements are met; LHD and BIO provides approval.  LHD discretion to establish a compliance schedule.	Notify BIO of conditions and maintenance plan for potential building department approval.	<b>NOAV with Immediate Closure recommendation*</b> (consult with BIO as applicable).  Through NOAV, determine compliance schedule and/or temporary mitigation options; and/or ask owner to send proof of repair or new installation; and/or recommend training to improve pool operation and management skills; and/or schedule IFFC.
Operating Records				
12VAC5-460-270	Daily and/or adequate records are not kept for at least one year.	LHD provides template for daily record keeping.  LHD discretion to establish a compliance schedule.	Follow-up inspection or regular communication recommended.	Issue NOAV as applicable. Through corrective action recommendations, request owner to send operating records for 1 week. If repeat violations occur, issue NOAV with IFFC.
Filter Room Placards				
12VAC5-460-310	A placard for each pool type is not posted or the placard does not contain appropriate information.	LHD provides templates for placard.  LHD discretion to establish a compliance schedule.	Follow-up inspection or regular communication recommended.	If repeat violations occur, issue NOAV with IFFC.

# **Appendix B**

## **Other Possible Public Health Threats & Best Practices**

## Other Possible Public Health Threats & Best Practices

There will be other situations or observations that are important to consider for the health and safety of the public and should be discussed with the operator and, if appropriate, concerns redirected to an applicable agency. If in the event a situation observed is a public health threat that does not have a direct correlation to the Virginia Pool Regulations, environmental health staff shall consult with the district management team, who may consult with OEHS to determine if the situation warrants immediate legal action. This appendix provides a summary of situations that are not addressed or included in the requirements of 12VAC5-462 or 12VAC5-460 but are otherwise considered potential public health threats as described in the Pool and Hot Tub Enforcement Manual. These potential public health threats, or high-risk situations, may be addressed by a local building code, local ordinance, or an order.

During an inspection of an aquatic venue, environmental health staff and pool operator may have discussions related to these topics. The content in this manual is to assist the LHD in promoting best practices and providing valuable educational opportunities to the operator.

### **Unprotected overhead electrical wires within 20 feet horizontally of the aquatic venue**

The MAHC Annex describes possible injury or death for persons using equipment such as vacuums and reach poles at aquatic facilities when equipment contacts overhead wires which are too close to the venue.<sup>3</sup> Typically, the location of overhead wires would be addressed at the time of construction, but remodeling and repairs may lead to changes in design and location. If overhead lines are observed within 20 horizontal feet of the venue deck, environmental health staff should discuss with the operator whether the electrical lines are owned by the utility company or by the owner/operator of the aquatic facility. If they are owned by the utility company, the operator should communicate with the BIO and the utility company to ensure that the lines are in compliance with NEC 680 standards. If the lines are owned by the owner/operator, and the compliance status is unknown, it could be a public health hazard and the LHD and operator should notify and consult with the BIO immediately. (This concern may not apply to wiring inside walls/ceilings, etc. at an indoor venue as long as it is approved by the BIO.)

### **Non-Ground Fault Circuit Interrupter (GFCI) protected electrical receptacles within 20 feet of the inside wall of the aquatic venue**

If environmental health staff observe non-GFCI electrical receptacles within 20 feet of the inside wall of the aquatic venue, they should communicate with the operator the possibility of electrocution of patrons and staff in an aquatic environment (potential splash and/or wet contact). The LHD shall notify and communicate with the BIO immediately to determine compliance with the building code. Enforcement of this issue should come from the BIO, but in the event of a

public health threat, environmental health staff shall communicate with their supervisor to determine the next step in compliance, such as immediate suspension.

**Number of bathers exceeds the theoretical peak occupancy**

“Theoretical peak occupancy” means the anticipated peak number of bathers in an aquatic venue or the anticipated peak number of occupants on the decks of an aquatic facility. The theoretical peak occupancy is considered in the design of the aquatic venue including venue size, plumbing, decks, indoor air quality systems, and the venue turnover rate and safety equipment. This may also be considered as the “design load” as defined in 12VAC5-460-10. There are many factors to consider in the determination of peak occupancy and the design of a venue, and those considerations are addressed by the designer and the BIO. In general, environmental health staff should be aware that with increased bathers per unit volume of water, there is an increase in the organic contamination from the venue users and thus the presence of combined chlorine or combined bromine.<sup>3</sup> This can impact water quality, and operators should plan for times when occupancy will peak and how that will affect the adequate disinfection of the venue. An increase in bathers and patrons can also impact the general safety of bathers and active supervision of children by adults and lifeguards should be considered and addressed by the operator.

If environmental health staff observe the theoretical peak occupancy exceeded, they should discuss the issue with the venue operator and discuss the various concerns associated with exceeding the limit. The LHD shall also notify the BIO and any other local code enforcement personnel as enforcement will need to come from those entities, and not from VDH, unless otherwise directed by the local health director.

**Any other item determined to be a public health hazard by regulatory authority**

There will be situations or observations that are important to consider for the health and safety of the public and should be discussed with the operator and, if appropriate, concerns redirected to an applicable agency. If in the event a situation observed is a public health threat that does not have a direct correlation to the Virginia Pool Regulations, environmental health staff shall consult with the district management team, who may consult with OEHS to determine if the situation warrants immediate legal action. These public health threats may be addressed by another applicable regulation, local building code, local ordinance, or an order.

If environmental health staff observe a situation associated with an aquatic facility that they consider an immediate threat to public health, and that is not outlined within Pool and Hot Tub Enforcement Manual or applicable regulations, staff shall immediately report to their supervisor the observation and concern. The district management team will determine if the observation warrants immediate action and may then consult with OEHS. As expressed in regulation, the local health director may suspend a permit to operate a facility without an informal conference if the director finds the continued operation constitutes a substantial and imminent threat to the

public health (12VAC5-431-210 & 12VAC5-450-60). Any such action requires consultation and approval by the State Health Commissioner.