University of Washington
Closed Loop - Pre-Operational Cleaning

Project Name:_____
System Name:_____

Background:

All closed loops, including new piping for TI work and minor projects (e.g., adding chillers or piping extensions), require a pre-operational cleaning and flush. New piping must be cleaned and treated independently to prevent contamination of existing building heating or chilled water systems. This is especially true for closed loop piping that will tie back to the CCW loop. The checklist below is used to document the Cleaning/Passivation procedure and Biological levels. This is needed before approval will be given by the Central Plant Operators to tie in the loop with the CCW.

Preparation

- [ ] Isolate and open new system piping for full circulation. Flushing and cleaning must be completed prior to tie-in with any existing building loop or the CCW system.
- [ ] Run all pumps for minimum 4 hours to circulate water.
- [ ] Flush low point drains, expansion tanks, control valves during circulation.
- [ ] Continue flushing until water is relatively clear.
- [ ] Are there aluminum components in system? If yes, discussion with Engineering Services is required.

Chemical Cleaning

- [ ] Add 2.5 gal Chem-Aqua 61503 per 1,000 gal system volume
- [ ] Add 1 gal Chem-Aqua 32115 per 1,000 gal system volume
- [ ] Add antifoam (FC-101 or FC-101 Plus) if needed: 4–16 fl oz per 1,000 gal.
- [ ] Circulate for 12–24 hours or per Spec.

Post-Cleaning

- [ ] Perform a running flush with fresh water and circulation to mix.
- [ ] Initiate heavy bleed and flush until water is clear and foam-free.
- [ ] Remove and clean all strainers. Flush low point drains and components.
- [ ] Manually clean control valves if needed.

Passivation

- [ ] Add 1 gal Chem-Aqua 32115 per 1,000 gal system volume.
- [ ] Circulate for 5–7 days.
- [ ] Flush system until phosphate is <10 ppm or Conductivity is within 10% of City Water.

Treatment

- [ ] Add recommended corrosion inhibitor immediately after flushing.
- [ ] Add biocide dose (120ppm CA40045 or 240ppm CA40215).
- [ ] After 48hrs, Pull a Dip Slide and incubate at WCUP or Power Plant.
- [ ] Confirm dip slide is less than 1000cfu/ml – use photo for documentation.
- [ ] Confirm treatment levels are within Specification (+100ppm Mo, or 50ppm Si and 10ppm Azole).

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Chem-Aqua Rep/Date Construction Supervisor/Date