SAFETY CHECK

Risk Control at UFG Insurance | riskcontrol@unitedfiregroup.com

Electrical maintenance programs for commercial property

The National Fire Protection Association (NFPA) published *Non-Home Electrical Fires* by Richard Campbell in June 2019. This report covered a 5-year period from 2012 to 2016 and comprised a range of commercial properties. Over this period, fire departments responded to an estimated 16,930 structure fires involving electrical distribution and lighting equipment in properties other than homes. These fires resulted in an annual average of 22 civilian deaths, 210 civilian injuries and $718 million in property damage.

NFPA also determined that, of these fires, 60% were linked to wiring and related equipment. Wiring and related equipment also accounted for 50% of the civilian injures and 57% of civilian deaths.

It was further noted that 75% of electrical fires in this time were due to electrical failure or malfunction where electrical arcing occurred, which eventually produced enough heat to start a fire.

THE GOOD NEWS

Maintenance of your properties' electrical systems can identify these issues before a fire occurs. The key is to conduct routine inspections of electrical systems to make sure everything is operating in a cool, clean, dry and tight condition.

Keep the following in mind during your weekly inspections:

- Cool – unless you're an electrician, don't touch. You just want to verify that the electrical is in a cool environment. For instance, when server rooms are kept cool, the life expectancy of the equipment may increase as heat can move from the equipment to the room.
  - Maintain cooling fans installed on equipment to provide the required ventilation.
  - Keep openings designed for ventilation clean and free from obstructions.
  - Maintain any provided filters according to manufacturer's requirements.
- Clean – look at the area, is it free of combustible materials? Is there dust build up, or other potential concerns?
- Dry – do you have exposure to moisture? Look for any indications of water or other fluids running down the panel. Is the electrical room in a lower elevation with risk of flooding?
- Tight – look at panels (open the front door only) can you see inside the panel? You should only be able to see the breaker tips. Look at your conduit, is it tight fitting? Are wires visible? If so, contact an electrician to tighten. Look at junction boxes, including the ones at ceiling height, all should have a cover in place. Covers not only keep you from contacting wires but are also designed to contain heat in the event of arcing.
- While walking around, listen for humming or other noises coming from the electrical. If noted, contact an electrician to determine if there is a problem.
- Smell for unusual smells, especially a burning smell, this is an indicator of heat and requires prompt attention.

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WEEKLY INSPECTIONS	
☐	Electrical panels and equipment covers are in place.
☐	At least 3 feet of clearance around all electrical and other electrical equipment panels (more space may be required in some instances).
☐	No visual signs of discoloration.
☐	Extension cords only used for temporary operations.

ANNUAL COMPREHENSIVE INSPECTIONS (QUALIFIED ELECTRICIAN)	
☐	Verify equipment is listed and installed with manufacturer's installation instructions and suitable for location.
☐	Check electrical enclosures and boxes for unused openings, verify closure of raceway and cable openings.
☐	Check tightness of all bolted connections.
☐	Verify equipment has not been contaminated by foreign materials or is not damaged.
☐	Verify equipment is securely mounted and has adequate ventilation, and space for equipment is provided.
☐	Check for arc flash warning labels and location of labels.
☐	Check for minimum working spaces at electrical equipment. Verify the space is not used for storage.
☐	Clean connections of dust or corrosion.
☐	Exercise circuit breakers.
☐	Lubricate as required.

This is a short guide for electrical maintenance of your equipment. Electrical maintenance should follow applicable jurisdictional code requirements and the manufacturer's recommendations.

Regular maintenance should be performed according to the manufacturer's instructions and NFPA 70B recommendations.