

Act now and get a discount on your cooling maintenance visit.



# Early Maintenance Discount

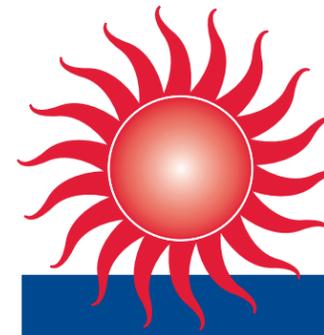
Call to schedule your cooling maintenance by March 15th and receive 5% off!\*

\*Discount must be requested when scheduling appointment.  
Not valid on existing maintenance contracts.  
Maximum value \$100.

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# ADVANCE

  
**AIR & HEAT COMPANY INC.**

Spring Newsletter 2009

## Can Preventative Maintenance Actually Save You Money?

Recently a customer asked me, "What's the worst that can happen if I don't do maintenance? Is it really necessary?" As budgets tighten, preventative maintenance is often a go-to place to cut back. Can you get away with it? Probably, but here are few things you should consider before you defer:

1. You risk unit downtime and higher repair costs.
2. The longer you defer, the greater the risk (and cost).
3. You may not be saving the money you think you are, even in the short term.

## What is your risk tolerance?

Much of the benefit of preventative maintenance is the "prevention" part - meaning if you do it, bad things won't happen. But how do you calculate the cost-benefit of something that may or may not happen? Consequences vary wildly by customer, industry, time of year and type of problem.

To find out your risk tolerance, ask yourself, "How will unit downtime affect my business? What's the worst case scenario?" For example, if your cooling fails during a 100-degree summer heat wave and you have critical heat-sensitive electronic equipment, you could have thousands of dollars of damage. Or if heating fails on the coldest darkest night in winter, will your pipes freeze? Obviously, no one can predict the future and tell you if/when the worst may occur. Preventative maintenance is an insurance policy to mitigate the risk. Only you can decide your risk tolerance.

## The longer you defer, the greater the risk.

The effects of deferred maintenance are cumulative. Dirt and grime builds up on your system over time creating increasingly worse operating conditions and more stress on your equipment. Cooling compressor failure becomes more likely with each missed maintenance visit. Since the compressor is the heart of the cooling system, it is one of the most expensive repairs. For heating, the same type of buildup can occur with soot and scale in the boiler. This buildup can cause damage to boiler components or even worse, since boiler operation involves combustion, carbon monoxide or other flue gases can cause dangerous conditions for occupants.

## You may not be saving money at all.

Even if you are the riskiest of gamblers, your main reason for skipping out on maintenance - saving money - may not be reason enough. I'm sure you've heard it before: maintenance reduces your energy costs, increases operating capacity and lengthens unit lifespan. But thanks to some recent studies, we can now begin to quantify the savings. And the results may surprise you.

There are three main areas to consider when measuring the cost of not doing maintenance: energy costs, service/repair costs and early unit replacement costs. When considered separately, these costs are compelling, but when combined, the case for preventative maintenance truly makes itself.

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## Focus of This Issue:

*Can Preventative Maintenance Actually Save You Money?*

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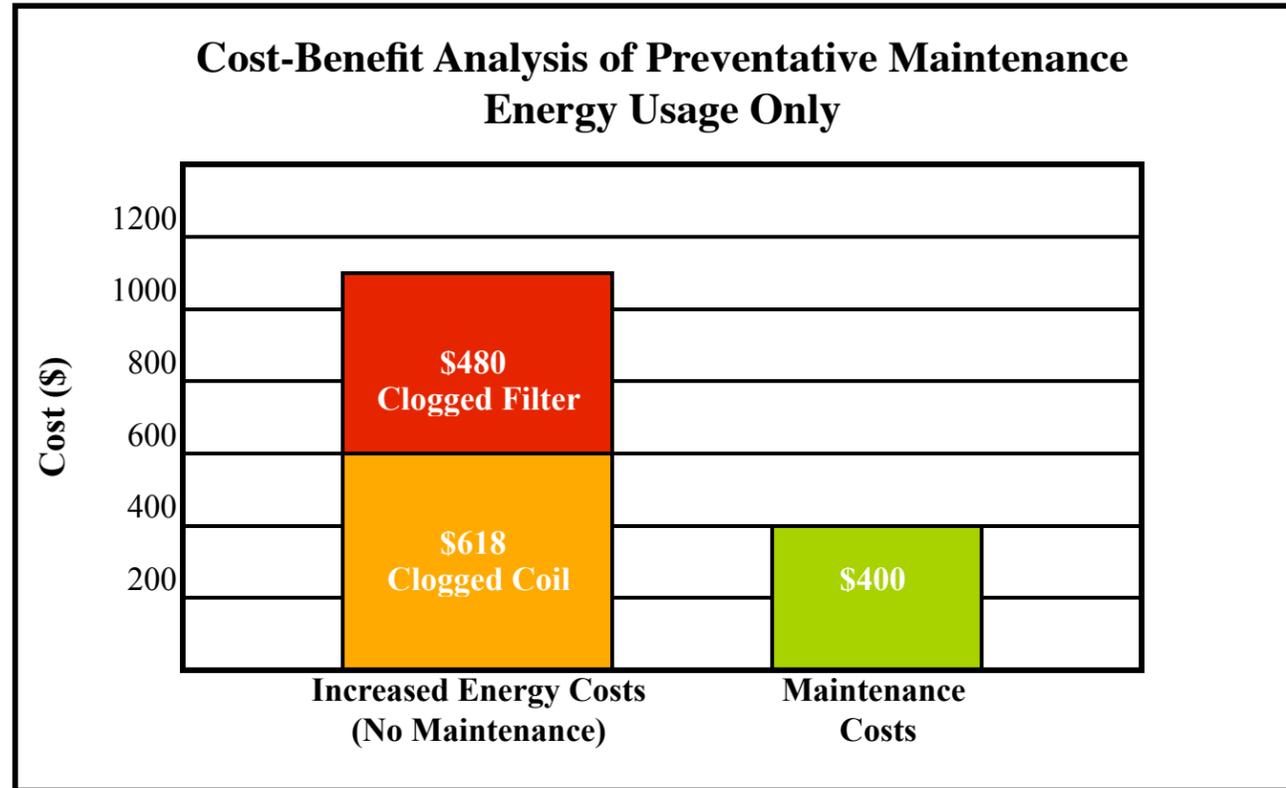


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## Energy Savings - Cooling Maintenance

Based on a study done by Nu-Calgon, a manufacturer of HVAC products for over 50 years, a 10-ton cooling unit costs an average of \$1,650 to operate over the length of one cooling season. The same unit running with dirty coils will use an additional \$618 of electricity during the same period.

Based on our own figures, average maintenance costs on that same unit for the cooling season would typically be about \$400. That's \$200 LESS than the money you spent NOT maintaining. And that's with just a dirty coil. If you add a clogged filter, the energy costs go up by another \$10-80 per month or up to \$480 for the cooling season.



## Energy Savings - Heating Maintenance

During the heating season, if your HVAC economizer malfunctions or your sensors are out of calibration, your equipment could be drawing cold outside air into your building. The additional cost to heat this cold air could be up to \$1,400 per year for each malfunctioning unit. A routine check of the economizer and sensors during a maintenance visit takes only a few minutes, but could make a big difference to your bottom line.

An unmaintained boiler, with as little as 1/16" of soot buildup can increase fuel consumption by 2-8%. If it also has scale buildup (caused by naturally-present minerals in boiler water) fuel consumption may increase by an additional 2-5%. The more build-up, the less efficient the boiler will be. Average boiler maintenance costs are about \$850/year for oil and \$450 for gas boilers. When deciding whether or not to maintain your heating system, consider the additional costs to your fuel bills. Also consider the impact of an after-hours heat failure in the middle of a cold snap. It doesn't take long for pipes to freeze during our frigid New England winters and the cost to repair and clean up after burst heating pipes is high.

## Cost of Service Calls

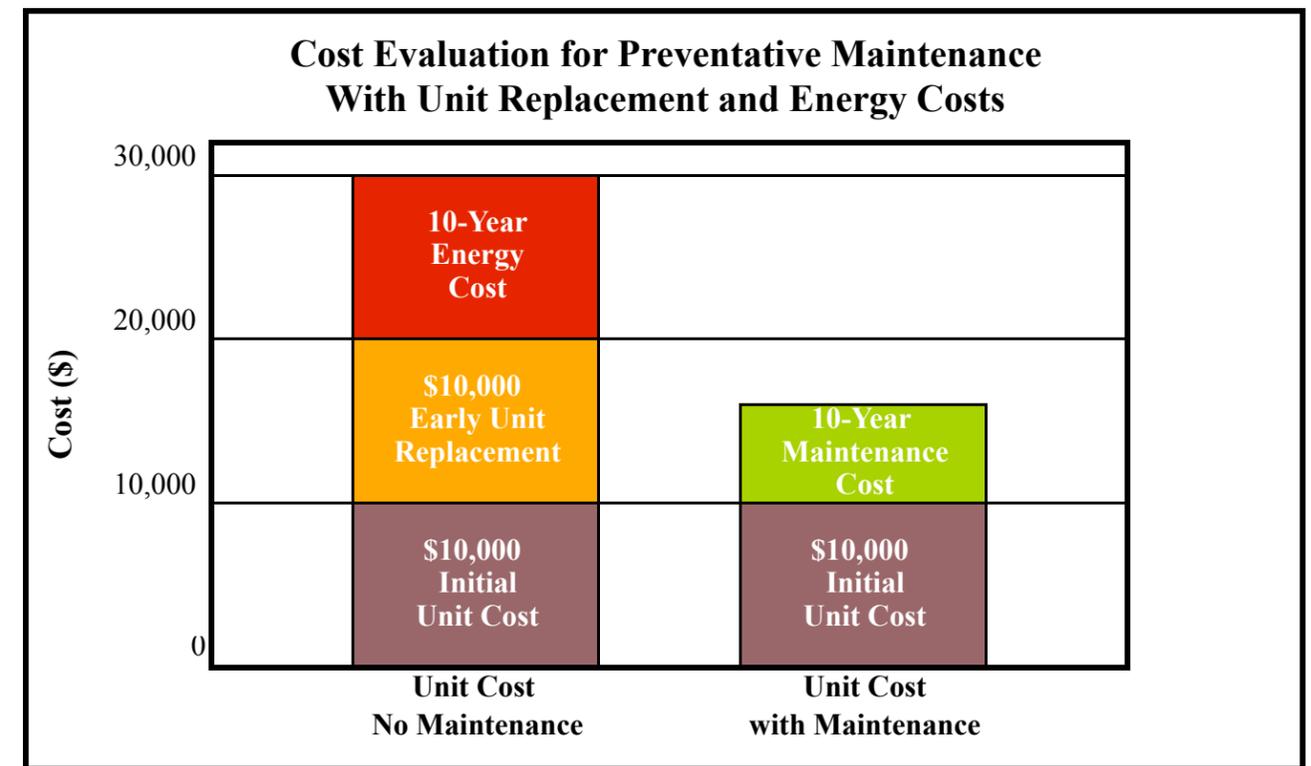
HVAC Units that are not kept clean by maintenance will lose at least 30% of their total capacity. For example, a 10-ton unit with clogged coils has the effective cooling capacity of a 7-ton unit.

In order to compensate for the loss in capacity, the unit has to run for longer periods of time to hit desired temperatures (hence the extra energy usage above). Because of its reduced capacity, on days when outside temperatures are at extremes, the unit will be unable to keep up with demand. In the best-case, the service tech will come out and perform maintenance tasks to get the unit functioning properly again. However, if the unit fails after-hours or has actually sustained damage due to overheating and high pressures, the repair costs could be extreme. In either of these cases, any savings from deferred maintenance disappear, maybe several times over.

## Cost of Shortened Unit Life-Span

A well-made HVAC unit should last between 10-20 years on average, though we service some 30-plus year old ones that are still going strong. Manufacturers calculate the average unit lifespan based on the unit running within specified temperatures and pressures, and assuming regular maintenance is being done. When maintenance is not done, the unit runs outside of acceptable temperatures and pressures which causes additional wear and tear on the unit, shortening its overall lifespan and causing premature failure of its components.

To put it into numbers, if you have a \$10,000 HVAC unit with a forecasted lifespan of 10 years and you assume maintenance costs at \$700 per year (for both heating and cooling), your total 10-year investment is \$17,000. If you take the same \$10,000 unit and do no maintenance, you can expect to replace the unit before the end of its ten year life, costing (if you're lucky) another \$10,000. That's \$20,000 in the same ten years. However, you can't forget to add in the extra energy usage from your dirty unit - \$7,000-\$11,000 over ten years. Now your 10-year total is \$31,000. That's \$14,000 more and you had poor climate control for ten years!



## Summary

We think the numbers are fairly clear. Taken separately, the extra costs resulting from deferring maintenance – increased energy use, more service and repairs and more frequent unit replacement – are substantial. But when these costs are combined, the case for preventative maintenance really makes itself. Whether you do it by contract, by call, or have your own in-house staff take care of it, preventative maintenance can actually save you money. And your units, your energy bill, and your employees or tenants will thank you!