

## Protecting Electronic Equipment from Fire

Electronic equipment is omnipresent – virtually all industries are dependent on computers and have an exposure to loss if their equipment is damaged. A fire involving electronic data processing equipment can result in significant property damage and has the potential for costly business interruption. It is imperative businesses understand how to cost-effectively protect important electronic equipment to prevent a disaster.

Fire exposures to electronic equipment continue to grow based on:

- Higher levels of scrutiny to ensure assets are protected properly and operating and maintenance costs are kept low
- Increased demand for environmental liability management based on metals and materials used in construction of equipment
- New technological advances enabling electronic equipment to become smaller in size

Understanding the risks is the first step in protecting your business. Cloud-based systems have become widely popular which has transformed the traditional data center. A great advantage of cloud computing is the requirement of having fewer servers and other equipment onsite. As technology has enabled the equipment to become smaller, the risk has grown. The unfortunate downside is server rooms then become storage spaces containing other random stuff alongside the electronics. The stored items may be flammable and escalate a fire.



A common mistake organizations make is to assume they are safe because they have fire sprinklers/gaseous fire suppression systems. The fact is, these systems are only fire **suppression** and do not prevent fires from starting. As such, it is essential to examine your environment before the sprinklers are activated. Once the sprinkler has been triggered there could already be significant damage to this type of equipment.

Critical data centers or electronic equipment rooms are typically set to run continually, which means there is an important planning decision: **Do you leave critical equipment powered up when a fire is detected?**

If the equipment is left powered up, when the extinguishing gas is eventually removed from the room, it's possible the fire will reignite and can become even hotter and more aggressive than before due to [arcing](#).<sup>i</sup>

On the other hand, if you power down the equipment when gas is discharged, the area may cool before personnel can enter and it might be hard to locate the area where the problem started. The following three procedures are key to follow in protecting your organization.<sup>ii</sup>

- 1. Good housekeeping:** There are many materials such as furniture, paper and plastics that will burn hotter and produce more smoke than a fire involving electronic equipment alone. These other combustible materials should be kept out of electronic equipment rooms. The storage of those materials in server rooms is often the main perpetrator of catastrophic losses from fire, smoke and soot damage. **Electronic equipment areas should be without combustibles and kept clean.** This is a primary way to limit potential for fire and damage in electronic equipment areas.
- 2. Effective detection:** If a fire does occur within electronic equipment, it usually grows slowly. It often starts with a component overheating, resulting in arcing and eventually an open flame. It is crucial to use Highly Sensitive Smoke Detection (HSSD). **A good smoke detection system will alert staff of a problem within the electronic equipment before flames are visible** allowing time to respond before more hazards occur. An employee responding to an alarm going off must be able to locate the component that is overheating and take the necessary steps to deal with it in the appropriate manner.
- 3. Well-trained response:** Good housekeeping and effective detection are important, but they are not a substitute for an effective response in case of an emergency. **A well-trained team should be able to assess the scene, notify appropriate parties, investigate the source of the smoke or fire and isolate the equipment in question.**
- 4. Development of an [Energy Isolation Plan](#)** includes formal procedures for de-energizing equipment to reduce damage, contamination from smoke and preventing reignition.

Considering what is at stake from an operational standpoint, plans for protecting important electronic equipment and data centers from fire hazards should incorporate more than a few basic techniques. It is important to properly protect your company assets.

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<sup>i</sup> Author Unknown, "What is Electrical Arcing and Why is it Dangerous." *AlantaElectrician*, <http://www.electricianatlanta.net/what-is-electrical-arcing-and-why-is-it-dangerous/>. Accessed 4 Feb. 2020

<sup>ii</sup> Author Unknown, "Property Loss Prevention Data Sheets." Accessed 3 Feb. 2020



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