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## **Schools are reopening: Are their electrical systems up to the task? - by Brian Leborgne**

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The summer of 2021 has been a busy time for schools preparing to open in the fall, after the COVID-19 pandemic forced districts to abandon in-person learning last year and shut down school facilities either partially or entirely.

Many schools are working to complete infrastructure projects before classrooms open. Fire prevention and life safety equipment must be tested after months of inactivity. Issues ranging from classroom layouts to hallway foot traffic must also be addressed in the wake of the pandemic.

With all that is going on, routine maintenance of school electrical systems can too easily be overlooked. In smaller school districts, electrical systems are often an afterthought anyway. From a safety standpoint, that's a risky idea.

### **School Custodians Aren't Licensed Electricians**

In some instances, the school custodian is typically the point person in charge of building infrastructure, including the electrical systems operating in older school buildings in small school districts across the country. In some cases, the custodian may be responsible for handling, maintenance, and upkeep of electrical systems. (We strongly recommend against this. Only licensed electricians should be performing these services.)

Whether or not the school system has a maintenance team or a single custodian looking after the building, basic preventative maintenance of electrical systems is essential. It is up to school administrators to take some proactive measures to make this happen. Here are some simple and cost efficient recommendations:

Locate your circuit switchboard. This may seem obvious, but be familiar with your system. A surprising percentage of school administrators seem to have no idea where their circuit breakers are located. When a problem happens and they don't know where their electrical panels are, that's an easily avoidable and potentially costly issue. (You'd be surprised where electrical panels pop up,

even in a janitor's closet.) An important, cost-effective preventative measure is to periodically exercise the individual breakers. This ensures that in the event of an overload, they function properly. Older breakers may be stuck in the on position. Only by exercising them will you know if there is an issue.

**Control moisture:** Moisture is another concern when it comes to electrical systems. Electricity and moisture are a dangerous combination. In one school building we worked in, the main switch gear was located in the basement of a building with a dirt floor. They experienced flooding issues during school and we had to switch their electricity off for three days. The water and flooding caught up with them. In other less extreme cases, humidity can damage electrical systems through corrosion. These situations can be rectified with dehumidifiers and ventilation.

**Hire a licensed electrician to perform a visual inspection:** A licensed electrician can identify potential red flags by taking a look at your system. Hiring an electrician for a visual inspection of your electrical system is affordable and expedient. Overloading can be detected with infrared scanners that expose heat issues behind walls, another cost-effective option.

**Consider scheduling an electrical system audit:** A licensed electrician can identify issues with capacity, amperage and load. This is best performed when school is in session and the system is undergoing a typical load. A system that is operating over capacity generates heat and can potentially trip a circuit breaker, or worse, start a fire.

With lighting, some districts have been proactive, retrofitting older lighting for new energy efficient LED lights. They often assume that the power saved with more efficient lighting is readily available to handle the additional load from the cadre of devices now crowding classrooms. However, typically lighting and distributed power are handled by two separate panels. Only a licensed electrician doing an electrical audit can determine for sure if the building has the power required

**Schedule and perform routine checks:** Basic maintenance of electrical systems may be as simple as flipping the circuit breakers on an annual basis and routinely checking for moisture problems. But it is important to make someone accountable for those tasks so they don't get overlooked.

If you traveled 50 years back in time, the school buildings might be the only buildings you recognize in some communities. The electrical systems can be as old as the buildings. Even so, demands on electrical systems have never been higher. More computers, printers, servers and other electronics are plugged in than ever before, and yet the electric systems powering it all are too often neglected.

For the safety and well-being of students, teachers and staff, electrical system maintenance should be automatic, not an afterthought.

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