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LIGHTNING CLAIMS

by Craig R. Rice, B.S.E.E., Forensic Engineer

Now that spring is upon us and mother nature has finished providing all of her snow for the winter, she brings to us the spring time lightning season. According to the National Lightning Safety Institute, lightning claims for the United States average \$4-5 billion per year. Approximately 5-8% of insurance claims are lightning related.



Lightning is necessary to maintain electrical balance in the atmosphere and earth. Lightning is just like the electric shock you get when you touch a door handle, but on a much larger scale. The energy in a lightning strike can generate temperatures of 15,000° C. It is these temperatures which start wildfires, ignite structures, and cause explosive damage.

Validation of lightning claims can be difficult due to the wide spectrum of damage it can cause. Lightning can cause extensive damage or fire at the point where the lightning strikes, or it can cause damage miles away from the strike. The energy can travel through power lines, telephone lines, or the ground to cause damage. A person can be killed by the energy traveling through the ground they are standing on. Many livestock are killed in this manner.

Damage to property can range from a blown light bulb to all electronics failing. There are many ways to reduce the risk of lightning damage to residential and commercial properties, including proper grounding of electrical equipment, surge suppressors, and lightning rods. Taking all precautions will decrease the risk, but not eliminate it because of the chaotic nature of lightning. Commercial properties may require a very extensive protection system which is necessary to maintain. Without maintenance, the system will become less reliable. Even lightning rods require maintenance.

The most common protection for residential properties is the use of surge protectors in the form of multi-outlet plugstrips. While these can be very effective, the labeling must be read because not all plugstrips include surge protection. The saying holds true "you get what you pay for." Typically, the more expensive the lightning protection, the more effective it will be at preventing electronic equipment failure. It is not always necessary to buy the most expensive surge protector; the risk must be factored in, such as living out in the open versus surrounded by peaks, or overhead versus underground electrical supply.

As we enter the thunderstorm season, the lightning claims will start coming in and some will not be truly lightning damage. Some may be coincidence - the 1978 VCR finally terminated its useful life during a thunderstorm - and some may just be a fraudulent claim. The first case I was assigned with Phoenix was a fraudulent lightning claim. The spring time brings many lightning claims, but with the right investigation, the exposure can be reduced to the appropriate amount.

**PHOENIX WELCOMES CRAIG RICE, Forensic Engineer
and
TONYA JORDAN, Fire Investigator**

On April 5, 2004, Craig R. Rice joined Phoenix Laboratory and Engineering Services. Craig was born in Denver and has his Bachelor of Science in Electrical Engineering degree.

During his forensic career, he has investigated fires, switchgear failures, transformer failures, lightning damage claims and electrocutions, to name a few. He has extensive product testing and engineering design background.

In March, Tonya Jordan joined the Phoenix staff as a part-time fire investigator. Tonya is a Certified Fire and Explosion Investigator and works full time as a Deputy/Investigator with the Jefferson County Sheriff's Office.

WELCOME CRAIG AND TONYA!



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