

The Importance of Maintaining Proper Electrical Panel Clearance

Electrical panels can be found in just about every building. However, because they are not typically out in the open or inspected daily, it's easy to overlook electrical panels and the potential risks associated with them. Without the proper precautions, things like exposed wires, faulty components and improper grounding create a host of exposures that can severely disrupt or harm a person. But of all the concerns associated with electrical panels, one common and often overlooked issue relates to maintaining proper clearances.

Why Maintain Proper Clearances?

Simply put, businesses must maintain proper clearances around electrical panels to promote ease of access during service, repair, and operational procedures. The following are some common scenarios where electrical panel clearance is critical and directly affects the safety and well-being of employees:

- ✓ **Shutting down equipment during an incident**—In the event of an equipment malfunction or similar safety incident, workers must be able to access electrical panels. This allows them to easily shut off potentially harmful equipment and secure the work area. This is particularly important for equipment that does not feature an emergency shut-off switch.
- ✓ **Repairing and maintaining electrical panels**—When panels are obstructed, they are more difficult to access and maintain. What's more, if a worker is servicing an electrical panel and has to contend with nearby obstacles, they are more likely to make a mistake or injure themselves. This risk is compounded if the employee is working on live electrical components.
- ✓ **Storing materials and performing work**—Work areas that store hazardous or combustible materials too close to electrical panels run the risk of starting fires. What's more, when employees perform work nearby an electrical panel, they could accidentally hit or damage it, creating potential electrocution hazards.

An Overview of Electrical Panel Clearances

There are a number of clearance distances that must be maintained at all times. These clearances relate specifically to the depth, width and height of the working space around electrical equipment.



Depth

While the minimum depth clearance distance is 2.5 feet for installations built before April 16, 1981, there are a number of more precise requirements followed in industry, depending on voltage and conditions:

- ✓ **Condition A** - There are exposed live parts on one side of the working space and no live or grounded parts (e.g., concrete, brick or tile walls) on the other. Under these conditions, the clearance distances are 3 feet for any voltage between 0 and 600.
- ✓ **Condition B** - There are exposed live parts on one side of the working space and grounded parts on the other. Under these conditions, the clearance distances are 3 feet for voltages between 0 and 150, and 3.5 feet for voltages between 151 and 600.
- ✓ **Condition C** - There are exposed live parts on both sides of the working space. Under these conditions, the clearance distances are 3 feet for voltages between 0 and 150, and 4 feet for voltages between 151 and 600.

Width

In addition to the above, there are clearance requirements as they pertain to the width of a working space around electrical equipment. Specifically, the working space around electrical equipment must be as wide as the equipment or 30 inches, whichever distance is greater.

Height

The required height of a working space around electrical equipment will largely depend on when a particular installation was built:

- For installations built before Aug. 13, 2007, the height of the working space must be 6.25 feet.
- For installations built on or after Aug. 13, 2007, the height must be at least 6.5 feet from the floor, grade or platform. It can't be lower than the height of the equipment.
- In addition, all panel doors must be able to open at least 90 degrees to allow clear access.

A Lasting Solution

While it's important to understand the risks and requirements associated with electrical panel clearances, it's equally important to implement workplace controls to mitigate risks long term. While the building can be in compliance with the rules by simply moving materials away from a panel, this does not address underlying issues that create clearance concerns in the first place.

In addition, it's a good idea to clearly label working spaces that are affected by the rule, using signage, barricades, and floor markings to indicate required clearance distances.