ATTACHMENT 7

Appendix 4-A - Interpretation of Legionella Culture Results from Cooling Towers

Appendix 4-A

Interpretation of *Legionella* Culture Results from Cooling Towers	
Legionella Test Results in CFU/mL[1]	Response
No detection (< 20 CFU/mL)	Maintain treatment program and *Legionella* monitoring in accordance with the maintenance program and plan.
For levels at ≥ 20 CFU/mL but < 1000 CFU/mL perform the following:	o Review treatment program. o Institute immediate *online disinfection*[2] to help with control o Retest the water in 3 – 7 days. • Continue to retest at the same time interval until one sample retest result is < 20 CFU/mL. With receipt of result < 20 CFU/mL, resume routine maintenance program and plan. • If retest is ≥ 20 CFU/mL but < 100 CFU/mL, repeat *online disinfection*[2] and retest until < 20 CFU/mL attained. • If retest is ≥100 CFU/mL but < 1000 CFU/mL, further investigate the water treatment program and immediately perform *online disinfection*[2]. Retest and repeat attempts at control strategy until < 20 CFU/mL attained. o If retest is ≥ 1000 CFU/mL, undertake control strategy as noted below.
For levels ≥ 1000 CFU/mL perform the following:	o Review the treatment program and provide appropriate notifications per section 4-1.6 of this Subpart. o Institute immediate *online decontamination*[3] to help with control o Retest the water in 3 – 7 days. • Continue to retest at the same time interval until one sample retest result is < 20 CFU/mL. With receipt of result < 20 CFU/mL, resume routine maintenance program and plan. • If any retest is ≥ 20 CFU/mL but < 100 CFU/mL, repeat *online disinfection*[2] and retest until < 20 CFU/mL attained.

EXHIBIT 2
INTERPRETATION OF LEGIONELLA CULTURE RESULTS FROM COOLING TOWERS
(DOH APPENDIX 4-A)

	• If any retest is ≥ 100 CFU/mL but < 1000 CFU/mL, further investigate the water treatment program and immediately perform *online disinfection*.[2] Re-test and repeat attempts at control strategy until < 20 CFU/mL attained. • If any retest is ≥ 1000 CFU/mL: ◦ carry out *system decontamination*[4].

[1] Colony forming units per milliliter.

[2]Online disinfection means – Dose the cooling tower water system with either a different biocide or a similar biocide at an increased concentration than currently used.

[3] Online decontamination means – Dose the recirculation water with a halogen-based compound (chlorine or bromine) equivalent to at least 5 milligrams per liter (mg/L) or parts per million (ppm) free residual halogen for at least one hour.

[4] System decontamination means – Maintain between 5 to 10 mg/L (ppm) free residual halogen for a minimum of one hour; drain and flush with disinfected water; clean wetted surface; refill and dose to 1 – 5 mg/L (ppm) of free residual halogen and circulate for 30 minutes. Refill, re-establish treatment and retest for verification of treatment.
For chlorine treatment the pH range should be 7.0 to 7.6; for bromine treatment the pH range should be 7.0 to 8.7. At higher pH values the treatment times may need to be extended.

NOTE: Stabilized halogen products should not be used for online decontamination or system decontamination as defined in this Appendix per footnotes 3 and 4.

Effective Date:
Wednesday, July 6, 2016
Doc Status:
Complete
Statutory Authority:
Public Health Law, section 225(5)(a)