draft: 10/18/23

| Critical Control Point | Health Risk | Control Measure | **Validation** *checks the control measure is being performed* | **Verification** *checks the control measure is effective* | Corrective Actions | 7-day Sample Analysis Corrective Action Verification | Additional Follow-up Sample Analysis Corrective Action Verification |
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| Hygiene Showers | • Sediment, biofilm, temperature, water age, and disinfectant residual effect Legionella survival, growth, and amplification<br><br>• Inhalation of aerosolized water by shower user is probable as use/duration of faucet is likely to create water mist/steam which could then be inhaled by user | • Hot water shall be maintained at the exit point at 120°F (49°C).<br><br>• Recirculate stored hot water at temperatures above 140°F (60°C); ensure hot water in circulation does not fall below 120°F (49°C).<br><br>• Flush each shower head for 5 minutes each week to provide a fresh supply of chlorinate water ≥ 0.18 ppm through the shower head | • Measure/record water temperature where water exits the shower head<br><br>• Record flushing duration time (start; end) | O&M reports status quarterly to WMP-Team | COR to determine appropriate actions if records are not documented. When monthly measurement is not performed, immediate disinfect shower head/hose:<br><br>• Mix 5 teaspoons of bleach to 5 gallons of water in a container. Disinfection solution shall not be more than 24 hours old as time decreases its disinfection effectiveness.<br><br>• Remove shower head/hose and submerge/soak it in the disinfection solution for 1 hour.<br><br>• Remove shower head/hose and rinse thoroughly for 5 minutes with cold water<br><br>• Re-install disinfected shower head/hose<br><br>• Flush shower head/hose with hot water for 5 minutes | N/A | N/A |
| | | Disinfect shower heads and hoses monthly by:<br><br>• Mix 5 teaspoons of bleach to 5 gallons of water in a container. Disinfection solution shall not be more than 24 hours old as time decreases its disinfection effectiveness.<br><br>• Remove shower head/hose and soak it in the disinfection solution for 1 hour. All parts shall be submerged in the disinfection solution.<br><br>• Remove shower head/hose and rinse thoroughly for 5 minutes with cold water<br><br>• Re-install disinfected shower head/hose<br><br>• Flush shower head/hose with hot water for 5 minutes | Maintenance records completing tasks (paper or NCMMS?) | • Test each shower head exit point annually for legionella (culture)<br><br>• For shower banks, test so that 1/4 of the units in the locker room is tested quarterly (i.e., 4 showers test one per quarter)<br><br>• Evaluate using CDC control values. For shower banks, the results of the samples are considered indicative to all therefore apply corrective actions to all shower heads. | [1] Remove and place in a 5-gallon bucket containing 5 tsp bleach and 5 gallons of water (solution shall be less than 24 hours old); submerge/soak for 1 hour; rinse for 5 minutes with cold water<br>[2] No flushing occurs on weekends. Sample time frame represents typical water quality for users<br><br>• ≤0.9 CFU/mL For reduction or no amplification, resume normal operations. For increased or amplified, disinfect[1] all shower heads/hoses; flush 3 times/week for 10 minutes w/residual chlorine >0.18 ppm (contact FMSP if <0.18); Sample water from shower head with detection at exit point with filtered removed after 7 days on a Monday[2] - reinstall filtered shower head, maintain above flushing, and await analytical results for further actions.<br><br>• 0-9.9 CFU/mL send EHSF Notification; Disinfect[1] all shower heads/hoses; disinfect[1] and install POU filter <0.2-microns pore size, ASTM F383 certified shower head; flush with filter removed 3 times/week for 15 minutes w/residual chlorine >1.8 ppm (contact FMSP if <1.8); After 7 days and on Monday[2] remove filter and sample water from shower head with detection at exit point; reinstall filter, maintain above flushing, and await analytical results for further actions.<br><br>• ≥10.0 CFU/mL send EHSF Notification; Disinfect[1] all shower heads/hoses; disinfect[1] and install POU < 0.2-microns pore size, ASTM F383 certified shower; flush with filter removed 3 times/week for 30 minutes w/residual chlorine >0.18 ppm (contact FMSP if <0.18); After 7 days and on Monday[2] remove filter and sample water from shower head with detection at exit point; reinstall filter, maintain above flushing, and await analytical results for further actions. | [1] Remove and place in a 5-gallon bucket containing 5 tsp bleach and 5 gallons of water(solution shall be less than 24 hours old); submerge/soak for 1 hour; rinse for 5 minutes with cold water<br>[2] No flushing occurs on weekends. Sample time frame represents typical water quality for users<br><br>• ≤0.9 CFU/mL For reduction or no amplification, resume normal operations (i.e., 2 consecutive sample results of reduction or no amplification). For increased or amplified, disinfect[1] all shower heads/hoses; flush 3 times/week for 10 minutes w/residual chlorine >0.18 ppm (contact FMSP if <0.18); After 30 days and on a Monday[2] sample shower head with detection at water exit point with filtered; reinstall filter, maintain above flushing, and await analytical results for further actions.<br><br>• 0-9.9 CFU/mL send EHSF Notification; Disinfect[1] all shower heads/hoses; install POU filter <0.2-microns pore size, ASTM F383 certified shower head; flush with filtered shower head removed 3 times/week for 15 minutes w/residual chlorine >1.8 ppm (contact FMSP if <1.8); After 7 days and on Monday[2] remove filter and sample water from shower head with detection at exit point; reinstall filter, maintain above flushing, and await analytical results for further actions.<br><br>• ≥10.0 CFU/mL send EHSF Notification; Disinfect[1] all shower heads/hoses; disinfect[1] and install POU < 0.2-microns pore size, ASTM F383 certified shower; flush with filtered shower head removed 3 times/week for 30 minutes w/residual chlorine >0.18 ppm (contact FMSP if <0.18); After 7 days and on Monday[2] remove filter and sample water from shower head with detection at exit point; reinstall filter, maintain above flushing, and await analytical results for further actions. | [1] Remove and place in a 5-gallon bucket containing 5 tsp bleach and 5 gallons of water (solution shall be less than 24 hours old); submerge/soak for 1 hour; rinse for 5 minutes with cold water<br>[2] No flushing occurs on weekends. Sample time frame represents typical water quality for users<br><br>• <0.9 CFU/mL For reduction or no amplification, resume normal operations (i.e., 2 consecutive sample results of reduction or no amplification). For increased or amplified, disinfect[1] all shower heads/hoses; flush 3 times/week for 10 minutes w/residual chlorine >0.18 ppm (contact FMSP if <0.18); After 30 days and on Monday[2] remove filter and sample water from shower head with detection at exit point; reinstall filter, maintain above flushing, and await analytical results for further actions OR contact FMSP for alternative actions.<br><br>• 0-9.9 CFU/mL send EHSF Notification; disinfect[1] all shower heads/hoses OR disinfect[1] and install all new shower heads/hoses; install new POU filter <0.2-microns pore size, ASTM F383 certified shower head; flush with filtered shower head removed 3 times/week for 30 minutes w/residual chlorine >1.8 ppm (contact FMSP if <1.8); After 7 days and on Monday[2] remove filter and sample water from shower head with detection at exit point; reinstall filter, maintain above flushing, await analytical results, and contact FMSP for further actions.<br><br>• >10.0 CFU/mL send EHSF Notification; send EHSF Notification; Disinfect[1] all shower heads/hoses OR disinfect[1] and install all new shower heads/hoses; install POU < 0.2-microns pore size, ASTM F383 certified shower; flush with filtered shower head removed 3 times/week for 30 minutes w/residual chlorine >0.18 ppm (contact FMSP if <0.18); reinstall filtered shower head, maintain above flushing, and contact FMSP for further actions including follow up sample schedules. |