How to scale an arc flash study in large facilities or campuses

Managing the risk of arc flash incidents is an important aspect of electrical workplace safety. However, the unique characteristics of large facilities or campuses introduce additional challenges, particularly when it comes to resourcing budget and personnel to support a full-scale arc flash study. For very large facilities or operations with multiple buildings in a single campus, such as a healthcare complex or university, the scope of the project may seem overwhelming for facility staff and budgets. Yet, continually postponing a project of this magnitude can leave the facility and its employees at increased risk for an arc flash incident.

You can get started now working within the constraints of your available resources. Use this worksheet to pinpoint the best place to get started. Not only will you begin to improve arc flash safety for your business, but you will gain the valuable experience you need to plan for arc flash studies across your entire facility or campus.

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1 Which equipment is critical to your operations?

Assess your operations to identify critical equipment that may be difficult to shut down, that is necessary to run critical processes or that provides power to other equipment that may mitigate another hazard. Prioritizing these critical locations for arc flash analysis may help you avoid costly and unplanned shutdowns in the future.

2 Which equipment must stay energized for maintenance and troubleshooting?

Working on energized equipment should be avoided whenever possible, but there are some instances when it is simply unavoidable. Energized work can cause arc flash incidents to occur and it should be a priority to inform personnel of the associated hazards. There may be overlap between the critical equipment listed above and the equipment listed here, but it's important to further characterize equipment that must remain energized.

3 Which building is most critical if it goes down?

It's important to identify which buildings house equipment key to the core function of your business, and then prioritize them in the first phase of an arc flash analysis. For example, a university would likely consider a utility plant to be a more critical load than dormitory lighting.

4 What is the age of your equipment?

Older equipment tends to have a greater potential for hazards due to unresponsive protection which could slip out of tolerance as the years pass. Depending on how often equipment has been maintained, relays and breakers may not respond to a fault as quickly as expected. Understanding when the age of the equipment represents a greater potential for an arc flash incident helps prioritize which part of your system should take precedence in an arc flash study.

5 What resources do you have for supporting an arc flash study?

Knowing what resources you have available will assist in the development of a schedule for your buildings. Begin to quantify resources in terms of what may be required for an arc flash study including budget, internal trained resources to support on-site data collection and required PPE to support the data collection effort.

Assess your preparedness

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