Building Reopening Checklist – Non-Potable Water Systems

<DISCLAIMER – The following checklist is a GUIDELINE to assist in developing a plant for operating and reopening non-potable water systems in buildings – no guarantees or warranties are made based on these recommendations>

Buildings or floors that have been lightly occupied (<10% of normal occupancy for example) or unoccupied for more than 21 days should prepare the non-potable water systems for reopening 1 to 5 days prior to re-occupancy as well as develop a plan for operations during periods of lower overall usage.

The CDC website for guidance for various building types is given here:

https://www.cdc.gov/coronavirus/2019-ncov/php/building-water-system.html

A checklist for reopening should include:

- ☐ Identifying team responsible for deciding when the building will be reopened
- ☐ Identifying the personnel responsible for reopening the building(s)

Note that for large campus system with multiple buildings it is unreasonable to open all buildings simultaneously so **a priority list for opening buildings should be developed by the team**

- ☐ Identify which non-potable systems are present and which ones will be operational or non-operational during the time period
    - ☐ Cooling tower
        - ☐ Operational
        - ☐ Non-Operational
    - ☐ Swimming Pool
        - ☐ Operational
        - ☐ Non-Operational
    - ☐ Hot Tubs
        - ☐ Operational
        - ☐ Non-Operational
    - ☐ Decorative Fountains
        - ☐ Operational
        - ☐ Non-Operational
    - ☐ Non-steam-based humidifiers
        - ☐ Operational
        - ☐ Non-Operational

- ☐ Drain and clean all Non-Operational Equipment

Document that systems were drained and cleaned

- ☐ Developing an operation strategy for systems that will be operational but at lower demands such as cooling towers, swimming pools, hot tubs or decorative fountains

For Example – Cooling towers

Develop an operational strategy for circulating all cooling tower basins on a regular basis (every two to three days) while feeding biocides (chlorine, bromine, etc) and documenting residuals in towers.

For Example – Decorative Fountains

Develop an operational strategy for operating fountains on a regular basis (once per day for several hours) while feeding biocides (chlorine, bromine, etc) and documenting residuals in fountains

- ☐ Identify other water equipment that may be present such as
  - ☐ Water softeners
  - ☐ Carbon or Activated Charcoal filters
  - ☐ Safety showers/eye washes – note that some sites may continue to test these on a regular basis so additional flushing may not be necessary

- ☐ Develop a time-line to regenerate water softeners 1 to 5 days prior to re-occupancy
- ☐ Develop a time-line to backwash or replace carbon or activated charcoal filters 1 to 5 days prior to re-occupancy
- ☐ Test/flush safety shower and eye washes prior to re-occupancy 1 to 5 days prior to re-occupancy

Validate water system by testing for Legionella

- ☐ Perform a Legionella test on cooling tower systems and decorative fountains
  - This can be done by submitting samples to a local laboratory (like EMSL, or EMLab P&K) note that there is a 10 day turn around for this testing or it can be completed using an on-site test that returns results in 45 minutes. (https://www.spartanbio.com/products/environmental/legionella/)
  - Cost for analysis of Legionella should be between $100 to $200 per sample

Example Data Collection Form Cooling Tower – Intermittent Operation

If cooling tower does not operate for 48 hours then system should be circulated and biocide added to achieve a minimum of 0.5 ppm free chlorine

Cooling Tower	Date/Time Started circulation	Date/Time Finished circulation	Free Chlorine as ppm Chlorine (must be greater than 0.5 ppm)	Visual inspection of basin for algae or growth – document with digital photos
Marley	5/1/20 - 9:00 am	5/1/20 – 11:00 am	0.60 ppm	negative
Marely	5/3/20 9:00 am	5/3/20 – 11:00 am	0.80 ppm	negative
Marley	5/5/20 9:00 am	5/5/20 11:00 am	1.0 ppm	negative

Example Data Collection Form Decorative Fountain – Intermittent Operation

If cooling tower does not operate for 48 hours then system should be circulated and biocide added to achieve a minimum of 0.5 ppm free chlorine

Fountain Location	Date/Time Started circulation	Date/Time Finished circulation	Free Chlorine as ppm Chlorine (must be greater than 0.5 ppm)	Visual inspection of fountain for algae or growth – document with digital photos
Lobby	5/1/20 - 9:00 am	5/1/20 – 11:00 am	0.60 ppm	negative
Lobby	5/2/20 9:00 am	5/2/20 – 11:00 am	0.80 ppm	negative
Lobby	5/3/20 9:00 am	5/3/20 11:00 am	1.0 ppm	negative

Example Data Collection form for Water Softeners, Carbon Filters and Safety Showers/Eye Wash

System/Locatin	Date/Time Started	Date/Time Finished
Water Softener - kitchen	6/15/20 - 9:00 AM	6/15/20 – 11:00 AM
Carbon Filter – kitchen	6/15/20 – 11:10 AM	6/15/20 – 11:40 AM
Safety shower - mechanical room 624	6/15/20 – 1:00 PM	6/15/20 – 1:15 pm
Eye wash mechanical rom 624	6/15/20 1:15 PM	6/15/20 1:20 PM