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Prevention of Legionellosis Associated with Building Water Systems

HEALTHCARE FACILITY MANAGERS PREPARE FOR ASHRAE STANDARD 188P: PREVENTION OF LEGIONELLOSIS ASSOCIATED WITH BUILDING WATER SYSTEMS

The American Society of Heating, Refrigerating and Air-conditioning Engineers (ASHRAE) has developed a proposed Standard Practice that specifies what will be required to prevent legionellosis associated with building water systems. In preparation for the upcoming ASHRAE Standard many health care facility managers are reviewing their current waterborne pathogen programs to insure that they are effective and measurably improve safety.

Healthcare Buildings have a High Probability for Legionellosis Events:

- Essentially, all legionellosis cases can be attributed to building water systems.
- The persons most susceptible to legionellosis are immunocompromised: transplant, chemotherapy, dialysis patients and the elderly.

Compliance with this standard practice will require that facility managers/owners establish a water management team. The first task for the team is to create process flow diagrams. These diagrams describe how water is processed and used in each facility. Separate process flow diagrams must be developed for each building's potable and utility water system. The next step is a systematic hazard analysis. Hazard analysis has three specific steps:

1. Identify the potential hazards for each step of the process.
2. Decide if the risk of those hazards is significant (yes or no), and if "yes".
3. Determine what hazard control is being applied or could be applied at that processing step.

Every step in the process at which hazard control is applied must be designated a critical control point. For every critical control point, the team must address four issues about the hazard control being applied:

- The critical control limit.
- The hazard control monitoring method.
- The frequency of monitoring the hazard control.
- The corrective actions to be taken if the critical control limit is violated.

Finally, the team must decide how it will confirm that the overall plan is being implemented (verification) and provide evidence that the plan is effective (validation).

The new ASHRAE Standard is a consensus of many industry experts. One of their primary conclusions is that each building must be surveyed to determine its water system risk characterization. The facility managers must then develop a program based that actual risk characterizations. There is no standardized solution for compliance.

Facility audits reveal that many healthcare facilities have instituted water safety policies that include testing and/or installing secondary disinfecting equipment to enhance their water systems. Frequently these testing protocols and equipment are not in alignment with their buildings' actual risk characterization(s). A water management program, based on the new standard can eliminate these typical errors –usually without a major capital investment and many times with a reduction in water treatment cost.

With the correct expertise, ASHRAE Standard 188P is a manageable task. Complying with the new standard will result in major enhancements to your facilities waterborne safety program.

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Phigenics is a water management company that partners with facility owners and suppliers to improve the efficiency, effectiveness and overall safety of all water systems. We help our clients remediate problems associated with waterborne pathogens, including Legionella. We specialize in bringing technical solutions and new innovations to the water industry.

Phigenics is not driven to provide a solution that is restricted to an internal product line. Our only bias is to provide solutions that help our clients achieve their strategic business objectives. We empower our clients to reduce water and energy expenses by facilitating the development of Water Management Programs. This results in more cost-effective and safer operations. Typically for our clients, water processing utility costs are reduced 5-20% and water safety is quantitatively improved.

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