



# The Impact of an Electrical Incident

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# Introduction

Electrical safety is a low probability, high impact subsection of workplace safety. This means that although electricity-related events may be relatively unlikely to occur, they are of great importance when they do, and the consequences can be deadly. Because of the low likelihood, some organizations ignore or put off improving their electrical safety plans.

Electrical injuries can be the result of direct contact with an energized item, but can also happen if someone is nearby when an electrical incident takes place, such as an arc flash. Both can cause fatal electrocution,

electrical shock, burns, and falls. This is why it is important to keep electrical safety in mind, even when an individual will not necessarily be interacting with an energized item.

In many countries, workplaces legally need to develop and implement a written health and safety program that addresses workplace electrical hazards. Consequences for inadequate safety measures can include repercussions such as fines and insurance costs. More importantly, the consequences for your employees can be much greater: severe injury or even death.



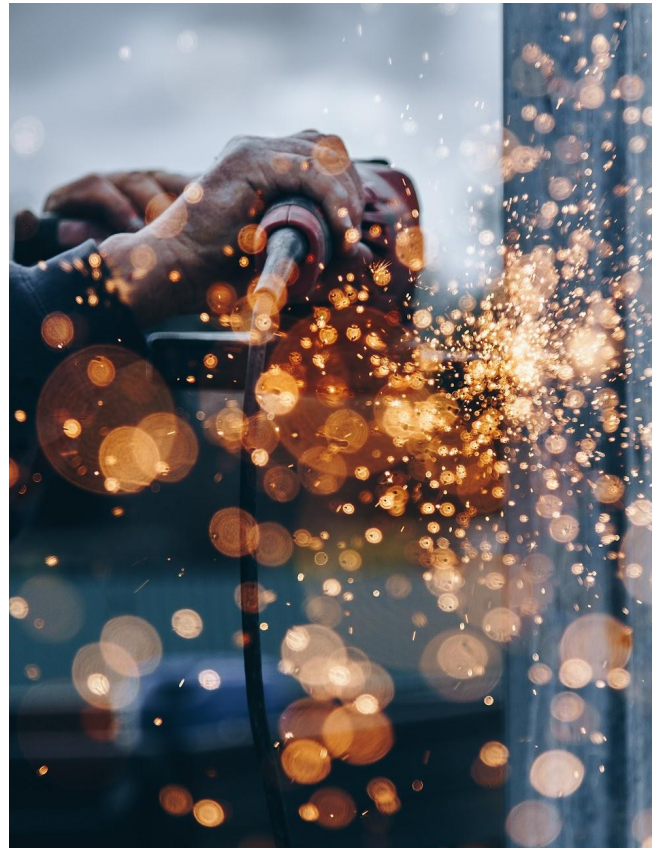
## The Impact of an Electrical Incident - Introduction

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In 2020 the US saw 2,200 non-fatal electrical injuries in the workplace (that resulted in days off of work) and 126 fatalities. In Canada, nearly half of electrical injuries occurred while people were working on energized equipment. Accidents like this are avoidable, and while these numbers may seem statistically low, the impact of each to the organization involved is incredibly high.

Record of electrical incidents to employees can be found in a large variety of fields. In the 10-year period from 2004 through 2013, CFOI recorded 1,962 fatal electrical injuries. Of these 1,962 fatalities, 923 of them transpired in the construction industry. Professional and business services recorded 258 fatalities, trade, transportation and utilities recorded 210, natural resources and mining recorded 197, and manufacturing recorded 155.

The occupation of those involved in these fatal incidents also varied, including individuals in construction and extraction, installation, maintenance and repair, building and



grounds cleaning and maintenance, transportation and material moving, and production management. This means that no matter what role an individual is in, electrical safety policies should be included when developing the safety plan for their role.

In the following chapters, we will be diving further into several areas of your organization that can be affected after an electrical incident.

# Impact on Employees

Electrical incidents can have major consequences for any organization. Although they are relatively unlikely to occur, the results of an electrical incident can be life changing for all employees, not just for those directly involved.

When an electrical incident occurs, the employee involved can be impacted in various degrees, including no or mild injury, severe injury, or even death. People involved in an electrical incident can suffer from muscle spasms, cardiac arrest, burns, and have their nervous system affected. Even if they are not hurt by the electricity, individuals can be injured if they fall or are otherwise hurt as a direct result of the electrical incident.

Beyond the physical injury, there can also be psychological repercussions on the people involved. When injured in the workplace, the severity of the injury can have a massive impact on the mental health of the

individual. Those who suffer permanent impairment are at even greater risk for depression, sleep problems, and medication abuse. Even employees who suffer from minor injuries as a result of a workplace incident are likely to experience post-injury depression for several months afterwards. Not only do these kinds of issues reduce the quality of life for the employee, but they can also affect the employee's ability to perform their job.

Both physical and psychological consequences from an electrical incident can result in temporary or permanent time off requirements for those involved. Time off can further affect the employee financially due to loss of wages, overtime, or tips. The individual can also suffer socially, as they no longer have the routine and daily interaction with colleagues. Time off for injury also has an influence on mental health for the employee, beyond the impact of the injury. These

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issues all compound, as each influences the other.

Beyond those involved in the electrical incident, other employees can also be impacted when an electrical incident occurs. For example, they can potentially be overworked if the incident results in a role not being filled. This in itself has risks, as it can lead to poorer work performance and stress in the overworked employees.

If the electrical incident resulted in a workplace fatality, it can negatively influence co workers' emotional health, productivity, and safety. These after-effects are not short-lived. Impacts of workplace fatalities on other employees can last months or even years.

Both fatal and non-fatal incidents in the workplace can also lead to reduced staff morale. The feelings of loss and fear for personal safety will impact even the most positive of work environments. Coworkers can also feel distracted, and this leads to lower overall productivity.

As a result of an electrical injury or fatality, the employee-employer relationship can become strained. This in itself can also impact productivity, employment longevity, and morale among coworkers. Employee turnover potentially increases after an injury, and always increases after a fatality. This can magnify the chances of remaining staff being overworked, decrease morale, and lead to loss of productivity.





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# The Financial Impact

When customers talk about how electrical incidents affect their organization, one of the items that always comes up is financial impact. Financials are a key factor in company success, longevity, and growth, and so they are understandably top of mind for many people. When looking at how electrical incidents affect an organization's financials, there are many direct and indirect costs that need to be considered.

In writing this, we spoke with the Senior EHS Advisor at an Australian mining company. He has been with the company for over 10 years, and in his career he has investigated 108

fatalities and 220 fatal accidents.

While there is a great deal of variance depending on the operations, his estimate based investigations he had performed, was that catastrophic injuries and fatalities typically cost a minimum of \$5,000,000 to the organization and sometimes upwards of \$20,000,000 to \$30,000,000.

The first financial cost that often comes to mind with any workplace incident is the insurance cost of the incident. OSHA estimates that the direct cost for any workplace incident involving time off is \$40,000 (depending on the nature of the injury or illness). However, beyond the

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*Insurance payouts and payouts to families typically end up accumulating to between \$250,000 and \$2,000,000, which is a small percentage of the total cost*

insurance costs associated with that specific worker, there can also be an increase in insurance costs for all employees in your company, meaning that your organization will see higher worker compensation costs in the long run. Year-over-year, this can greatly affect your organization's finances.

After insurance, there is also the potential for legal services, fines, and medical benefits. An electrical incident in the workplace can be very costly from that perspective. A company in Ontario, Canada was fined \$150,000 after a fatal electrocution of an employee in 2019. Another Ontario company was fined \$80,000 after an employee was critically injured in an electrical incident. An organization in Singapore was fined \$200,000 after the death of an electrical worker. These costs can bankrupt an organization, especially if they are a smaller company.

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Company stock price can also be affected, due to changes in investor perception and stock analyst mark downs due to severe safety incidents.

When looking at the financial impact of an incident, the cost of administrative time in processing paperwork, liaising with officials, and other tasks will also need to be factored in. It takes time for all of these aspects to be handled but your HR, legal, or health and safety teams. Depending on the nature of the incident, there can also be the cost of repairing or replacing any equipment that was damaged. These costs can be very large, depending on the extent of the damage and what was affected.

When an electrical incident occurs, the entire business operation can be ordered to shut down for days or weeks as investigations or other proceedings take place. In the case of



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electrical fatalities, this time period is likely to be longer, but even non-fatal accidents can lead to temporary business closures. The mining company's Senior EHS Advisor also spoke to the fact that when an incident occurs, additional training for employees and managers can be mandated or recommended. This increases the revenue loss for the company.

An accident or fatality can have negative impacts on other employees' mental health and stress. So the cost of the electrical incident to your organization can include the cost of bringing in outside professionals, such as grief counselors or others trained in critical incident stress debriefing.



There are also financial ramifications if extended time off is required or if the incident is fatal, as the cost of training replacement workers has to be included. Even if you hire a well qualified replacement, there is still a cost to any new hire, such as the time it takes for your HR team to process the hire and the lower initial productivity that most new hires exhibit. Ability to hire new talent can also be affected - as many worker take safety into account when choosing a new employer.

Even short gaps in staffing can have an impact. If the time off does not justify a replacement, while you are searching for a replacement, or if the employee requires extra support upon returning to work, their coworkers' workload will be affected. This decreased manpower can lead to fewer outputs from the remaining staff and impact company profits. As mentioned previously, employee turnover can increase after an injury and always increases after a fatality. This turnover will further increase the cost of hiring and training, as well as reduce the available manpower, exponentially affecting company financials.

# Impact on Community Perceptions

Public perception can make or break a brand. The local or global community your business operates in becomes your customers, your stakeholders, your investors, and your employees. This means that the public perception of your organization will directly affect hiring, financials, community goodwill, and employee engagement. When an electrical incident occurs, community perception of your organization can be affected, especially if the incident results in serious injury or a fatality. If the incident is viewed as having been avoidable, this negative influence on your organization's image will only increase.

When an electrical incident results in a fatality, there is also community

grief. Since the death occurred while the individual was at work, this can cause your organization to become the "villain" in the community's eyes. If your other employees are also part of the community, this can affect their own experience at work, and lead to poorer morale and lower job satisfaction.

When a company's incident becomes public knowledge, this can further exacerbate the negative impact to the public's perception of your organization. Bad press can come out of the incident, as well as court proceedings, such as for an Australian company. News like this has the ability to drive away customers, new hires, or other stakeholders. An incident in Cincinnati, Ohio that resulted in an employee's death also became a

*The ramifications of an electrical incident continues beyond the walls of the organization, and it also alters community perceptions of the business.*

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subject of news headlines. And the press surrounding an incident can continue for months or more, as with the Cincinnati fatality. Continued publication of the incident further drives down the community perception of the organization involved.

If the electrical incident has repercussions for the local community, such as the power outage caused by an incident in Coffee County, Tennessee that left 2 employees injured and thousands without power,

this can make the incident even more personal. Not only did this electrical incident become news, but it also directly impacted many individuals in the community. Even though not many may have known about the incident otherwise, thousands of customers became acutely aware and affected by it when it led to the large power outage. When someone is inconvenienced by an incident, this can change their perception of an organization, which in turn can influence buying decisions.



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# Conclusion

In order to help avoid electrical safety incidents it is important to create a robust safety plan in advance. Following the Hierarchy of Hazard Control can be a very helpful way to ensure you are creating a plan that is efficient and effective. Many electrical incidents can be avoided, and by avoiding them your company and your employees will benefit. Incidents in the workplace can have many different consequences, including

impact to employees, impact to company financials, and the impact to community perceptions.

Putting the time and money into protecting your employees before an incident occurs is incredibly important. Although you may never fully quantify the results, the value of keeping your employees and your business safe will always outweigh the costs of an electrical incident.

Take your organization's electrical safety program from compliant to comprehensive

[proxxi.co/voltage](https://proxxi.co/voltage)

# Resources

[Electrical Safety - Basic Information](#)

[Workplace Fatalities and Injuries 2003 – 2020](#)

[Workplace Injury & Fatality Statistics - Electrical Safety Foundation International](#)

[Occupational Injuries From Electrical Shock and Arc Flash Events](#)

[Direct and Indirect Costs of Accidents](#)

[How an Accident at Work Hurts More Than the Employee](#)

[How Workplace Injuries Impact Your Business](#)

[Ontario Ministry of Labour fines Hamilton company after employee electrocuted, killed CBRE Ltd. fined \\$80,000 for electrical shock to worker](#)

[Firm fined \\$200k over worker electrocuted to death](#)

[Worker in stable condition after 'serious workplace accident' at Aurora Ford](#)

[Workplace Fatalities: The Impact on Coworkers](#)

[The effects of an electric shock on the human body](#)

[Long-Term Effects of Psychological Symptoms after Occupational Injury on Return to Work: A 6-Year Follow-Up](#)

[Mental health suffers among workers permanently impaired by job injury](#)

[Psychological Effects of Work Injuries and Workers' Comp Claims](#)

[How Do Workplace Accidents Affect Employers](#)

[Feelings of Depression after a Physical Work Injury](#)

[How Public Perception Can Make Or Break A Brand, And What It Means For Employees](#)

[Family, friends honor man electrocuted in South Jordan incident](#)

[Tennant Creek electrician pleads guilty to fatal workplace safety failures](#)

[Safety changes expected following city worker's death](#)

[State report finds Cincinnati did not meet several standards at time of city worker's electrocution](#)

[Linemen injured in Coffee County accident](#)

[How Consumer Perception Influences Buying Decisions](#)