

Legionnaires' Disease – Nothing Ironic At All

By Tim Keane, Legionella Risk Management, Inc.

Dr. Vincent Conte of the Miami-Dade County Health Department said about the EPIC hotel Legionnaires' disease outbreak, "What's ironic is the hotel installed a special filtration system to enhance the quality of their drinking water". Too many Legionnaires' disease outbreaks are caused by similar "ironic" scenarios. The 2006 International Plumbing code codified by the State of Florida and many other states as an example, requires hot water temperatures in buildings be maintained at a level that dramatically increases the risk for Legionnaires' disease. Many well intentioned codes, from EPA regulations to plumbing codes are making Legionella in building water plumbing systems more likely to cause disease and more difficult to control.

In fact, many Legionnaires' disease outbreaks are caused by "ironic", well intentioned plumbing system design and operational efforts. Some of the other well intentioned efforts that have caused Legionnaires' disease outbreaks include; energy efficiency, water savings, scald prevention, patient comfort, and even some outbreaks have been caused by items intended to minimize potential for Legionnaires' disease outbreaks. This is one reason why a significant percentage of Legionnaires' disease outbreaks are in buildings that are less than a year old. What's really ironic is that after 30 years of knowledge has been gained about this infection of plumbing systems, these systems are now as likely if not more likely to cause outbreaks due to modern codes, regulations, equipment and designs than ever before.

The recent outbreak at the EPIC Hotel, a less than one year old building, has raised eyebrows and gotten a lot of attention from property managers and owners across the country. The EPIC hotel reported revenue losses of \$200,000 per day resulting from this outbreak, almost \$3,000,000 for the two weeks it was not accepting guests because of a carbon water filter and maybe some other unreported issues as well.

Two critical issues in Legionnaires' disease outbreaks are;

- 1) The root cause of the Outbreak. This root cause is frequently related to plumbing system design and / or operation. In some cases the outbreak root cause is due to external factors such as city water main breaks.
- 2) The Outbreak Management. Outbreak Management can have a huge impact on how costly the outbreak is to the business. One apartment building after a Legionnaires' disease outbreak claimed over \$5 Million in lost business. In this case the way the local health authority handled the outbreak had the greatest impact on the business loss. Once Legionnaires' Disease is confirmed, many states and local health authorities have a policy to immediately recommend the outbreak facility hire an independent, 3rd party Legionella engineering expert.

An independent, 3rd party Legionella engineering expert is critical because they have investigated many outbreaks, they understand plumbing system design and operation and they have the engineering expertise to know how to remediate the issue quickly, identify the source of the problem and to design cost effective solutions. Sometimes poorly managed Legionnaires' disease outbreaks can result in business loss costs that far exceed the personal injury litigation.

Most building owners believe the greatest risk for a Legionnaires' disease outbreak is from cooling towers and HVAC systems. This is not true at all. Methods to control, maintain and design cooling towers for minimizing the risk of legionella growth are widely understood and documented. Most facilities follow industry guidelines including ASHRAE and CTI for Legionella control in cooling towers by implementing the recommended design and operational protocols including use of oxidizing and non-oxidizing biocides.

Eighty percent of Legionnaires' disease outbreaks in buildings are caused by potable water systems. And unlike cooling towers, potable water systems are typically not being designed, treated or maintained to minimize the risk of Legionnaires' disease. As in cooling towers some of the products used in potable water systems as environmentally friendly solutions for controlling legionella are at best marginally effective and at worst increase the risk.

Plumbing products, designs and codes that foster legionella growth, biocides that are not approved for the application and investigators that don't understand plumbing systems are just a few of the many issues associated with Legionnaires' disease outbreaks that might be ironic if they weren't so commonplace and costly.

Related Links

[Legionnaires' Disease – The Disease of Modern Plumbing Systems and Costly Litigation](#)
[Legionella Guidelines](#)

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