



# Western Plains

PUBLIC HEALTH

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## Floatation System Variance

In addition to the requirements set forth in Western Plains Public Health's (WPPH) Standard Operating Practices and Procedures for Public and Semi-Public Swimming Pools, the following will be required for construction, plan review, inspections, and operations of *floatation systems* in WPPH's jurisdiction. WPPH's Standard Operating Practices and Procedures for Public and Semi-Public Swimming Pools identifies a pool facility as any structure, basin, chamber, or tank containing an artificial body of water for swimming, diving, recreational bathing, and therapy to include spas, hot tubs, whirlpools, special-use pools and therapy pools. For the purposes of this document, *floatation systems* will be considered special-use/therapy pools and will be regulated by WPPH. WPPH may modify this document when more information becomes available on these systems.

The following references sections of the WPPH pool code and describes the additional requirements for *floatation systems*. Please refer to the pool code for the complete requirements. Where inconsistencies exist between the pool code requirements and the requirements in this section, the provisions of this section shall prevail.

### IV—Pool Basin

4.3 Bather loads for swimming pool facilities will be determined as follows:

d. *Floatation Systems*: allow one bather per *pod*

### V—Pool Water Quality

5.2 Conventional pool water test kits used to evaluate water conditions may not provide accurate measurements of disinfectants, pH, alkalinity, and calcium hardness in float water that contains a high concentration of Epsom salt.

5.3 A necessary feature of floating is to provide a very quiet environment. Therefore, the recirculation system is turned off while a bather is in the system. A typical pool must continually operate its recirculation system 24 hours per day during months of operation. To ensure proper filtration of *pod* water between bathers, the total water volume must be recirculated through the main filter at least 5 times (per MAHC recommendations).

5.5 Pool water shall be maintained using the following values:

e. Primary disinfectants are required for the purpose of inactivating recreational water illness pathogens. Halogen disinfectants are not recommended for use in *floatation systems* due to air quality concerns. Based on recommendations from the CDC's Model Aquatic Health Code, disinfection shall be provided by either an ozone treatment system or a combination ozone/UV treatment system.

5.9 Float tank water must be sampled at least weekly and submitted to a laboratory certified by the North Dakota Department of Health for bacteriological analysis. A total plate count of 200 cfu per milliliter is the

upper limit. Any sample exceeding this number will require drainage and resampling of the replacement float water. Bacteriological analysis reports must be copied and sent to WPPH within two days of receipt. Original reports must be maintained at the facility.

## VI—Mechanical Equipment

- d. Floatation tank filtration and disinfection systems shall operate for 1 volumetric turnover before first use during the day. A minimum of five volumetric turnovers are required between users. The recirculation system is permitted to be shut off while occupied by one bather but must complete the required number of *turnovers* between bathers.

## VII—Disinfection Equipment

See 5.5 e. above.

### Float Water *Treatment Methods*:

- a. Ozone and *UV* systems shall operate and be maintained in accordance with manufacturer recommendations
- b. Ozone systems shall operate and be maintained so as to not exceed 0.1ppm.
- c. *Floatation system* must also be equipped with a *UV* device. The manufacturer of the device must provide a written statement of its performance, efficacy, and safety when the device is applied to float water. The *UV* sensors shall be calibrated in accordance with manufacturer recommendations.
- d. The *treatment method* must maintain water quality for bacteriological standards as specified in the operation guidelines of this document.
- e. The *treatment method* devices must be on the pump circuit so they turn on when the pump is on and turn off when the pump is off.

## XI—Records

1. The owner shall measure and record the following items as specified below and keep the records on site for at least three years:
  - a. Daily for each *floatation system*:
    - i. Ozone operation and adequacy.
    - ii. Verify *UV* functionality
    - iii. Solution temperature
    - iv. Flow rate of the recirculation system while the pump is running
    - v. Cleaning inside the tank (chemicals used)
    - vi. Number of bathers
    - vii. pH
  - b. As these events occur:
    - i. Any contamination incidents and remediation taken (tank must be drained and refilled)
    - ii. Any maintenance performed (including draining and refilling)
    - iii. The facility shall maintain a record of the dates on which the *UV* bulbs were replaced
      1. The *UV* bulbs shall be replaced at the frequency recommended by the manufacturer or when the bulbs become damaged or defective
      2. Records of calibration

## Additional Requirements

1. Floatation systems shall be drained and all interior surfaces shall be scrubbed and disinfected prior to refilling at a frequency necessary to prevent build-up of slime and biofilm layers.
2. The owner shall have a written emergency response plan in order to effectively respond to emergencies such as injury, sudden illness, fire, UV lamp breakage, toxic gas leakage, and natural disasters.
3. The owner must provide a user advisory to all bathers in writing that describes the following points clearly:
  - a. Float water is treated for health and safety as approved by WPPH.
  - b. It is not certain whether the *treatment method* is or is not effective.
  - c. Float water quality is monitored by periodic bacteriological testing.
4. The owner shall provide a page in writing to bathers with the following rules, and have them agree and sign the page before first-time use at the facility.
  - a. Prohibiting use by anyone with a communicable disease (including communicable skin or respiratory disease) or anyone who has been ill with vomiting and diarrhea within the last two weeks.
  - b. Requiring everyone to have a cleansing shower before and after the floating session.
  - c. Advising patrons that anyone with seizure, heart, or circulatory problems to consult their physician before use.
  - d. Prohibiting use under the influence of alcohol or drugs.
5. Mandan Wastewater Treatment Plant (Phone 701-667-3278) must be notified before draining the *floatation system*.

## GLOSSARY

“Disinfection” means a treatment that kills or irreversibly inactivates microorganisms (e.g., bacteria, viruses, and parasites); in water treatment, a chemical (in this case hydrogen peroxide) or physical process (e.g., ultraviolet radiation) can be used.

“Floatation System” (also known as Float Tank, Float Room/Pod/Spa/Chamber, Isolation Tank, or Sensory Deprivation Tank) is a unit that contains a saturated solution of magnesium sulfate having a specific gravity of 1.23 to 1.3 which provides a light and sound reduced environment and a temperature of approximately 92-96°F.

“Pod” means a pre-manufactured or site manufactured vessel holding approximately 150 to 200 gallons of water and dissolved magnesium sulfate not to exceed 18 inches in depth.

“Treatment method” means a method proposed by the owner to reduce disease causing microorganisms that escape through the filtration system in order to bring the float water to a safe level. These methods include devices such as UV lamps.

“Turnover” or “Turnover Rate” means the period of time, usually expressed in hours, required to circulate a volume of water equal to the capacity of the tank.

“UV” means ultraviolet light.