



Dealing with HVAC Claims

Hot enough for you? If your office temperature seems too hot, too cold or too unpredictable, maybe your building's HVAC isn't working properly. Maybe the malfunction can be traced to problems in the original design or to communication problems during project construction.

In our Risk Drivers® research, the Design Professional group of the XL Insurance companies has found that for mechanical engineers, HVAC claims account for a whopping 45 percent of the claims count and 55 percent of the claims dollars. For all disciplines combined, HVAC problems still account for a significant 7 percent of the claims count and 7 percent of the claims dollars.



Here's an example of an HVAC problem that could easily have been prevented. Our insured was hired to provide mechanical engineering services for a school remodeling project. During the project, the owner requested the engineer provide the same

services for an additional classroom, including specifying a replacement air conditioning unit. Since the additional classroom was identical to the size and shape of another classroom, the engineer specified the same A/C unit. Once the school was up and running, there was an immediate problem. The additional classroom was a computer lab, which generated a lot more heat than the other classroom.

Had the engineer simply looked inside the additional classroom, it would have been immediately evident that it was a computer lab and he could have specified a higher capacity air conditioning unit—and avoided a settlement of more than \$10,000.

Another dispute involved an office building project located in a very hot area. The mechanical engineer specified an HVAC system based on plans the architect, our insured, had presented. Later in the project, when the windows were changed to a less heat-resistant design, the architect assumed the change wouldn't affect the HVAC requirements. The problem was two-fold: for one, the architect relied on the manufacturer's specifications and, two, the architect never informed the mechanical engineer of the change. Once the building was occupied, it was so hot that it was clear the A/C was substantially undersized. But the same wasn't true of the settlement of the claim against the architect, which was in the range of \$200,000.

Communication can play a big part in preventing HVAC claims. In the case above, better communication between the architect and the HVAC consultant would have prevented the problem that resulted when the windows were changed. A/Es must realize that even minor changes in construction can have a very large impact on HVAC requirements.

The best way to prevent HVAC-related claims is commissioning. Commissioning is something very few mechanical engineers insist on, but it gives you an opportunity to discover problems and fix them before they cause problems for the owner. Of course, the owner's problems will quickly turn into yours.

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What is the value of commissioning? HVAC systems are very sophisticated and require more technical expertise than the typical maintenance crew usually has. Anytime you put a high-tech system in the hands of people who lack the appropriate qualifications and training, you invite problems.

As an example, a university classroom building's maintenance crew shut down the A/C every night. The university couldn't figure out why the humidity—and their costs—remained high. What they didn't realize was that once they turned the A/C on each morning, the system had to work harder to remove the humidity that had accumulated overnight. It would have been more cost-effective to keep the A/C at a steady temperature around the clock.

Many HVAC claims are the result of trying to cut costs when designing the system. Attempts to save money can be disastrous, as it was for the HVAC consultant and his museum client when the consultant chose a system that would fit the budget but not necessarily the requirements. In a museum full of paintings and artifacts, any fluctuation in temperature or humidity can cause much damage. As soon as the system was turned on, the museum's holdings began to deteriorate. Our customer was told that more aging took place in the time the HVAC system was running than in the previous hundreds of years of the holdings' existence.

Project vs. consultant location should also be considered. If you're having an HVAC system designed by a firm located in a different state than the project location, be sure to have an MEP in the project state do a thorough peer review of the design.

Following such advice may not alter your office temperature today, but it could very well help you avoid claims in the project you design tomorrow.

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