Welcome to the
CDC’s Model Aquatic Health Code Network Webinar

Provisional Model Aquatic Health Code Updates

February 23, 2022
2:00 PM ET

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This webinar is being recorded.
Today’s Presenters

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Webinar Agenda

Provisional Model Aquatic Health Code Updates

Questions & Answers
Provisional Model Aquatic Health Code Updates

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Model Aquatic Health Code Webinar 2022
February 23, 2022
Acknowledgments

- **CMAHC**
  - Staff
  - Board of Directors
  - Technical Review Committee (TRC)
  - Technical Support Committees
  - Members

- **CDC**
  - National Center for Emerging and Zoonotic Infectious Diseases
    - Michele Hlavsa
    - Heather Huntley
    - Vince Hill
  - National Center for Environmental Health
    - Joe Laco
    - Justin Rokisky Jr.
  - National Center for Injury Prevention and Control
    - Tessa Clemens
Apologies for the Delay

- COVID deployments
  - 4 1-month deployments
  - 1 5-month deployment
- Healthy and Safe Swimming Week campaigns
  - 2021: outbreaks associated with treated recreational water
  - 2022: outbreaks associated with splash pads
- Multiple outbreak consultations, including TX primary amebic meningoencephalitis (PAM) case associated with splash pad
  - Developed prevention guidance for splash pad–associated PAM
- Michael Beach was in CDC’s emergency response and retired
Summary

530
Total change requests considered

9
Withdrawn

521
Total change requests remaining
CMAHC TRC and Member Voting

- Out of 521 change requests (CRs), TRC
  - 320 (61.4%) passed
  - 180 (34.5%) didn’t pass
  - 21 (4.0%) didn’t pass or not pass (abstained)

- Out of 521 CRs, members
  - 326 (62.6%) passed
  - 195 (37.4%) didn’t pass
CMAHC TRC and Member Voting Inconsistencies

- CR 4.9.2.5.2.4-0001
- TRC did not pass, member passed
- Board passed
- CDC did not pass for consistency with 4.9.2.4.5.7-0001

The function of this exhaust system shall be MONITORED continuously by an audible differential-pressure alarm system which shall sound if the specified differential air pressure is not maintained for a period of thirty minutes.
CMAHC TRC and Member Voting Inconsistencies

- CR 5.7.3.1.1.2-0001
- TRC passed, members didn’t pass
- Board didn’t pass
- CDC didn’t pass
CMAHC Board and CDC Voting

- Out of 521 change requests (CRs), Board
  - 513 (98.5%) voted in agreement with TRC and members
  - 8 (1.5%) didn’t vote in agreement with TRC and members

- Out of 521 change requests (CRs), CDC
  - 491 (94.2%) voted in agreement with TRC, members, and Board
  - 30 (5.8%) didn’t vote in agreement with TRC, members, and Board
Public Health Wins

- Editorial edits
- “Secondary treatment”
- EndNote references
- Cyanuric acid as a closure item
- Water depth for starting platforms
- Lower pH minimum
Editorial Changes

- Standardize text proceeding code and annex
  - Foreword, acknowledgements, abbreviations, terms, and cited codes/standards synced
  - Preface/introduction and user guide moved to website (www.cdc.gov/mahc)

- Standardize language
  - “barrier” vs “enclosure”, “applicable local, state, territorial, federal, or tribal laws”, “total design recirculation flow rate”, “slip resistant”, “design professional”, chlorine-related terminology, “secondary treatment”, “rope and float line”
Secondary Treatment

- Allows multiple systems to achieve log inactivation and location
- Requires installation of the secondary disinfection system on the feature line after the feature pump

CR 4.7.3.3.2.1-0002

SECONDARY TREATMENT DISINFECTION SYSTEMS shall be designed to achieve a minimum 3-log (99.9%) reduction in the number of infective Cryptosporidium parvum OOCYSTS per pass through the SECONDARY TREATMENT DISINFECTION SYSTEM for INTERACTIVE WATER PLAY AQUATIC VENUES and a minimum 2-log (99%) reduction per pass for all other AQUATIC VENUES. Each SECONDARY TREATMENT SYSTEM may be composed of multiple treatment processes or steps that result in the total required reduction in the number of infective Cryptosporidium parvum OOCYSTS per pass through the SECONDARY TREATMENT SYSTEM.

The SECONDARY DISINFECTION SYSTEM shall be located in the treatment loop (post filtration) and treat a portion (up to 100%) of the filtration flow prior to return of the water to the AQUATIC VENUE or AQUATIC FEATURE except on INTERACTIVE WATERPLAY AQUATIC VENUES. For INTERACTIVE WATERPLAY VENUES, the SECONDARY DISINFECTION SYSTEM shall be located after the feature pump to treat 100% of the water prior to reaching the patrons.
“Rope and Float Line”

- CR 3.2-0031 adds “rope and float line” definition
- CRs 4.5.9.4-0001, 4.12.2.5.2-0001, 4.12.2.10.4.1-0001, 4.12.3.2.6-0001, 4.12.3.2.6.1-0001, 4.5.19.5.3-0002
  - “safety rope”
  - “safety float rope” → “rope and float line”
  - “float line”
EndNote References

- Created new EndNote library
  - Combined and cleaned two separate libraries
  - Started with >650 references
  - Now have ~400 references (excluding repeats)
  - Added new public health references

- Deleted alphabetical list of references
Cyanuric Acid: Closure Item

- CR 6.6.3.1-0003

6.6.3.1A Violations Requiring Immediate Correction or Closure

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

1) Failure to provide supervision and staffing of the AQUATIC FACILITY as prescribed in MAHC 6.3.4.1;

2) Failure to provide the minimum DISINFECTANT residual levels listed in various sections of this CODE;

2) AQUATIC VENUES using chlorine SANITIZERS with DPD-FC concentrations below 1.0 ppm (mg/L)

3) AQUATIC VENUES using chlorine SANITIZERS where the CYA:DPD-FC ratio exceeds 45:1

4) SPAS using chlorine SANITIZERS with DPD-FC concentrations below 3.0 ppm (mg/L)

5) Failure to provide the minimum DISINFECTANT residual levels for AQUATIC VENUES or SPAS using bromine SANITIZERS listed in section 5.7.3.1.2.2 of this code

6) pH level below 6.5;

7) pH level above 8.0;
Starting Platforms

- CR 4.8.3.2-0001

Starting platforms shall be installed in a minimum water depth of 5 feet (1.5 m) or 4 feet (1.2 m).

CDC revised for only new construction and not substantial alteration (as approved by CMAHC)
Lower minimum pH

- CR 5.7.3.4.1-0002

The pH of the water shall be maintained at 7.20 – 7.8.

CR in previous round proposed dropping pH minimum to 6.8.
CDC Voting Patterns

Made the MAHC improve public health and clarity

Accepted by CDC

When the TRC, members, and Board accepted*

Accepted by CDC
Coping

CR 4.5.14.4-0001

The horizontal overhang for coping or cantilevered DECKING shall not be greater than 2 inches (5.0 cm 50 mm) from the vertical plane of the POOL wall, nor less than 1 inch (2.5 cm).

CR 4.5.14.5-0001

The vertical thickness overhang for of the coping or cantilevered DECKING shall not exceed 2.5 inches (6.4 cm) 3.5 inches (8.9 cm) in thickness for the vertical last 2 inches (5.1 cm) of the horizontal overhang.
CDC Voting Patterns

Made the MAHC more concise and improved clarity

Accepted by CDC

When the TRC, members, and Board accepted

Accepted by CDC
Further development was needed for acceptance

CDC didn’t pass

Contradicts MAHC

CDC didn’t pass

When change no longer applies following editorial edits

CDC didn’t pass
Tall Platforms

- CR 4.8.2.2.4-0001

4.8.2.2.4 Tall Platforms Diving stands or platforms that are 2 meters (6.6 ft) or higher shall have guard rails with the top rail at least 36 inches (0.9 m) above the board and a second rail approximately half the distance from the platform to the upper rail. The design for access to the diving board or platform shall minimize the risk of falls and the severity of any associated injuries. Appropriate age restrictions, directions for use, and warnings shall be displayed on the access. The design for fixed vertical ladders should review the handhold diameters, orientation, and spacing based on user age to minimize the risk of falls.
Further development was needed for acceptance

CDC didn’t pass

Contradicts MAHC

CDC didn’t pass

When change no longer applies following editorial edits

CDC didn’t pass
Aquatic Venue Definition

CR 3.2-0026

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

CR 3.2-0028

“Aquatic Venue” means an artificially constructed structure or modified natural structure where the general public is exposed to water intended for recreational or therapeutic purpose and where the primary intended use is not watering livestock, irrigation, water storage, fishing, or habitat for aquatic life, and excludes structures that are exempted by AHJ. Such structures do not necessarily contain standing water, so water exposure may occur via contact, ingestion, or aerosolization. Examples include swimming pools, wave pools, lazy rivers, surf pools, spas (including spa pools and hot tubs), therapy pools, waterslide landing pools, spray pads, and other interactive water venues.
Construction Permits

CR 4.1.5.3-0002 passed

The AHJ shall issue a permit to the owner to operate the AQUATIC FACILITY: 1) After receiving a certificate of completion from the design professional verifying information submitted, and 2) When new construction, SUBSTANTIAL ALTERATIONS, or annual renewal requirements of this CODE have been met.

CR 4.1.5.4-0001 and CR 4.1.5.5-0001 didn’t pass

The permit (license) to operate may be withheld, revoked or denied by the AHJ for noncompliance of the AQUATIC FACILITY with the requirements of this CODE, and the owner will be provided: 1) Specific reasons for disapproval and procedure for resubmittal; 2) Notice of the rights to appeal this denial and procedures for requesting an appeal; and 3) Reviewer’s name, signature and date of review and denial.

Documentation of AQUATIC FACILITY permit renewal or denial shall be maintained in the AHJ’s AQUATIC FACILITY files.
CDC Voting Patterns

Further development was needed for acceptance

Contradicts MAHC

CDC didn’t pass

When change no longer applies following editorial edits

CDC didn’t pass
Abbreviations and Cited Codes/Standards

- CRs 3.1-0001–0003
  - Delete IPC, ISPSC, and IAPMO abbreviations
- CRs 3.3-0001–0003
  - Delete IAPMO, IPC, and ISPSC citations
**Tentative Timeline**

**February**
Submit into CDC clearance

**April**
Clear code and annex through three CDC Centers and three CDC Offices

**June**
Publish on CDC website ([www.cdc.gov/mahc](http://www.cdc.gov/mahc))
Next Steps?

- Revisit exempting single-pass splash pads
- Develop recommendations for surf venues, artificial lagoons, tall platforms
- Update annex
- Standardize use of “aquatic venue” versus “pool” and “safety”
- Define “shallow water” versus “deep water”
- Address?
  - “raised curbs” at splash pads, in-plumbing thermometer for heated pool water, defining how to measure aquatic venue width
Thank you!
Questions?
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https://www.cdc.gov/mahc

For more information, contact CDC
1-800-CDC-INFO (232-4636)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.
Thank you for attending today’s webinar!
You will receive a follow-up email with the webinar recording and slides.

Questions?
Use the Q&A box to submit your questions for the panelists!