Columbia/Boone County
Department of Public Health and
Human Services

Information session for proposed changes to the pool code

3/25/15
3/27/15
Why are we updating the code?

- Pool code currently in use was adopted in 2004
- Minor revisions to fecal accident policy in 2010
- Currently granting variances for new pool construction not covered in existing code
- CDC released the Model Aquatic Health Code (MAHC) August 29, 2014
What is the MAHC?

- The MAHC is a set of voluntary standards based on science and best practices that were developed to help agencies that regulate swimming pools reduce the risk of disease, injury and drowning in their communities.

- The MAHC guidance stemmed from concern about the increasing number of swimming pool associated outbreaks.
Who developed the MAHC

• The MAHC was started in 2007. The process included stakeholders from public health, the pool industry, academia and the science community. The MAHC process included 2 public comment periods and numerous revisions to the text based on best practices of industry, public health and public comment.

• The MAHC will be reviewed by CDC for updates every 2 years
Why is the MAHC important?

• PHHS Environmental Health staff compared City code currently in use to the same provisions in the MAHC.
• Where applicable, code revisions consistent with the MAHC have been proposed.
What are the changes?

• Class D Swimming pools removed
  -A Class D pool in the current code is a private, residential swimming pool.
  -PHHS does not regulate private, residential swimming pools.

• Class F swimming pools (special use pools) now include wave pools, wading pools, zero depth entry pools, water slides and spray features.
Changes

• Swimming pools constructed or modified after the effective date of this Code shall maintain a set of plans on the premises.

• Change in signage “Children under the age of 14 shall not use the pool or spa unless accompanied by a responsible adult” - consistent with MAHC and national standards. Previous code wording required special order signage.
Changes

• Maximum Peak Occupancy:
  – Patron loading to be figured by calculating the maximum peak occupancy:
  – pool surface area/density factors

• MAHC rationale: Design professionals need to consider the maximum peak occupancy of a swimming pool as part of the design process. This requires calculation and integration of peak occupancy numbers for the water as well as the surrounding deck and seating areas.
Changes

• Update diving board and platform area configuration standards to be consistent with the MAHC
  – Provides safety conformance based on information collected on spinal cord injuries
• Updated stair handrail dimensions, stair treads and riser configuration standards to be consistent with the MAHC
  – Provide minimum and maximum for treads, risers and handrails
Changes

• Specificity for emergency telephones for class A, B and C pools. A cellular telephone is not an acceptable form of communication for emergency services. Acceptable forms of communication for emergency services could include a call box or a standard telephone line.
  – Safety concern in an emergency situation. Cellular phones may not work, battery on phone, etc. Need reliable form of communication
  – We will allow 1 year from date of Code adoption for existing facilities to come into compliance
Changes

• Further guidance for lighting of outdoor water surfaces, underwater lighting and night swimming with no underwater lighting consistent with the MAHC
  – Added 10 horizontal food candles on outdoor water surface and deck. Underwater lighting not less than 8 initial rated lumens per square foot of pool surface area. Night swimming with no underwater lighting 30 minutes before sunset to 30 minutes before sunrise, pool surface lighting maintained at 15 horizontal foot candles.
  – Main goal to be able to see the bottom of the pool, mainly a person on the bottom at all times when the pool is open.
Changes

• Removed provision limiting use of skimmers to pools with 2500 or less square feet - consistent with MAHC
  – MHAC Annex identifies limitations of skimmers versus gutters to be only physical in nature. Industry experts say enough skimmers can be added to produce effective skimming comparable to a gutter system.
  – Skimmers must be NSF or equivalent based on manufacturers design specifications are not exceeded.
  – MAHC establishes flow rate: skimmers should provide a flow rate of 30 gallons per minute or 3.75 gallons per minute per linear inch of weir, whichever is greater
Changes

• Turnover times specific to the type of pool

**Swimming Pool Maximum Allowable Turnover Times**

<table>
<thead>
<tr>
<th>Type of Aquatic Venue</th>
<th>Turnover Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Activity Pools</td>
<td>2 hours or less</td>
</tr>
<tr>
<td>Diving Pools</td>
<td>8 hours or less</td>
</tr>
<tr>
<td>Interactive Play*</td>
<td>0.5 hours or less</td>
</tr>
<tr>
<td>Lazy River</td>
<td>2 hours or less</td>
</tr>
<tr>
<td>Plunge Pools</td>
<td>1 hour or less</td>
</tr>
<tr>
<td>Runout Slide</td>
<td>1 hour or less</td>
</tr>
<tr>
<td>Wading Pools*</td>
<td>1 hour or less</td>
</tr>
<tr>
<td>Wave Pools</td>
<td>2 hours or less</td>
</tr>
<tr>
<td>All Other Pools</td>
<td>6 hours or less</td>
</tr>
<tr>
<td>*Shall have secondary disinfection systems</td>
<td></td>
</tr>
</tbody>
</table>

**Spa, Therapy*, & Exercise Pools**

<table>
<thead>
<tr>
<th>Temperatures</th>
<th>Load</th>
<th>Turnover Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 72°F-93°F</td>
<td>&gt; 2500 gals/person (9.46 m³)</td>
<td>4 hours or less</td>
</tr>
<tr>
<td>(22°C-34°C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 72°F-93°F</td>
<td>&gt; 450 gals/person (1.7 m³)</td>
<td>2 hours or less</td>
</tr>
<tr>
<td>(22°C-34°C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 72°F-93°F</td>
<td>≤ 450 gals/person (1.7 m³)</td>
<td>1 hour or less</td>
</tr>
<tr>
<td>(22°C-34°C)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥ 93°F-104°F</td>
<td>All</td>
<td>0.5 hours or less</td>
</tr>
<tr>
<td>(34°C-40°C)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Shall have secondary disinfection systems

*Systems identified as requiring secondary disinfection in Table 10 shall comply for swimming pools installed after the date of adoption of this code.

• Require newly constructed or remodeled spray features or wading pools to have secondary disinfection. Pools already in use prior to the effective date of this code are grandfathered
Changes

• Why secondary disinfection?
  – Recent and frequent outbreaks of recreational water illness mainly cryptosporidium and shigella
  – Therapy pools, wading pools, spray grounds and interactive play venues present increased risk of recreational water illness to users: small children
  – Types of secondary disinfection include: ultraviolet light, ozone and copper/silver ions
Changes

• Requires all drain covers to comply with VGB Pool and Spa Safety Act for newly constructed or remodeled pools.

• Requires diaper changing stations
  – Minimize spread of pathogens in the swimming facility
Changes

• Provide design standards per the MAHC for wave pools, zero depth entry pools and slides.
  – Current code classifies these pools as special use with no specific design standards. Basic design standards now available
Changes

- Changes minimum free available chlorine concentration from 0.4 parts per million to 1.0 parts per million, also establishes a maximum of 10.0 parts per million. Requires spas to maintain a minimum of 3.0 parts per million free available chlorine.

- Changes bromine residual from 1.0 parts per million to 3.0 parts per million, spas must maintain 4.0 parts per million bromine residual.
Changes

• Why are chlorine and bromine disinfection levels proposed higher than the current code?
  – CDC data suggests 1.0 ppm free available chlorine residual and 3.0 ppm bromine can provide effective disinfection of most pathogens
  – 3.0 ppm free available chlorine and 4.0ppm bromine for spas to take into consideration the higher temperature and maximum peak occupancy which can lead to rapid depletion of chlorine and bromine
Changes

• Identifies salt electrolytic chlorine generators, brine electrolytic chlorine or bromine generators as options for disinfection and outlines standards for their use
  – Alternatives to chlorine and bromine for primary disinfection
Changes

• Outlines a process for superchlorination
  - the addition of large quantities of chlorine-based chemicals to kill algae, destroy odors, or improve the ability to maintain a disinfectant residual. Superchlorination is raising free chlorine levels for water quality maintenance.

• Eliminates the option of chlorine gas for disinfection.
  – No pools use chlorine gas – dangerous!
Changes

• **Swimming pools with a barrier and closed to the public** - Where the swimming pool has a barrier enclosing it and the swimming pool is closed to the public:
  - 1) The water shall be recirculated and treated to meet the criteria of this code, or
  - 2) The water shall be drained; or
  - 3) An approved safety cover that is listed and labeled to ASTM F1346-91 by an ANSI-accredited certification organization shall be installed.
Changes

• Closed pools are a safety concern. If pool is not drained or covered tightly there is a safety risk for children and drowning.

• Slime build up on walls and floor of pool during closure making it difficult to get out.

• Fencing and proper safety covers create a safe condition for the pool
Changes

• Update fecal accident policy to current MAHC standards
• CDC guidance on cleaning up body fluid spill on pool surfaces
• Water contamination response log
• Engineering summary
Questions?

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