



How Much a Facility Really Pays for a Legionella Risk Management Program

by Matt Freije | Jun 9, 2015



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This question has come up several times in recent phone conversations and webinars: How much will it cost a facility to implement the type of Legionella water management plan that is outlined by the World Health Organization and Veterans Health Administration and in ANSI/ASHRAE Standard 188-2015?

Let's break it down into four cost categories:

1. Establishing a water management plan

The cost of establishing a program will vary with the size and complexity of a building's water systems. As an example, consider a 200-bed hospital or a 300-room twin-tower hotel with two domestic hot water systems and one cooling tower system.

For these sample facilities, HC Info would charge under \$3000 to develop a plan with information provided by the customer. We call it an "offsite done-for-you" water management plan. We go through a well-organized series of steps to gather information about the facility without actually visiting the site, and then configure the plan.

If the facility operator wants a technician to visit the site and conduct a survey to gather the water system information, then one of our partners would do that for an additional \$3000 or so, bringing the total to about \$6000.

Prices vary. Some companies would charge \$10,000 to \$12,000 or even more for the sample hospital or hotel.

When it comes to risk management plans, higher prices do not always mean higher quality. In fact, some companies charge high prices because of inexperience—they haven't performed enough surveys or written enough water management plans to be efficient.

Management plans need to be updated periodically, so at least a portion of the initial development cost should be budgeted for re-surveying the water systems and updating control measures yearly.

2. Implementing control measures

For a well maintained facility, implementing the plan will not cost much because many Legionella control measures are simply good maintenance and part of manufacturer recommendations. For example, a cooling tower that is already being properly maintained and treated will need few, if any, additional measures for Legionella control.

Yes, a comprehensive Legionella risk management plan will include several procedures that most facilities are not already doing, especially for domestic (potable) water systems. And, implementing those measures will require additional time for the maintenance personnel. However, a well-maintained 200-bed hospital or 300-room hotel will not likely need to hire additional personnel to carry out and document the measures.

3. Validating the plan

A Legionella risk management plan must be validated to show its effectiveness in controlling Legionella bacteria. Testing water systems for Legionella is not mandatory for validation but provides the most direct and reliable feedback on the control program. It is also the most expensive validation method so let's look at Legionella testing to estimate a worst-case validation cost.

For the 200-bed hospital or 300-room hotel, collecting 20 to 25 samples four times a year would very likely provide enough data. At a cost of \$100 to \$200 a sample—depending in part on whether the facility hires a company to collect the samples or collects the samples themselves—the validation cost would range from \$8,000 to \$20,000 a year.

4. Correcting problems

Some facilities will require no remediation—zero cost. Some will need to make only minor adjustments in the maintenance or operation of the water systems. For others, the remediation cost will depend on the size of the problem and the proposed solution. I have

seen facilities spend more than \$400,000 on a problem that could have been solved for about \$30,000. No exaggeration. What's worse is that the \$400,000 did not solve the problem.

Is a Legionella risk management program worth the cost?

Yes.

The Center for Disease Control and Prevention (CDC) has reported that Legionella is not only the number one cause of waterborne disease outbreaks in the United States, it is also the most expensive, with direct healthcare costs from \$101 to \$321 million annually (CDC 2010. "Waterborne diseases could cost over \$500 million annually in US"). Adding indirect costs for lost employee work time and productivity brings the estimated total to well over a billion dollars a year (McCoy W, Pearson W. 2011. ASHRAE Standard 188P: Prevention of Legionellosis associated with building water systems. Presented in Atlanta, GA at the annual convention of the Association of Water Technologies.).

But how does that help building owners since they (excluding hospitals) don't benefit from medical care savings?

It's true that, in some buildings, Legionnaires' disease would not occur even if a comprehensive water management program were not implemented. In many, though, nearly 40 years of evidence indicates a program will reduce risk enough to prevent disease. No prevention or safety effort is 100%. Many people who wear seat belts go their entire lives without crashing. Some smokers never get lung cancer. But wearing a seat belt and not smoking are still good decisions.

Building operators that do prevent Legionnaires' disease by properly managing water systems will avert damage to their image, lost revenue, and costly litigation that often follow an outbreak or even a single case of the disease, more than offsetting the cost of a water management program.

Moreover, making a safe environment for the occupants of one's building is just the right thing to do. In the last 20 years, I have received hundreds of emails or phone calls from people who have contracted Legionnaires' disease or lost loved ones to it (see [Quotes From Legionnaires' Disease Survivors](#)). Most of them are angry to find out they suffered from a disease that could have been prevented.

Question: *What has it cost your facility to implement a Legionella risk management program? Has it been worth it?*

2 Comments

Matthew Severson on November 30, 2015 at 9:19 am

Good article. Appreciate the inclusion of cost data. I would challenge you to offer more specific benefits to Validating the Plan. Adding \$8-20K annually to the maintenance costs is not something most hospitality owners are eager to accept. Are there alternatives to reduce this cost?

Reply

Matt Freije on December 17, 2015 at 8:09 pm

A water management plan must be validated to comply with ANSI/ASHRAE 188. Also, without validating with reliable testing, one can only guess as to whether the control measures are sufficient. Total bacteria counts provide pretty good Legionella validation for Whirlpool spas but for plumbing systems and cooling towers, data shows that no surrogate test will suffice. A test for Legionella provides the most direct and reliable feedback on Legionella control. To lower costs, a facility could reduce the number of samples collected or the frequency of sampling. However, if the program is reduced to the point of having too little information on which to base decisions, the sampling will have been a total waste of money.

Reply

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