

OESR 2020

**Ontario Electrical
Safety Report**



Contents

Executive Summary	3	4.0 Overview of Fires in Ontario	49
1.0 Purpose of This Report.....	7	4.1 Fires Resulting in Fatalities.....	55
1.1 Role of the Electrical Safety Authority	8	4.2 Fire Incidents with Electricity as the Fuel of the Ignition Source of the Fire	61
1.2 Case Studies.....	8	4.3 Cooking Fires with Electricity as the Fuel of the Ignition Source of the Fire	64
2.0 Electrical-related Fatalities and Injuries	9	4.4 Electrical Distribution Equipment Fires with Electricity as the Fuel of the Ignition Source of the Fire.....	68
2.1 Electrocutions and Electrical Burn Fatalities.....	10	4.5 Case Study: Fire from Electrical Distribution Equipment	72
2.2 Occupational Electrical-related Fatalities and Electrical Injuries.....	16	5.0 Product Safety.....	74
2.3 Non-occupational Electrical-related Fatalities and Injuries	29	6.0 Electrical Incidents Reported and Reviewed by the ESA	78
2.4 Electrical Injury and Emergency Department Visits in Ontario, 2009-2018	32	Acknowledgements	80
2.5 Case Study: Electrical Contractor	38	Methodology	80
3.0 Utility-related Equipment.....	40	References	84
3.1 Case Study: Powerline Safety	47	Appendix A	86

A Message from the Electrical Safety Authority's Chief Public Safety Officer

The Ontario Electrical Safety Report (OESR) is the only document in Canada and one of the few globally that compiles and publishes electrical safety data yearly and is recognized for its rigorous safety reporting. In its 20th edition, the OESR provides a comprehensive collection of data and analysis that helps to make Ontario a safer place to live, work and play free from electrical harm.

Each incident described in the report represents a tragic event that we hope to prevent in the future. Every example highlighted represents a loss, whether it be a loss of life or of livelihood, a home or a loved one; they are real-life examples of why electrical safety is so important. ESA focuses on the risk factors of these events to help drive our efforts to ensure they do not occur again. These data provide us with a consistent source of reliable information to drive our efforts toward reducing the areas with the highest risk.

This past year has been a challenging with COVID-19 affecting almost everything we do. With changing work environments, more people working at home and lockdowns, we see a potential trend shift. There were four fatalities in 2020, which is slightly lower than previous years but that may be a reflection of the changing work patterns during the pandemic. The fatalities are largely concentrated among males under 30, indicating there is education and awareness work to be done with this group. In 2020, ESA also launched its new strategic plan, Safety Powering Tomorrow, with a focus on risk-based prioritization of electrical harms. Going forward, we will manage harms from a harm lifecycle perspective.

The OESR would not be possible without the collaboration of our safety partners. The OESR is compiled with the cooperation and participation from the Office of the Chief Coroner, Ministry of Labour, Skills, Training and Development, the Office of the Fire Marshal and Emergency Management, the Canadian Institute of Health Information and the Workplace Safety and Insurance Board of Ontario. I would like to thank all of our partners for their contributions to the report and their dedication to improving electrical safety in Ontario.

I would like to recognize the electrical contractors, utility line crews, first responders, product manufacturers and electrical inspectors who work every day to help keep Ontarian safe from electrical harm.

Finally, I want to recognize and thank my colleagues at ESA who have worked hard to consolidate, analyze and write this report to help inform the safety community at large. I am proud of this report and of our contribution to a reducing electrical harm in Ontario.



Dr. Joel R.K. Moody
Chief Public Safety Officer, Electrical Safety Authority

Electrical-related Fatalities and Incidents Over the Past Ten Years (2011–2020)

130 ELECTRICAL-RELATED FATALITIES

50 Electrical-related Fatalities

80 Fire Fatalities

Electrical-related Fatalities



Utility-related Deaths

Accounted for **50%** of all electrical-related fatalities in the past ten years

Deaths from Powerline Contact



Occupational Deaths

Outnumber non-occupational deaths by a ratio of **1.6:1**

Occupational Deaths



Non-occupational

The five-year rolling average rate of fatalities has decreased from **0.15 per million (2011–2015)** to **0.14 per million (2016–2020)**.

DECREASE OF **7%**

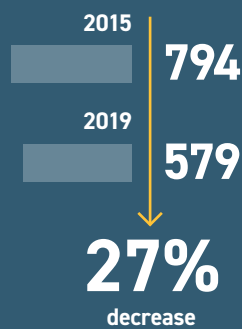
Fire Fatalities and Events



Cooking Fires

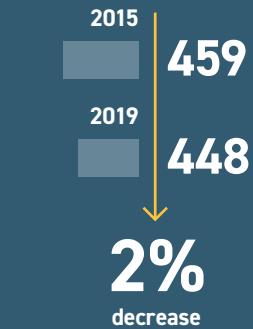
Most common type of fire with electricity as the ignition source

Number of Cooking Fires



Electrical Distribution Fires

Number of Electrical Distribution Fires



Priority Issues

Over **70%** of all electrical-related injuries and fatalities occur in four specific areas:

- 1 Powerline contact
- 2 Electrical trade workers
- 3 Misuse of electrical products and unapproved/counterfeit products
- 4 Electrical infrastructure fires

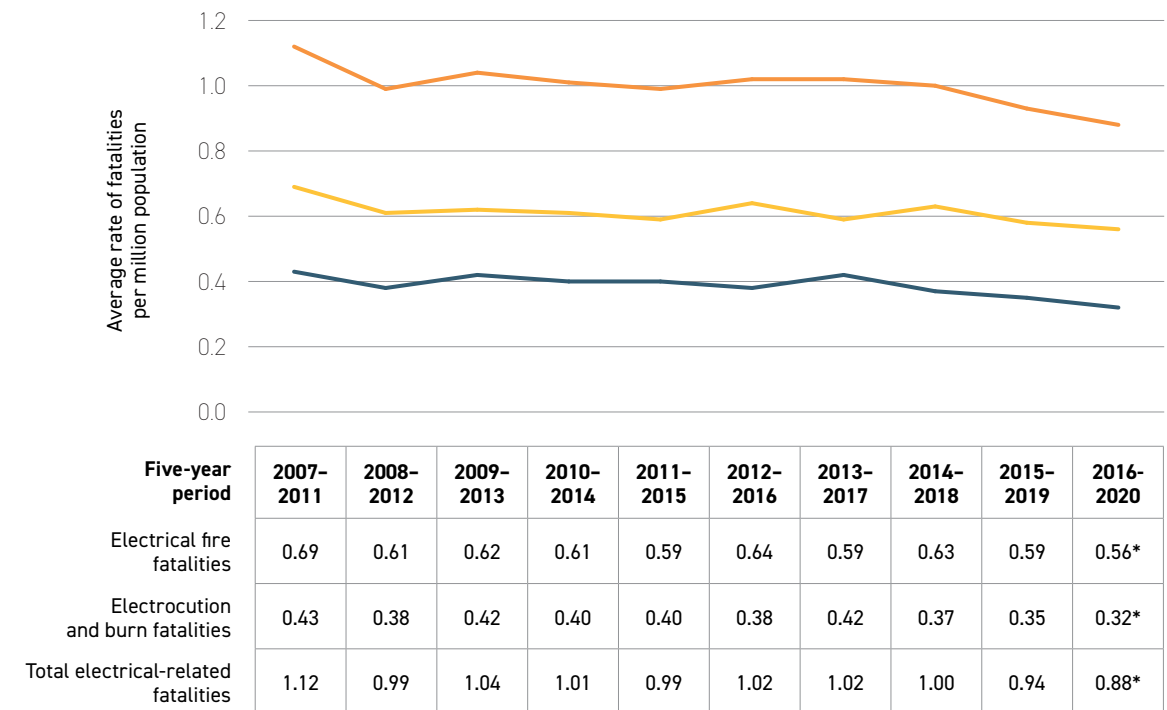


Executive Summary

The Electrical Safety Authority's Ontario Electrical Safety Report (OESR) was created to provide a comprehensive perspective of electrical fatalities, injuries, and incidents in Ontario. Data presented in this report have been collected from multiple sources, investigations, and root-cause analyses. Information is provided on potential electrical risks and high-risk sectors. This report is used by the ESA and others to better understand the dynamics of electrical safety and to encourage the development of initiatives to improve the status of electrical safety in the province.

Between 2011 and 2020, there has been a downward trend in the total rate of electrical-related fatalities. The five-year average rate of electrocution and burn fatalities, and electrical fire fatalities (where the ignition source was identified to be electrical), have continued to decrease when compared to the previous time period. Progress has been made to reduce the number of fatalities and injuries, yet the causes and contexts of serious incidents remain the same. Concerted efforts remain essential for rates to continue to decrease.

FIVE-YEAR ROLLING AVERAGE OF ALL ELECTRICAL-RELATED FATALITIES IN ONTARIO, 2007–2020



*Preliminary data subject to change
Source: ESA, Coroner, and OFMEM records

Electrical-related Fatalities

In the past ten years, there were 130 electrical fatalities in Ontario. From 2011 to 2020, 50 people have died from electrocution (non-intentional death caused by contact with electricity) or by the effects of electrical burns, and 80 have died as a result of electrical fires (where the ignition fuel was identified as electricity and/or the ignition source was electrical distribution equipment). In comparison, the previous ten-year period from 2010 to 2019 reported 52 deaths from electrocutions and burns, and 83 fire deaths where the ignition source was identified as electrical. The trend rate of electrical-related fatalities continues to decrease.

Electrocutions and Electrical Burn Fatalities

Below are the five-year rolling average rates of electrocutions and electrical burn fatalities, comparing the two most recent five-year periods:

Five-year period	
2011–2015	<ul style="list-style-type: none"> • 27 electrical-related fatalities • Five-year rolling average of 0.40 per million population
2016–2020	<ul style="list-style-type: none"> • 23 electrical-related fatalities • Five-year rolling average of 0.32 per million population

Rate decrease of 20%

Utility-related electrocutions have accounted for 50% of all electrical-related fatalities in the past ten years:

Five-year period	
2011–2015	<ul style="list-style-type: none"> • 33% of all electrical-related fatalities (9/27) were from powerline contact • Five-year rolling average of 0.13 per million population
2016–2020	<ul style="list-style-type: none"> • 39% of all electrical-related fatalities (9/23) were from powerline contact • Five-year rolling average of 0.12 per million population

Rate decrease of 8%

In the past ten years, occupational electrical-related fatalities continue to outnumber non-occupational fatalities by 33%. However, in the past five years, there have been years where the number of non-occupational deaths has been the same as or has outnumbered occupational deaths:

Five-year period	
2011–2015	<ul style="list-style-type: none"> • 63% of electrical-related fatalities (17/27) were occupational • Five-year rolling average of 0.46 per million labour force
2016–2020	<ul style="list-style-type: none"> • 52% of electrical-related fatalities (13/23) were occupational • Five-year rolling average of 0.34 per million labour force

Rate decrease of 26%

Electricians and apprentice electricians accounted for 27% of occupational electrical-related fatalities between 2011 and 2020 as they were critically injured on the job when working on energized electrical panels or Ballasts/347 V lighting.

Between 2016–2020, there were 10 non-occupational electrical fatalities.

Five-year period	
2011–2015	<ul style="list-style-type: none"> • Five-year rolling average of 0.15 per million population
2016–2020	<ul style="list-style-type: none"> • Five-year rolling average of 0.14 per million population

Rate decrease of 7%

Fire Fatalities and Events

The rate of electrical fire fatalities (where the ignition fuel was identified as electricity and/or the ignition source was electrical distribution equipment) has decreased by 3% when comparing the five-year rolling average in 2010–2014 and 2015–2019.

The number of structure fires where electricity was identified as the fuel of the ignition source has decreased by 30% between 2010 and 2019.

Cooking-related fires continue to be the most common type of fire where electricity was the fuel of the ignition source:

- In 2015, there were 794 cooking equipment fires;
- In 2019, there were 579 cooking equipment fires, a decrease of 27%.

Electrical distribution equipment fires are fires from electrical wiring, devices, or equipment in which its primary function is to carry current from one location to another (e.g., wiring, extension cords, terminations, electrical panels, and appliance cords) with electricity as the fuel of the ignition source. This type of fire has decreased over the most recent five years:

- In 2015, there were 459 electrical distribution equipment fires;
- In 2019, there were 448 electrical distribution equipment fires, a decrease of 2%.

Priority Issues

The ESA uses incident data from the OESR to identify areas that present the greatest risk to Ontarians, to monitor changes in incidence, and to identify emerging risks and trends.

Based on the data collected in the past ten years, the ESA has identified that the majority of electrical injuries and fatalities occur in the following specific areas. These areas have been identified as priorities for reducing electrical fatalities, serious injuries, damage, and loss in Ontario:

- Powerline contact while working accounted for 33% of all occupational electrical fatalities between 2011 and 2020.
- Electrical trade workers accounted for 27% of all occupational-related fatalities between 2011 and 2020. There were at least two critical injuries to an electrical trade worker each year. Safety incidents tend to be associated with unsafe work practices.
- From the most currently available data, non-occupational electrical injuries, identified from emergency department visits in Ontario, have decreased 2% from 2015 to 2019; however, the proportion of those with severe injuries has increased by 3%.

- Misuse of electrical products and unapproved or counterfeit products account for a significant number of safety reports.
- The ESA defines electrical products as appliances, cooking equipment, lighting equipment, other electrical and mechanical equipment, and processing equipment. Data from the Office of the Fire Marshal and Emergency Management (OFMEM) show that the five-year average for electrical product structural loss fires (where electricity was identified as the fuel source) between 2010–2014 and 2015–2019 has decreased by 15%.
- An average of 1,557 electrical loss fires (where ignition sources were fuelled by electricity) occurred in the past five years, with an average of seven fatalities per year.

ESA Initiatives

Based on the information collected from the OESR, the ESA's strategic plan (Safely Powering Tomorrow) in 2020 focuses on addressing those harms that represent the majority of incidents and fatalities. The ESA is working towards a goal of a 10% reduction in the electrical fatality and critical injury rate between 2020 and 2025. Harms within the following five categories are being considered for mitigation and prioritization:

- worker safety;
- powerline safety;
- non-occupational electrical interactions;
- electrical product fires; and
- aging infrastructure.

Additional details on the ESA's efforts can be found at www.esasafe.com.

The ESA cannot reach its goal without the significant work and support of its partners and stakeholders within the electrical safety system. We would like to acknowledge:

- those who generate and distribute electricity;
- electrical equipment manufacturers;
- standards organizations;
- safety organizations;
- installers of electrical equipment;
- educators;
- facility owners;
- injury response and treatment providers;
- government;
- researchers;
- injury prevention specialists;
- safety regulators and worker safety advocates; and
- those who are end users of electricity.

Working together, we seek to reduce the number of electrical fatalities, injuries, and fires with the ultimate vision of "An Ontario where people can live, work, and play safe from electrical harm."

1.0 Purpose of This Report

This is the 20th report on the state of electrical safety in Ontario. It summarizes electrical incidents, electrical-related fatalities identified by the Office of the Chief Coroner, and injuries of an electrical nature. It also provides information on deaths, injuries, and damage caused by fire incidents identified by the Office of the Fire Marshal and Emergency Management (OFMEM), as well as fires and fire fatalities identified by local fire departments where electricity was identified as the ignition fuel and/or electrical distribution equipment was identified as the ignition source.

The purpose of this report is to provide stakeholders within the broad electrical safety system with an update and a longitudinal perspective of electrical safety in Ontario.

Those stakeholders include:

- electrical utilities and those organizations that generate, transmit, and distribute electricity;
- organizations that design, manufacture, distribute, and supply electrical products;
- electrical contractors who install, repair, and maintain electrical wiring installations and products in our homes, workplaces, and public spaces;
- regulators and various levels of government that write policies and regulations to protect public safety;
- Canadian and international organizations which develop standards for electrical installation and products;
- academic and commercial organizations that focus on safety research and development;
- organizations, such as insurance companies, that create policies that drive organization and consumer behaviour to reduce risk;
- health care providers, workplace and community-based safety organizations, and education and training organizations that provide public communication and increase hazard-mitigation skills and awareness;
- consumers who purchase electrical products and use and rely on electricity every day in their homes, workplaces, and public spaces;
- and more.

All of these organizations have an important role in contributing to and improving electrical safety in Ontario.

This report intends to educate and inform members of the electrical safety system by identifying key electrical safety risks. This information can be used to develop and improve standards, identify areas for continued safety research, influence the development of workplace and community-based safety programs, and lead to improved training, education, and communication programs.

1.1 Role of the Electrical Safety Authority

The Electrical Safety Authority (ESA) is an administrative authority acting on behalf of the Government of Ontario with specific responsibilities under Part VIII of the *Electricity Act, 1998*, and the *Safety and Consumer Statuses Administration Act, 1996*. As part of its mandate, the ESA is responsible for administering regulation in four key areas:

- Ontario Electrical Safety Code (Regulation 164/99);
- Licensing of Electrical Contractors and Master Electricians (Regulation 570/05);
- Distribution Safety (Regulation 22/04); and
- Product Safety (Regulation 438/07).

The ESA operates as a private, not-for-profit corporation. Funding derives from fees for electrical oversight, safety services, and licensing of electrical contractors and master electricians. Activities include:

- ensuring compliance with regulations;
- investigating fatalities, injuries, and fire losses associated with electricity;
- identifying and targeting leading causes of electrical risk, using a harm life cycle approach;
- promoting awareness, education, and training on electrical safety; and
- engaging with stakeholders to improve safety.

1.2 Case Studies

This report features several case studies of ESA root-cause investigations.

The ESA conducts these investigations on select and serious incidents (especially those that include fatalities, critical injuries, and/or serious fires) in order to determine the underlying root causes. The lessons learned from these investigations help to prevent future incidents and fatalities.

The ESA's investigations go beyond compliance with any code, regulation, or standard, and are not only limited to electrical safety dimensions, but also examine occupational health and safety and the role of the integrated safety infrastructure.

Root-cause investigations assess both the events leading up to the incident and the surrounding conditions, and the events or conditions that went wrong and contributed to the incidents.

The case studies presented have been modified to protect the privacy of the individuals involved. Details from case studies for fire-related incidents have been generously provided by the OFMEM.

2.1 Electrocutions and Electrical Burn Fatalities

Electrocution occurs when a person is exposed to a lethal amount of electrical energy.

To determine how contact with an electrical source occurs, characteristics of that source before electrocution (pre-event) must be evaluated.

For death to occur, the human body must become part of an active circuit with an electric current that is capable of over-stimulating the nervous system and/or causing damage to internal organs. The extent of injuries depends on the current's magnitude (measured in amperes (Amps)), the path in which the current travels through the body, and the duration it flows through the body (event). The resulting damage to the human body and the emergency medical treatment ultimately determine the outcome of the energy exchange (post-event) (National Institute for Occupational Safety and Health, 1991).

There were 50 electrical-related fatalities reported in Ontario in the ten-year span between 2011 and 2020, which was one death less than the time period between 2010 and 2019. The majority of the electrical-related fatalities occurred in western regions of the province (west of Oakville) between 2011 and 2020.

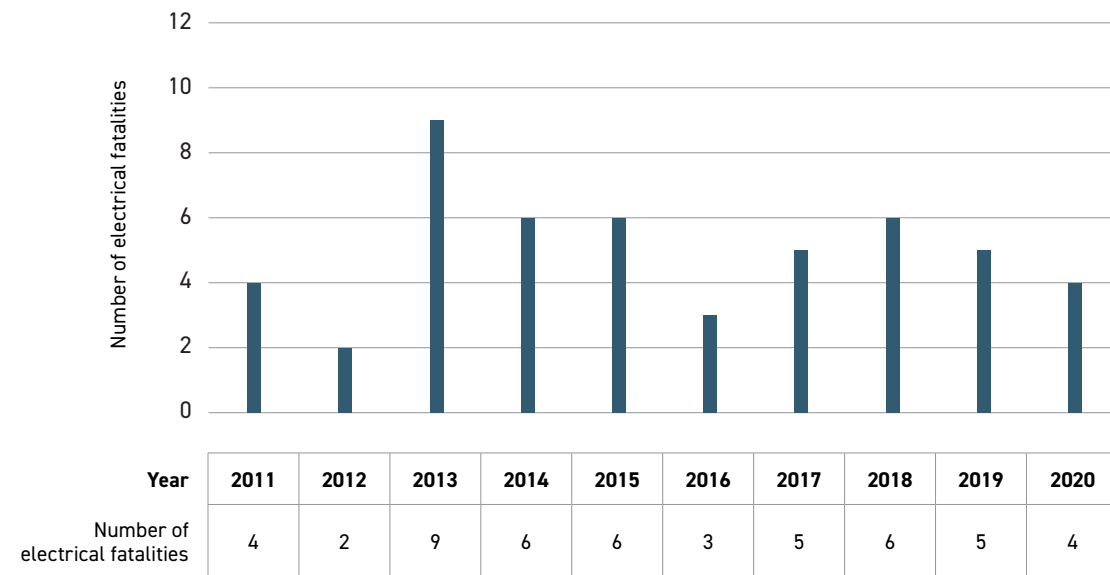
By age group, individuals aged 20 to 39 years accounted for the largest proportion of fatal injuries (40%), followed by individuals 40 to 59 years of age (29%). The majority of electrical fatalities occurred between the months of June and October (63%).

The five-year rolling average rate of electrical fatalities has decreased by 20% when comparing 2011–2015 (0.40 per million population) and 2016–2020 (0.32 per million population). Likewise, powerline fatalities have decreased: when 2011–2015 (0.13 per million) and 2016–2020 (0.12 per million) were compared, there was an 8% decrease in the five-year rolling average rate of powerline electrocutions.

Residential (32%), utility (18%), industrial (11%), and commercial settings (11%) were the most common places for electrical-related fatalities between 2016 and 2020.

The five-year rolling average rate of occupational electrical-related fatalities per labour force has decreased 26% when comparing 2011–2015 (0.46 fatalities per million) to 2016–2020 (0.34 fatalities per million). The five-year rolling average rate of non-occupational electrical-related fatalities per million population has decreased by 7% between the same time periods (0.15 fatalities per million to 0.14 fatalities per million).

1 NUMBER OF ELECTRICAL-RELATED FATALITIES IN ONTARIO, 2011-2020

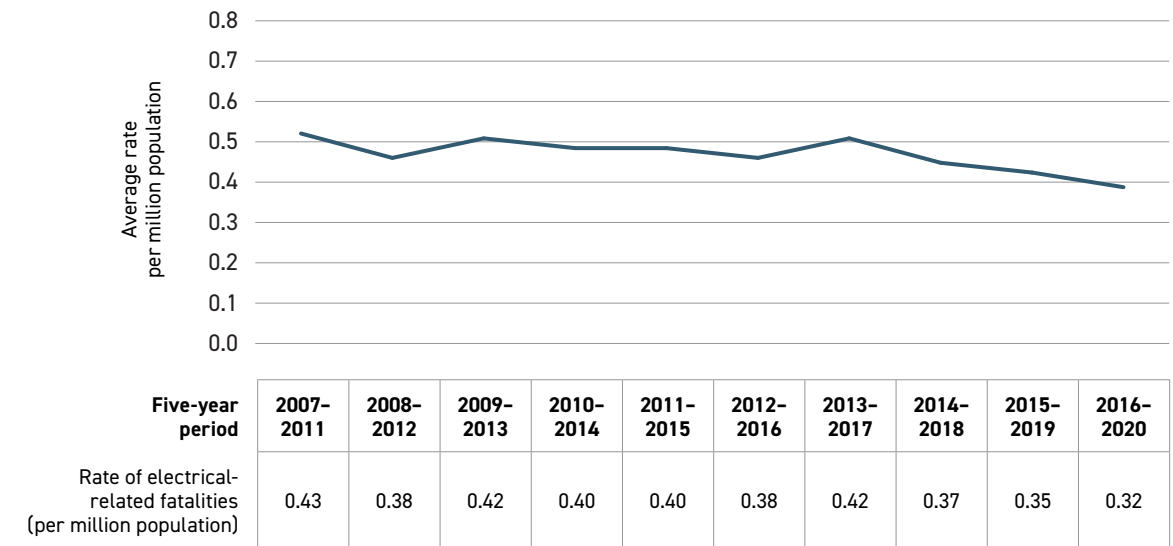


Source: ESA and Coroner records

Conclusion

The number of electrical-related fatalities in 2020 has decreased by one when compared to the previous year of 2019; however, there has been a 56% reduction since 2013 (the year with the highest number of fatalities reported in the most recent ten-year period).

2 FIVE-YEAR ROLLING AVERAGE RATE OF ELECTRICAL-RELATED FATALITIES IN ONTARIO, 2007-2020

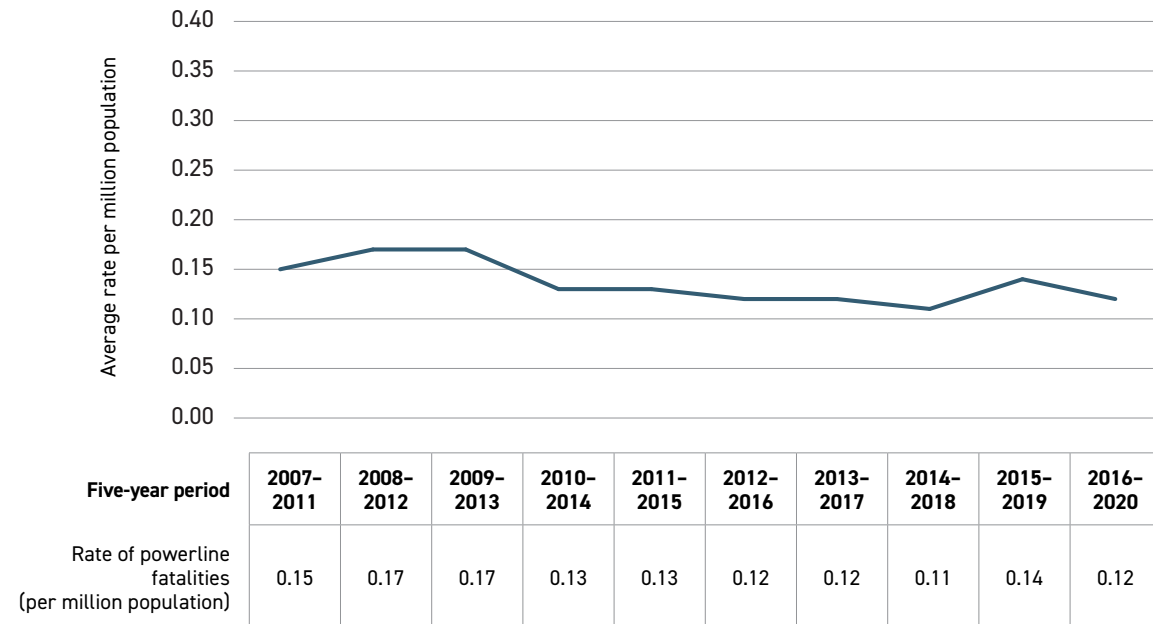


Source: ESA and Coroner records

Conclusion

The rate of electrical-related fatalities has decreased when compared to the previous year of 2019. There has been a 20% decrease when comparing the average rate at 2011-2015 and 2016-2020.

3 FIVE-YEAR ROLLING AVERAGE RATE OF POWERLINE FATALITIES IN ONTARIO, 2007-2020

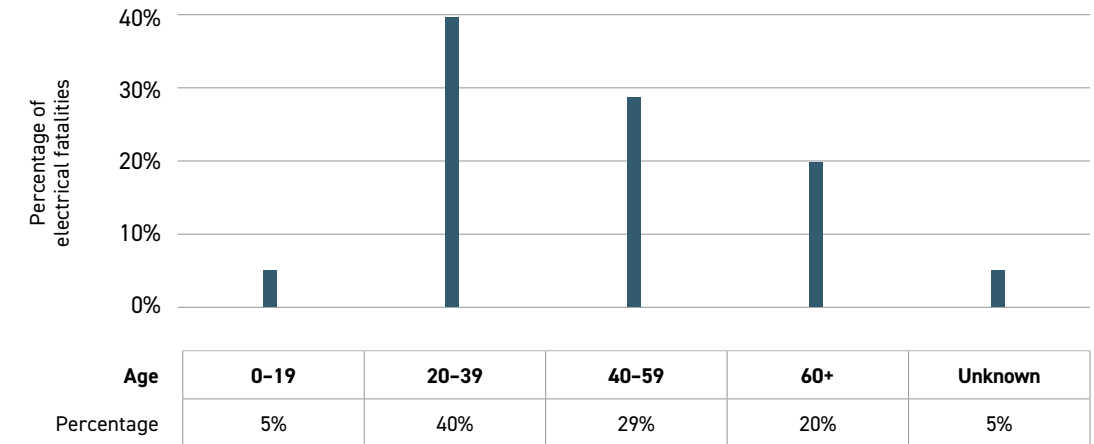


Source: ESA and Coroner records

Conclusion

In 2020, there was one powerline fatality. There has been an 8% decrease when comparing the rate at 2011-2015 and 2016-2020.

4 PERCENTAGE OF ELECTRICAL-RELATED FATALITIES BY AGE GROUP IN ONTARIO, 2011-2020

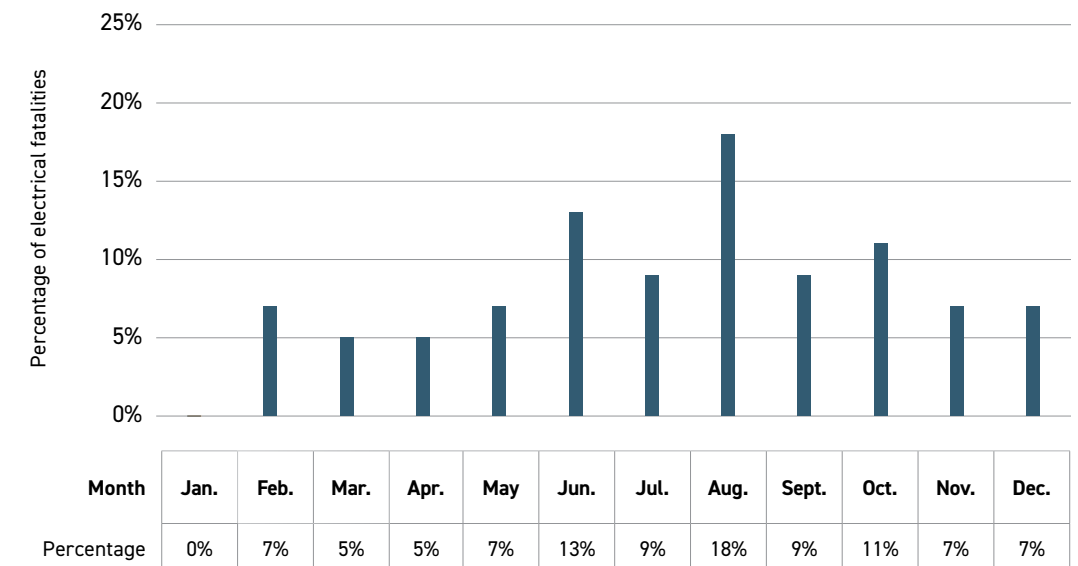


Source: ESA

Conclusion

In the last ten years, 40% of electrical-related fatalities occurred among the 20-39 age group, followed by the 40-59 age group (29%).

5 PERCENTAGE OF ELECTRICAL-RELATED FATALITIES BY MONTH IN ONTARIO, 2011-2020

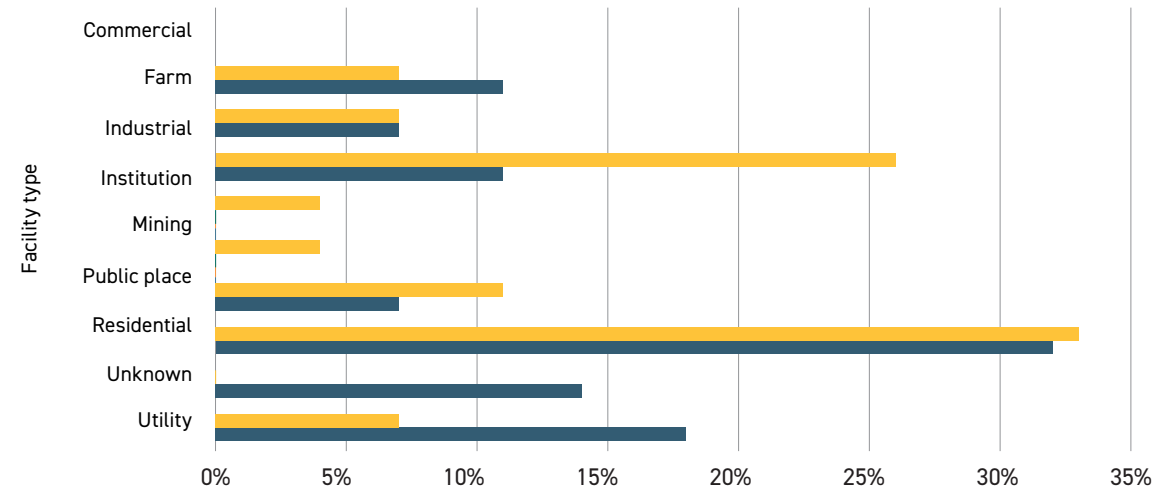


Source: ESA

Conclusion

In the last ten years, August was the most common month for electrical fatalities to occur. No fatalities were reported for the month of January.

6 PERCENTAGE OF ELECTRICAL FATALITIES BY FACILITY TYPE IN ONTARIO, 2011-2015 AND 2016-2020



Facility type	Commercial	Farm	Industrial	Institution	Mining	Public place	Residential	Unknown	Utility
Percentage of electrical fatalities 2011-2015	7%	7%	26%	4%	4%	11%	33%	0%	7%
2016-2020	11%	7%	11%	0%	0%	7%	32%	14%	18%

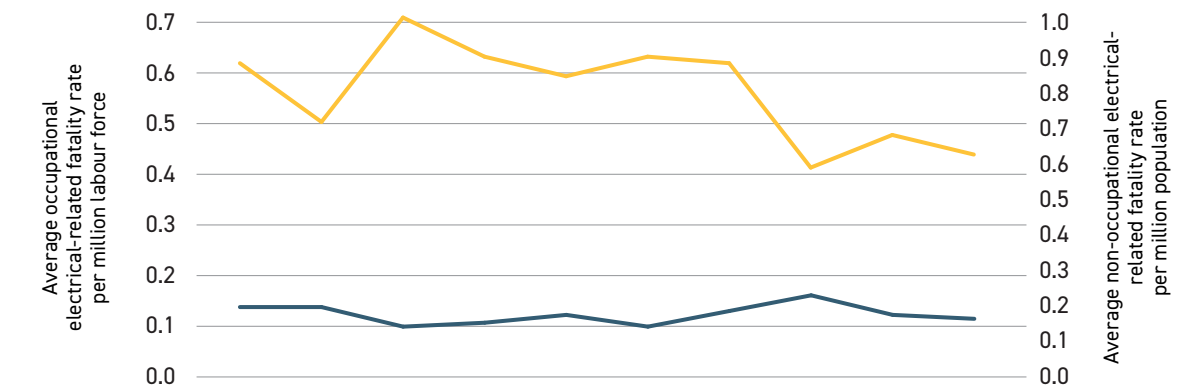
Source: ESA and Coroner records

Conclusion

Residential settings were the most common settings where electrical-related fatalities occur.

In 2011-2015, residential, industrial, and public places were the most common places for electrical-related fatalities; in 2016-2020, residential, utility, industrial, and commercial settings were the most common places for electrical-related fatalities.

7 FIVE-YEAR ROLLING AVERAGE RATE OF OCCUPATIONAL AND NON-OCCUPATIONAL ELECTRICAL-RELATED FATALITIES IN ONTARIO, 2007-2020



Five-year period	2007-2011	2008-2012	2009-2013	2010-2014	2011-2015	2012-2016	2013-2017	2014-2018	2015-2019	2016-2020
Occupational	0.48	0.39	0.55	0.49	0.46	0.49	0.48	0.32	0.37	0.34
Non-occupational	0.17	0.17	0.12	0.13	0.15	0.12	0.16	0.20	0.15	0.14

Source: ESA and Coroner records

Conclusion

The five-year rolling average rate of occupational electrical-related fatalities has decreased by 26% when comparing 2011-2015 to 2016-2020 per million labour force. The five-year rolling average rate of non-occupational electrical-related fatalities has decreased by 7% per million population between the same time periods.

2.2 Occupational Electrical-related Fatalities and Electrical Injuries

Occupational electrical-related fatalities are a particular hazard to those who routinely work near electrical sources. According to the most recent data from the U.S. Bureau of Labor Statistics, there were 166 fatal electrical injuries in the United States in 2019. The construction industry had the highest rate of fatal electrical injuries, followed by utility. "Construction, repairing, cleaning" accounted for the leading worker activity for electrical fatalities at 52%, while "Using or Operating Tools, Machinery" accounted for 27% of electrical fatalities (ESFI, 2021).

In Ontario, a study of occupational fatalities among construction workers between 1997 and 2007 found that electrical contact was responsible for 15% of fatalities; risk factors associated with occupational fatalities included direct contact with electrical sources, lower voltage sources, and working outdoors (Kim et al., 2016). Studies have shown that the greatest proportion of electrocution deaths occur among electricians and electrical helpers, utility workers, and those working in construction and manufacturing industries. As well, electrical-related fatalities are more common among workers who are younger than the average age of occupational deaths overall. Contact with overhead powerlines is reportedly by far the most frequent cause of fatal occupational electrocution injury (Taylor et al., 2002).

For those who survive electrical injury, the immediate consequences are usually obvious and often require extensive medical intervention. However, the long-term after-effects may be more subtle, pervasive, and less well-defined. Long-term effects are particularly difficult to diagnose, as the link between the injury and the symptoms can often go unrecognized by patients and their physicians (Wesner and Hickie, 2013; Theman et al., 2008). An Ontario study published in 2019 found that substantial acute and long-term neuropsychological and social outcomes existed among patients after an electrical injury, and were similar between patients exposed to low- and high-voltage injuries (Radulovic et al., 2019).

Research has also examined the challenges of returning to work after an electrical injury. Three distinct categories of challenges have been identified:

1. physical, cognitive, and psychosocial impairments and their effects on work performance;
2. feelings of guilt, blame, and responsibility for the injury; and
3. having to return to the workplace or worksite where the injury took place.

The most beneficial supports identified by the injured workers include receiving support from family, friends, and co-workers, and undertaking rehabilitation services that specialize in electrical injury.

The most common advice to others after electrical injuries includes:

1. avoiding electrical injury;
2. feeling ready to return to work;
3. completing a Workplace Safety and Insurance Board injury/claims report;
4. proactively being a self-advocate; and
5. garnering the assistance of individuals who understand electrical injuries to advocate on their behalf (Stergiou-Kita et al., 2014).

Education and proper protection are essential in preventing electrical injuries at work. In 2020, Littelfuse, an international company in circuit protection, power control, and sensing, surveyed almost 600 people who worked directly with electricity on questions about their experience with electrical shock hazards. Seventy-eight percent of respondents said they have been shocked while on the job, where 37% were shocked by less than 221 V. This is in contrast with 85% of respondents, who felt they were highly confident in recognizing electrical hazards (Littelfuse, 2020). This highlights the need for ongoing and refresher training for those who work with electricity in an occupational setting.

Between 2011 and 2020, there were 30 occupational electrical-related fatalities in Ontario. In the previous time period (2010-2019), there were 32 occupational fatalities. In 2020, there were two occupational electrical-related fatalities reported.

The five-year rolling average number of fatalities and critical injuries among workers (overall occupational safety) has increased by 23% between 2011-2015 and 2016-2020. Similarly, the five year rolling average number of fatalities and critical injuries among electrical trade workers shows a 5% increase when comparing these two time periods.

When comparing the five-year rolling average rate, the occupational electrical-related fatalities have decreased from 0.46 per million labour force population in 2011-2015 to 0.34 per million labour force population in 2016-2020. This is a decrease of 26%.

In the 2016-2020 time period, industrial (23%), residential (15%), commercial (15%), and farm (15%) settings were the most common places for occupational electrical-related fatalities. Between 2011 and 2020, the most commonly cited causes of death were due to improper procedure (33%) and lack of hazard assessment (10%), when excluding unknown causes.

Between 2011 and 2020, electrical tradespeople accounted for 27% of all occupational electrical-related fatalities. In the previous ten-year period (2010-2019), electrical tradespeople accounted for 28% of all occupational electrical-related fatalities.

A review of data provided by the WSIB from 2010 to 2019 shows that male workers continue to outnumber female workers with respect to occupational electrical injury, by a ratio of 3:1. Workers in the construction and services sectors contribute to the highest number of WSIB lost time injury claims. Machine tool and electric parts, and heating, cooling, and cleaning machinery were the most common sources of injury. There is a 4% decrease in the number of injury claims between 2011-2015 and 2016-2020, but the number of claims for electrocution has increased by 8% between the time periods.

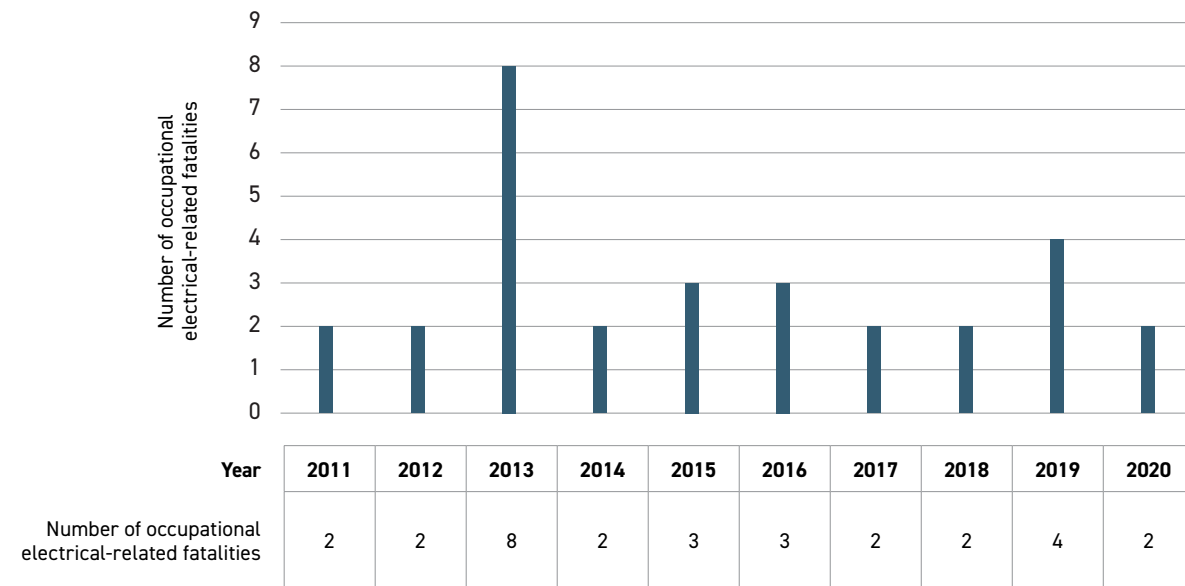
Section 2.5 provides a case study that is an example of the risk factors associated with electrical-related critical injuries for electrical contractors.

Statistics Directly Related to the ESA's Harm Reduction Priorities - WORKER SAFETY

Five-year Rolling Average Comparison

Number of worker-related electrical fatalities and critical injuries based on data reported by the Ministry of Labour, incidents investigated by the ESA and confirmed with the Office of the Chief Coroner. The worker safety five-year rolling average has increased by 23% between 2011-2015 and 2016-2020.

1 NUMBER OF OCCUPATIONAL ELECTRICAL-RELATED FATALITIES IN ONTARIO, 2011-2020

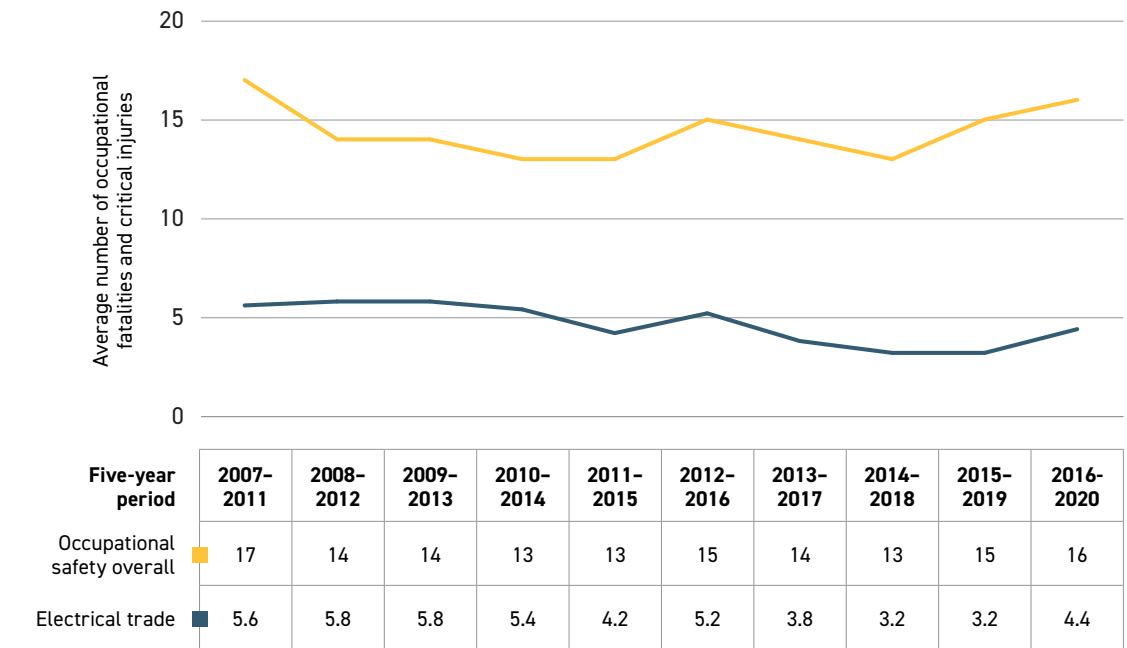


Source: ESA and Coroner records

Conclusion

In 2020, there were two occupational electrical-related fatalities.

2 FIVE-YEAR ROLLING AVERAGE OF OCCUPATIONAL FATALITIES AND CRITICAL INJURIES IN ONTARIO, 2007-2020

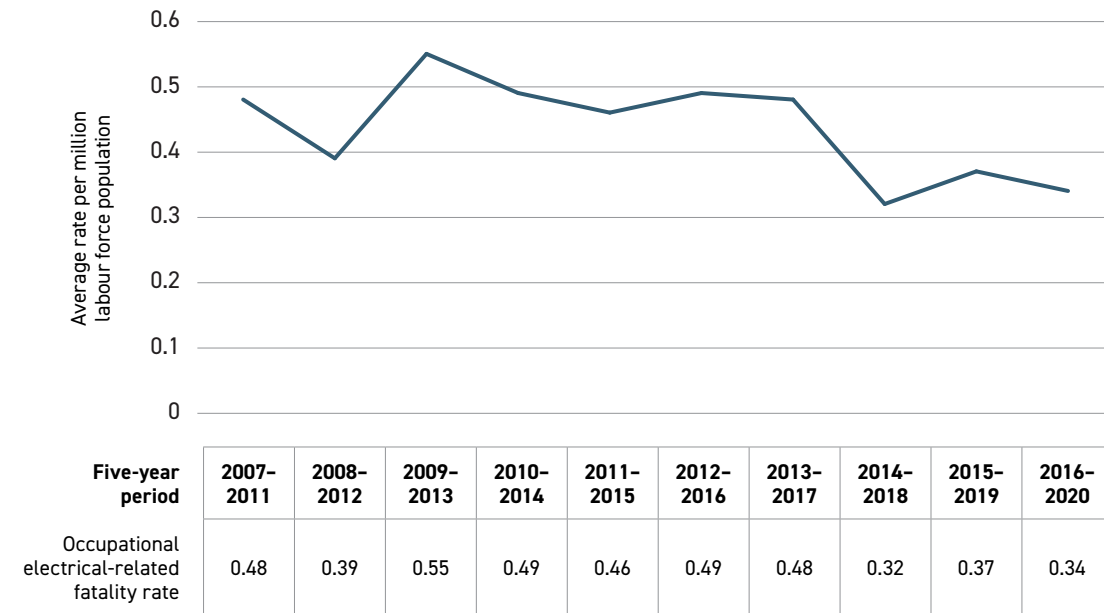


Source: ESA, Coroner, and MOLTSO records

Conclusion

The five-year rolling average number of occupational fatalities and critical injuries (occupational safety overall) has increased by 23% between 2011-2015 and 2016-2020. Similarly, the five year rolling average number of fatalities and critical injuries among electrical trade workers shows a 5% increase when comparing these two time periods.

3 FIVE-YEAR ROLLING AVERAGE RATE OF OCCUPATIONAL ELECTRICAL-RELATED FATALITIES IN ONTARIO, 2007-2020

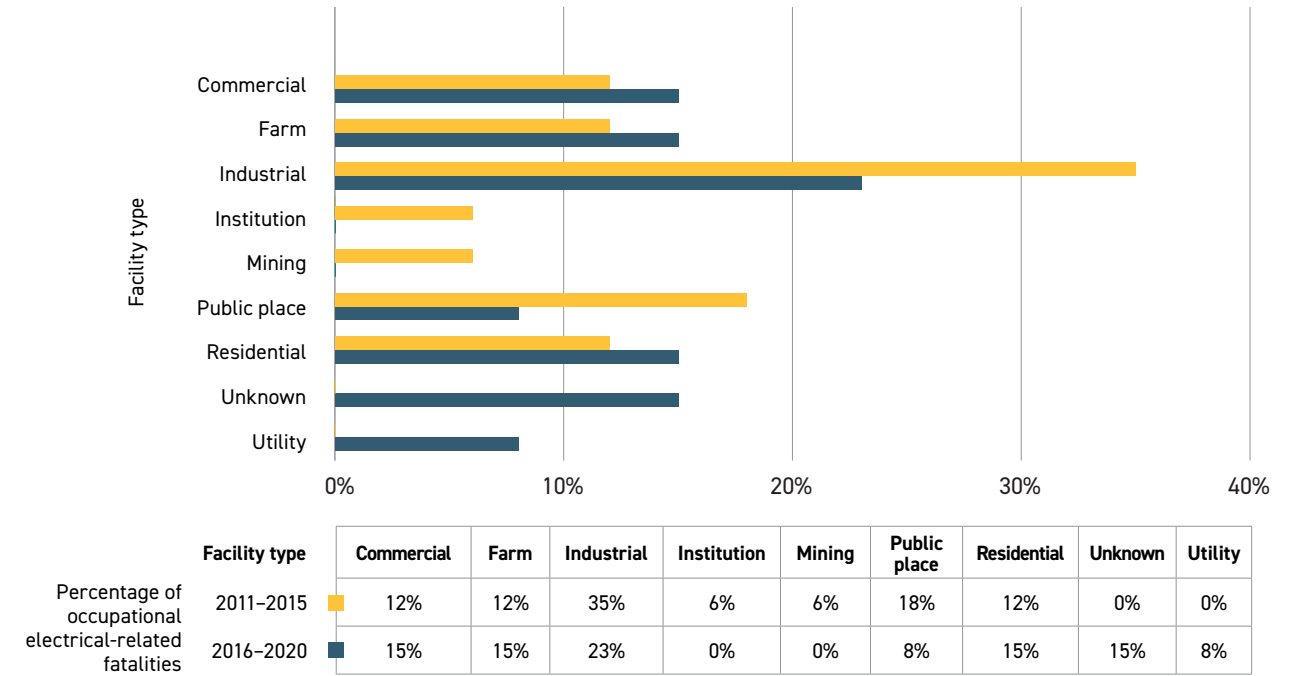


Source: ESA and Coroner records

Conclusion

The rate of occupational electrical-related fatalities has decreased by 26% when comparing 2011-2015 and 2016-2020.

4 PERCENTAGE OF OCCUPATIONAL ELECTRICAL-RELATED FATALITIES BY FACILITY TYPE IN ONTARIO, 2011-2015 AND 2016-2020

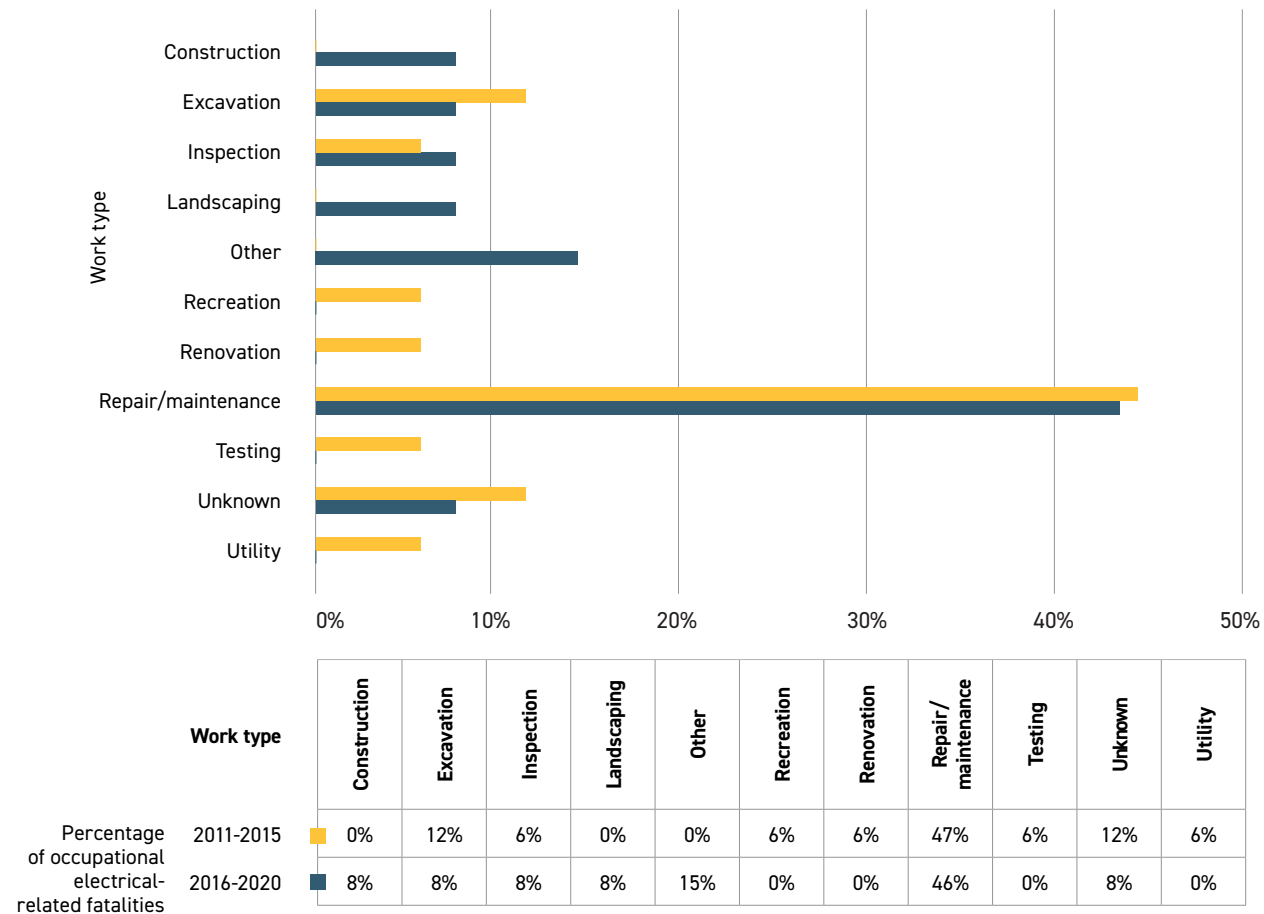


Source: ESA and Coroner records

Conclusion

In 2011-2015, the most commonly reported settings for occupational electrical-related fatalities were industrial and public places. In 2016-2020, industrial, residential, farm, and commercial settings were most common.

5 PERCENTAGE OF OCCUPATIONAL ELECTRICAL-RELATED FATALITIES BY TYPE OF WORK IN ONTARIO, 2011-2015 AND 2016-2020

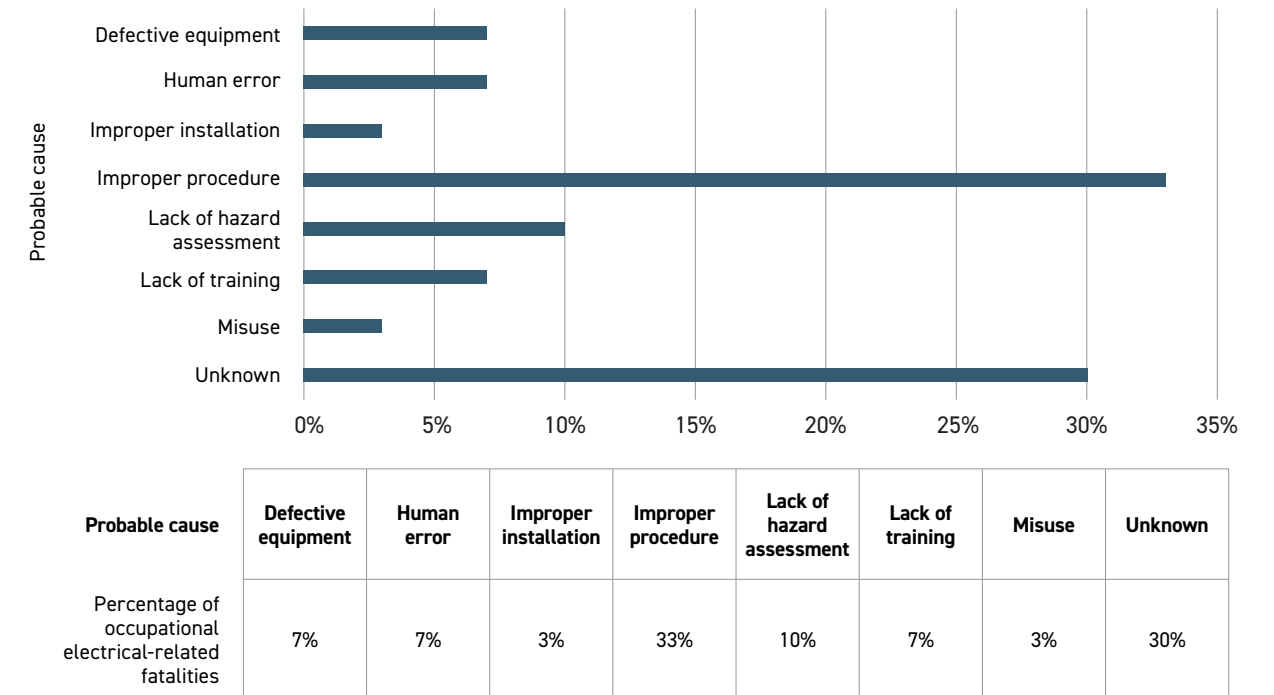


Source: ESA and Coroner records

Conclusion

In 2011-2015 and 2016-2020, repair/maintenance activities were the most common types of work for occupational electrical-related fatalities.

6 PERCENTAGE OF OCCUPATIONAL ELECTRICAL-RELATED FATALITIES BY PROBABLE CAUSE IN ONTARIO, 2011-2020

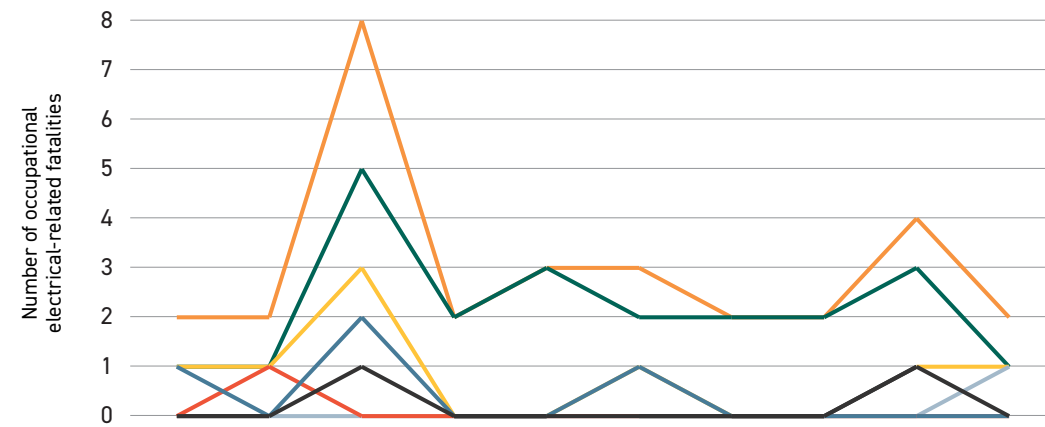


Source: ESA and Coroner records

Conclusion

Aside from unknown cause, the most commonly cited causes of occupational electrical-related fatalities were improper procedure and lack of hazard assessment in the most recent ten-year period.

7 NUMBER OF OCCUPATIONAL ELECTRICAL-RELATED FATALITIES BY OCCUPATION IN ONTARIO, 2011-2020



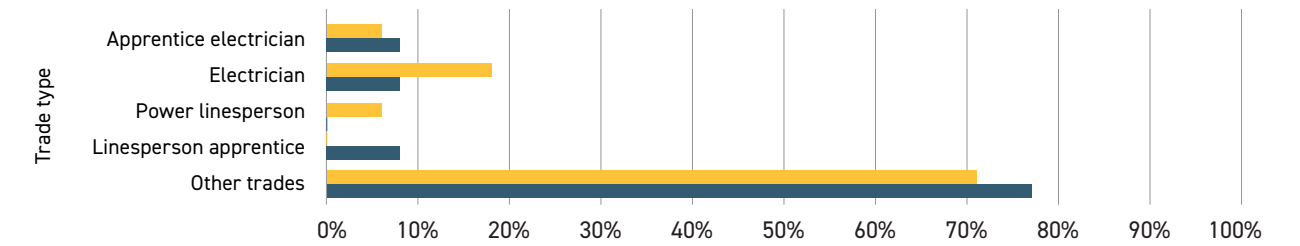
Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Apprentice electrician	0	0	1	0	0	0	0	0	1	0
Electrician	1	0	2	0	0	1	0	0	0	0
Power linesperson	0	1	0	0	0	0	0	0	0	0
Linesperson apprentice	0	0	0	0	0	0	0	0	0	1
Total electrical	1	1	3	0	0	1	0	0	1	1
Other trades	1	1	5	2	3	2	2	2	3	1
All occupational fatalities	2	2	8	2	3	3	2	2	4	2

Source: ESA and Coroner records

Conclusion

Since 2011, on average, there has been less than one electrical trade fatality per year. In contrast, there has been an average of three occupational fatalities (all trades) per year.

8 PERCENTAGE OF OCCUPATIONAL ELECTRICAL-RELATED FATALITIES BY TRADE, 2011-2015 AND 2016-2020



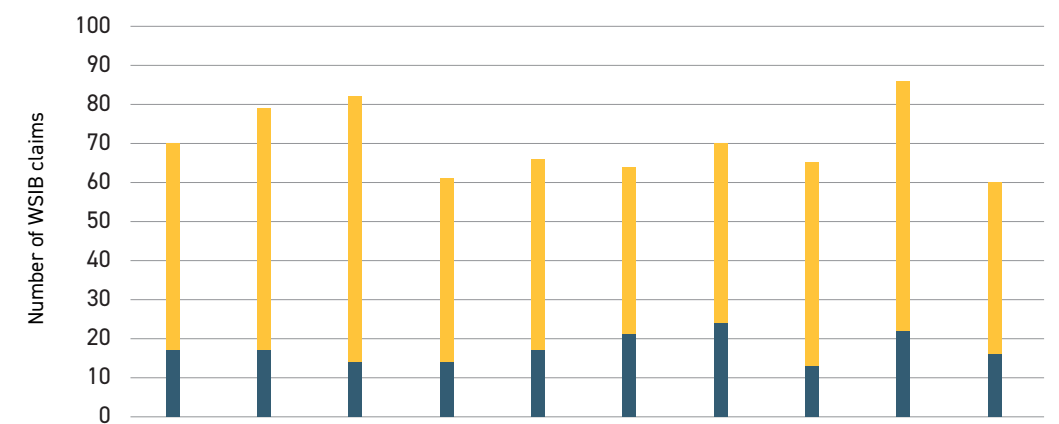
Trade type	Apprentice electrician	Electrician	Power linesperson	Linesperson apprentice	Other trades
Percentage of occupational electrical-related fatalities 2011-2015	6%	18%	6%	0%	71%
Percentage of occupational electrical-related fatalities 2016-2020	8%	8%	0%	8%	77%

Source: ESA and Coroner records

Conclusion

In the most recent five-year period (2016-2020), the number of occupational electrical-related fatalities among other trades has increased.

9 NUMBER OF ALLOWED WSIB LOST TIME ELECTRICAL INJURY CLAIMS BY SEX IN ONTARIO, 2011-2020



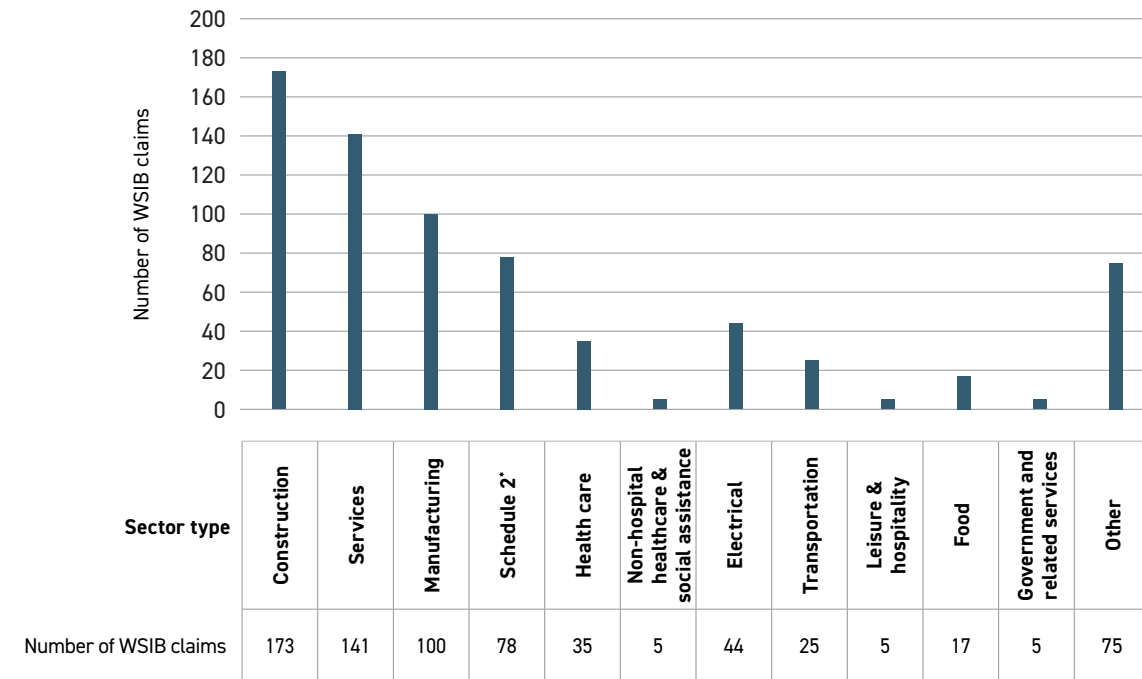
Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Male	53	62	68	47	49	43	46	52	64	44
Female	17	17	14	14	17	21	24	13	22	16

Source: Workplace Safety and Insurance Board

Conclusion

Between 2011-2020, the number of WSIB claims related to electrical injury among males were three times greater than those among females.

10 NUMBER OF ALLOWED WSIB LOST TIME ELECTRICAL INJURY CLAIMS BY SECTOR IN ONTARIO, 2011-2020



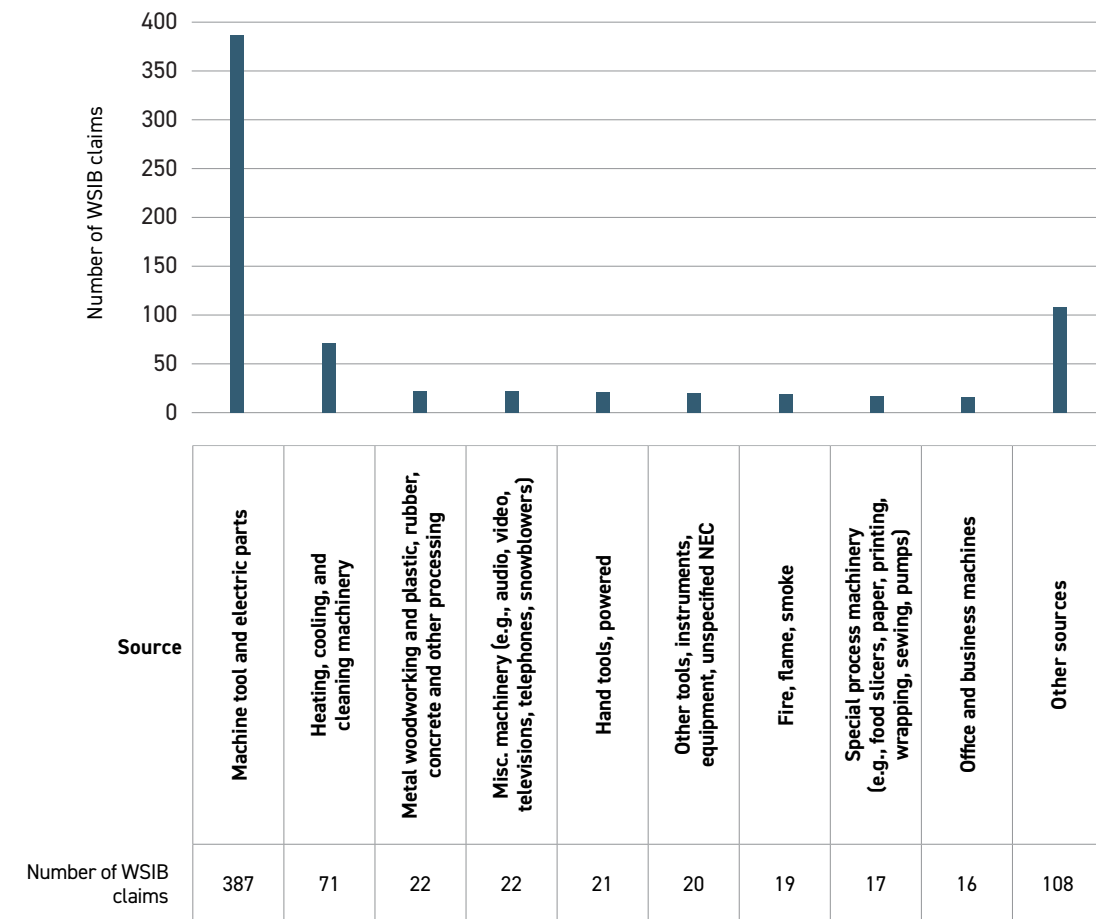
Source: Workplace Safety and Insurance Board

Conclusion

Between 2011 and 2020, WSIB lost time electrical injury claims were more commonly reported by workers from the construction and services sectors.

* Schedule 2 workers are those that work in firms funded by public funds (federal, provincial, and/or municipal governments), firms legislated by the province but self-funded, or firms that are privately owned but involved in federally regulated industries such as telephone, airline, shipping, and railway.

11 NUMBER OF ALLOWED WSIB LOST TIME ELECTRICAL INJURY CLAIMS BY THE TOP 10 SOURCES IN ONTARIO, 2011-2020

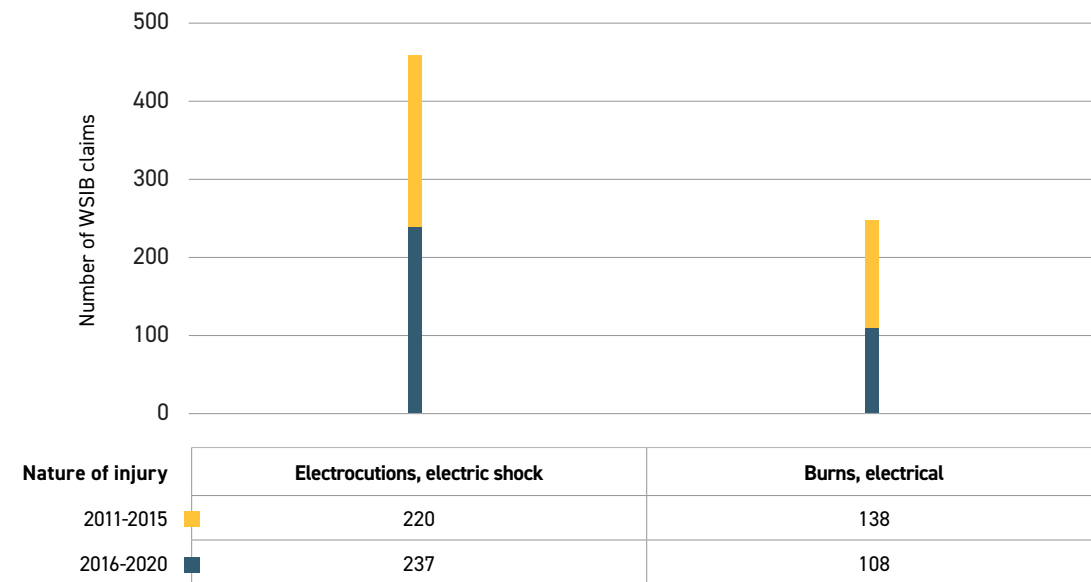


Source: Workplace Safety and Insurance Board

Conclusion

Machine tool and electric parts and heating, cooling, and cleaning machinery were the most common sources of WSIB electrical injury claims between 2011 and 2020.

12 NUMBER OF ALLOWED WSIB LOST TIME ELECTRICAL INJURY CLAIMS BY NATURE OF INJURY IN ONTARIO, 2011-2015 AND 2016-2020



Source: Workplace Safety and Insurance Board

Conclusion

There is an overall decrease of 4% in the number of injury claims between 2011-2015 and 2016-2020; however, the number of electrocutions has increased by 7%.

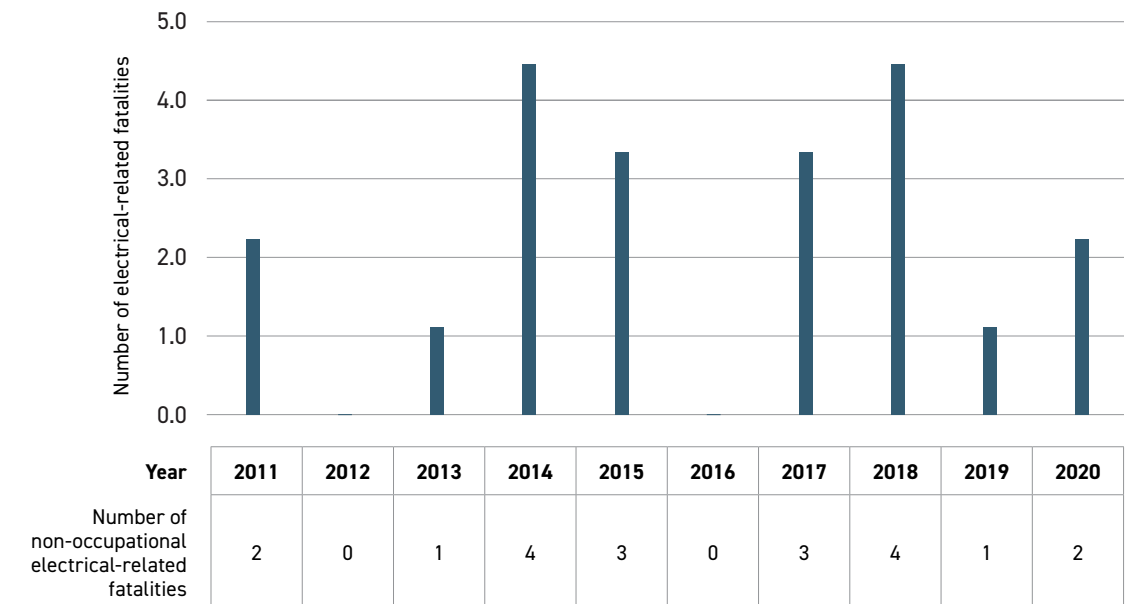
2.3 Non-occupational Electrical-related Fatalities and Injuries

Injuries are a significant health problem. They are the leading cause of death for the young and contribute substantially to the burden on the health care system. Many injuries are predictable and preventable.

In 2020, there were two non-occupational electrical-related fatalities. In the previous year, there was one non-occupational electrical-related fatality. The five-year rolling average rate between 2011-2015 and 2016-2020 has decreased by 7% from 0.15 per million population to 0.14 per million population.

In the past ten years, the residential setting was the most common place for non-occupational electrical-related fatalities. Human error, misadventure, improper use/misuse, and theft were the most common activities associated with fatalities.

1 NUMBER OF NON-OCCUPATIONAL ELECTRICAL-RELATED FATALITIES IN ONTARIO, 2011-2020

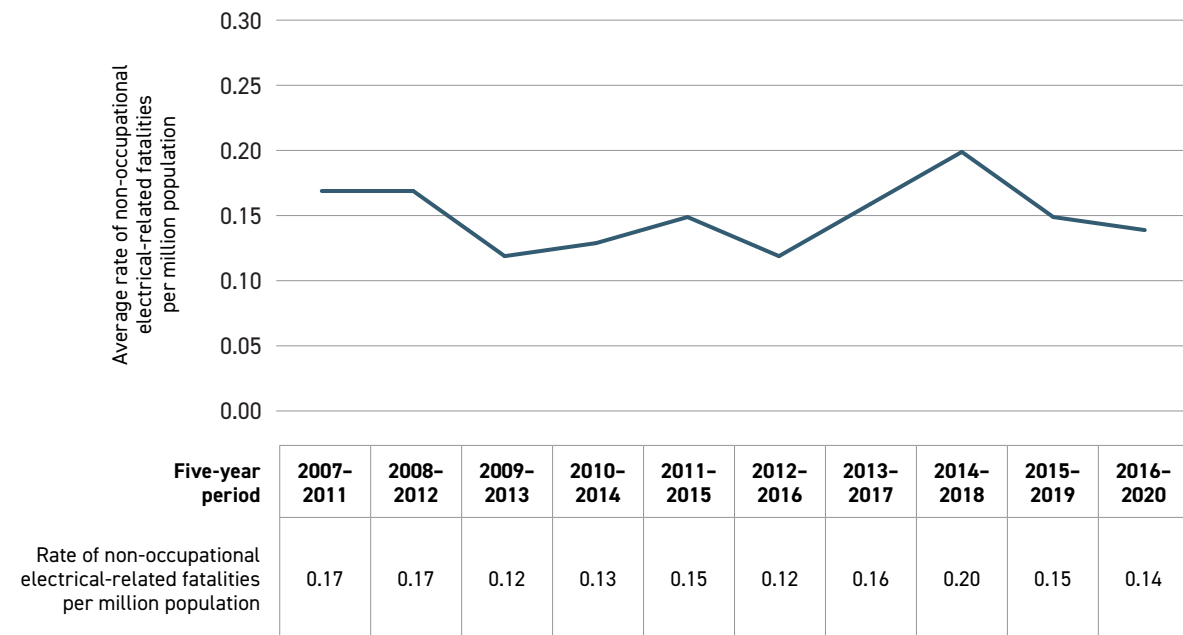


Source: ESA and Coroner records

Conclusion

In 2020, two non-occupational fatalities occurred. Between 2011 and 2020, an average of two non-occupational electrical fatalities have been reported to the ESA.

2 FIVE-YEAR ROLLING AVERAGE RATE OF NON-OCCUPATIONAL ELECTRICAL-RELATED FATALITIES IN ONTARIO, 2007-2020

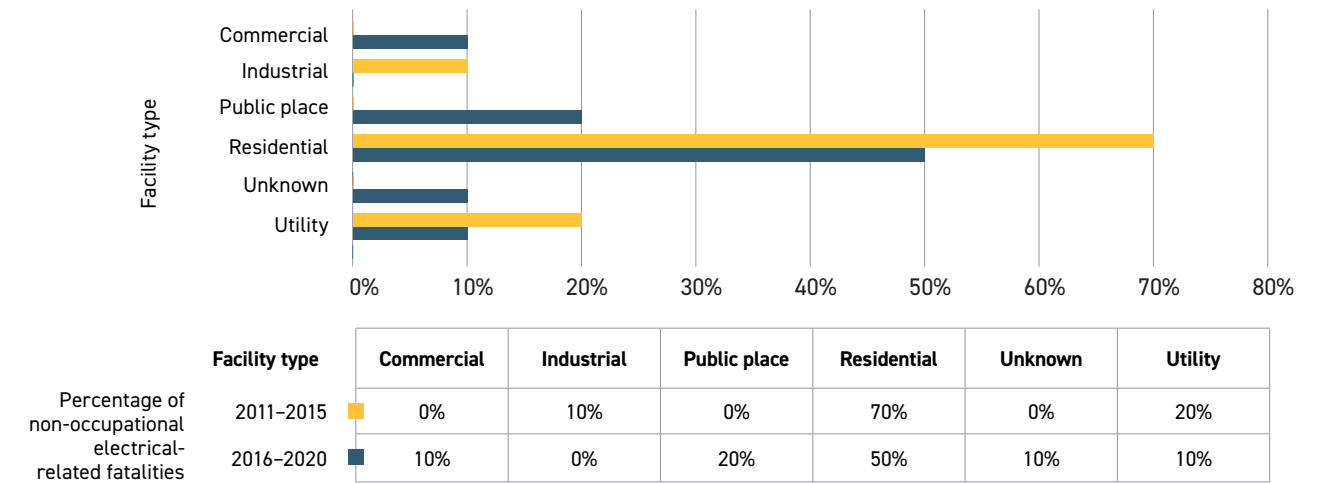


Source: ESA and Coroner records

Conclusion

The five-year rolling average rate of non-occupational electrical-related fatalities has decreased by 7% when comparing 2011-2015 and 2016-2020.

3 PERCENTAGE OF NON-OCCUPATIONAL ELECTRICAL-RELATED FATALITIES BY FACILITY TYPE IN ONTARIO, 2011-2020

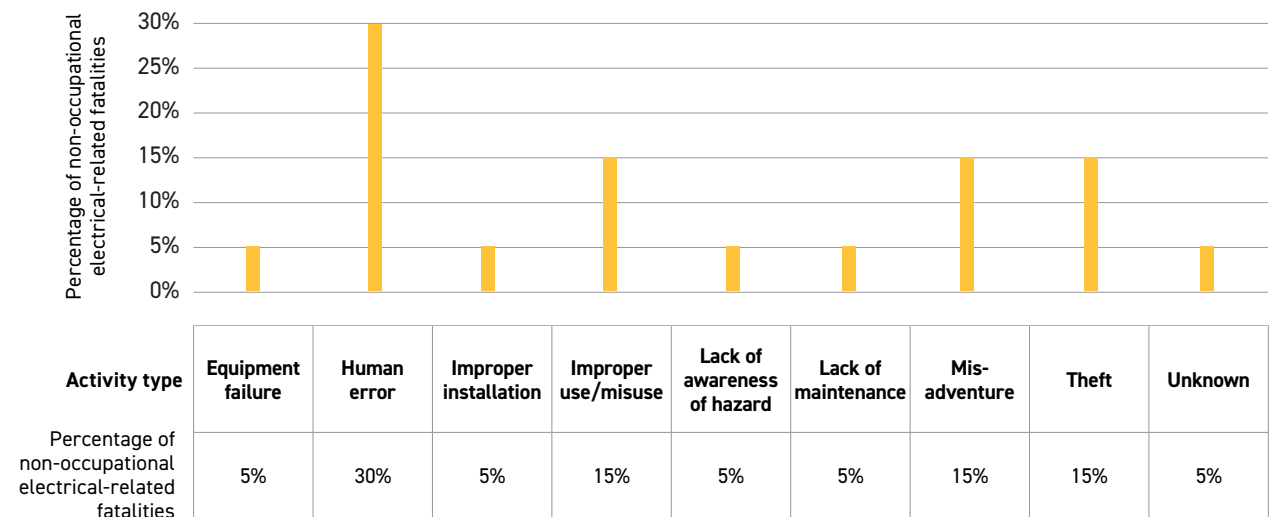


Source: ESA and Coroner records

Conclusion

In the past ten years, the residential setting has been the most common place for non-occupational electrical-related fatalities.

4 PERCENTAGE OF NON-OCCUPATIONAL ELECTRICAL-RELATED FATALITIES BY ACTIVITY TYPE IN ONTARIO, 2011-2020



Source: ESA and Coroner records

Conclusion

Human error (30%), improper use/misuse (15%), misadventure (15%), and theft (15%) were the most common activities associated with non-occupational electrical-related fatalities.

2.4 Electrical Injury and Emergency Department Visits in Ontario, 2009–2018

At time of publication, this was currently the most recent data on electrical injuries and emergency department visits. This data was published in the 2019 OESR as well.

Factors that affect the presence of electrical injury and its severity depend on the magnitude of the electric current, its transmission (direct or indirect), body entry and exit sites, the path the current takes through the body, and the surrounding environmental conditions (e.g., wet or dry environments) (Duff, 2001).

Exposure to electricity can result in a range of injuries. It can lead to cardiovascular system injuries (e.g., rhythm disturbances), cutaneous injuries and burns, nervous system disruption, respiratory arrest, head injuries, and fractures and dislocations (caused by being “thrown” or “knocked down”) from the severe muscle contractions caused by the current (Duff and McCaffrey, 2011; Koumbourlis, 2002).

Small or minor burns may be managed in an emergency department, but patients with severe burns may be transferred to regional burn centres for additional management (Koyfman and Long, 2020).

Approximately 20,000 electrical-related emergency department visits occur every year in North America (Singerman et al., 2008). These injuries are the most common form of occupationally related burn injury and the fifth leading cause of occupational fatality in the United States (Singerman et al., 2008).

From 2009 to 2018, 11,600 visits to Ontario hospitals’ emergency departments (ED) were due to electrical injury. The trend of males outnumbering females in electrical injuries is also observed in ED visits with 69% of ED visits from males. Adults (age 20–64 at 79%) and children (age 0–19 at 18%) comprised 97% of all ED visits related to electrical injuries.

Using the Canadian Triage and Acuity Scale (CTAS), the severity of electrical injury was assessed upon each ED visit. In the past ten years, 83% of ED visits were classified as the most severe – that is, requiring resuscitation, conditions that are a potential threat to life, limb, or function requiring medical intervention or delegated acts, or conditions that could potentially progress to a serious problem requiring emergency intervention (Canadian Triage and Acuity Scale between 1 and 3).

In 67% of all ED visits, the principal diagnosis was identified as electrical current, and 4% of visits were from effects of lightning. Burns were the principal diagnosis in an additional 16% of cases.

When excluding unspecified place of occurrence, the most common locations for electrical injury were the home (27%), followed by trade and service areas (21%), and industrial and construction locations (15%).

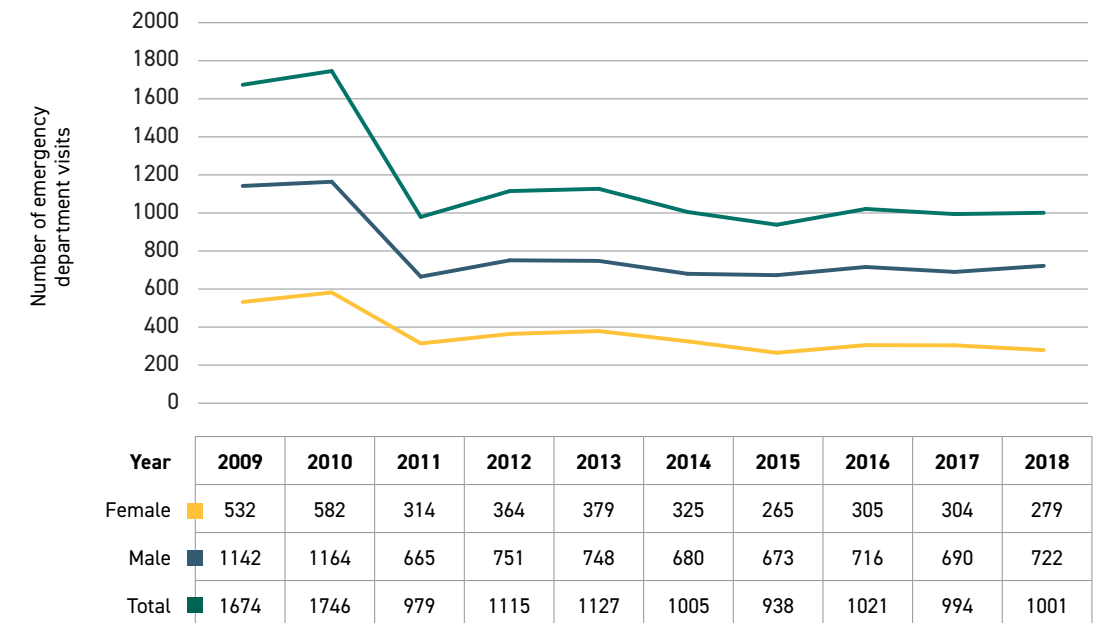
Statistics Related to the ESA’s Harm Reduction Priorities – NON-OCCUPATIONAL ELECTRICAL SAFETY

Five-year Rolling Average Comparison

Number of emergency department visits due to critical electrical injuries (Canadian Triage and Acuity Scale levels 1–3) reported to the Canadian Institute of Health Information.

The number of emergency department visits that were classified as critical visits has decreased by 20% in the five-year rolling average between 2009–2013 and 2014–2018.

1 NUMBER OF EMERGENCY DEPARTMENT (ED) VISITS FOR ELECTRICAL INJURY BY SEX IN ONTARIO, 2009–2018

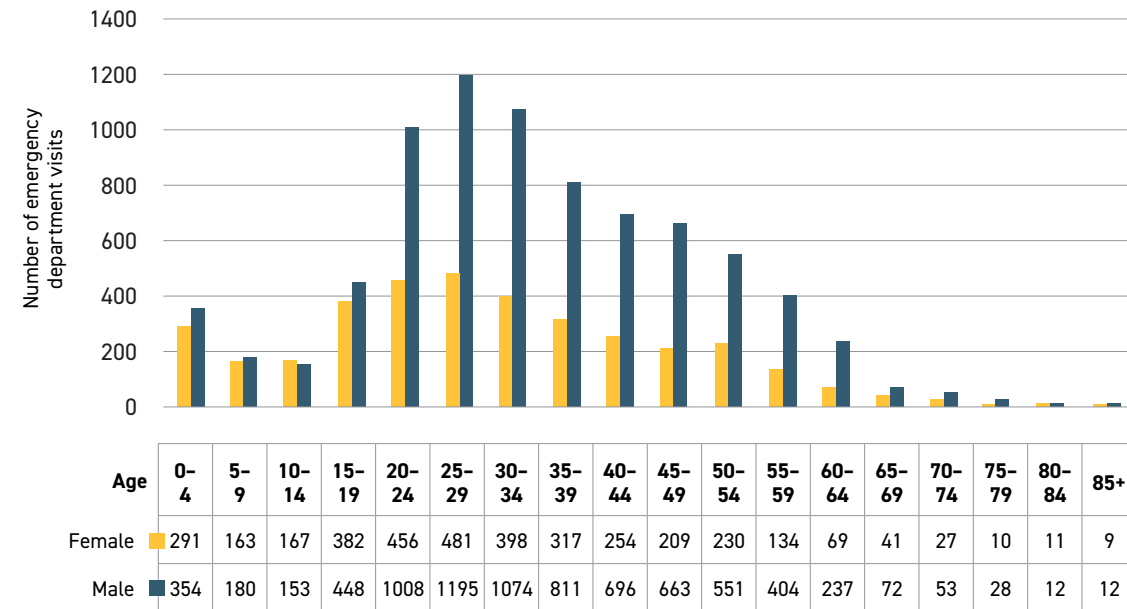


Source: ED All Visit Main Table (CIHI), IntelliHEALTH, Ministry of Health and Long-Term Care (MOHLTC)

Conclusion

The total number of ED visits for electrical injury has decreased by 40% in the past ten years.

2 NUMBER OF EMERGENCY DEPARTMENT (ED) VISITS FOR ELECTRICAL INJURY BY AGE AND SEX IN ONTARIO, 2009–2018

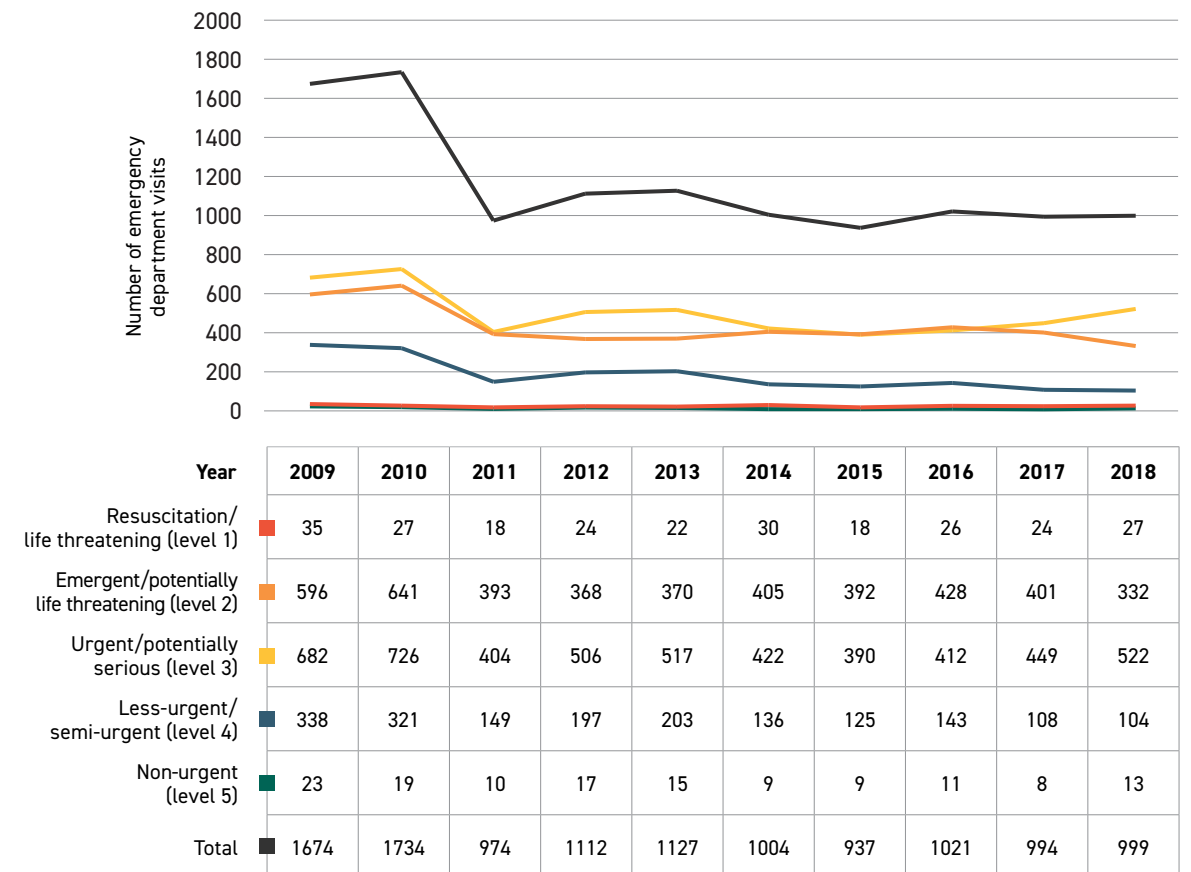


Source: ED All Visit Main Table (CIHI), IntelliHEALTH, MOHLTC

Conclusion

The number of males seen at the ED for electrical injury is greater than the number of females in all age groups in the past ten years. Adults (age 20–64 at 79%) and children (age 0–19 at 18%) comprised 97% of all ED visits related to electrical injuries.

3 NUMBER OF ED VISITS FOR ELECTRICAL INJURY BY CTAS IN ONTARIO, 2009–2018

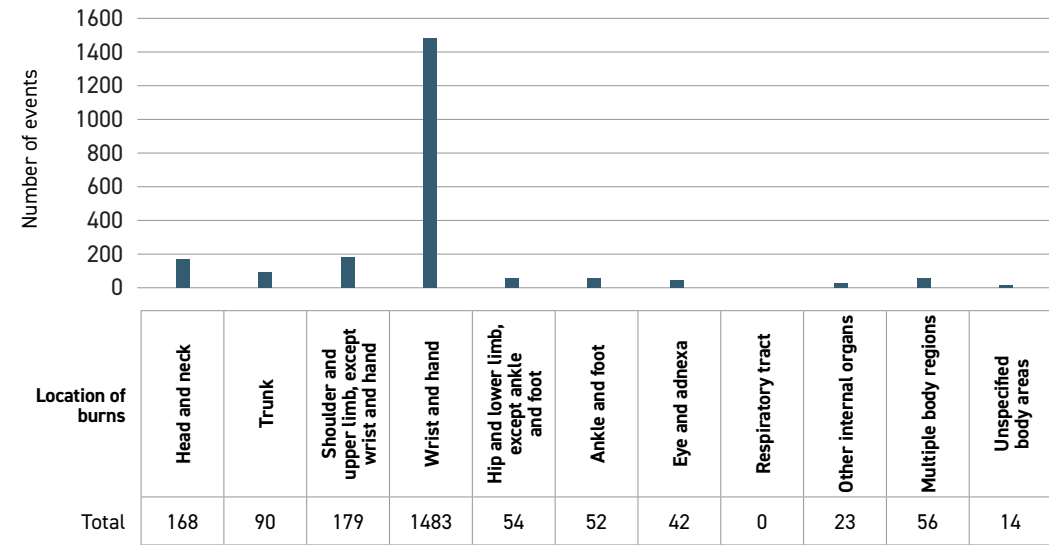


Source: ED All Visit Main Table (CIHI), IntelliHEALTH, MOHLTC

Conclusion

83% of ED visits for electrical injury were classified on the Canadian Triage and Acuity Scale (CTAS) at levels 1–3 (Resuscitation, Emergent, Urgent).

4 LOCATION OF BURNS ASSOCIATED WITH ELECTRICAL INJURY IN ONTARIO, 2009–2018

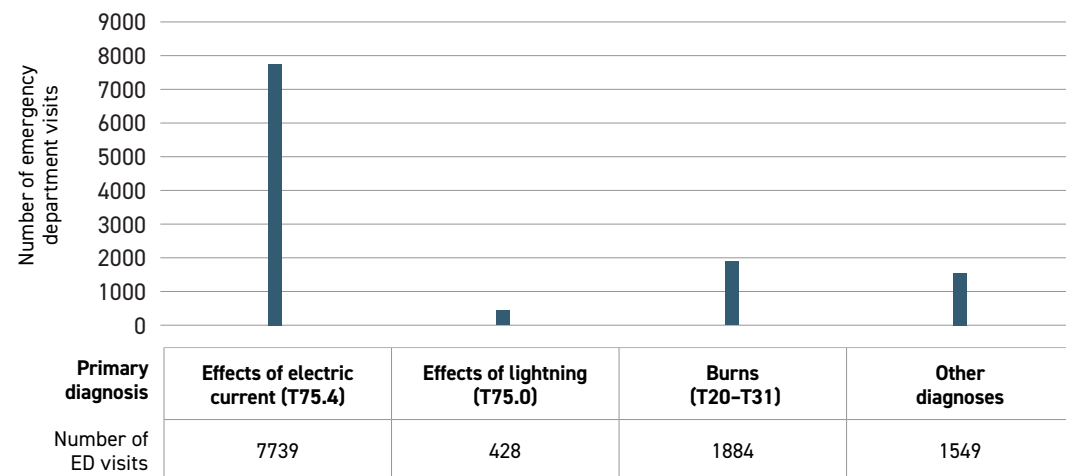


Source: ED All Visit Main Table (CIHI), IntelliHEALTH, MOHLTC

Conclusion

Of the ED visits from an electrical injury that resulted in a burn, the majority of injuries were found on the wrist and hand.

5 PRIMARY DIAGNOSIS OF EMERGENCY DEPARTMENT VISITS FOR ELECTRICAL INJURY IN ONTARIO, 2009–2018

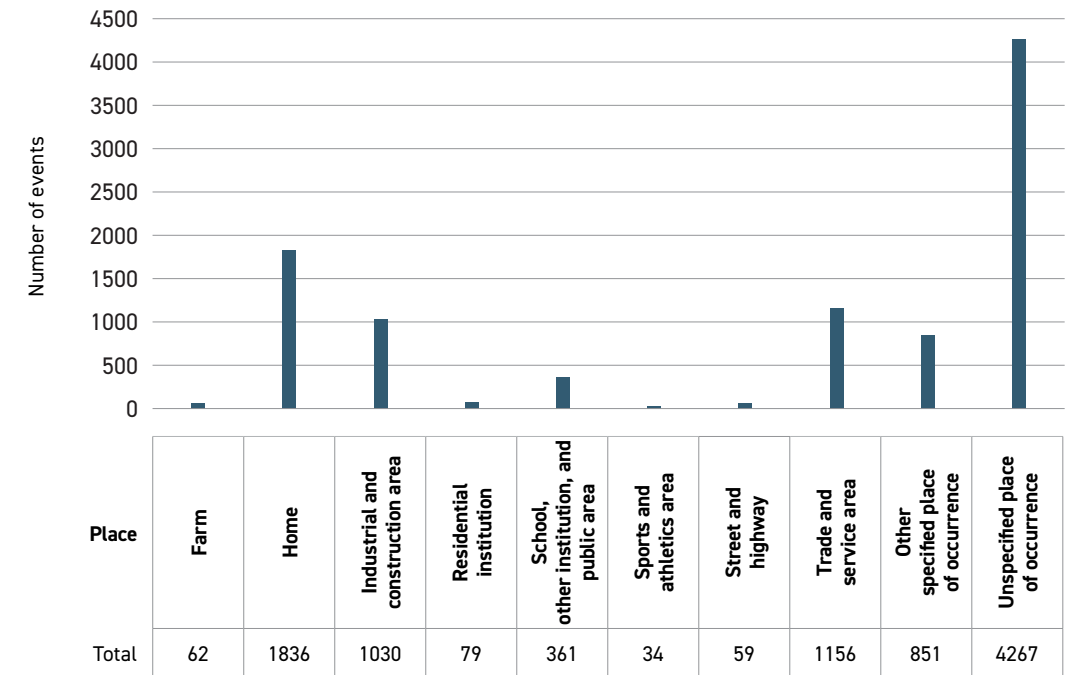


Source: ED All Visit Main Table (CIHI), IntelliHEALTH, MOHLTC

Conclusion

The majority of ED visits for electrical injury had a principal diagnosis of electric current (67%), followed by burns (16%).

6 PLACE WHERE ELECTRICAL INJURY OCCURRED IN ONTARIO, 2009–2018



Source: ED All Visit Main Table (CIHI), IntelliHEALTH, MOHLTC

Conclusion

While many ED visits from electrical injury were from unspecified places of occurrence, the most commonly reported places of injury were the home, industrial and construction areas, and trade and service areas.

2.5 Case Study: Electrical Contractor

An arc flash event injured three workers in a pulp and paper manufacturing facility when they were replacing a power box in the electrical room. The following case study documents the chain of events.

One of the tasks during a scheduled weeklong shutdown of a pulp and paper facility was to replace an old paper machine power box. This task was assigned to two plant electricians, Electrician A and Electrician B.

On the first day, the maintenance supervisor asked Electrician A to gather the necessary parts for the assigned task.

On the second day, several supervisors discussed procedures that should be followed if something went wrong during the shutdown. None of the supervisors had electrical knowledge. Electrical hazards were not discussed and no supervisor conducted a hazard assessment of the work with the two electricians.

On the third day (day of the incident), a third electrician applied a 'blue tag lockout' to the paper machine, which de-energized the load side, but left the line side energized.

Later that morning, Electrician A and Electrician B began work on the panel. They were not wearing proper protective equipment and a supervisor was not present to oversee their work. They removed the panel doors from the cabinet. They then removed cables, which had been mounted against the back panels with clips behind the energized buses in an adjacent cabinet. While Electrician B was holding the cables up, Electrician A reached between two of the energized buses with a nut driver to remove a clip and made contact with an energized part, creating an arc flash event. At the same moment, a co-op student was walking into the room. The arc flash event injured all three workers.

The facility had what appeared to be a comprehensive health and safety program.

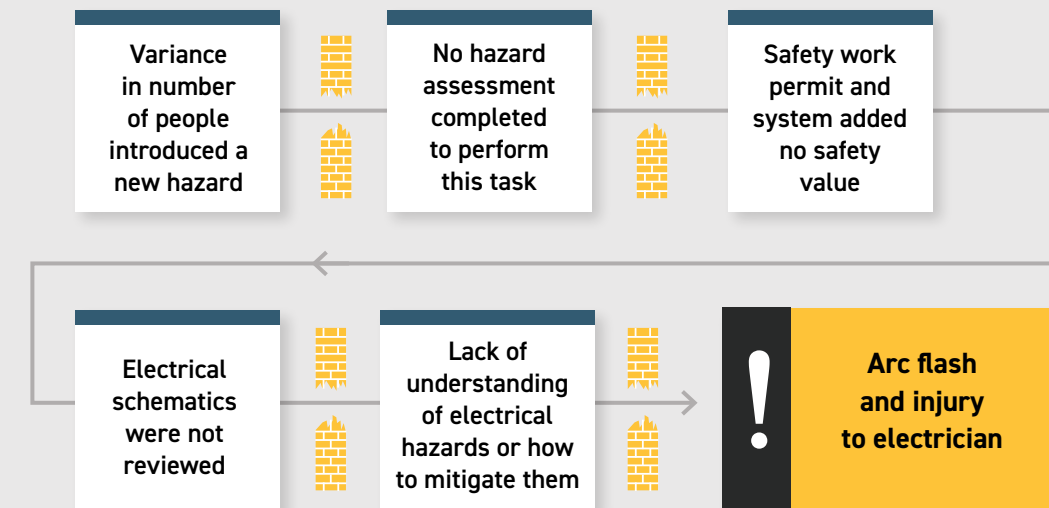
Both electricians had recently received arc flash training and were provided with arc-rated clothing. In addition, warning labels had been placed on all machines, including the paper machine being worked on. However, none of the workers understood the information on the labels.



Figure 1. This depicts the remainder of damaged buses which had been energized while Electrician A was attempting to remove the cables behind them.



Figure 2. Damaged nut driver after arc flash event.



The following gaps were identified in the safety framework as a result of the investigation. There is a need to:

- ensure work procedures and policies are implemented;
- perform hazard assessments to ensure all preventative measures are taken to eliminate electrical hazards;
- ensure workers understand the electrical equipment they are working on, what part of the machine is de-energized or remains energized, how to safely test and verify de-energization, and how to read the warning labels on the machines;
- ensure electrical safety training is conducted with all workers, including supervisors, and that training results in changed behaviour;
- ensure supervisors review work to be performed and are satisfied that the work would be performed in a correct and safe manner.

3.0 Utility-related Equipment

Utility-related equipment includes electrical equipment and devices used by Local Distribution Companies (LDCs), privately owned companies, or property owners that distribute electricity to customers' facilities or buildings. Examples of such equipment include overhead and underground powerlines (including most equipment on utility poles), substations, electrical chambers (vaults), high-voltage switchgear, and transformers. Utility-related equipment carries dangerous amounts of energy or power, and if barriers are breached, can be fatal. Overhead and underground equipment barriers are typically clearances above and below the ground, while substation barriers typically include fences and walls. Each barrier is designed to prevent public access and prevent exposure to electric shock hazards.

From 2011 to 2020, there were 25 electrical-related fatalities associated with utility-related equipment, which made up 50% of the total electrical fatalities in Ontario. This number has remained the same when compared to the previous ten-year period of 2010–2019.

Contact specifically with powerlines accounted for 18 of the electrical-related fatalities in the most recent ten-year period, which contributed to 72% of utility-related equipment fatalities. The five-year rolling average rate for powerline electrocutions has decreased by 8% when comparing 2011–2015 and 2016–2020.

The five-year average number of utility-related electrical incidents has increased by 31% when comparing 2011–2015 and 2016–2020. Overhead powerline contact remains the leading cause of utility-related electrical incidents every year. Among LDC workers (as a subset of the utility sector), there have been no reported incidents related to overhead powerlines in the past five years (2016–2020).

However, under-reporting is especially prevalent with utility contact incidents (especially in earlier years), and this information should be interpreted with caution. Reported injuries as a result of utility-related equipment have decreased over the past ten years, although property damage has been increasingly reported in the most recent five years.

Section 3.1 provides a case study that is an example of the risk factors associated with overhead powerline contact among workers.

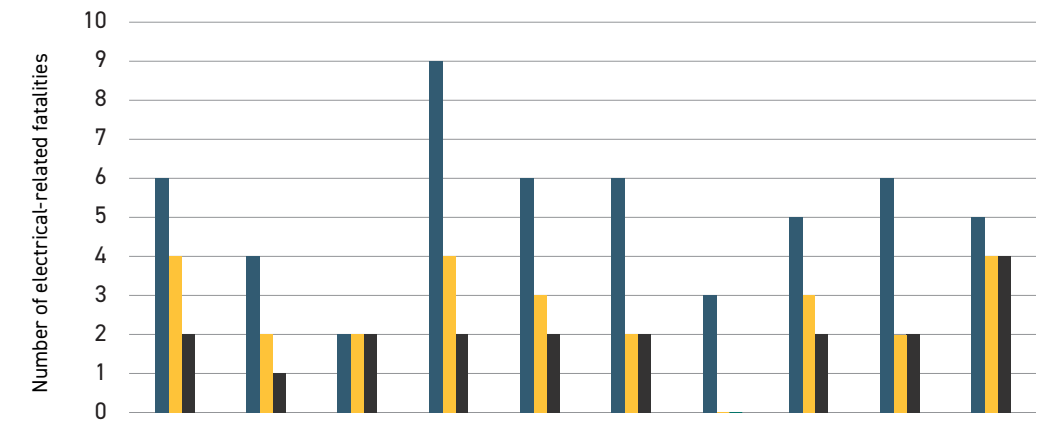
Statistics Directly Related to the ESA's Harm Reduction Priorities – POWERLINE CONTACT

Five-year Rolling Average Comparison

The statistics below represent the number of worker and non-worker powerline-related contact incidents based on data reported to the ESA.

The powerline safety five-year rolling average has increased by 31% between 2011–2015 and 2016–2020.

1 NUMBER OF UTILITY-RELATED EQUIPMENT ELECTRICAL-RELATED FATALITIES IN ONTARIO, 2011–2020



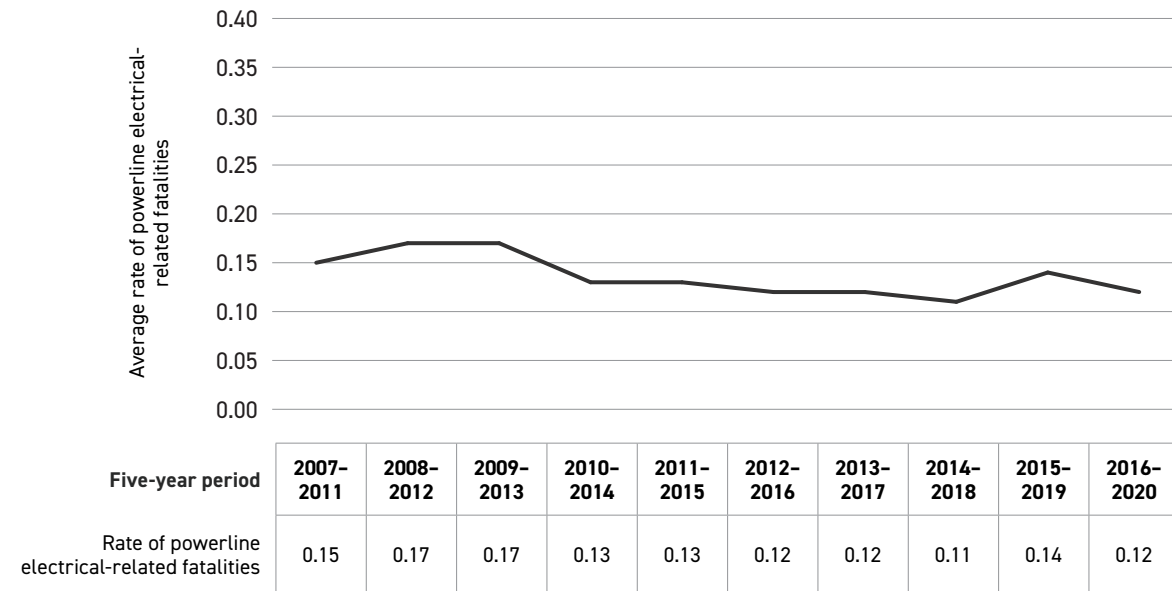
Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Electrical-related fatalities	4	2	9	6	6	3	5	6	5	4
Utility equipment electrical fatalities	2	2	4	3	2	0	3	2	4	3
Powerline electrical-related fatalities	1	2	2	2	2	0	2	2	4	1

Source: ESA and Coroner records

Conclusion

The number of utility-related equipment fatalities has been within a range of zero to four fatalities reported per year. In 2020, there were three utility equipment fatalities reported, one of which was from powerline contact.

2 FIVE-YEAR ROLLING AVERAGE OF POWERLINE ELECTRICAL-RELATED FATALITIES IN ONTARIO, 2007-2020

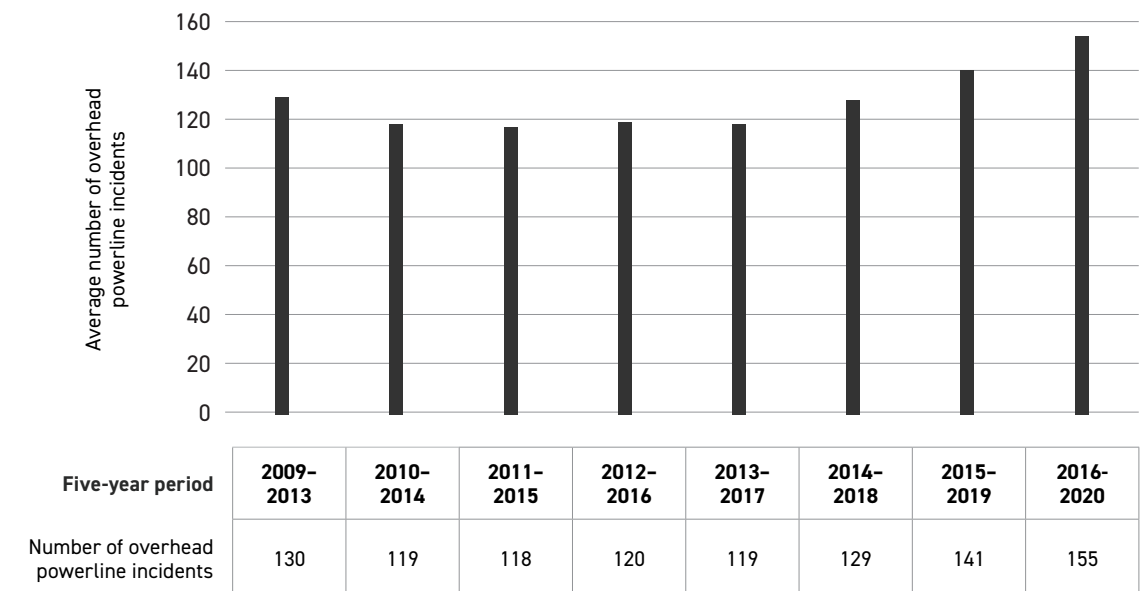


Source: ESA and Coroner records

Conclusion

The rate of powerline electrical-related fatalities has decreased by 8% when comparing 2011-2015 and 2016-2020. The 2016-2020 rate has decreased by 14% when compared to the previous five-year period of 2015-2019.

3 FIVE-YEAR ROLLING AVERAGE NUMBER OF OVERHEAD POWERLINE INCIDENTS IN ONTARIO, 2009-2020

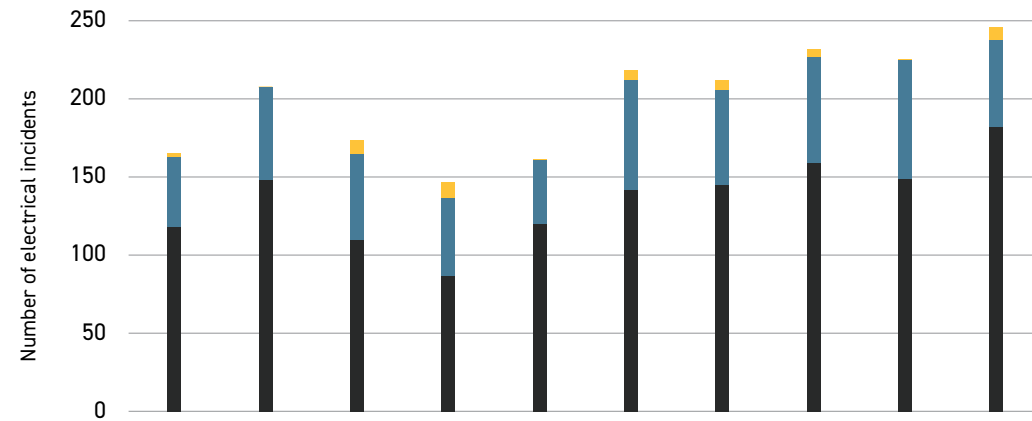


Source: ESA records

Conclusion

The five-year rolling average number of overhead powerline incidents has increased by 31% when comparing 2011-2015 and 2016-2020. The most recent five-year period of 2016-2020 shows a 10% increase in overhead powerline contacts when compared to the previous time period of 2015-2019.

4 NUMBER OF UTILITY-RELATED ELECTRICAL INCIDENTS BY CONTACT TYPE IN ONTARIO, 2011-2020



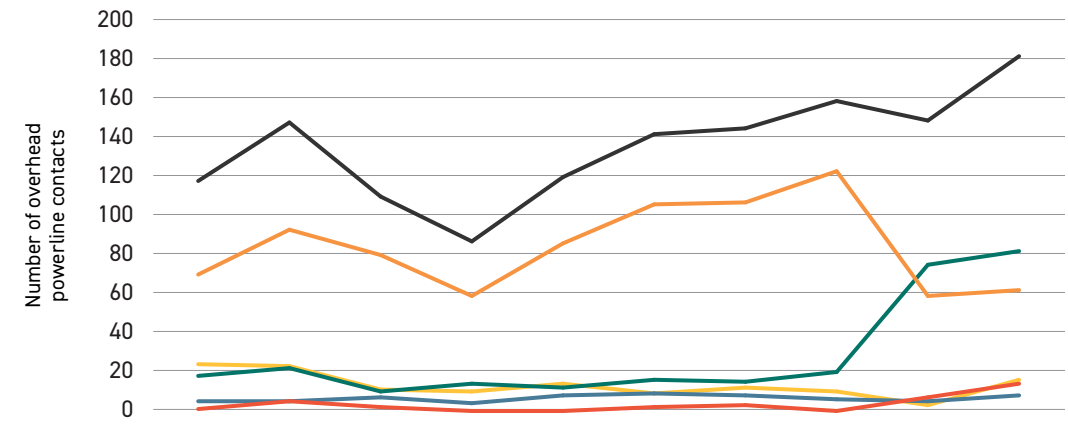
Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Vaults, substations, and padmounts	3	0	9	10	1	7	6	5	1	8
Underground powerline contact	45	60	55	50	41	70	61	68	76	56
Overhead powerline contact	118	148	110	87	120	142	145	159	149	182

Source: ESA records

Conclusion

Overhead powerline contact remains the leading cause in utility-related electrical incidents between 2011 and 2020 and has increased 54%. The total number of utility-related electrical incidents has increased by 48% when comparing 2011 and 2020.

5 NUMBER OF OVERHEAD POWERLINE CONTACTS BY SECTOR IN ONTARIO, 2011-2020



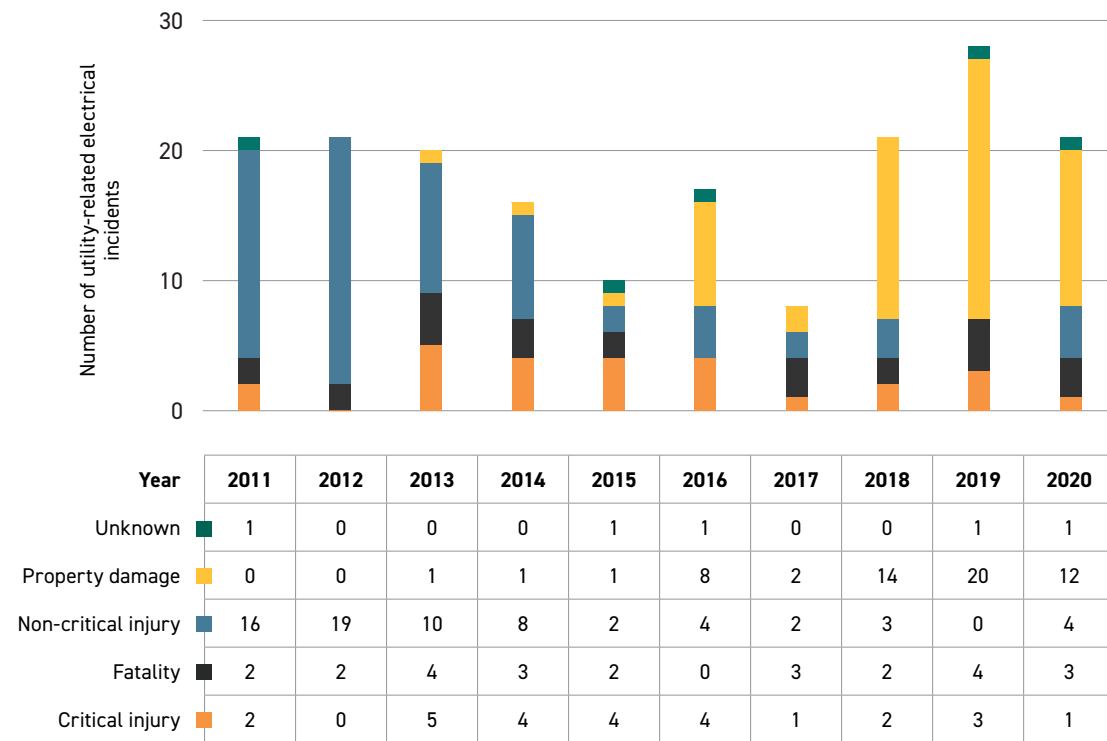
Year	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Construction	70	93	80	59	86	106	107	123	59	62
Farm	1	5	2	0	0	2	3	0	7	14
Public	18	22	10	14	12	16	15	20	75	82
Transport	5	5	7	4	8	9	8	6	5	8
Utility	24	23	11	10	14	9	12	10	3	16
Total	118	148	110	87	120	142	145	159	149	182
LDC worker as a subset of utility sector	<5	5	0	0	<5	0	0	0	0	<5

Source: ESA records

Conclusion

Construction has been the leading sector in overhead powerline contacts in the past ten years, although incidents reported in public settings have increased in the recent two years. Between 2016 and 2020, there have been no reported incidents involving LDC workers (as a subset of the utility sector).

6 NUMBER OF UTILITY-RELATED ELECTRICAL INCIDENTS BY OUTCOME IN ONTARIO, 2011-2020



Source: ESA records

Conclusion

The number of reported utility-related incidents that resulted in property damage has increased since 2018. The number of critical injuries and the number of fatalities reported from utility-related incidents have remained between zero and five between 2011 and 2020.

3.1 Case Study: Powerline Contact

A worker received a fatal shock when the precast concrete load he was guiding became energized as a result of the wire rope from the boom truck coming into contact with an energized overhead powerline. The fatality occurred during a road reconstruction project.

A road-rebuilding project included excavation of the existing road, replacing the sewer system (which included manholes and catch basins), and repaving the roads (Figure 1). The incident occurred at the beginning stage of the project, where a precast concrete company was making a delivery with a boom truck at the site. With no designated area for unloading, the boom truck operator set his truck randomly at the jobsite and began unloading with the help of two workers from the road building contractor (one worker was at the flatbed of the truck, the other was on the ground). The crew unloaded four precast concretes with no incident. As the boom truck operator was manoeuvring the fifth load towards the ground, the second worker helped guide the load by grabbing one of the legs of the sling suspending the load. The wire rope then made contact with the powerline and the worker on the ground received a severe shock and fell to the ground convulsing. The boom truck operator then guided the boom rope away from the powerline. Another worker rushed to the injured worker and performed CPR while the boom truck operator called 911. Rescue personnel transported the injured worker to the hospital where he was pronounced dead.

Further investigation revealed the following:

- No designated drop zone on site** — One purpose for designating a drop zone for material is to ensure safety, namely to minimize reversing vehicles and to avoid powerline contact. This site did not have a designated drop zone, which resulted in material being dropped in the vicinity of the overhead powerline.
- Safety policy and procedure were not followed, no signaller was used** — Despite their awareness of the presence of the overhead powerline (one of the road crew actually posted the "Danger Overhead Wires" poster earlier in the day), all workers from the two separate employers did not follow their safety work procedures. All knew that a signaller was required when working near a powerline, but none took on the role of a signaller, which is meant to ensure that no part of the crane would at any time be near the powerline and jeopardize safety of the workers. In addition, the precast supplier had a safety policy that prohibited any other company to board the flatbed truck. During the investigation, it was revealed that the boom truck operator's view might have been obstructed by the worker standing in front of him on the flatbed.



Figure 1: "Danger Overhead Wires" signs posted and barrier blocking traffic.

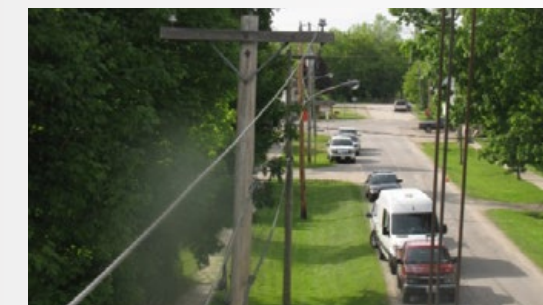


Figure 2: Post-incident hazard.

Case Study: Powerline Contact (Continued)

Post-incident Hazard (Figure 2)

Rescue and investigation personnel attending the scene were unaware that the boom's wire rope was less than the required minimum distance to the energized powerline. The potential for more injuries or fatalities was still present, placing first responders and investigation personnel in a hazardous situation.



4.0 Overview of Fires in Ontario

Fire remains a significant threat to life and property in urban and rural areas. Structural fires, especially residential fires, remain a critical concern. The high number of electrical incidents and the associated dollar loss, as well as the number of "deliberate" fires and their associated dollar loss, are the two other areas of major concern (Asgary et al., 2010).

Ontario reported 34,793 structure-loss fires (fires resulting in an injury, fatality, or dollars lost) between 2015 and 2019. This number is a 1% decrease from 35,160 structure-loss fires between 2014 and 2018. Residential-loss fires account for 73% of structure-loss fires from 2015 to 2019. Stove-top fires (with electricity fuel only) account for 7% of structure-loss fires and 9% of residential-loss fires. Since 2015, there has been a 3% decrease in total-loss fires, a 7% decrease in structure-loss fires, and a 10% decrease in residential-loss fires.

For the period between 2010 and 2019, the OFMEM identified the following as the most common ignition sources for structure-loss fires:

- cooking (17%);
- electrical distribution equipment – wiring (9%);
- heating and cooling equipment (8%);
- miscellaneous (includes fires – natural causes and chemical reactions) (8%);
- cigarettes (7%);
- appliances (5%); and
- other electrical, mechanical (4%).

When comparing 2010–2014 and 2015–2019, the average number of structure-loss fires per year by ignition source decreased 10% for cooking, 8% for electrical wiring, 16% for heating/cooling equipment, and 7% for appliances.

Among structures that follow the Ontario Building Code (OBC), when structure-loss fires were limited to those where electricity was identified as the fuel of the ignition source (but not necessarily the primary fuel energy source), the most common electrical-related products involved were:

- cooking equipment (38%);
- electrical distribution equipment (33%); and
- appliances (11%).

Electrical Products

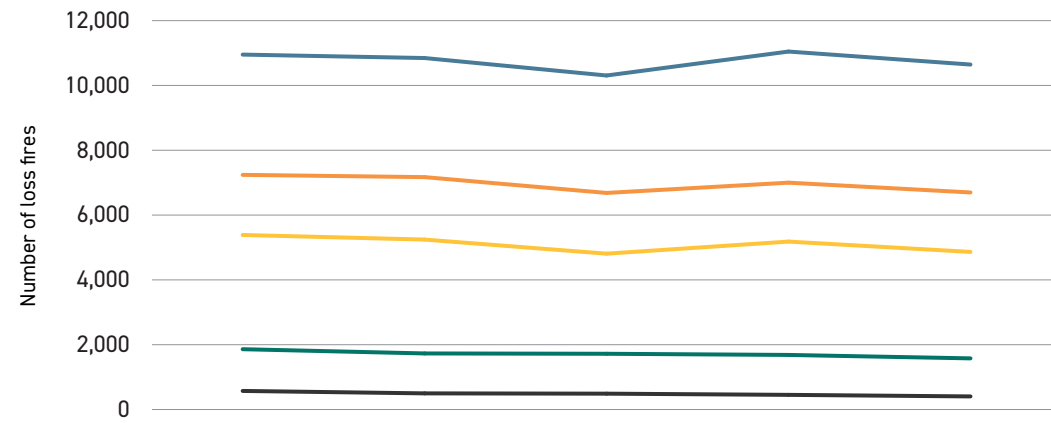
The ESA defines electrical products as appliances, cooking equipment, lighting equipment, other electrical and mechanical equipment, and processing equipment. Data from the OFMEM shows that the five-year average for electrical product fires (where electricity was identified as the fuel of the ignition source) between 2010–2014 and 2015–2019 has decreased by 15%.

Statistics Directly Related to the ESA's Harm Reduction Priorities - PRODUCT SAFETY

Number of electrical product-related fires: a product fire is defined as one involving appliances, cooking equipment, lighting equipment, and other electrical, mechanical, or processing equipment as classified by the Office of the Fire Marshal and Emergency Management data.

The product safety five-year rolling average has decreased by 15% between 2010-2014 and 2015-2019.

1 NUMBER OF LOSS FIRES IN ONTARIO, 2015-2019



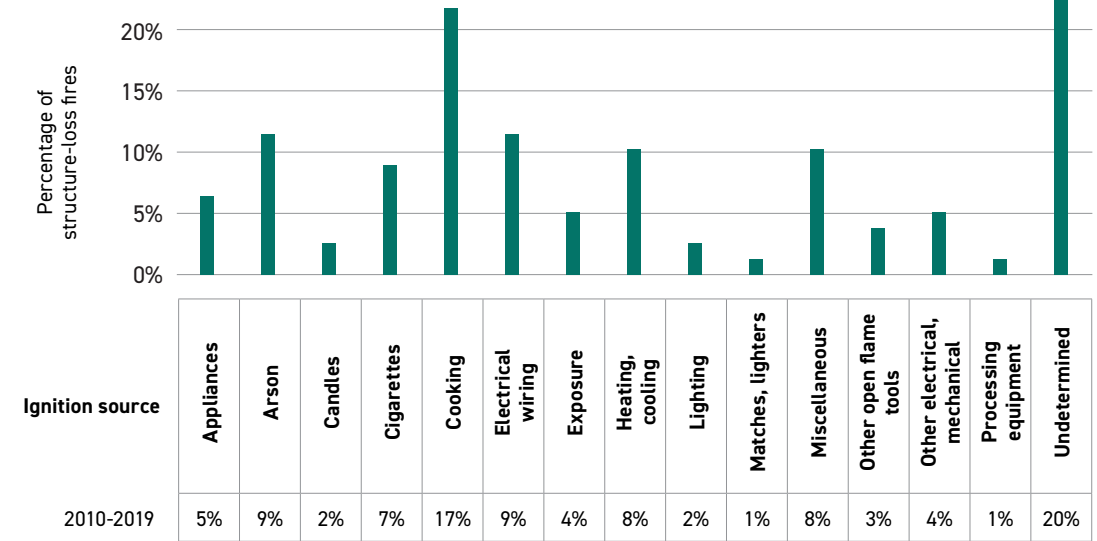
Year	2015	2016	2017	2018	2019
Total number of loss fires	10,952	10,846	10,307	11,046	10,645
Structure-loss fires	7,241	7,171	6,683	7,000	6,698
Residential-loss fires	5,386	5,244	4,809	5,182	4,863
Structure-loss fires where electricity fuelled the ignition source	1,861	1,730	1,720	1,684	1,578
Stove-top structure-loss fires	573	498	489	452	406

Source: OFMEM records

Conclusion

The number of total-loss fires has decreased, and structure-loss fires and residential-loss fires have decreased between 2015 and 2019. The number of fires where electricity fuelled the ignition source has decreased by 15% in the most recent five-year period.

2 PERCENTAGE OF STRUCTURE-LOSS FIRES BY IGNITION SOURCE IN ONTARIO, 2010-2019

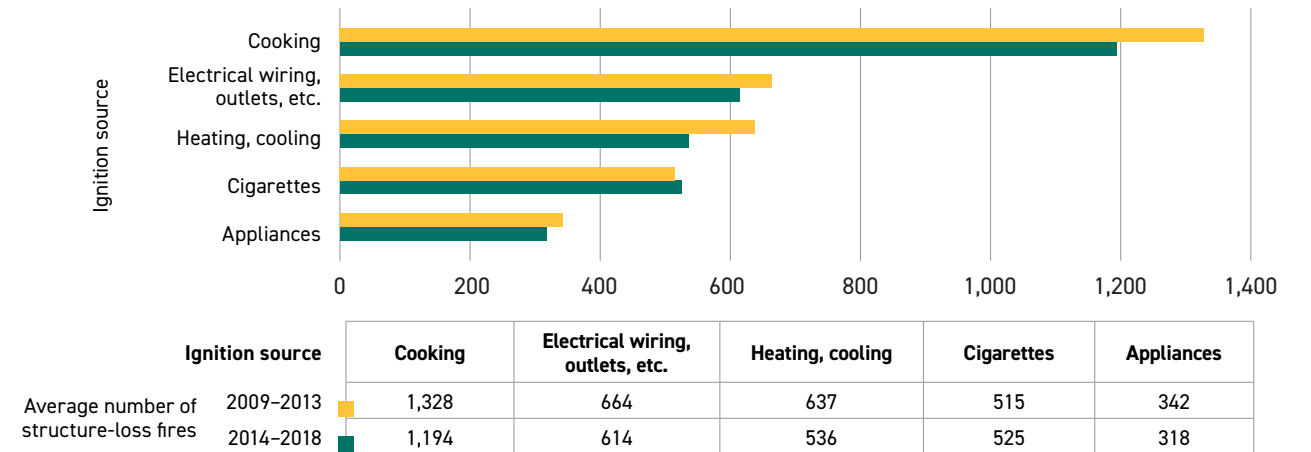


Source: OFMEM records

Conclusion

Aside from undetermined and miscellaneous sources, cooking (17%) and electrical wiring (9%) were the most common ignition sources for structure-loss fires between 2015 and 2019.

3 FIVE-YEAR AVERAGE NUMBER OF STRUCTURE-LOSS FIRES BY IGNITION SOURCE IN ONTARIO, 2010-2014 AND 2015-2019

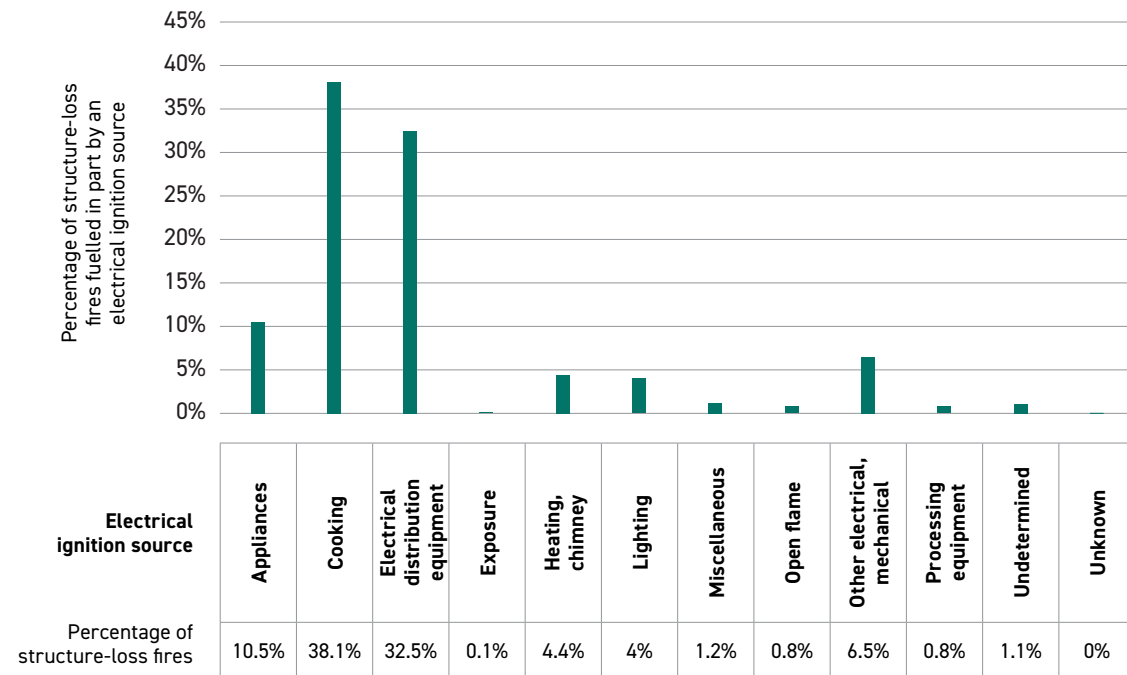


Source: OFMEM records

Conclusion

Cooking equipment remained the most common ignition source in 2010-2014 and 2015-2019, although the average number of structure-loss fires among cooking equipment, heating/cooling, electrical wiring, and appliances has decreased in the most recent time period.

4 PERCENTAGE OF STRUCTURE-LOSS FIRES FUELLED IN PART BY AN ELECTRICAL IGNITION SOURCE IN ONTARIO, 2010-2019 (OBC STRUCTURES ONLY)

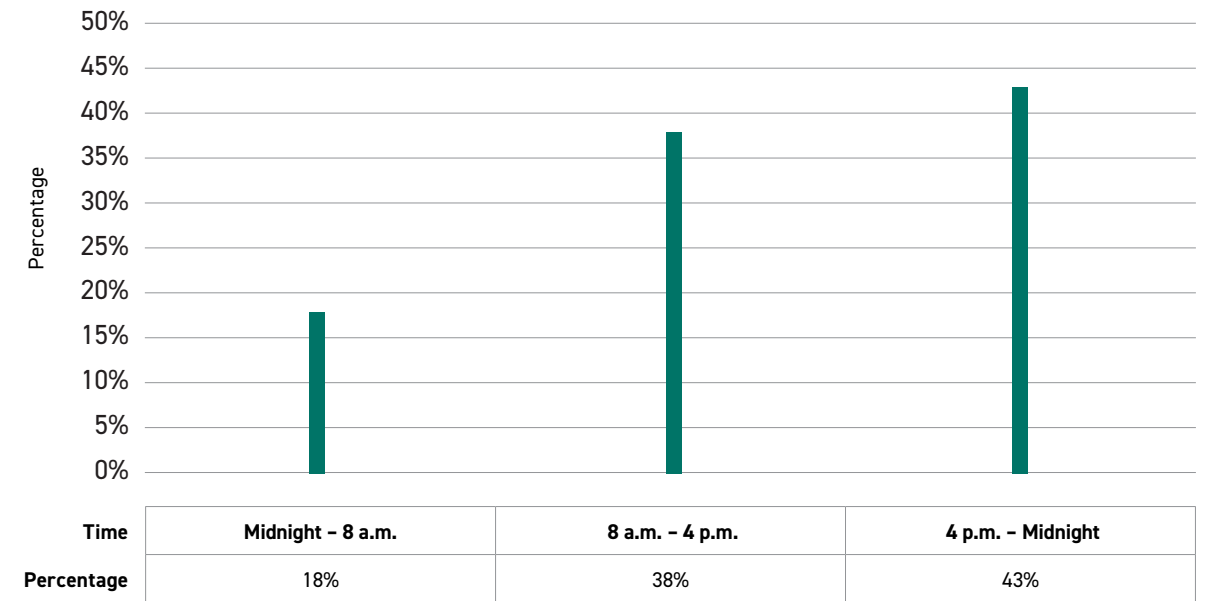


Source: OFMEM records

Conclusion

When the fire is from ignition sources that use electricity, cooking equipment (38%), electrical distribution equipment (33%), and appliances (11%) were the most common ignition sources between 2015 and 2019.

5 PERCENTAGE OF ELECTRICAL STRUCTURE-LOSS FIRES IN ONTARIO BY TIME OF DAY, 2010-2019 (OBC STRUCTURES ONLY)

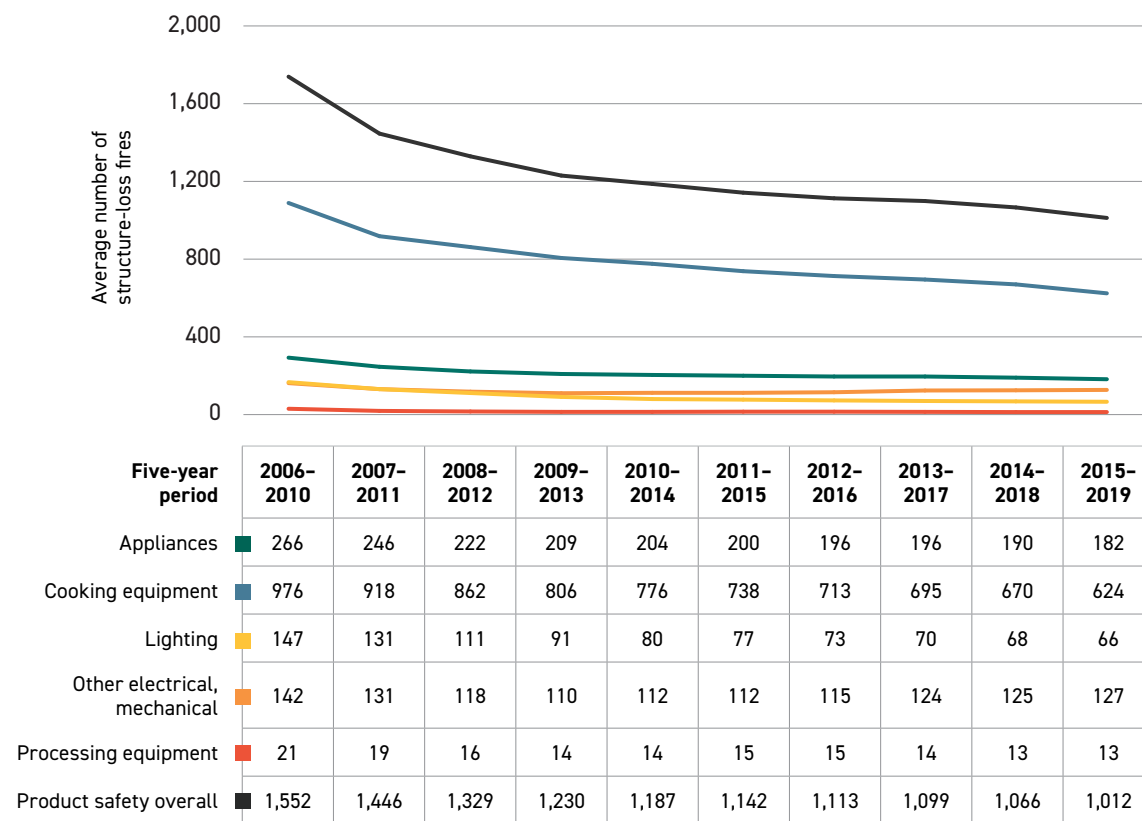


Source: OFMEM records

Conclusion

Between 2010 and 2019, most of the electrical-related structure-loss fires occurred in the period from 4 p.m. to midnight.

6 FIVE-YEAR ROLLING AVERAGE NUMBER OF ELECTRICAL STRUCTURE-LOSS FIRES BY PRODUCTS IN ONTARIO, 2006-2019 (OBC STRUCTURES ONLY)



Source: OFMEM records

Conclusion

Between 2010-2014 and 2015-2019, the five-year rolling average number of fires related to product safety has decreased by 15%.

4.1 Fires Resulting in Fatalities

In 2007, British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, Nova Scotia, and Northwest Territories reported 226 fire deaths (Wijayasinghe, 2011). Many of these incidents involved residential properties. The frequency of residential fires is concerning because they are the most common source of fire-related deaths (Miller, 2005). In 2002, 82% of the 304 fire deaths were residential fires (Council of Canadian Fire Marshals, 2002). Similarly, in 2006, 80% of Americans who died in a fire died in a residence (Karter, 2007). In the early 1990s, residential fires caused deaths of between 4,000 and 5,000 Americans and injured an additional 20,000 each year (Baker and Adams, 1993).

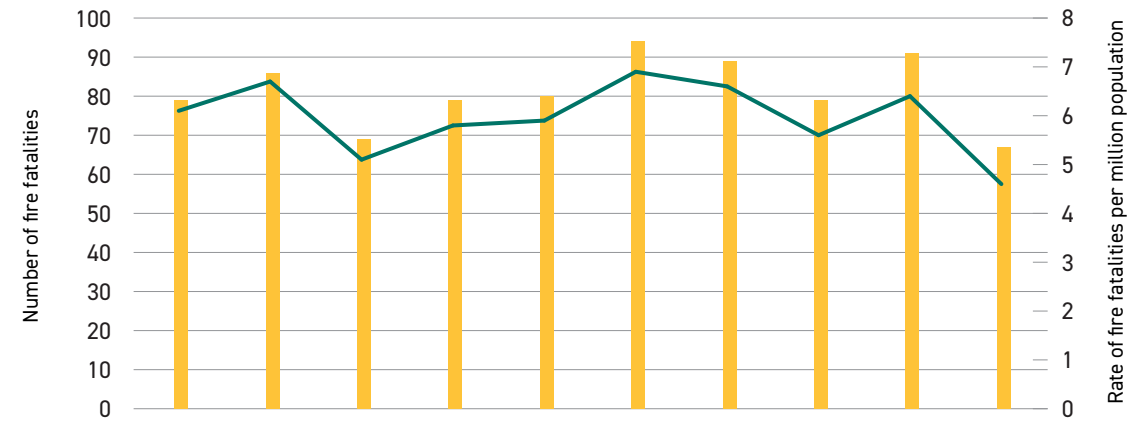
Ontario reported 813 deaths due to fires between 2010 and 2019. This number excludes fire deaths in vehicle collisions, fire fatalities among emergency response, or any fire deaths on federal or First Nations property. This number is less than what was reported between 2009 and 2018, where 843 deaths were reported. The OFMEM reported that in 2019, the fire death rate was 4.6 deaths per million population, which is a 25% decrease when compared to the fire death rate in 2010, which was 6.0 deaths per million population.

Structure-loss fires are fires that result in an injury, fatality, and/or financial loss that occur in structures (as opposed to vehicles or the outdoors). In Ontario, there were 738 fire fatalities from structure-loss fires from 2010 to 2019. The OFMEM reported that in 2019, the structure-loss fire death rate was 4.3 per million population, which is a 20% decrease when compared to the structure-loss fire death rate in 2010, which was 5.4 deaths per million population.

The OFMEM data identified 83 deaths in fires for which electricity was the fuel of the ignition source or were from electrical distribution equipment between 2010 and 2019. Since 2010, the death rate from this type of fire has decreased 29% from 0.68 deaths per million population to 0.48 deaths per million population.

In these types of fires in which the investigations were considered closed, 95% were considered accidental between 2015 and 2019. Stove or range-top burners accounted for 46% of fire fatalities fuelled by electricity in the last ten years.

1 NUMBER AND RATE OF ALL FIRE FATALITIES IN ONTARIO, 2010-2019



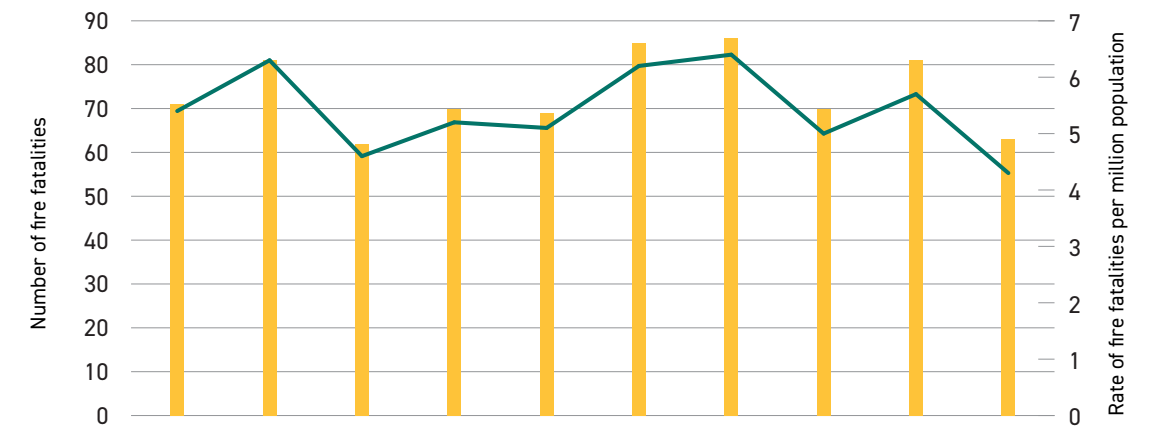
Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
All fire fatalities in Ontario	79	86	69	79	80	94	89	79	91	67
Ontario population in millions	13.1	12.9	13.4	13.5	13.6	13.8	13.4	14.1	14.3	14.5
Fire death rate in Ontario	6.0	6.7	5.1	5.9	5.9	6.9	6.6	5.6	6.3	4.6

Source: OFMEM records

Conclusion

The number and rate of fire fatalities have decreased when comparing 2019 to 2018.

2 NUMBER AND RATE OF FIRE FATALITIES IN STRUCTURE FIRES IN ONTARIO, 2010-2019



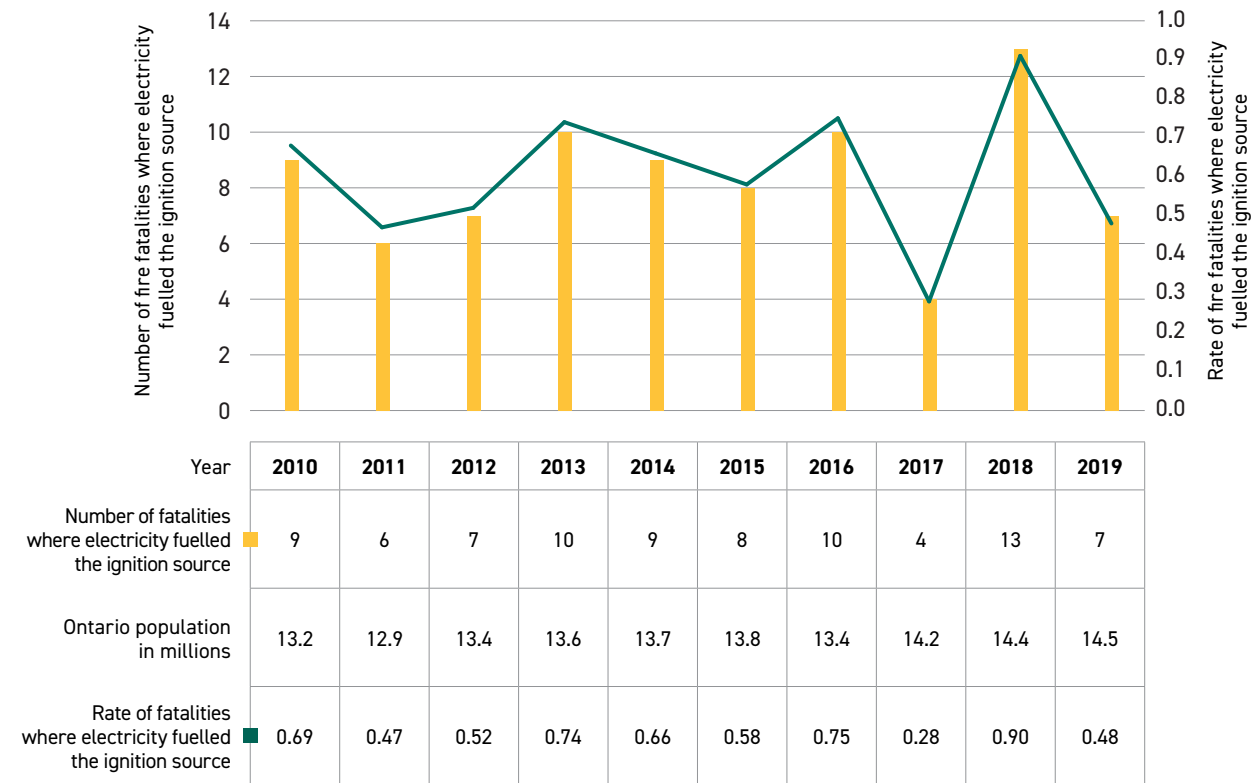
Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Number of fire fatalities from structure fires	71	81	62	70	69	85	86	70	81	63
Ontario population in millions	13.1	12.9	13.4	13.5	13.6	13.7	13.4	14.1	14.3	14.5
Rate of fire fatalities from structure fires	5.4	6.3	4.6	5.2	5.1	6.2	6.4	5	5.7	4.3

Source: OFMEM records

Conclusion

The number and rate of fire fatalities in structure fires have decreased when comparing 2010 to 2019.

3 NUMBER AND RATE OF STRUCTURE FIRE FATALITIES WHERE ELECTRICITY WAS THE FUEL OF THE IGNITION SOURCE IN ONTARIO, 2010-2019

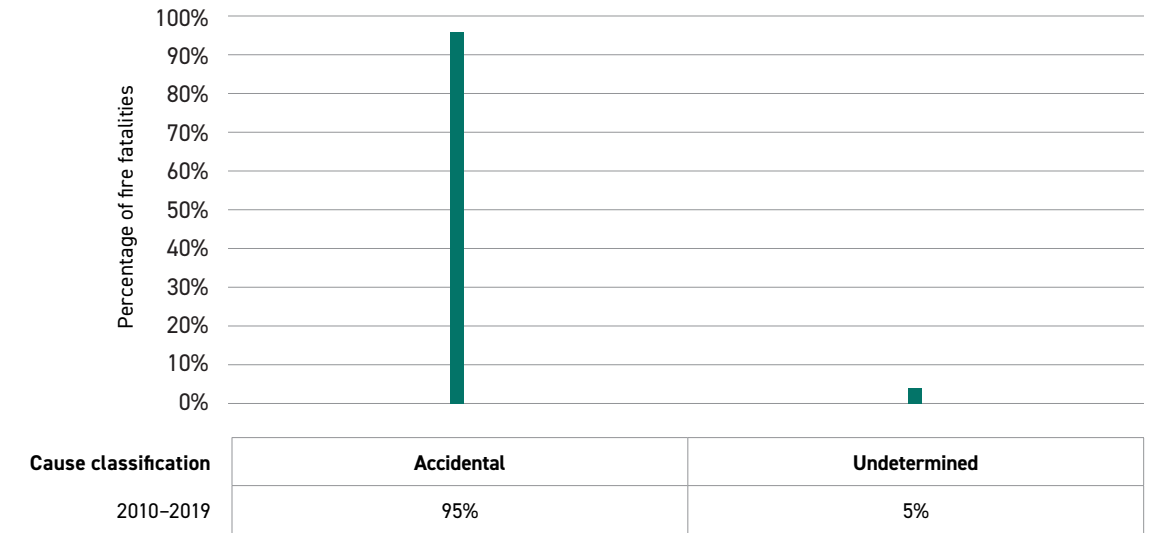


Source: OFMEM records

Conclusion

The rate of structure fire fatalities where electricity fuelled the ignition source or where fires were from electrical distribution equipment has decreased 30% when comparing 2010 to 2019.

4 PERCENTAGE OF STRUCTURE FIRE FATALITIES WHERE ELECTRICITY IS THE FUEL OF THE IGNITION SOURCE BY CAUSE CLASSIFICATION IN ONTARIO, 2010-2019 (CLOSED FIRE INVESTIGATIONS ONLY)

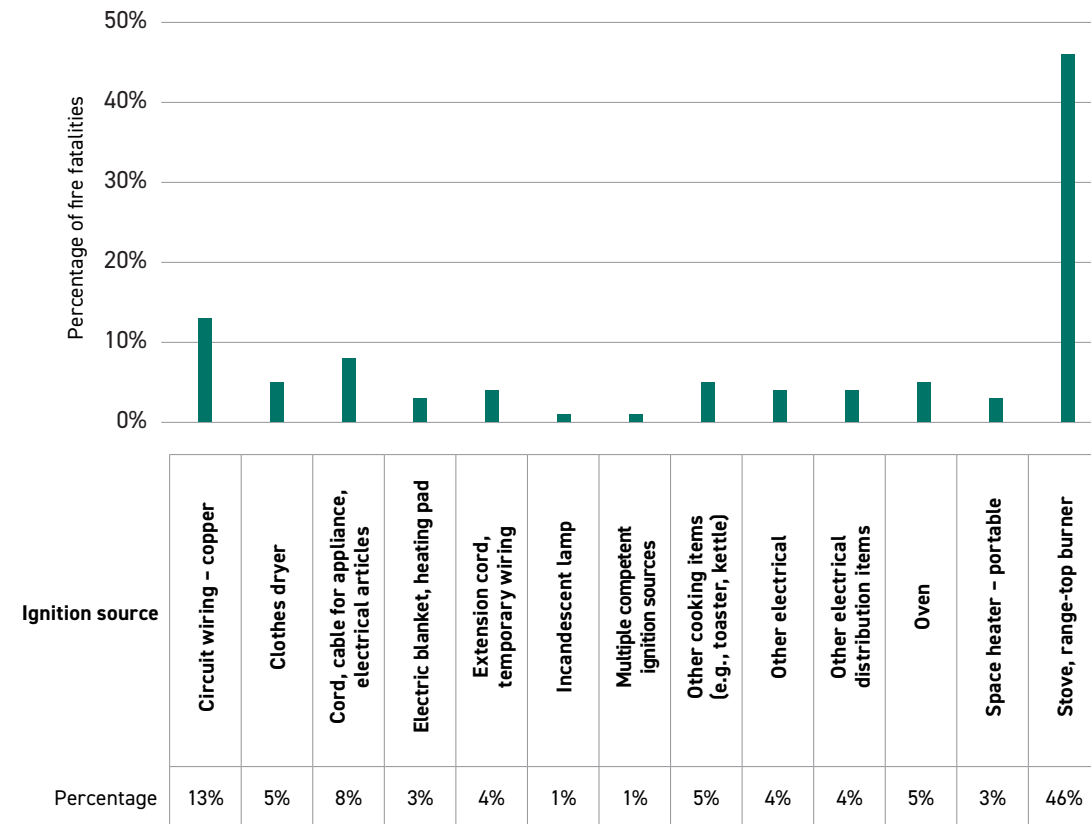


Source: OFMEM records

Conclusion

Almost all structure fire fatalities (95%) where electricity fuelled the ignition source or where the fires were from electrical distribution equipment were accidental.

5 PERCENTAGE OF STRUCTURE FIRE FATALITIES WHERE ELECTRICITY WAS THE FUEL OF THE IGNITION SOURCE BY IGNITION SOURCE IN ONTARIO, 2010-2019 (CLOSED FIRE INVESTIGATIONS ONLY)



Source: OFMEM records

Conclusion

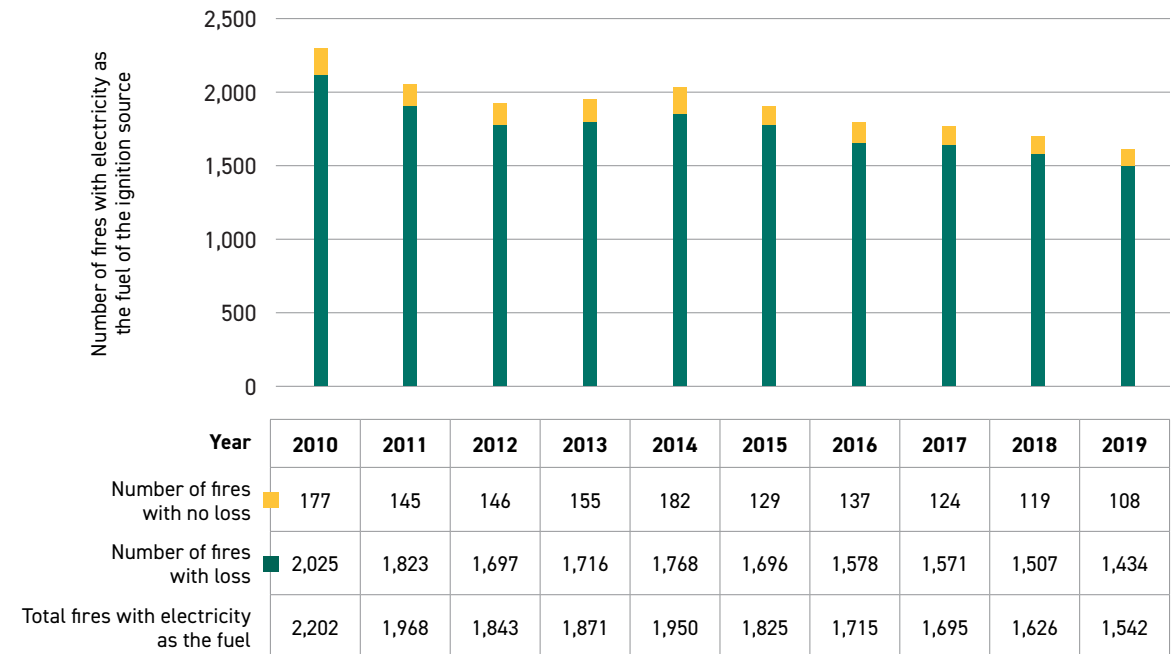
The stove (46%) remains the most common ignition source when examining structure fire fatalities where electricity fuelled the ignition source or where the fires were from electrical distribution equipment in the most recent ten-year period.

4.2 Fire Incidents with Electricity as the Fuel of the Ignition Source of the Fire

Among OBC structures, where electricity was the fuel of the ignition source of the fires, there were 16,815 loss fires and 1,422 no-loss fires for a total of 18,237 structure fires from 2010 to 2019. Over the same time period, there was a 29% decrease in structure-loss fires and a 30% decrease in total structure fires.

Between 2015 and 2019, 81% of structure fires occurred in the residential setting. Cooking equipment (47%), electrical distribution equipment (24%), and appliances (12%) remained the most common ignition sources in these fires.

1 NUMBER OF STRUCTURE FIRES WITH ELECTRICITY AS THE FUEL OF THE IGNITION SOURCE IN ONTARIO, 2010-2019 (OBC STRUCTURES ONLY)

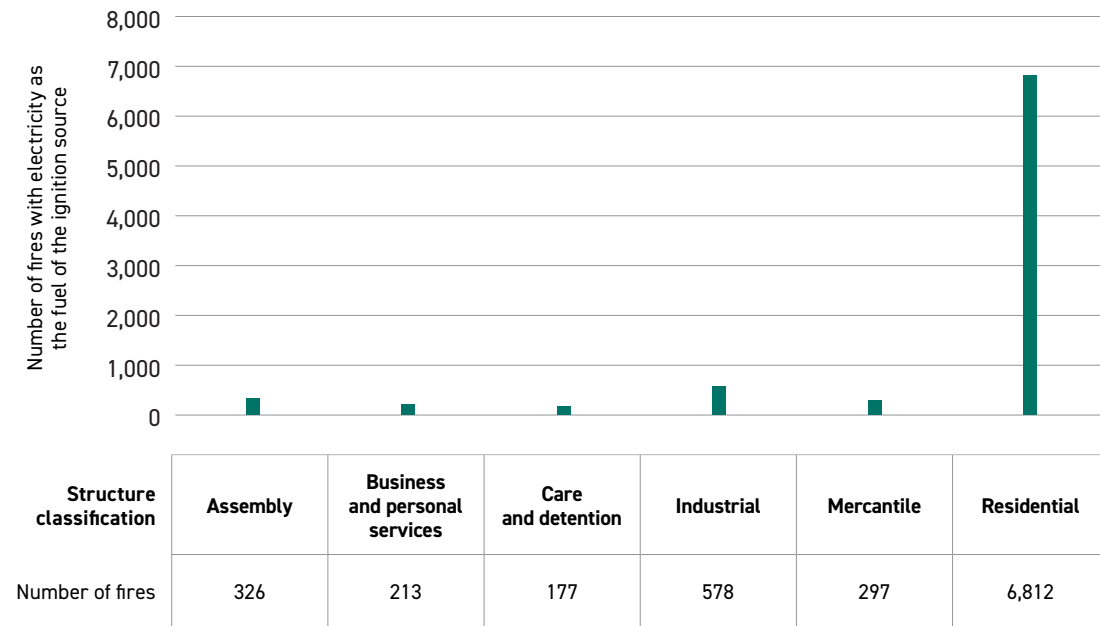


Source: OFMEM records

Conclusion

In 2019, the total number of structure fires where electricity was the fuel of the ignition source decreased by 5% when compared to 2018.

2 NUMBER OF FIRES WITH ELECTRICITY AS THE FUEL OF THE IGNITION SOURCE BY STRUCTURE CLASSIFICATION IN ONTARIO, 2015-2019 (OBC STRUCTURES ONLY)

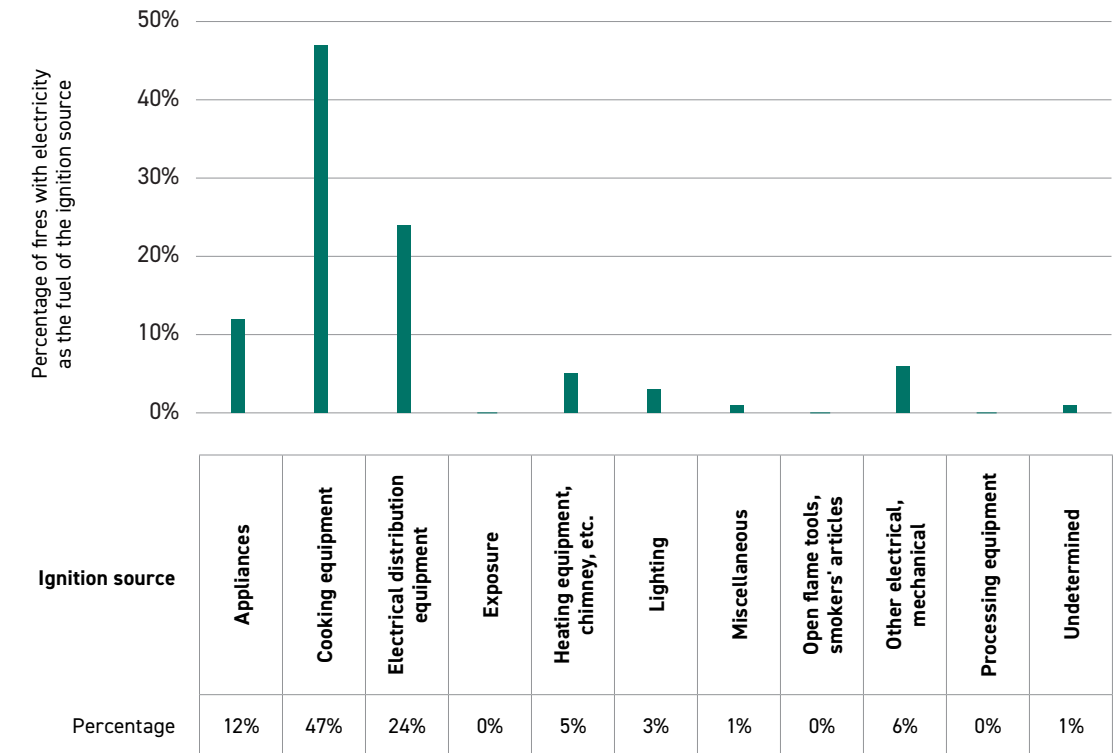


Source: OFMEM records

Conclusion

Residential structures were the most common structures (81%) for fires where electricity was the fuel of the ignition source between 2015 and 2019.

3 PERCENTAGE OF RESIDENTIAL FIRES WITH ELECTRICITY AS THE FUEL OF THE IGNITION SOURCE BY IGNITION SOURCE IN ONTARIO, 2015-2019



Source: OFMEM records

Conclusion

Cooking equipment and electrical distribution equipment were the leading sources in residential fires when electricity fuelled the ignition source.

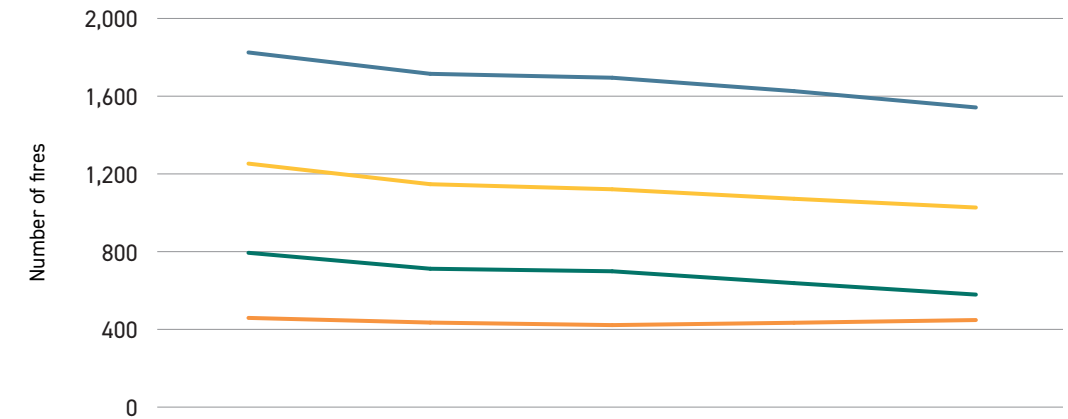
4.3 Cooking Fires with Electricity as the Fuel of the Ignition Source of the Fire

The National Fire Protection Association found that households that used electric ranges had a higher risk of cooking fires and associated losses than those using gas ranges. Their research also showed that a disproportionate share of home cooking fires were reported in apartments or other multi-family homes (Ahrens, 2017).

In a review of home fires in 2007, the major cause of home fires in Canada from British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, New Brunswick, Nova Scotia, and the Northwest Territories was cooking fires (20%) (Wijayasinghe, 2011). In Ontario, from 2015 to 2019, there were 3,422 structure fires where the ignition source was cooking equipment fuelled by electricity. Of those, 94% occurred in homes. Since 2015, there has been a 27% decrease in this type of fire. Stove and range-top burners were the leading ignition source, followed by the oven and other cooking items. The overwhelmingly cited possible cause to these cooking fires was leaving the stove or range-top burner unattended.

The OFMEM fire-loss reporting system identified cooking equipment as one of the leading ignition sources associated with preventable home injuries. Residential fires that were ignited from cooking equipment that used electricity accounted for an annual average of 123 injuries among civilians and an average of four fatalities between 2015 and 2019. In this time period, cooking equipment was the leading ignition source in fires from electrical products or where electricity fuelled the ignition source.

1 NUMBER OF COOKING EQUIPMENT AND ELECTRICAL DISTRIBUTION EQUIPMENT FIRES IN ONTARIO, 2015-2019 (OBC STRUCTURES ONLY)



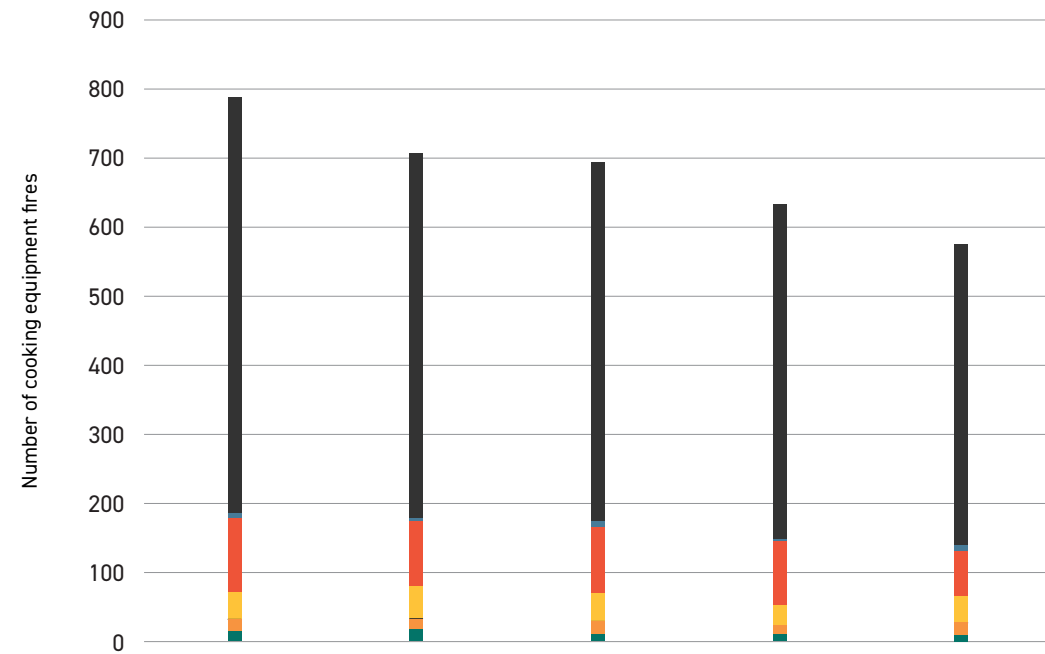
Year	2015	2016	2017	2018	2019
Cooking equipment	794	712	699	638	579
Electrical distribution equipment	459	435	422	434	448
Total cooking equipment and electrical distribution equipment fires	1,253	1,147	1,121	1,072	1,027
Total fires with electricity as the fuel	1,825	1,715	1,695	1,626	1,542

Source: OFMEM records

Conclusion

The number of structure fires from cooking equipment (where electricity fuelled the ignition source) and electrical distribution equipment (where electricity fuelled the ignition source) has decreased by 18% when compared to 2015.

2 NUMBER OF COOKING EQUIPMENT FIRES WITH ELECTRICITY AS THE FUEL OF THE IGNITION SOURCE BY SOURCE IN ONTARIO, 2015-2019 (OBC STRUCTURES ONLY)



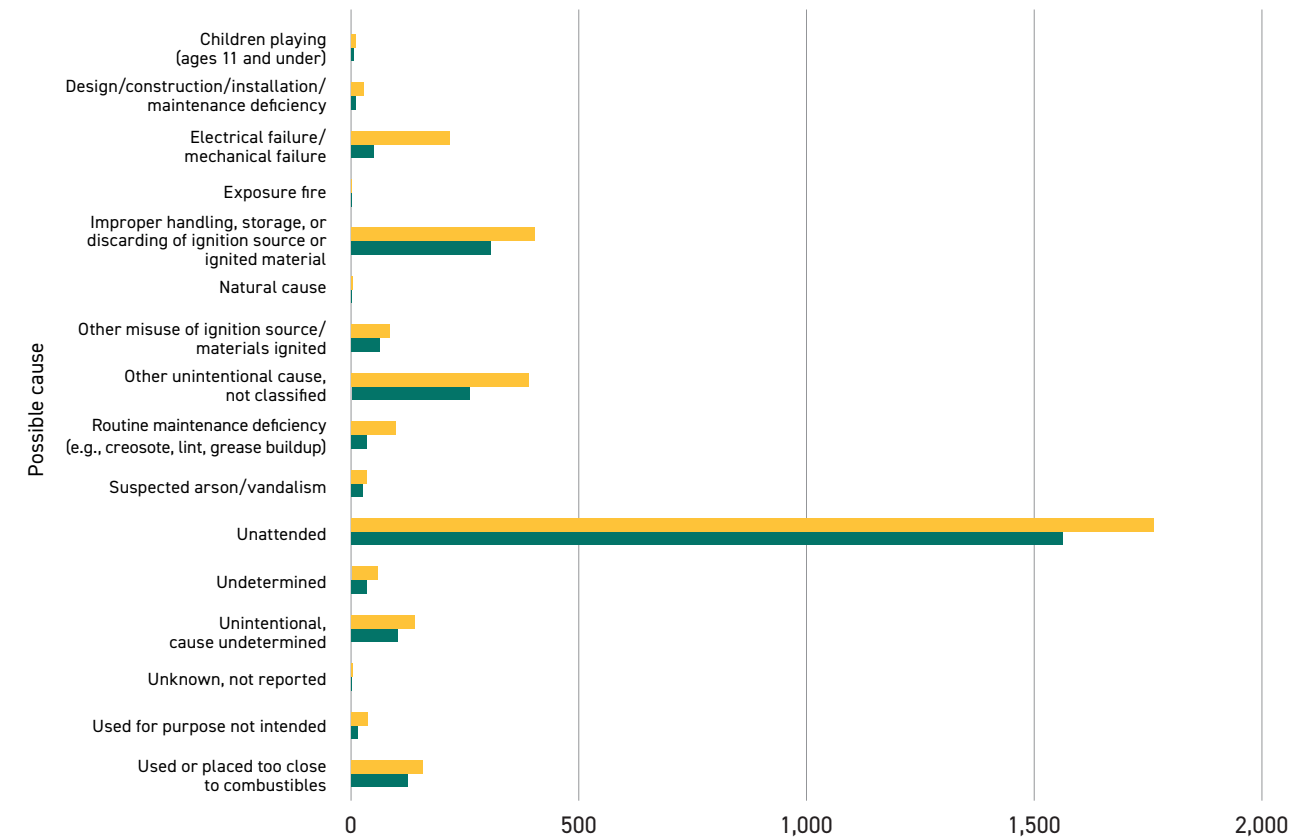
Year	2015	2016	2017	2018	2019
Stove, range-top burner	607	533	524	489	439
Range hood	7	4	9	4	8
Oven	108	95	95	92	67
Other cooking items	40	47	42	29	38
Open fired barbecue - fixed or portable	0	0	0	1	0
Microwave	18	16	19	13	18
Deep fat fryer	14	17	10	10	9

Source: OFMEM records

Conclusion

Stoves and range-top burners were the leading sources (76%) of cooking equipment fires between 2015 and 2019.

3 NUMBER OF STOVE-TOP FIRES VS. COOKING EQUIPMENT FIRES BY POSSIBLE CAUSE IN ONTARIO, 2015-2019 (OBC STRUCTURES ONLY)



Possible cause	Children playing (ages 11 and under)	Design/construction/installation/maintenance deficiency	Electrical failure/mechanical failure	Exposure fire	Improper handling, storage, or discarding of ignition source or ignited material	Natural cause	Other misuse of ignition source/materials ignited	Other intentional cause, not classified	Routine maintenance deficiency (e.g., creosote, lint, grease buildup)	Suspected arson/vandalism	Unattended	Undetermined	Unintentional, cause undetermined	Unknown, not reported	Used for purpose not intended	Used or placed too close to combustibles
Stove-top fires	5	9	50	1	306	2	62	259	33	25	1,563	35	103	2	14	123
Cooking equipment fires	9	30	228	1	415	5	78	428	103	32	1,941	60	147	2	46	156

Source: OFMEM records

Conclusion

Leaving cooking fires unattended was the most common cause of stove-top and cooking equipment fires between 2015 and 2019.

4.4 Electrical Distribution Equipment Fires with Electricity as the Fuel of the Ignition Source of the Fire

The OFMEM defines electrical distribution equipment as electrical wiring, devices, or equipment where the primary function is to carry current from one location to another. Thus, wiring, extension cords, terminations, electrical panels, and cords on appliances are considered electrical distribution equipment. This is not to be confused with utility equipment from Local Distribution Companies.

Among OBC structures, in the five-year period between 2015 and 2019, the OFMEM identified 2,198 fires as electrical distribution equipment fires with electricity as the fuel of the ignition source, in which 94% were identified as loss fires. The five-year rolling average of electrical distribution equipment loss structure fires has decreased by 13% between 2010–2014 and 2015–2019.

The most common ignition source of electrical distribution equipment fires was circuit wiring (aluminum and copper), and the number of fires from this source has decreased by 20% when comparing 2010–2014 and 2015–2019. Electrical/mechanical failure is the most common possible cause in these types of fires.

Between 2012 and 2016, there was an estimated average of 35,150 home fires involving electrical distribution and lighting equipment in the U.S. This caused an estimated average of 490 deaths, 1,200 injuries each year in 2012–2016, as well as an estimated \$1.3 billion in direct property damage per year (Campbell, 2019).

Electrical distribution or lighting equipment accounted for 6% of home structure fires between 2003 and 2007, ranking fourth among major causes behind cooking equipment, heating equipment, and intentional home fires. Electrical distribution or lighting equipment also accounted for 12% of associated deaths (ranking behind smoking materials, heating equipment, and cooking equipment) (Hall, 2008).

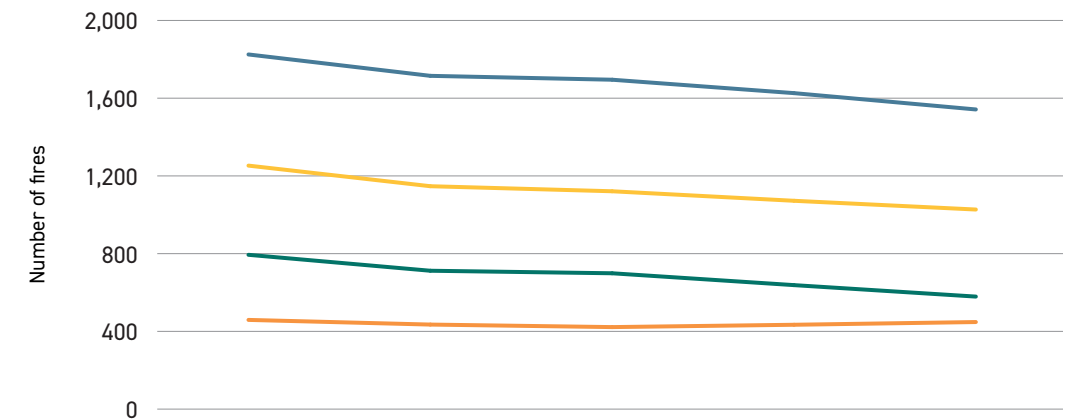
Section 4.5 provides a case study that is representative of the risk factors associated with electrical distribution equipment fires.

Statistics Directly Related to the ESA's Harm Reduction Priorities – AGING INFRASTRUCTURE AND DISTRIBUTION EQUIPMENT FIRES

Number of electrical wiring-related fires: this includes fires from copper and aluminum wiring, extension cords, appliance cords, terminations, and electrical panels – electrical devices categorized by the OFMEM as electrical distribution equipment.

The five-year rolling average for electrical distribution equipment structure loss fires related to aging infrastructure has decreased by 13% between 2010–2014 and 2015–2019.

1 NUMBER OF COOKING EQUIPMENT AND ELECTRICAL DISTRIBUTION EQUIPMENT FIRES IN ONTARIO, 2015–2019 (OBC STRUCTURES ONLY)



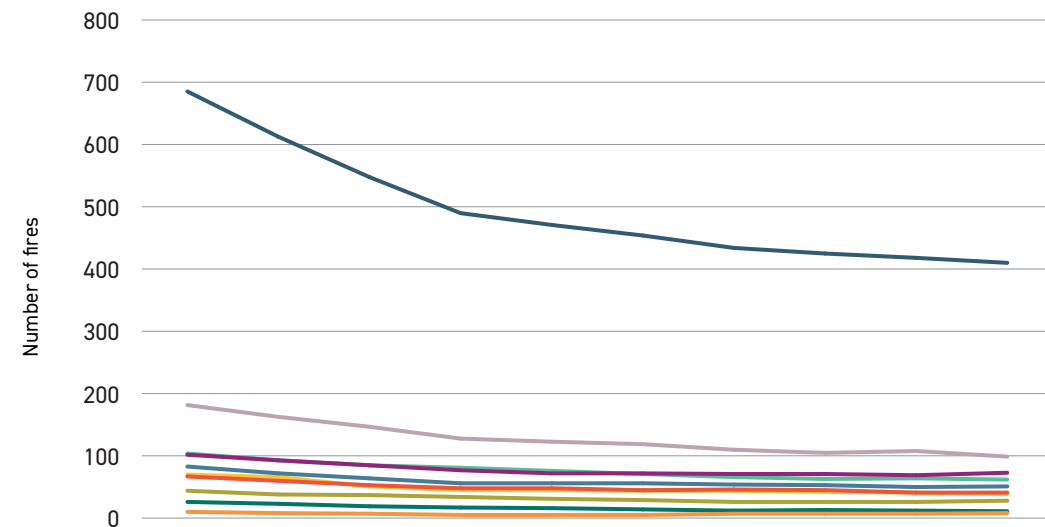
Year	2015	2016	2017	2018	2019
Cooking equipment	794	712	699	638	579
Electrical distribution equipment	459	435	422	434	448
Total cooking equipment and electrical distribution equipment fires	1,253	1,147	1,121	1,072	1,027
Total fires with electricity as the fuel	1,825	1,715	1,695	1,626	1,542

Source: OFMEM records

Conclusion

The total number of electrical distribution equipment structure fires has decreased 2% since 2015.

2 FIVE-YEAR AVERAGE NUMBER OF ELECTRICAL DISTRIBUTION EQUIPMENT STRUCTURE-LOSS FIRES BY IGNITION SOURCE IN ONTARIO, 2006-2019 (OBC STRUCTURES ONLY)



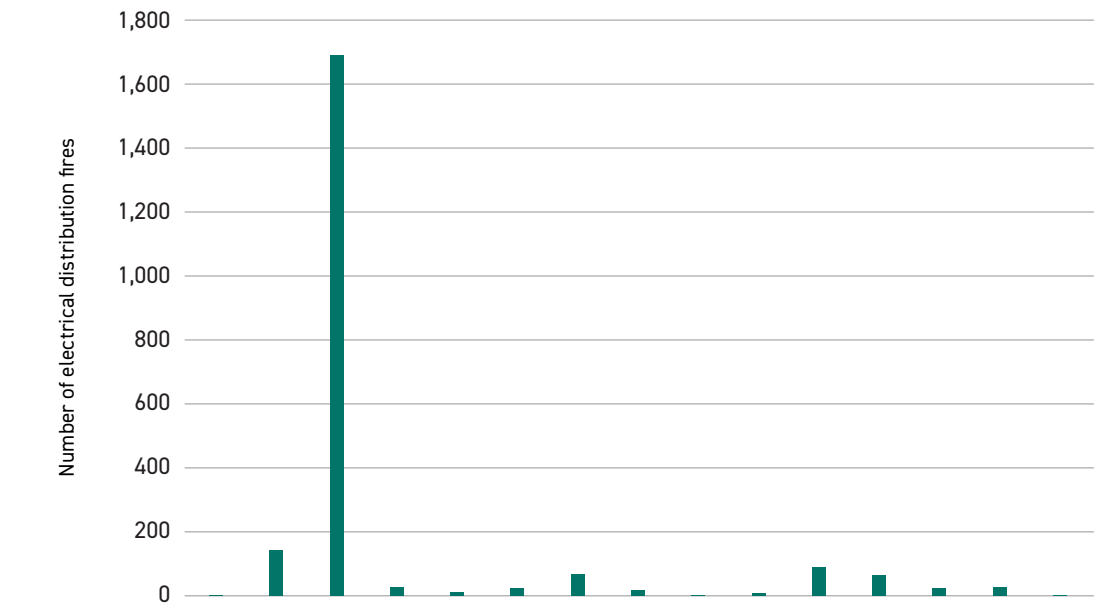
Five-year period	2006-2010	2007-2011	2008-2012	2009-2013	2010-2014	2011-2015	2012-2016	2013-2017	2014-2018	2015-2019
Circuit wiring - Al, Cu (includes conductors)	178	163	147	128	123	119	110	105	108	99
Cord, cable for appliance, electrical articles	99	93	85	77	72	72	71	71	69	73
Distribution equipment (includes panel boards, fuses, circuits)	99	93	85	81	76	71	66	63	64	62
Extension cord, temporary wiring	66	60	53	48	48	45	46	45	41	41
Metre	9	8	7	5	5	5	7	7	7	8
Other electrical distribution item	78	72	64	56	56	56	54	53	50	51
Service/utility lines (includes power/hydro transmission lines)	38	38	37	34	31	29	26	26	26	28
Terminations - Al, Cu (includes receptacles, switches, lights)	69	66	51	45	45	44	44	42	41	39
Transformer	23	23	19	17	16	14	12	13	12	11
Total	659	614	549	491	472	455	435	426	419	411

Source: OFMEM records

Conclusion

Circuit wiring - aluminum and copper remained the leading ignition source in electrical distribution equipment fires between 2006 and 2019. The five-year rolling average of electrical distribution equipment loss structure fires shows a 13% decrease between 2010-2014 and 2015-2019.

3 NUMBER OF ELECTRICAL DISTRIBUTION EQUIPMENT FIRES BY POSSIBLE CAUSE IN ONTARIO, 2015-2019



Possible cause	Children playing (ages 11 and under)	Design/construction/installation/maintenance deficiency	Electrical/mechanical failure	Improper handling/storage/discard of ignition source or ignited material	Natural cause	Other misuse of ignition source/material ignited	Other unintentional cause, not classified	Routine maintenance deficiency (e.g., creosote, lint, grease buildup)	Suspected vandalism	Unattended	Undetermined	Unintentional, cause undetermined	Used for purpose not intended	Used or placed too close to combustibles	Vehicle collision
Number of electrical distribution fires	1	143	1,696	26	12	22	69	16	1	9	89	64	22	26	2

Source: OFMEM records

Conclusion

Electrical/mechanical failure was the leading cause of electrical distribution structure fires between 2015 and 2019.

4.5 Case Study: Fire from Electrical Distribution Equipment

A ceiling joist fire causing a fatality and \$1,250,000 damage to the property due to electrical wiring.

A fire in the open joist ceiling of the laundry room in a two-and-a-half storey detached home resulted in a fatality and excessive damage. The fire was investigated by the local fire department, the police, and the Office of the Fire Marshal and Emergency Management. The ignition source was identified as electrical.

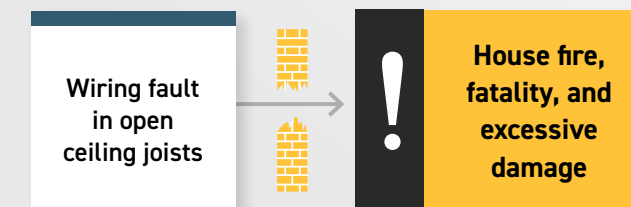
Some of the resulting damages in the house were:

- Light soot on the interior of remaining glass inside window frames, more so on first-floor windows than second-floor windows (windows were blown out during fire suppression);
- Minor exterior smoke damage but minimal fire damage. More concentrated smoke damage towards the north side of the house;
- The main floor and second floor of the house sustained mostly heat and smoke damage, except for some fire damage on the main floor closest to the basement stairs. This fire damage travelled down the hallway towards the kitchen. The remainder of the floor suffered smoke damage;
- Fire broke through stud areas in the second floor on the north side;
- The third floor could not be accessed due to consumption of the roof in that area;
- The library, located along the north side on the main floor, sustained low fire damage along the south wall of the room. Fire was from below, and when sections of the hardwood floor were cut out, signs of charring were observed;
- The basement stairwell sustained charring to the ceiling with "V" patterns of fire damage on both sides of the stairwell;
- In the basement, fire damage was mostly concentrated in the laundry room along the north wall above the electrical panel and in the floor space joining the laundry room to the library above;
- There was no fire damage below the electrical panel;
- The rest of the basement sustained mostly smoke damage with a main door to access the laundry room; and
- The entry door sustained mostly smoke damage to the outside, but was severely charred on the laundry room side.

Two people were in the house at the time of the fire when a smoke alarm activated. They were both leaving the house when one of them went back in the house for an unknown reason. When firefighters arrived, one person was outside and informed them that another person was still in the house. Firefighters found this person in a bedroom on the second floor. This person succumbed to their injuries.

Investigation findings:

- The point of origin of the fire was determined to be in the ceiling joists just west of the electrical panel at the north end of the laundry room;
- Ignition sources in the area were limited to electrical wiring;
- Wiring was not properly supported in accordance with the Ontario Electrical Safety Code along the joists. Specifically, branch wiring from the panel running through the stud cavity where there was the most severe fire damage was not secured; and
- Evidence of arcing in the branch wiring in the area of origin was identified.



5.0 Product Safety

Ontario Regulation 438/07 *Product Safety* enables the ESA to address the safety of electrical products and equipment offered for sale, sold, and used in Ontario. Requirements outlined under O. Reg 438/07 as of July 1, 2008 specify that manufacturers, importers, distributors, wholesalers, retailers, certification bodies, and field evaluation agencies are required to report serious electrical incidents and defects to the ESA.

O. Reg 438/07 authorizes the ESA to protect the public against potentially unsafe electrical products in the marketplace by:

6. Responding to product safety reports;
7. Removing potentially unsafe, counterfeit, and unapproved electrical products from the marketplace;
8. Requiring manufacturers to notify the public of potentially unsafe products; and
9. Implementing prevention-based and proactive detection activities.

The ESA has developed target response strategies for various potentially unsafe products.

The *Canada Consumer Product Act* in 2011 created concurrent product safety systems for consumer electrical products in Ontario, including mandatory reporting obligations to the ESA and Health Canada. In June 2013, the Ministry of Government and Consumer Services (MGCS) amended the O. Reg 438/07 *Product Safety* to revoke the mandatory reporting requirements. As a result, manufacturers, importers, distributors, wholesalers, retailers, certification bodies, and field evaluation agencies are no longer required to report serious electrical incidents and defects with consumer electrical products to the ESA. All incidents involving consumer electrical products are now handled by Health Canada.

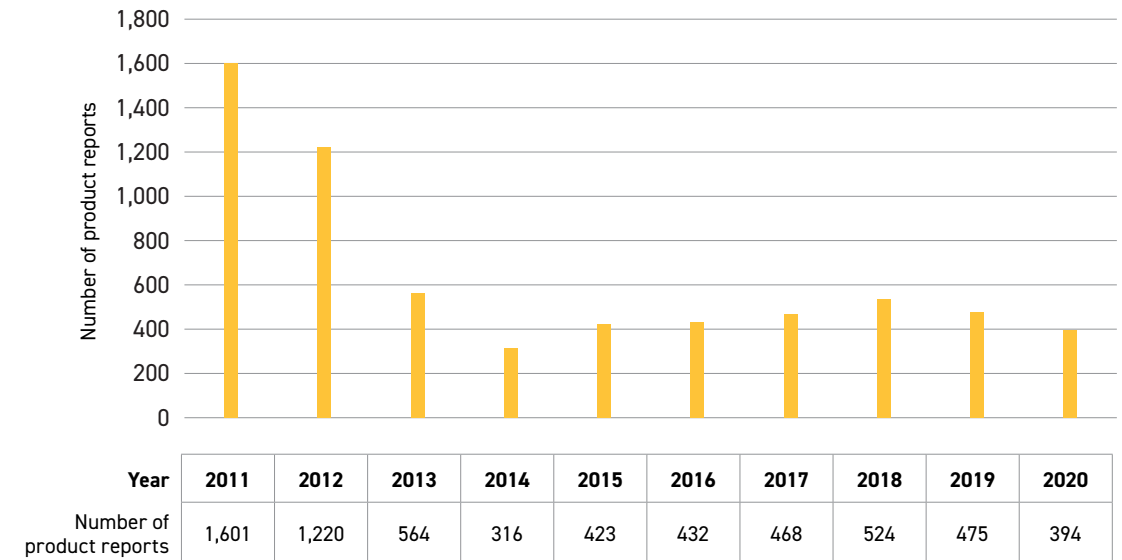
In 2020, Health Canada received 1,986 product reports, of which 99 reports were about electric ranges or ovens, where the top hazards included excessive heat/overheating, fire, and sharp edges or points. None of these reports were associated with deaths, although 15% mentioned injuries (Health Canada, 2020). In 2020, there was a higher number of consumer products reported in July compared to the rest of 2020 or compared to 2019, where there were more consumer reports of "electric ranges or ovens" and "surge suppressors or powerstrips" during July compared to other months. Between 2009 and 2018, kitchen appliances were the most frequently reported electrical/electronic product, followed by heating and cooling appliances and lighting (LaRiccia, 2019).

Since 2011, there has been a 75% decrease in the number of product incidents reported to the ESA. During this time period, the highest number of incident reports occurred in 2011. In 2020, there were 394 reports. Compared to the previous year of 2019, this is a decrease of 17%.

In 2020, all product safety investigations initiated by the ESA were a result of voluntary reporting. Eighty percent (314 reports) were assigned to be Priority 2, which meant that the ESA could direct a range of corrective action plans to assure that no further serious incidents or accidents could occur.

In 2020, 86% of product incident reports were concerned with unapproved products (products that have not been tested and evaluated to the applicable Canadian Safety Standards and may not be safe to use). A smaller percentage of reports dealt with certified products (products that were properly certified but reported to have a safety problem or a perceived safety problem), or products with a suspected counterfeit label, or the product required corrective action.

1 NUMBER OF PRODUCT INCIDENT REPORTS SUBMITTED TO THE ESA IN ONTARIO, 2011-2020

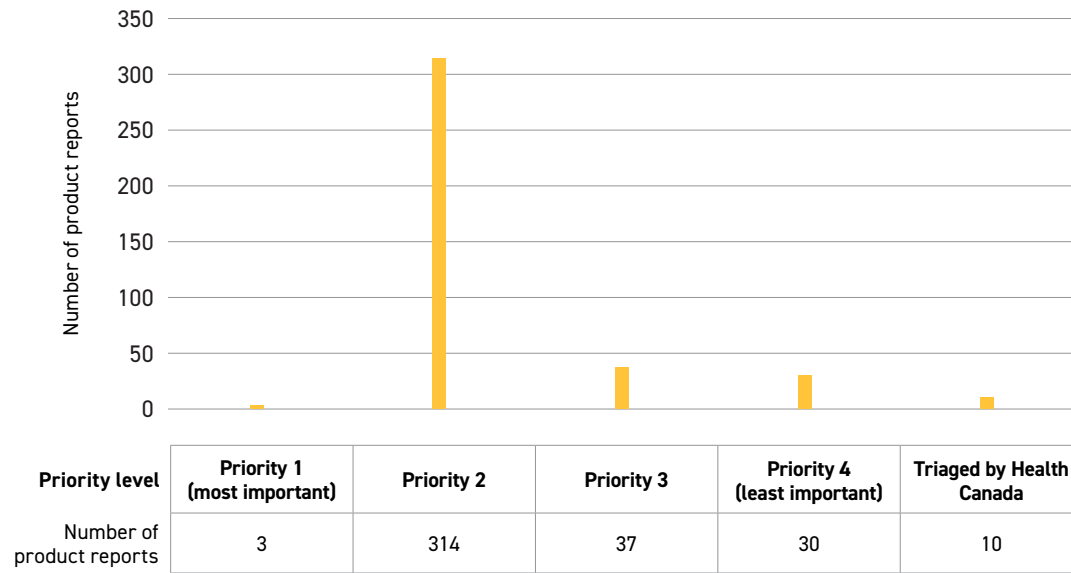


Source: ESA records

Conclusion

Mandatory reporting to ESA was introduced in 2008 with the introduction of Ontario Regulation 438/07. In 2011, the *Canada Consumer Product Act* was introduced which included mandatory reporting to Health Canada as well. In 2013, mandatory reporting to ESA was removed as a result of amendments in the Regulation; a 66% in product incident reports between 2011 and 2013 was observed. Between 2014 and 2020, there has been a 25% increase in product incident reports.

2 NUMBER OF PRODUCT INCIDENT REPORTS BY PRIORITY LEVEL IN ONTARIO, 2020

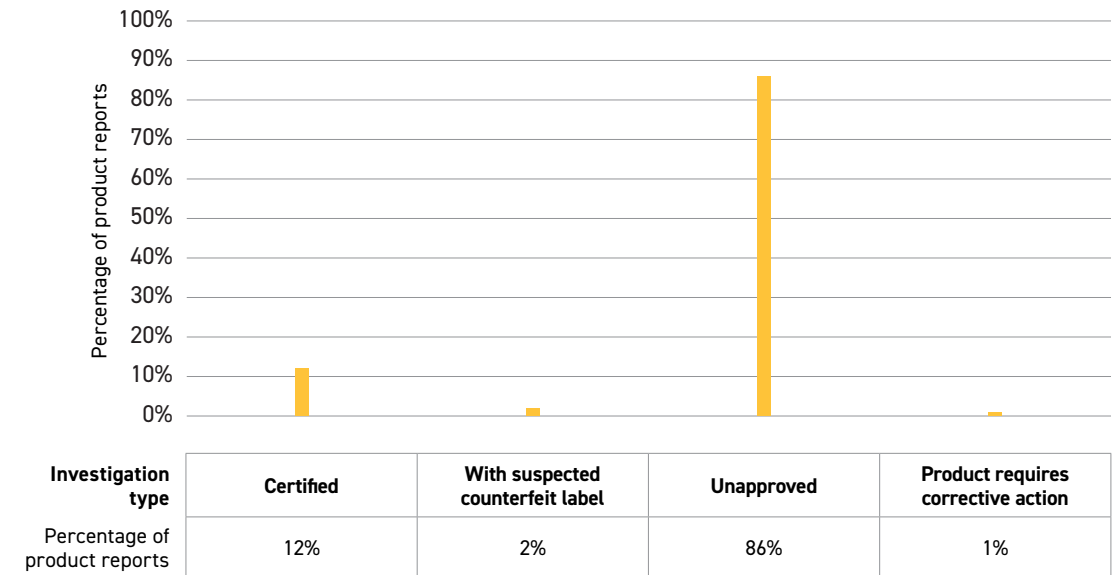


Source: ESA records

Conclusion

In 2020, 80% of electrical incident reports to the ESA were classified as Priority 2.

3 PERCENTAGE OF PRODUCT INCIDENT REPORTS BY TYPE IN ONTARIO, 2020



Source: ESA records

Conclusion

In 2020, 86% of electrical incident reports were from unapproved electrical products.

6.0 Electrical Incident Review

Information about electrical incidents that are reported to ESA is collected so that a trend analysis can be made. This allows the ESA to understand the current and potential electrical risks, and to assess compliance with applicable legislative and regulatory requirements. An incident review is conducted for all known incidents that are electrical in nature, or have the potential to be electrical in nature, which involve equipment/tools/devices that fall under the jurisdiction of ESA, and meets one or more of the following criteria:

1. The incident review has the potential to provide ESA or the Authority Having Jurisdiction requesting the review the opportunity to gain a better understanding of the potential harm;
2. Conducting the incident investigation may potentially address key electrical safety concerns in a proactive manner; and/or
3. When the circumstances of the current electrical incident warrant greater surveillance including but not limited to, situations where newer technology is involved, or the electrical incidents fits within the scope of a high-risk harm

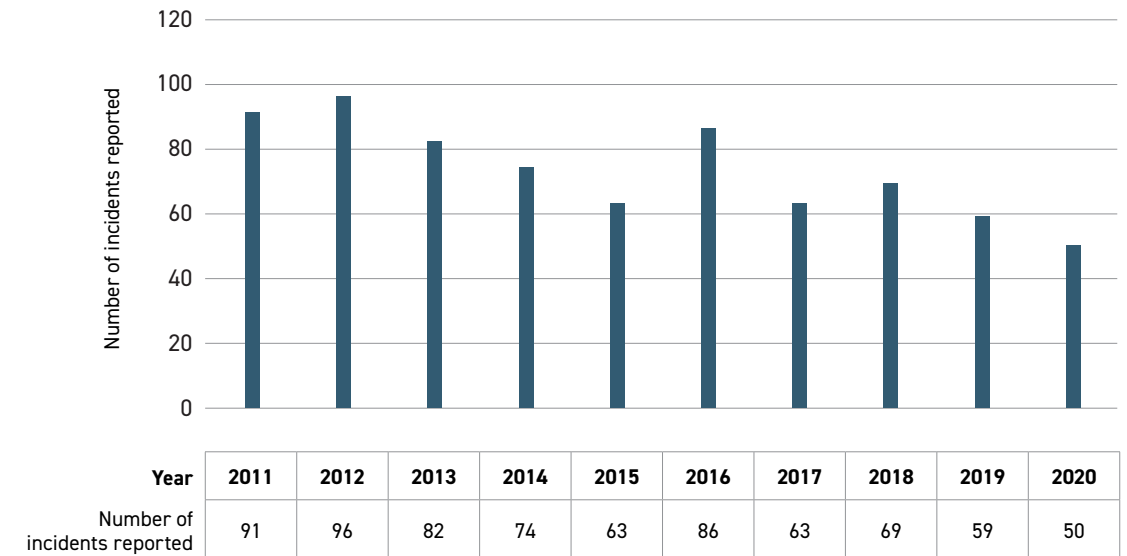
The following information is a summary of what is reported to ESA's electrical incident database. This includes:

1. General incidents, where serious or non serious electrical incidents where the cause and conditions leading to the incident are apparent and straightforward, and do not require in-depth fact finding inquiry; and
2. Root cause incidents, which are conducted for serious or non-serious electrical incident where the cause and conditions leading to the incident are complex in that there are multiple causes and/or many conditions present that could contribute to the incident, and it requires in-depth fact-finding inquiry.

Between 2011 and 2020, 732 electrical incidents were reported and reviewed by the ESA. Six fatalities and 11 injures related to unapproved consumer electrical products were reported during this time period.

In 2020, 50 incidents were reported to the ESA. This is 15% decrease from 2019. Twenty-eight percent of these incidents involved utility infrastructure, and 28% of incidents involved powerlines. Sixty-four percent of reported incidents were occupational. Aside from unknown (46%), the most common cause of these incidents were "improper procedure" (20%) or "incorrect installation" (10%). In 2020, there were no incident reports of unsafe electrical products related to injury or death. A list of incidents reviewed from 2011 and 2020 can be found in Appendix A of this report.

1 NUMBER OF INCIDENTS REPORTED AND REVIEWED BY ESA



Source: ESA records

Conclusion

In 2020, 50 incidents were reported and reviewed to the ESA; this is a 15% decrease from 2019.

Acknowledgements

The ESA acknowledges and thanks the Ontario Ministry of Labour, Training and Skills Development (MOLTSD) for providing information, notifying the ESA of occupational electrical injuries, and co-operating with the ESA in the investigation of these incidents.

The ESA thanks the Office of the Fire Marshal and Emergency Management (OFMEM) for its continuing support in providing information on fire-related electrical incidents, partnering with the ESA on stove-top fire initiatives, and notifying the ESA of electrical fire incidents.

The ESA also thanks the following organizations for their support:

- The Office of the Chief Coroner for Ontario for sharing coroners' information on electrical-related fatalities and other deaths in Ontario;
- The Workplace Safety and Insurance Board of Ontario (WSIB) for providing occupational injury information; and
- The Canadian Institute of Health Information (CIHI) for providing information on emergency department visits for electrical injury.

Development of this report was led by a team from the ESA, including Freda Lam, Said Ismail, and Joel Moody, with assistance from staff of the ESA's Utility Regulations, Product Safety, and Communications departments.

Methodology

The ESA receives data from various resources to compile this report. These include the Office of the Chief Coroner, the MOLTSD, the Association of Workers' Compensation Boards of Canada (AWCBC), the OFMEM, and the WSIB. The ESA then cross-references these data with the coroners' reports, OFMEM's reports, and the ESA's root-cause investigation data to ensure accuracy and understanding of the incidents. Data on non-serious incidents are taken as provided.

The Electrical Safety Authority's Data

The ESA uses Ontario population estimates and projections from Ontario's Ministry of Finance (Historical and projected population for Ontario under three scenarios, 2018–2045, Part A and B: Estimates and Projections) to determine electrocution and death by fire as rate per population, and Statistics Canada labour force population estimates (Table 14-10-0287-03) to determine occupational injury rates.

The 2011 to 2020 electrocution statistics are based on Ontario coroners' reports, ESA records, and MOLTSD reports. At time of writing, OFMEM fire fatality information is only partially completed due to pending investigations and confirmations.

Data provided by the Office of the Chief Coroner takes precedence over other data in the event of discrepancies.

The electrocution and electrical burn fatality cases in the report are unintentional in nature. Suicide and deliberate attempts to injure are excluded, as well as deaths by lightning strikes. Electrocution from criminal activities such as theft of power, vandalism, pranks, or vehicles hitting a utility pole are counted as part of the statistics but are not included as part of preventable deaths. Death resulting from a fall but initiated by an electrical contact to a worker would not be recorded as an electrical-related fatality and therefore would not be accounted for in electrical injury data.

This report separates occupational and non-occupational (the general public) incidents for reasons of stakeholder interest and to aid in identifying strategies to reduce harm.

Workplace Safety Insurance Board Data

The WSIB defines lost time injuries (LTIs) as all allowed claims by workers who have lost wages as a result of a temporary or permanent impairment. LTI counts include fatalities. This data is provided by WSIB Enterprise Information Warehouse, as of June 15, 2020, for all injury years.

Allowed LTIs for electrical burns and electrical-related fatalities are based on the following CSA Z795-96 nature of injury codes:

- 05200 Electrical burns;
- 05201 First-degree electrical burns;
- 05202 Second-degree electrical burns;
- 05203 Third-degree electrical burns;
- 05290 Electrical burns, N.E.C.; and
- 09300 Electrocutions, electric shocks.

Emergency Department Visits

Separations data from the National Ambulatory Care Reporting System were provided by the Canadian Institute for Health Information (CIHI). Emergency department separation data used in this report are classified according to the Canadian Modification of the 10th revision of the International Classification of Diseases (ICD-10-CA). The inclusion criterion for the report was the presence of T75.4, T75.0, W85, W86, W87, or X33 codes indicating an electrical injury, including being a victim of lightning, among any of the diagnosis or external cause codes assigned to a record.

Reliability of Data

The numbers and figures in this report are based on current information provided to the ESA as of July 13, 2021. Parts of this material are based on data and information provided by the Canadian Institute for Health Information. However, the analyses, conclusions, opinions, and statements expressed herein are those of the author, and not necessarily those of the Canadian Institute for Health Information. These numbers may change in subsequent reports due to additional information received after the publication of the report. These changes and explanations will be noted in future reports.

Fire Source Data

The OFMEM reports its data by calendar year. Data collection and verification for the year has a one-year lag in reporting in the OESR. The OFMEM does not publish Ontario statistics until all fire departments have reported. The larger departments – Toronto and Hamilton – generally do not finish their filing until June of the following year. At the time of writing, some OFMEM data for 2020 is unavailable and data for 2019 is presented instead. The number of fire incidents and fire fatalities are current as of April 19, 2021, and are considered to be the most accurate at this point in time.

The OFMEM provides information on all fire incidents except for those on federal or First Nations properties. Likewise, information on fire fatalities does not include those on federal or First Nations properties, nor fire deaths in vehicle accidents.

The ESA reports fire incidents based on data provided by the OFMEM to the ESA on:

- all fires where the ignition source was reported as "electrical distribution equipment" or the fuel of the ignition source was reported as "electricity"; and
- fire incidents and fire fatalities investigated by the OFMEM where the ignition source was reported as "electrical distribution equipment" or the fuel of the ignition source was reported as "electricity".

In addition, the ESA conducts its own investigation of fires when called by the local fire department to assist or when jointly investigating fire incidents with the OFMEM. The ESA presents data that are consistent with the reporting convention of the OFMEM. Fires are reported by ignition source where the fuel of the ignition source was reported as electricity. It is worth noting that with the exception of fires with distribution equipment and fires identified as electricity as the ignition source by the fire departments or the OFMEM, electricity was not the primary fuel associated with the fire. These situations are illustrated below.

In the OESR, these fires will be categorized into two types of fires. These are:

1. Fires caused by the ignition of combustibles (liquids and solids) around an electrical device, equipment, appliance, or installation, but which were not the direct result of a failure of electrical equipment, devices, electrical current, or arc flash coming into contact with the object. When the primary fuel associated with the fire is not electricity (such as leaving a stove unattended with the oil catching fire), the OFMEM labels these fires as cooking fires rather than electrical fires. In addition, the OFMEM does not recommend using numbers of fire deaths to identify trends and key issues.

Typically, these types of fires were the direct result of misuse of the equipment, device, or appliance. Some examples of these types of fires are:

- grease fires on an electrical stove top as a result of cooking left unattended;
- clothing catching fire while cooking;
- clothes dryer catching fire caused by the appliance overheating due to improper cleaning of the lint cache; and,
- combustibles catching fire around heaters or electronics when they are placed too close to the heat source.

2. Fires caused by the ignition of combustibles around an electrical device, equipment, appliance, or installation and were the direct result of the failure of the device, equipment, or installation. In these cases, typical fires are caused by insulation surrounding electrical wiring failing and igniting a combustible in close proximity, or equipment or devices failing, causing them to overheat and later start a fire. Insulation failure could be caused by natural aging, premature aging resulting from overloading, or by mechanical breakdown of the insulation. Fires related to wiring and wiring devices are classified by the OFMEM as distribution equipment. Please note that the definition of distribution equipment in the fire section is quite different than the distribution equipment in the powerline section of the report.

Examples of these fires are:

- Carpet igniting caused by heat build-up of an extension cord placed under a carpet. Over time the insulation of the extension cord fails due to foot traffic on the cord, which leads to mechanical breakdown of the insulation.
- Electrical wires poorly terminated and an installation performed without using any protective enclosure. Arcing occurs over time, resulting in a fire of combustibles around the wires.
- Fire caused by a failure of a seized motor powered by electricity.

When fire fatality rates are calculated, the ESA displays data as it is calculated by the OFMEM, which uses Statistics Canada population estimates as the denominator. When fire fatality data is added to electrical-related death data, Ministry of Finance population estimates are used as the denominator.

References

- Asgary, A., Rezvani, H., Nosedal-Sanchez, J., & Primiani, J. (2018). Fire and Disasters: Examining Fire Incidents During Major Disasters and Emergencies in Canada. Retrieved from <https://ufv.ca/media/assets/criminology/York-University---Examining-Fire-Incidents-During-Major-Disasters-in-Canada.pdf>.
- Asgary, A., Ghaffari, A., & Levy, J. (2010). Spatial and temporal analyses of structural fire incidents and their causes: A case of Toronto, Canada. *Fire Safety Journal*, 45(1), 44-57.
- Baker, D.E., & Adams, P. (1993). Residential fire detection. University of Missouri-Columbia, Columbia: University Extension.
- Campbell R. (2019). Home electrical fires. National Fire Protection Association (NFPA): USA.
- Council of Canadian Fire Marshals. (2002). Annual Report: Fire losses in Canada. Council of Canadian Fire Marshals and Fire Commissioners: Ottawa.
- Duff, K., & McCaffrey, R.J. (2001). Electrical injury and lightning injury: A review of their mechanisms and neuropsychological, psychiatric, and neurological sequelae. *Neuropsychology Review*, 11(2), 101-16.
- Electrical Safety Foundation International (2021). Retrieved from <https://www.esfi.org/workplace-injury-and-fatality-statistics>.
- Hall, J.R. (2008). Homes Fires Involving Cooking Equipment. National Fire Protection Association, Fire Analysis and Research Division: Quincy, MA.
- Health Canada (2020). Consumer product safety program annual surveillance report: 2020. Retrieved from <https://www.canada.ca/en/health-canada/services/publications/product-safety/consumer-product-safety-surveillance-report/2020.html>.
- Karter, M.J. (2007). Fire Loss in the United States during 2006. National Fire Protection Association, Fire Analysis and Research Division: Quincy, MA.
- Kim, H., Lewko, J., Garritano, E., Moody, J., & Colantonio, A. (2016). Construction fatality due to electrical contact in Ontario, Canada, 1997-2007. *Work*, 54(3), 639-46.
- Koumbourlis, A.C. (2002). Electrical injuries. *Critical Care Medicine*, 30(11) (Suppl):S424-30.
- Koyfman, A and Long, B. The Emergency Medicine Trauma Handbook. New York: Cambridge University Press, 2020.
- LaRiccia, F. (2019, June 19). Electrical consumer product update open session. Presentation presented at the Canadian Advisory Council on Electrical Safety, Ottawa, ON.
- Littelfuse (2020). Shock: Electric's Deadliest Act. Available online at <https://m.littelfuse.com/~media/protection-relays/reports/littelfuse-shock-electricals-deadliest-act-safety-report.pdf>. Downloaded on July 27, 2020.
- Miller, I. (2005). Human Behaviour Contributing to Unintentional Residential Fire Deaths 1997-2003. New Zealand Fire Service Commission Research Report Number 47.
- National Institute for Occupational Safety and Health. (1991). Fatality Assessment and Control Evaluation (FACE) Project Protocol. Division of Safety Research: Morgantown, WV.
- Ontario Fire Marshal (2009). Reducing Residential Stovetop Fires in Ontario: Toronto.
- Ontario Ministry of Finance. (2018). Ontario Population Projections Update, 2017-2041. Queen's Printer for Ontario.
- Radulovic, N., Mason, S.A., Rehou, S., Godleski, M., & Jeschke, M.G. 2019 Acute and long-term clinical, neuropsychological and return-to-work sequelae following electrical injury: a retrospective cohort study. *BMJ Open*, 9:e025990.
- Singerman, J., Gomez, M., & Fish, J. S. (2008). Long-term sequelae of low-voltage electrical injury. *Journal of Burn Care & Research*, 29(5), 773-777.
- Statistics Canada. Table 14-10-0287-01 Labour force characteristics, monthly, seasonally adjusted and trend-cycle, last 5 months. (Accessed July 13, 2021)
- Stergiou-Kita, M., Mansfield, E., Bayley, M., Cassidy, J.D., Colantonio, A., Gomez, M. et al. (2014). Returning to work following electrical injuries: workers' perspectives and advice to others. *J Burn Care Res*, 35(6), 498-507.
- Taylor, A.J., McGwin, G., Valent, F. & Rue, L.W. (2002). Fatal occupational electrocutions in the United States. *Injury Prevention*, 8(4), 306-12.
- Theman, K., Singerman, J., Gomez, M., & Fish, J.S. (2008). Return to work after low voltage electrical injury. *J Burn Care Res*, 29(6): 959-64.
- Wesner, M.L., & Hickie, J. (2013). Long-term sequelae of electrical injury. *Canadian Family Physician*, 59(9), 935-99.
- Wijayasinghe, M. (2011). Fire Losses in Canada Year 2007 and Selected Years. Canadian Council of Fire Marshals and Fire Commissioners, Alberta.

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2020	Dec	Ottawa	Occupation	Yes	Yes	Improper procedure	EUI20005	Property damage from contact between garbage truck and secondary conductors	Yes	None	N/A
2020	Dec	Ottawa	Occupation	No	No	Improper installation	EF20004	Property damage from fire originating from incorrect wiring to its electrical service panel	Yes	None	Unknown
2020	Nov	Oakville	Non-occupation	No	No	Incorrect installation	CI20009	Person was injured from back fence rail due to it being energized from the damaged insulation of a 120 V supply conductor that created a conductive path to the contact point	Unknown	Injury	N/A
2020	Nov	Thunder Bay	Non-occupation	No	No	Misadventure	NF20003	Property damage from fire from a fuse panel due to power theft	Unknown	None	Unknown
2020	Nov	Bayham	Non-occupation	No	Yes	Unknown	WF20008	Property damage from explosion from meter malfunction	Yes	None	No
2020	Nov	Toronto	Non-occupation	No	No	Unknown	CF20007	Property fire from a multi-unit dwelling	Yes	None	Unknown
2020	Nov	Niagara Falls	Non-occupation	No	No	Unknown	WI20003	Person was injured from slipping into shower and causing a hair dryer to fall into the water	No	Injury	Unknown
2020	Oct	Cornwall	Occupation	No	No	Equipment failure	EI20007	Electrical worker was injured from an arc flash when replacing a fuse, and an arc flash occurred after attempting to re-energize the system	Yes	Injury	Unknown
2020	Oct	Cornwall	Occupation	No	No	Equipment failure	EI20007	Electrical worker was injured from an arc flash when replacing a fuse, and an arc flash occurred after attempting to re-energize the system	Yes	Injury	Unknown
2020	Oct	Ingersoll	Occupation	Yes	Yes	Miscommunication	WUI20003	Property damage was caused when water department workers were digging to repair a water main and made contact with an underground 16 kV powerline	Unknown	None	N/A
2020	Oct	St Catharines	Occupation	No	No	Unknown	SF20003	Property damage in a manufacturing plant from a failure in the rack out breakers of a MCC unit	Yes	None	N/A
2020	Oct	Cobalt	Non-occupation	Yes	Yes	Improper procedure	NUI20003	Person was injured when contact was made with an overhead powerline after climbing atop a sand pile in a public works property	Unknown	Injury	N/A
2020	Sep	Pickering	Occupation	No	No	Incorrect installation	EF20003	Property damage from a fire from an improperly installed dishwasher during a kitchen renovation	Yes	None	Unknown
2020	Sep	Hearst	Occupation	No	No	Unknown	NI20001	Electrical worker was burned during an arc flash when turning on a circuit breaker	No	Injury	Unknown
2020	Aug	St. Clair	Non-occupation	Yes	No	Incorrect installation	WF20006	Property damage from a fire in a gas dryer vent that was caused by a damaged overhead service neutral from a tree limb	Yes	None	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2020	Aug	Toronto	Occupation	Yes	Yes	Unknown	CUI20008	LDC linesperson was electrocuted when working in an underground transformer	Unknown	Fatality	N/A
2020	Aug	Madsen	Occupation	Yes	Yes	Unknown	NUI20001	Worker was injured when anchoring a fire hose around a tree after it had fallen on an energized overhead 44 kV primary line	No	Injury	N/A
2020	Aug	Russell Township	Occupation	No	No	Unknown	EI20006	Worker was electrocuted when contact was made with photovoltaic equipment	Unknown	Fatality	Unknown
2020	Aug	Bothwell	Non-occupation	Yes	Yes	Unknown	WUI20002	Person was injured when using a lift to remove a tree on their property when it made contact with an overhead primary line	Unknown	Injury	N/A
2020	Jul	London	N/A	No	No	Improper installation	SF20002	Property damage from a fire due to improper installation of an electronic ballast in a light fixture	Yes	None	Unknown
2020	Jul	Windsor	Occupation	No	No	Lack of maintenance	WF20004	Property damage from an arc flash of an unapproved transport trailer	Yes	None	Yes
2020	Jul	Mississauga	Occupation	No	No	Unknown	CI20007	Electrical worker was injured when testing 44 kV equipment in a metering cabinet	Unknown	Injury	N/A
2020	Jul	Owen Sound	Non-occupation	No	No	Unknown	WF20005	Property damage occurred in a dwelling where an electrical worker had installed new receptacles with no CAFCI devices, without pulling permits	Yes	None	Unknown
2020	Jul	South Bruce	Occupation	Yes	Yes	Unknown	WI20002	Property damage to equipment occurred when a logging company caused a fallen tree to down an overhead line and pole top transformer	Yes	None	N/A
2020	Jul	Oro-Medonte	Occupation	No	No	Unknown	CF20006	Property damage to a charger due to a forklift battery charger failure	Yes	None	Unknown
2020	Jun	Maple	Occupation	No	No	Unknown	CI20006	Worker was injured when potential electrical contact was made with live exposed contacts on 120 V solenoid	Unknown	Injury	N/A
2020	Jun	Tweed	Non-occupation	Yes	No	Improper procedure	EI20005	Property damage when person moved a ladder into secondary overhead conductors while tree trimming	Yes	None	N/A
2020	Jun	Ottawa	Occupation	Yes	Yes	Improper procedure	EUI20004	Property damage due to dump truck making contact hydro pole and downing 27.6 kV cables	Yes	None	N/A
2020	Jun	Toronto	Occupation	No	No	Unknown	CF20004	Property damage to electrical riser due to bus duct failure in a commercial structure	Yes	None	N/A
2020	Jun	Barrie	Occupation	No	No	Improper procedure	CI20005	Electrical worker was injured when a drilling into an energized bus bar	Yes	Injury	N/A
2020	Jun	Pickering	Occupation	No	No	Equipment failure	SI20005	Property damage due to power correction capacitor failure on 150 HP motor	Yes	None	N/A
2020	Jun	Harriston	Occupation	Yes	Yes	Unknown	WUI20001	Property damage when dump truck made contact with overhead neutral line	Yes	None	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2020	Jun	South Frontenac	Non-occupation	No	No	Unknown	EF20002	Property damage when a panel failure was found	Yes	None	Unknown
2020	May	Ottawa	Occupation	Yes	Yes	Lack of awareness of hazard	EUI20003	Property damage from an unsecured piece of downspout that flew into the utility overhead service conductors	Yes	None	N/A
2020	May	Napanee	Non-occupation	No	Yes	Unknown	EF20001	Property damage from a meter base fire	Yes	None	No
2020	May	Orillia	Occupation	No	No	Equipment failure	CF20005	Property damage from a fire from a 24 kW photovoltaic inverter failure	Yes	None	N/A
2020	May	Kitchener	Occupation	No	No	Unknown	SF20001	Property damage from a fire in an industrial facility from rectifier/HVAC penthouse; equipment was energized	Yes	None	N/A
2020	May	Hamilton	Occupation	No	No	Improper procedure	SI20001	Worker was injured when a steel guard rail was being installed and hit a 120 V underground street light feeder	Unknown	Injury	N/A
2020	May	Cobourg	Occupation	Yes	Yes	Unknown	EUI20002	Property damage due to a HV fuse blowing open because a vac truck had opened a pit and hit the blue and red phases	Yes	None	N/A
2020	Apr	Toronto	Non-occupation	No	No	Misuse	CF20003	Property damage from a fire where computer processor overheated	Yes	None	Unknown
2020	Mar	Thunder Bay	Non-occupation	No	No	Improper use	NF20001	Property damage from a fire due to incorrectly installed ceramic heater in a multi-unit building garage	Yes	None	Unknown
2020	Mar	Woodstock	Occupation	No	No	Unknown	SI20003	Property damage when an arc flash occurred when replacing an energized aging panelboard	Yes	None	Unknown
2020	Mar	Toronto	Occupation	No	No	Improper procedure	CI20003	Electrical worker was injured from an arc flash when working on an electrical breaker	Unknown	Injury	Unknown
2020	Mar	Wellesley	Occupation	No	No	Lack of maintenance	WF20003	Worker was injured from a fire when using a steel chop saw that sparked and ignited nearby exposed insulation	Yes	Injury	Unknown
2020	Feb	Toronto	Occupation	No	No	Improper procedure	CI20004	Electrical worker was injured from an arc flash when working on a switchboard	Unknown	Injury	Unknown
2020	Feb	Brampton	Non-occupation	No	No	Misuse	CF20002	Property damage from a fire where extension cords were used to daisy chain kerosene space heaters	Yes	None	Unknown
2020	Feb	Petawawa	Occupation	Yes	Yes	Unknown	EUI20001	Property damage when an arc flash occurred when contact was made between service conductors and the roof	Yes	None	N/A
2020	Feb	Blue Mountains	Non-occupation	No	No	Incorrect installation	WF20001	Property damage from a fire when stove was found to be incorrectly installed	Yes	None	Unknown
2020	Feb	Toronto	Non-occupation	No	No	Unknown	CF20001	Property damage from a fire starting from a space heater in a shed	Yes	None	Unknown
2020	Jan	Toronto	Occupation	No	No	Improper procedure	CI20001	Electrical worker was injured from an arc flash when working on a disconnect switch	Unknown	Injury	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2020	Jan	Toronto	Occupation	No	No	Improper procedure	CI20001	Electrical worker was injured from an arc flash when working on a disconnect switch	Unknown	Injury	N/A
2020	Jan	Oshawa	Non-occupation	No	No	Aging	SI20001	Animal was injured when it came into contact with an improperly bonded streetlight	No	None	N/A
2020	Jan	London	Occupation	No	No	Incorrect installation	WI20001	Property damage from a shorted termination resulting in upstream fuses to open, causing hot water to flood the room and surrounding area	Yes	None	N/A
2019	Dec	Brampton	Occupation	No	No	Improper procedure	CI19012	Worker was injured from an arc flash when making contact with an energized bus bar between a switch and panel	Unknown	Injury	N/A
2019	Nov	Meaford	Occupation	Yes	Yes	Incorrect procedure	WUI19005	Property damage from an excavator making contact with overhead neutral lines	Yes	None	N/A
2019	Nov	Greater Napanee	Non-occupation	No	No	Incorrect installation	EF19005	Property damage from an incorrectly installed light fixture	Yes	None	Unknown
2019	Nov	London	Non-occupation	No	No	Misuse	WI19007	Person was injured from an arc flash by plugging a USB jack into the side pin of a power bar	Yes	Injury	Unknown
2019	Nov	Oakville	Occupation	No	No	Equipment failure	CI19011	Property damage from a fire from a failing exhaust fan	Yes	None	Unknown
2019	Oct	Fizroy Township	Non-occupation	No	Yes	Unknown	EUI19017	Property damage from a car hitting a hydro pole carrying 7.2/12.5 kV line	Yes	None	N/A
2019	Oct	King City	Occupation	Yes	Yes	Miscommunication	CUI19010	Property damage from contact with an underground 8 kV primary cable while worker was performing directional boring	Yes	None	N/A
2019	Oct	London	Occupation	No	No	Improper procedure	SI19004	Worker was injured when restoring junction boxes with missing covers	Unknown	Injury	Yes
2019	Oct	Hamilton	Occupation	No	No	Unknown	SI20002	Worker was injured when using dispatch equipment	No	Injury	Unknown
2019	Oct	Chatsworth	Occupation	Yes	Yes	Improper procedure	WUI19004	Property damage from a vacuum truck that made contact with a primary 4.8 kV line	Yes	None	N/A
2019	Oct	Toronto	Occupation	Yes	No	Unknown	CI19009	Property damage from a skyjack making contact with 120 V secondary overhead line	Yes	None	N/A
2019	Nov	Toronto	Non-occupation	No	No	Unknown	CF19007	Property damage from a space heater fire	Yes	None	Unknown
2019	Sep	Horseshoe Valley	Occupation	Yes	No	Unknown	CI19006	Worker was injured when skyjack boom lift made contact with 44 kV overhead line	Unknown	Injury	N/A
2019	Sep	Vaughan	Occupation	Yes	Yes	Unknown	CI19008	Property damage from a worker excavating two 16 kV underground primary cables, causing two fuses upstream to operate	Yes	None	N/A
2019	Sep	Tudor and Cashel	Occupation	Yes	Yes	Human error	EI19015	Property damage from a dump truck that made contact with overhead primary line	Yes	None	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2019	Sep	Vaughan	Occupation	Yes	Unknown	Unknown	CI19007	Worker was electrocuted when heavy drilling equipment made contact with overhead powerlines	Unknown	Fatality	N/A
2019	Sep	Kirkfield	Occupation	Yes	Yes	Improper procedure	EUI19016	Worker was electrocuted when hedge trimmer made contact with 7.2 kV overhead powerlines	Unknown	Fatality	N/A
2019	Sep	Kirkfield	Occupation	Yes	Yes	Improper procedure	EUI19016	Worker was injured when hedge trimmer made contact with 7.2 kV overhead powerlines	Unknown	Injury	N/A
2019	Sep	Toronto	Occupation	Yes	Yes	Unknown	CI19005	Worker was injured when tower crane made contact with 8 kV overhead powerline	Unknown	Injury	N/A
2019	Sep	Toronto	Occupation	No	No	Unknown	CI19004	Worker was injured from an arc flash when overhead lines made contact with Hydro's overhead triplex's neutral	Unknown	Injury	N/A
2019	Aug	Ottawa	Non-occupation	Yes	Yes	Unknown	EI19013	Property damage from a vehicle that struck a neutral cable on a hydro pole that made contact with the primary	Yes	None	N/A
2019	Aug	Ottawa	Occupation	No	No	Improper procedure	EI19012	Property damage from an excavator making contact with underground conductor	Yes	None	N/A
2019	Sep	Nepean	Occupation	Yes	Yes	Incorrect procedure	EI19014	Property damage from an excavator making contact with underground primary 120/240 V lines	Yes	None	N/A
2019	Jul	Ottawa	Occupation	Yes	Yes	Unknown	EI19008	Property damage from workers making contact with HV underground utility cables with a pick axe	Yes	None	N/A
2019	Jul	Pembroke	Occupation	Yes	No	Miscommunication	EI19010	Property damage when excavator made contact with secondary underground line	Yes	None	N/A
2019	Jul	Toronto	Occupation	No	No	Improper procedure	CF19005	Property damage from stove top fire	Yes	None	Unknown
2019	Jul	London	Non-occupation	No	No	Arson	WF19002	Property damage from arson	Yes	None	N/A
2019	Jul	Barrie	Non-occupation	No	No	Improper installation	CI19002	Person was injured when contact made with a fluorescent light fixture pin that did not have a bulb in place	No	Injury	Unknown
2019	Jul	Barrie	Non-occupation	No	No	Improper installation	CI19002	Person was injured when contact made with a fluorescent light fixture pin that did not have a bulb in place	No	Injury	Unknown
2019	Jun	Trent Lakes	Occupation	Yes	Yes	Equipment failure	EI19009	Property damage from a dump truck axle making contact with a transformer pole	Yes	None	N/A
2019	Jun	Toronto	Occupation	No	No	Lack of training	CI19003	Worker was electrocuted while working on an energized sign	Unknown	Fatality	Unknown
2019	Jun	Ottawa	Occupation	No	No	Improper procedure	EI19011	Worker was injured while working on an electrical distribution panel	Unknown	Injury	Unknown
2019	Jun	Hamilton	Occupation	No	No	Unknown	SI19003	Worker was injured when using an electrical kettle	Unknown	Injury	Unknown

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2019	Jun	Niagara Falls	Occupation	No	No	Improper procedure	WI19006	Worker was injured from an arc flash when working on an energized switchgear	Unknown	Injury	N/A
2019	Jun	Ripley	Non-occupation	Yes	Yes	Human error	WUI19002	Animal was electrocuted after the elevator it was pulling made contact with overhead primary conductor	Unknown	None	N/A
2019	Jun	Ottawa	Occupation	Yes	Yes	Unknown	EI19007	Worker was injured when contact was made with primary line with a pump jack	Unknown	Injury	N/A
2019	May	Stratford/Perth	Occupation	No	Yes	Equipment failure	WUI19003	Property damage from meter failure	Yes	None	No
2019	May	Windsor	Non-occupation	Yes	Yes	Human error	WUI19001	Property damage when a tree being trimmed fell onto a 16 kV overhead distribution line	Yes	None	N/A
2019	May	Hamilton	Occupation	Yes	No	Improper installation	SI19002	Property damage when a worker cut through a 13.8 kV underground cable	Yes	None	N/A
2019	May	Niagara Falls	Occupation	Yes	Yes	Human error	WI19005	Property damage when a worker loading a garbage bin pulled the truck forward and made contact with overhead lines	Yes	None	N/A
2019	May	Orangeville	Non-occupation	No	No	Incorrect installation	CF19002	Property damage from a fire from a non-OESC complaint rooftop solar installation	Yes	None	Yes
2019	Apr	Stouffville	Non-occupation	No	No	Incorrect installation	CF19004	Property damage from a fire from an incorrectly installed sauna with a plug in connector	Yes	None	Unknown
2019	Apr	Brampton	Non-occupation	No	No	Animal	SF19001	Property damage from a fire in a semi detached dwelling where gnawed-off wire was observed	Yes	None	Unknown
2019	Apr	Sudbury	Occupation	No	No	Equipment failure	NI19001	Worker was injured from an arc flash when closing the 225 amp main disconnect switch on a ground fault panel	Unknown	Injury	Unknown
2019	Apr	Vaughan	Non-occupation	No	No	Unknown	CF19003	Property damage from a fire in home due to overheated feeder cables that appeared to lack a neutral path back to the ground	Yes	None	Unknown
2019	Apr	Townsend	Non-occupation	No	No	Incorrect installation	WI19003	Person was injured when coming into a contact with a chain that was connected to a non code compliant installation of lights in a metal drive shed	Unknown	Injury	Yes
2019	Apr	Rideau Lakes	Non-occupation	Yes	Yes	Human error	EI19006	Property damage when driver made contact with a utility pole	Yes	None	N/A
2019	Apr	London	Non-occupation	No	No	Incorrect installation	WF19001	Property damage from a fire when a nail was observed to be attached through a wire near the ceiling joists	Yes	None	Unknown
2019	Mar	Hamilton	Occupation	No	No	Improper procedure	SI19001	Worker was injured from an arc flash from opening a 600 V panel	Yes	Injury	N/A
2019	Mar	Hamilton	Occupation	Yes	Yes	Improper procedure	WI19004	Worker was electrocuted when replacing flags and made contact with overhead powerlines	Unknown	Fatality	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2019	Mar	Port Stanley	Non-occupation	Yes	Yes	Human error	"WI19002"	Property damage on a boat from contact with overhead primary lines	Yes	None	N/A
2019	Mar	Strathroy	Non-occupation	No	No	Human error	"WI19001"	Person was injured from an arc flash when removing a cord from a receptacle and a bracelet charm slipped between the cord and receptacle	Unknown	Injury	Unknown
2019	Feb	Brampton	Occupation	No	No	Human error	CI19001	Property damage from a tape measure made contact with the energized blades in a welding lab	Yes	None	N/A
2019	Feb	Brampton	Occupation	No	No	Act of God	CF19001	Property damage from a fire caused by a flood breaching into the distribution panel of a high-rise building	Yes	None	N/A
2019	Feb	Kingston	Non-occupation	No	No	Unknown	EF19003	Property damage from an exploding halide lamp	Yes	None	Unknown
2019	Jan	Kanata	Occupation	Yes	No	Unknown	EI19004	Worker was injured when excavating at a residence and made contact with live service conductors	Unknown	Injury	N/A
2019	Jan	Kingston	Occupation	No	No	Overloading	EI19003	Property damage from when a worker was overloading a branch circuit repeatedly causing spray foam insulation to blacken	Yes	None	Unknown
2019	Jan	Ottawa	Occupation	No	No	Unknown	EF19002	Property damage from a fire occurring at the phase quest rotary phase converter equipment junction box	Yes	None	N/A
2019	Jan	Ottawa	Non-occupation	No	Yes	Unknown	EF19001	Property damage when directional boring caused arcing and sparking in a meter base	Yes	None	No
2019	Jan	Kingston	Occupation	No	Yes	N/A	EI19001	Property damage when pick up truck made contact with transformer pole	Yes	None	N/A
2019	Jan	Kingston	Occupation	No	Yes	N/A	EI19002	Property damage when an aluminum residential service conduit and internal copper wires were cut	Yes	None	N/A
2018	Dec	Woodstock	Occupation	No	Yes	N/A	WUI18002	Property damage from arcing when an excavation pulled adjacent energized conductors free from the meter base	Yes	None	N/A
2018	Dec	Port Rowan	Non-occupation	No	No	Unknown	WF18013	Property damage from a fire when a baseboard heater ignited nearby combustibles	Yes	None	Unknown
2018	Nov	Sault Ste. Marie	Non-occupation	N/A	N/A	Unknown	NF18004	Property damage from an electrical fire, although scene was compromised	Yes	None	Unknown
2018	Nov	Leamington	Occupation	No	No	Improper procedure	WI18010	Worker was electrocuted while working live on an unapproved electrical cabinet	Yes	Fatality	Yes
2018	Nov	Toronto	Occupation	No	No	Incorrect installation	CI18010	Worker was injured from contact with equipment that was near an energized utility transformer	Unknown	Injury	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2018	Nov	Thamesville/ Chatham-Kent	Non-occupation	No	No	Loose connection	WF18006	Property damage from a fire when a loose incoming neutral at the main panel, causing arcing when metal overhead stack came into contact with metal roof flashing	Yes	None	Unknown
2018	Unknown	Toronto	Non-occupation	No	No	Improper use	SF18002	Property damage when a mixer from a different country was plugged into the receptacle	Yes	None	Yes
2018	Oct	Russell	Occupation	Yes	No	Human error	EI18009	Property damage when dump truck made contact with 4.8 kV utility line	Yes	None	N/A
2018	Oct	North York	Occupation	No	No	Improper procedure	CI18009	An electrical worker was injured from an arc flash when performing an unauthorized 200 Amp service installation into an energized 800 Amp distribution centre	Yes	Injury	N/A
2018	Oct	London	Non-occupation	Yes	No	Human error	WF18010	Property damage from a fire when the service equipment mast had a square opening cut into it and illegal connections were made	Yes	None	N/A
2018	Oct	Toronto	Occupation	No	No	Incorrect installation	SI18001	Property damage when cam lock hot and neutral were reversed on last tee tower on the run, feeding two trucks	Yes	None	Unknown
2018	Oct	Tiverton	Occupation	No	No	N/A	NI18002	Worker was injured when welder was performing hot work at a powerplant	Unknown	Injury	N/A
2018	Oct	Caledon East	Non-occupation	No	No	Unknown	CF18004	Property damage from arcing when 4160 V, 1200 Amp cell failed	Yes	None	N/A
2018	Oct	London	Non-occupation	No	No	Unknown	WF18009	Property damage from a fire, originating from living room receptacle	Yes	None	Unknown
2018	Oct	Selwyn	Non-occupation	No	No	Animal	EF18005	Property damage from a fire from animal interaction	Yes	None	Unknown
2018	Oct	Mississauga	Non-occupation	Yes	Yes	Equipment failure	CUI18002	Property damage from damaged gang operated switch that had a catastrophic failure when switched	Yes	None	N/A
2018	Sep	Dunrobin	Non-occupation	No	No	Act of God	EI18007	Property damage from cutting into a live wire	Yes	None	Unknown
2018	Sep	Brantford	Occupation	No	No	Incorrect installation	SF18001	Property damage from a fire from an incorrectly installed retrofitted luminaire	Yes	None	Unknown
2018	Sep	Mississauga	Non-occupation	No	No	Equipment failure	CI18003	Property damage from an explosion that occurred in the fuel sump pit at a gasoline station that resulted in the sump pit covers blowing off	Yes	None	N/A
2018	Sep	Belleville	Non-occupation	No	No	Equipment failure	EF18004	Property damage from equipment failure of a heat recovery ventilation unit	Yes	None	N/A
2018	Sep	Peterborough	Non-occupation	Yes	No	Equipment failure	EI18008	Property damage from arc blast from equipment failure between LDC transformer and main distribution switchboard	Yes	None	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2018	Sep	Strathroy	Occupation	No	No	Human error	WI18009	Property damage from directional boring and making contact with 2400 underground line	Yes	None	N/A
2018	Aug	Ottawa	Occupation	No	No	Incorrect installation	EI18010	Worker was injured when testing an inoperative gas pump, which was found to be energized, as it was in the bonding path	Unknown	Injury	N/A
2018	Aug	Thunder Bay	Non-occupation	No	No	Unknown	NF18003	Property damage from a fire from a halogen luminaire	Yes	None	Unknown
2018	Aug	Markstay Warren	Non-occupation	No	No	Defective Equipment	NF18002	Property damage from a fire from the main compartment of a 200 Amp service	Yes	None	Unknown
2018	Aug	Warkworth, Trent Hills	Non-occupation	Yes	Yes	Lack of awareness of hazard	EUI18007	Person was electrocuted when making contact with powerline	Unknown	Fatality	N/A
2018	Aug	Selwyn	Occupation	Yes	Yes	N/A	EUI18006	Property damage from contact with underground 7200 V cable	Yes	None	N/A
2018	Aug	Toronto	Non-occupation	No	No	Lack of maintenance	CF18003	Property damage when electrical failure caused multiple fires on various levels of a building	Yes	None	Unknown
2018	Aug	Toronto	Occupation	No	Yes	Unknown	CF18005	Property damage from fault that occurred from the primary side of the main breaker in one of the switchboards	Yes	None	N/A
2018	Aug	Peterborough	Occupation	Yes	Yes	Unknown	EI19005	Property damage from a broken 7200 V distribution line	Yes	None	N/A
2018	Sep	Frankford	Non-occupation	No	Yes	N/A	EI18004	Property damage from allegedly multiple overvoltage instances	Yes	None	N/A
2018	Aug	Toronto	Occupation	No	No	Miscommunication	CI18002	Worker was injured from contact with a large teck cable lying on the ground	Unknown	Injury	N/A
2018	Jul	Milton	Occupation	No	No	Defective Equipment	WI18008	Electrical worker was injured from arc flash when turning on a 30 A 600 V breaker	Unknown	Injury	N/A
2018	Jul	Trenton	Public place	Yes	Yes	N/A	EUI18005	Person was injured after contact with a downed power line	Yes	Injury	N/A
2018	Jul	Hamilton	Occupation	No	No	Improper procedure	WI18006	Electrical worker was injured while working on an energized low voltage transformer	Yes	Injury	N/A
2018	Jul	Ottawa	Non-occupation	Yes	Yes	Human error	EF18003	Property damage from a fire from homeowner downing trees onto powerlines	Yes	None	N/A
2018	Jul	Ottawa	Non-occupation	Yes	No	Human error	EI18002	Property damage from a truck unintentionally hooking the service overhead conductors, pulling the service mast off the house	Yes	None	N/A
2018	Jul	Brant County	Non-occupation	No	No	Damaged equipment	WF18008	Property damage from arcing occurring behind aluminum siding and under roof shingles	Yes	None	Unknown
2018	Jun	Kitchener	Occupation	No	No	Faulty equipment	WI18004	Worker was injured when he cut the water pipe feeding into a house	Unknown	Injury	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2018	Jun	Kitchener	Occupation	No	No	Faulty equipment	WI18004	Worker was injured when he cut the water pipe feeding into a house	Unknown	Injury	N/A
2018	Jun	Kitchener	Occupation	No	No	Faulty equipment	WI18004	Worker was injured when he cut the water pipe feeding into a house	Unknown	Injury	N/A
2018	Jun	Port Colborne	Occupation	No	Yes	N/A	WI18007	Worker was injured while inspecting a 27.6 kV outdoor switch	Unknown	Injury	N/A
2018	Unknown	Brampton	Occupation	Yes	Yes	N/A	CUI18003	Property damage from contact with an energized 13.8 kV cable	Yes	None	N/A
2018	May	Mississauga	Occupation	No	No	Loose connection	CF18001	Property damage from loose connections in a generator	Yes	None	N/A
2018	May	Seaforth	Occupation	No	Yes	Equipment failure	WF18004	Property damage from meter failure	Yes	None	No
2018	May	Toronto	Occupation	No	No	Human error	CI18004	Electrical worker was injured from arc flash when connecting a 600 V teck cable to the controller	Yes	Injury	N/A
2018	May	Brampton	Non-occupation	No	Yes	Defective equipment	CF18002	Property damage from fire when left line side lug broke off from meter base	Yes	None	N/A
2018	May	Toronto	Occupation	No	No	Human error	CI18005	Worker was injured when inserting a screwdriver into an energized motor contractor	Unknown	Injury	N/A
2018	May	Camlachie	Non-occupation	No	No	Unknown	WF18002	Property damage from fire originating from main electrical panel	Yes	None	Unknown
2018	May	Seaforth	Occupation	No	Yes	Equipment failure	WF18005	Property damage from arcing from meter failure	Yes	None	No
2018	May	Frankford	Non-occupation	No	Yes	N/A	EI18003	Property damage from alleged overvoltage incidents	Yes	None	N/A
2018	Apr	London	Non-occupation	No	N/A	Equipment failure	WF18003	Property damage from fire from light fixture	Yes	None	Unknown
2018	Apr	Timmins	Occupation	Yes	Yes	N/A	NI18001	Property damage from truck making contact with hydro pole	Yes	None	N/A
2018	Mar	Port Dover	Occupation	No	No	N/A	WI18003	Property damage from main breaker failure	Yes	None	Unknown
2018	Mar	Bradford	Non-occupation	No	No	Equipment failure	CF18006	Property damage from meter base fire	Yes	None	Unknown
2018	Mar	Kapuskasing	Non-occupation	No	No	Unknown	NF18001	Property damage from fire from electrical panels and wiring	Yes	None	Unknown
2018	Mar	Toronto	Occupation	Yes	Yes	Human error	CI18006	Near miss when crane came into contact with 13.8 kV high voltage line	Yes	None	N/A
2018	Mar	London	Non-occupation	No	No	Human error	WI18002	Person was injured when working on a homemade fractal wood burning machine	Unknown	Injury	Yes
2018	Feb	Ajax	Occupation	No	No	Human error	EI18001	Worker was electrocuted when making contact with live wiring during light installation	Unknown	Fatality	Unknown

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2018	Feb	Ottawa	Occupation	No	No	Unknown	EF18002	Property damage from failure of a distribution panel board after installation	Yes	None	Unknown
2018	Feb	Toronto	Occupation	Yes	No	Human error	CI18007	Worker was injured from contact with 27.6 kV overhead line when driving a truck	Unknown	Injury	N/A
2018	Feb	Toronto	Occupation	No	No	Defective equipment	CI18008	Worker was injured when the electrical disconnect that was shut off had a catastrophic failure (explosion)	Yes	Injury	N/A
2018	Feb	Petrolia	Occupation	Yes	Yes	Human error	WUI18001	Near miss when worker tried to maneuver a man lift that made contact with 115 kV transmission line	No	None	N/A
2018	Feb	Niagara Falls	Non-occupation	No	No	Misuse	SF18003	Property damage from fire originating from an internal failure of an HVAC unit	Yes	None	N/A
2018	Jan	London	Occupation	No	No	Human error	SI18002	Electrical worker was injured from an arc flash after installing a 400 Amp disconnect in a 1600 Amp, 600 V switchboard	Unknown	Injury	N/A
2018	Jan	London	Occupation	No	No	Human error	SI18002	Electrical worker was injured from an arc flash after installing a 400 amp disconnect in a 1600 amp, 600 V switchboard	Unknown	Injury	N/A
2018	Jan	London	Occupation	No	No	Human error	SI18002	Electrical worker was injured from an arc flash after installing a 400 amp disconnect in a 1600 amp, 600 V switchboard	Unknown	Injury	N/A
2018	Jan	London	Non-occupation	No	No	N/A	WF18001	Property damage from fire in a home with knob and tube wiring	Yes	None	Unknown
2018	Jan	Newmarket	Non-occupation	No	No	Unknown	CF18007	Property damage from a fire	Yes	None	Unknown
2018	Jan	Toronto	Occupation	No	No	Human error	CI18001	Worker was injured from a flash burn when testing a 30 A 600 V disconnect switch	Yes	None	N/A
2018	Jan	Ottawa	Occupation	No	No	Misuse	EF18001	Property damage from a fire originating from the break room with a severely damaged powerbar connecting two extension cords under floor mats	Yes	None	Unknown
2018	Jan	Toronto	Public place	Yes	Yes	N/A	CUI18001	Person was injured from a downed utility wire	Unknown	Injury	N/A
2018	Feb	Toronto	Public place	Yes	Yes	N/A	CUI18001	Animal was injured from a downed utility wire	Unknown	None	N/A
2018	Jan	Brockville	Non-occupation	No	Yes	Equipment failure	EF18006	Property damage from a fire from a meter	Yes	None	No
2017	Dec	Whitby	Occupation	No	No	Improper procedure	EA17011	Worker was injured when removing fuses from a live bucket	Unknown	Injury	N/A
2017	Dec	Toronto	Occupation	No	No	Improper procedure	CI17009	Worker was injured from arc flash when working inside a switchboard cell	Yes	Injury	N/A
2017	Dec	Nairn Center	Occupation	No	No	Equipment failure	NF18005	Property damage from arc flash from equipment failure of MCC	Yes	None	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2017	Dec	Sault Ste. Marie	Non-occupation	No	Yes	Unknown	NF17003	Property damage from a fire from a meter base	Yes	None	No
2017	Dec	Ottawa	Non-occupation	No	No	Unknown	EF17015	Property damage from fire originating from wiring between the joists	Yes	None	Unknown
2017	Nov	Sudbury	Occupation	No	No	Defective equipment	NI17005	Worker was injured when working on a light tower	Unknown	Fatality	Yes
2017	Nov	Petrolia	Non-occupation	Yes	No	Animal	WI17005	Property damage from a fault due to animal contact of conductor insulation	Yes	None	N/A
2017	Nov	Thames Centre	Occupation	No	No	Unknown	WF17004	Property damage from fire originating from connection between the heater and receptacle of recreation hall ceiling	Yes	None	Unknown
2017	Oct	Wallaceburg	Non-occupation	Yes	Yes	Damaged equipment	WUI17006	Person was injured from arc flash while working on the roof when overhead secondary line made contact with metal drop edge of roof	Yes	Injury	N/A
2017	Oct	Quinte West	Non-occupation	No	No	Unknown	EF17014	Property damage from fire originating from receptacle	Yes	None	Unknown
2017	Oct	Hamilton	Non-occupation	No	No	Unknown	WF17003	Property damage from fire at main disconnect switch	Yes	None	N/A
2017	Oct	Toronto	Non-occupation	Yes	No	Act of God	CF17005	Property damage from fire when a fallen neutral conductor pulled apart at overhead, causing the conductor to overheat	Yes	None	N/A
2017	Oct	Plympton-Wyoming	Occupation	Yes	No	N/A	WI17006	Worker was injured when the wind blew the boom truck's cable into overhead primary lines	Unknown	Injury	N/A
2017	Sep	Toronto	Non-occupation	No	Yes	Misadventure	CUI17001	Person was electrocuted when stealing copper from a substation	Unknown	Fatality	N/A
2017	Sep	Ottawa	Non-occupation	No	No	Unknown	EF17012	Property damage from fire originating from the living room of a building	Yes	Injury	Unknown
2017	Sep	Vaughan	Non-occupation	No	No	Unknown	CF17004	Property damage from fire from a smoldering and melting receptacle	Yes	None	Unknown
2017	Sep	Peterborough	Occupation	Yes	Yes	Human error	EU17007	Property damage from contact with 120/208 V overhead secondary line by dump truck	Yes	None	N/A
2017	Sep	Kanata	Non-occupation	No	No	Equipment failure	EF17011	Property damage from a fire originating from the HRV	Yes	None	Unknown
2017	Sep	Brampton	Non-occupation	Yes	No	Unknown	CI17008	Person was injured when trimming tree limbs when contact was made with primary lines	Unknown	Injury	N/A
2017	Aug	Peterborough	Non-occupation	No	No	Unknown	EF17013	Property damage from fire originating from old air conditioner	Yes	None	Unknown
2017	Aug	Mississauga	Non-occupation	No	No	Improper installation	CF17006	Property damage from fire where an 8/3 NMSC was found on the ground between a house and garage	Yes	None	Unknown

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2017	Aug	Brampton	Occupation	No	No	Unknown	CI17007	Electrical worker was injured from arc flash when working with a panelboard on a ladder	Yes	None	N/A
2017	Aug	Kintore	Non-occupation	No	Yes	Suicide	WUI17005	Person was electrocuted by suicide by making contact with electrical transformer	Unknown	Fatality	N/A
2017	Aug	Petrolia	Occupation	Yes	Yes	Unknown	WUI17004	Property damage from contact between a tractor and transmission equipment/line	Yes	None	N/A
2017	Aug	Brockville	Occupation	No	No	Unknown	EF17009	Property damage from fire while removing and changing fluorescent tubes of a light fixture	Yes	None	Unknown
2017	Jul	Highlands East	Non-occupation	Yes	Yes	Unknown	EU17006	Property damage from a downed tree striking a single phase primary line	Yes	None	N/A
2017	Jul	Ottawa	Occupation	No	No	Human error	EA17008	Property damage when worker contacted electrical wires while cutting concrete floor	Yes	None	N/A
2017	Jul	Trenton	Occupation	No	No	Improper procedure	EA17010	Worker was injured from arc flash when making contact with energized electrical parts in electrical room	Unknown	Injury	N/A
2017	Unknown	South Frontenac	Occupation	Yes	No	N/A	EUI17004	Property damage from contact between excavator and secondary underground conduit	Yes	None	N/A
2017	Jul	Thunder bay	Occupation	No	No	Unknown	NI17004	Property damage from contact between jackhammer and 150 A panel feeder	Yes	None	Unknown
2017	Jul	Peterborough	Occupation	Yes	Yes	Unknown	EUI17008	Worker was electrocuted when contact was made between vehicle bucket and overhead high voltage lines	Unknown	Fatality	N/A
2017	Jun	Georgian Bay	Occupation	No	No	Aging	CA17006	Person was injured when entering the water after resetting two breakers at the main panel for the dock	Unknown	Injury	N/A
2017	Jun	Georgian Bay	Occupation	No	No	Aging	CA17006	Person was injured when entering the water after resetting two breakers at the main panel for the dock	Unknown	Injury	N/A
2017	Jun	Mitchell / West Perth	Occupation	No	No	Human error	WI17002	Electrical worker was injured when tying new conductors in existing conductors in the attic of a steel structure building	Unknown	Injury	N/A
2017	Jun	New Tecumseth	Occupation	No	No	Improper installation	CA17003	Worker was injured from arc flash when working on production equipment and metal material slipped between a 600 V/30 A twist lock cord drop	Unknown	Injury	Unknown
2017	Jun	Amaranth	Non-occupation	Yes	Yes	Damaged equipment	WUI17003	Near miss from contact between lawn mower and dangled broken primary neutral ACSR	Yes	None	N/A
2017	May	Dysart and Others	Public place	Yes	No	Human error	EU17003	Property damage from contact between boom making contact with overhead neutral conductor	Yes	None	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2017	May	Toronto	Occupation	No	Yes	Improper procedure	CUA17005	Property damage when utility inadvertently re-energized redundant feeder that was partially removed	Yes	None	N/A
2017	May	Toronto	Occupation	N/A	N/A	Equipment failure	CF17003	Property damage from fire from overheated disconnect switch for PV system	Yes	None	Unknown
2017	May	Ottawa	Non-occupation	N/A	N/A	Lack of maintenance	EA17003	Person was injured when standing between metal barricade fencing that encompassed two separate amusement rides.	Unknown	Injury	N/A
2017	May	Fergus	Occupation	No	No	Incorrect procedure	SI17002	Worker was injured when troubleshooting energized production testing equipment	Unknown	Injury	Unknown
2017	May	Kingston	Non-occupation	No	No	Improper installation	EF17008	Property damage from fire originating between kitchen floor and basement ceiling near a joist	Yes	None	Unknown
2017	May	Nepean	Non-occupation	Yes	Yes	Human error	EA17009	Property damage from contact between underground secondary and digging equipment	Yes	None	N/A
2017	May	Brantford	Occupation	No	No	Lack of training	WI17004	Worker was injured from arc flash when installing new fuses	Yes	Injury	N/A
2017	May	Vaughan	Occupation	No	No	Human error	CA17004	Electrical worker was injured from arc flash when making contact with different phases with multimeter probe	Yes	Injury	N/A
2017	May	Greater Napanee	Public place	No	No	Unknown	EF17006	Property damage from fire originating from travel trailer in campground	Yes	None	Unknown
2017	Apr	Peterborough	Non-occupation	Yes	Yes	Human error	EA17007	Person was electrocuted from contact with primary overhead line while tree trimming	Yes	Fatality	N/A
2017	Apr	Haldimand	Occupation	No	No	Unknown	WF17002	Property damage from fire originating from electric heater or improper staling on conductors in a house under construction	Yes	None	Unknown
2017	Mar	Ottawa	Occupation	Yes	Unknown	N/A	EA17002	Property damage from contact between overhead lines and boom	Yes	None	N/A
2017	Mar	Kingston	Occupation	No	N/A	N/A	EA17001	Worker was injured when moving a powerpack for a saw	Unknown	Injury	Unknown
2017	Mar	Oshawa	Occupation	No	No	Faulty equipment	SF17001	Property damage from fire when MCC capacitor ruptured	Yes	None	N/A
2017	Mar	Ottawa	Occupation	No	No	Improper procedure	EA17006	Electrical worker was injured when testing a 600 V MCC cabinet with a multimeter	Unknown	Injury	N/A
2017	Mar	Toronto	Occupation	No	No	Defective equipment	CA17002	Property damage from electrical worker pushing trip button on 5000 Amp breaker and the breaker failed	Yes	None	N/A
2017	Mar	Kingston	Occupation	No	No	Unknown	EF17002	Property damage from fire from electrical panel in restaurant	Yes	None	N/A
2017	Mar	Thorndale	Occupation	No	No	Equipment failure	WI17001	Property damage from fault of a distribution panel at 250 A breaker location	Yes	None	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2017	Mar	Thunder Bay	Non-occupation	No	No	Incorrect installation	NF17002	Property from fire originating from basement ceiling (main floor joists)	Yes	None	Unknown
2017	Feb	Ottawa	Occupation	No	No	Unknown	EA17004	Electrical worker was injured when changing faulty breakers in distribution panel	Yes	Injury	Unknown
2017	Feb	Wallaceburg	Occupation	Yes	Yes	N/A	WUI17002	Property damage from contact between forklift and utility pole	Yes	None	N/A
2017	Feb	Ottawa	Non-occupation	No	No	Unknown	EF17004	Property damage from fire originating from the rear level of a detached dwelling	Yes	None	Unknown
2017	Feb	Uxbridge	Non-occupation	N/A	N/A	Human error	EA17005	Person was electrocuted when operating a homemade Lichtenberg device	Unknown	Fatality	Yes
2017	Jan	Mississauga	Occupation	No	No	Improper installation	CA17001	Electrical worker was injured when working on outdoor block heater receptacles	Unknown	Injury	Unknown
2017	Jan	Sarnia	Occupation	Yes		Human error	WUI17001	Property damage from demolition where material fell in the wrong direction and made contact with 27.6 kV lines	Yes	None	N/A
2017	Jan	Ottawa	Non-occupation	No	No	Unknown	EF17010	Property damage from fire originating from receptacle behind a dresser secured to the cinder block wall with wood strapping	Yes	None	Unknown
2017	Feb	St. Catharines	Occupation	No		Unknown	SI17001	Worker was injured when contacting energized equipment frame	Unknown	Injury	N/A
2016	Dec	Guelph	Occupation	No	No	N/A	SI16005	Property damage when a 13.9 kV cable was cut	Yes	None	N/A
2016	Dec	Toronto	Fire	No	No	Equipment failure	CF16003	Worker was injured by fire originating from laser cutting machine	Yes	Injury	Unknown
2016	Dec	Ajax	Occupation	No	No	Unknown	EI16026	Worker was injured from arc flash when working on energized switchgear	Yes	Injury	N/A
2016	Dec	Sudbury	Fire	No	No	Unknown	NF16007	Property damage from fire originating from living room of a house	Yes	Fatality	Unknown
2016	Dec	Ottawa	Fire	No	No	Over fusing	EF16029	Property damage from fire originating from electrical wiring in the basement of a house	Yes	None	Unknown
2016	Nov	Dysart and Others	Non-occupation	Yes	Yes	Improper procedure	EUI16027	Property damage from contact between tree cutting and overhead powerline	Yes	None	N/A
2016	Nov	Vaughan	Occupation	No	No	Improper procedure	CA16015	Near miss when electrical worker made contact with energized buses in main switchgear	No	None	N/A
2016	Nov	King	Fire	No	No	Animal	CF16002	Property damage from fire originating from PV module of rooftop solar installation due to squirrel nesting	Yes	None	Unknown
2016	Nov	Kingston	Fire	No	No	Unknown	EF16030	Property damage from fire originating from bedroom receptacle	Yes	None	Unknown
2016	Nov	Woodstock	Occupation	Yes	Yes	Miscommunication	WUI16006	Property damage from contact between excavator and underground 16 kV cable	Yes	None	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2016	Nov	Toronto	Occupation	No	No	Improper procedure	CA16013	Worker was injured when drilling in the floor of an elevator and made contact with energized conductor	Unknown	Injury	N/A
2016	Nov	Ottawa	Occupation	Yes	Yes	Improper procedure	EUI16023	Near miss when worker made contact between utility pole and backhoe	Yes	None	N/A
2016	Nov	Ottawa	Occupation	No	No	Unknown	EI16025	Worker was injured from arc flash when installing a 400 A fuse into a disconnect switch	Yes	Injury	N/A
2016	Nov	Oshawa	Non-occupation	No	No	Faulty equipment	SF16001	Property damage from fire where cabinet was cut away, exposing two receptacles mounted with aftermarket receptacle expansion device	Yes	None	N/A
2016	Oct	New Tecumseth	Non-occupation	No	No	Unknown	NI16008	Property damage from arc flash when a 600 V 200 A failed	Yes	None	N/A
2016	Oct	Dresden	Occupation	No	No	Improper procedure	SI16001	Electrical worker was injured when resetting an overload for a motor starter in an MCC	Yes	Injury	N/A
2016	Oct	Bancroft	Occupation	Yes	Yes	Unknown	EUI16029	Worker was injured when contact was made between the truck and utility pole	Yes	Injury	N/A
2016	Oct	St. Catharines	Occupation	No	No	Improper use	SI16004	Electrical worker was injured when turning on a disconnect switch which led to a circuit powering a stud welder. The plug for the welder had been modified to fit a different configuration receptacle	Yes	Injury	N/A
2016	Sep	Windsor	Fire	No	No	Improper installation	SF16002	Property damage from fire originating from electrical room where fuses were not tightened in fuse holders of disconnect switch feeding solar panels, causing overheating	Yes	None	N/A
2016	Sep	Waterloo	Fire	No	No	Mechanical failure	WF16014	Property damage from fire in electrical room where a fault occurred at hydro pole outside of the residence	Yes	None	N/A
2016	Sep	Aurora	Occupation	No	Unknown	Unknown	CA16016	Person was injured when repairing a capacitor bank	Unknown	Injury	N/A
2016	Sep	Windsor	Occupation	No	No	Improper procedure	WI16017	Electrical worker was injured by arc flash when removing an old energized feeder	Yes	Injury	N/A
2016	Aug	Kincardine	Non-occupation	No	No	Unknown	WI16016	Person was injured when using an electrical vehicle charger	No	Injury	Unknown
2016	Aug	Toronto	Occupation	No	No	Improper installation	CA16010	Worker was electrocuted when changing fluorescent bulbs; a combination of equipment failure and improper bonding resulted in many energized conductive parts in the room	No	Fatality	Unknown
2016	Aug	Port Credit	Occupation	Yes	Yes	Improper use	CUA16011	Worker was injured from contact between boom and overhead 27.6 kV power line	Unknown	Injury	N/A
2016	Aug	Elmira	Occupation	No	No	Unknown	WI16010	Worker was electrocuted although source of electricity remains unclear	Unknown	Fatality	Unknown

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2016	Aug	Espanola	Occupation	Yes	Yes	Improper use	NI16005	Worker was injured from contact between pump truck boom and 115 kV powerline	Unknown	Injury	N/A
2016	Aug	Espanola	Occupation	Yes	Yes	Improper use	NI16005	Worker was injured from contact between pump truck boom and 115 kV powerline	Unknown	Injury	N/A
2016	Aug	Ingersoll	Occupation	No	Yes	Improper installation	WUI16004	Near miss when cable became entangled with HV equipment and tripped a fuse	Yes	None	N/A
2016	Aug	Sault Ste. Marie	Fire	No	No	Improper use	NF16005	Property damage from fire from extension cord	Yes	None	Unknown
2016	Aug	Mississauga	Occupation	No	No	Improper procedure	CA16014	Worker was injured when contact made between fish tape and energized circuit	No	Injury	N/A
2016	Aug	Espanola	Occupation	Yes	Yes	Improper use	NI16005	Worker was injured from contact between 115 kV powerline and pump truck boom	Yes	Injury	N/A
2016	Aug	Thessalon	Occupation	No	No	Improper procedure	NI16006	Electrical worker was injured from arc flash when replacing a burnt fuse in a disconnect switch	Yes	Injury	N/A
2016	Aug	Strathroy	Occupation	Yes	Yes	Improper procedure	WUI16003	Electrical worker was injured from contact between overhead powerline and drop lead	Unknown	Injury	N/A
2016	Aug	Vaughan	Occupation	No	No	Improper procedure	SA16002	Worker was injured from arc flash when changing fuses from an energized 600 V MCC	Yes	Injury	N/A
2016	Jul	Fort Erie	Fire	No	Yes	Unknown	WF16012	Property damage from fire originating from electrical distribution panel	Yes	None	N/A
2016	Jul	Sarnia	Occupation	Yes	Yes	Improper procedure	WUI16005	Property damage from contact with dump truck and 5 kV overhead primary line	Yes	None	N/A
2016	Jul	Mississauga	Occupation	No	No	Improper procedure	SA16003	Near miss from contact between jack hammer and power conduit below	Yes	None	Unknown
2016	Jul	Tecumseh	Occupation	No	No	Poor design	WI16008	Worker was injured when power conductor of crane came loose and contacted a bonded rail creating a current path	No	Injury	N/A
2016	Jul	Ottawa	Fire	No	No	Unknown	EF16023	Property damage from fire originating from a kitchen toaster	Yes	None	Unknown
2016	Jul	Owen Sound	Fire	No	No	Unknown	WF16011	Property damage from fire originating from exhaust fan of lower level bathroom	Yes	None	Unknown
2016	Jun	Toronto	Occupation	No	No	Improper procedure	CA16005	Electrical worker was injured from arc flash when removing equipment from a store	Unknown	Injury	Unknown
2016	Jun	Copper Cliff	Occupation	No	No	Improper procedure	NI16007	Electrical worker was injured from arc flash when removing control wires from an energized MCC bucket	Unknown	Injury	N/A
2016	Jun	Windsor	Occupation	No	No	Misuse	WI16009	Worker was injured from arc flash when misusing a testing device on an energized 600 V switchgear	Unknown	Injury	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2016	Jun	Windsor	Occupation	No	No	Misuse	WI16009	Worker was injured from arc flash when misusing a testing device on an energized 600 V switchgear	Unknown	Injury	N/A
2016	Jun	Windsor	Occupation	No	No	Misuse	WI16009	Worker was injured from arc flash when misusing a testing device on an energized 600 V switchgear	Unknown	Injury	N/A
2016	Jun	Kingston	Fire	No	No	Unknown	EF16025	Property damage from fire originating from bathroom ceiling exhaust fan	Yes	None	Unknown
2016	Jun	Ottawa	Occupation	Yes	No	Unknown	EUI16024	Property damage from contact between truck and secondary overhead 240 V conductors	Yes	None	N/A
2016	Jun	Napanee	Occupation	Yes	Yes	Improper procedure	EUI16022	Property damage from contact between dump truck and communication wires, which pulled down an attached hydro pole	Yes	None	N/A
2016	May	Ottawa	Occupation	Yes	Yes	Improper procedure	EI16018	Property damage from contact between excavator and underground 4160 V line	Yes	None	N/A
2016	May	Windsor	Non-occupation	Yes	Yes	Unknown	WUI16001	Property damage from contact between tree fall and 16 kV primary line	Yes	None	N/A
2016	May	Toronto	Occupation	No	No	Human error	CA16007	Property damage from arc flash when de-energized disconnect switch made contact with energized line side	Yes	None	N/A
2016	May	Quinte West	Fire	No	No	Improper installation	EF16024	Property damage from fire originating from electrical panel in garage	Yes	None	Unknown
2016	May	Thunder Bay	Fire	No	No	Improper installation	NF16002	Property damage from fire originating from crawl space where a 240 V BX cable fed a bathroom electrical heater	Yes	None	Unknown
2016	May	Kingston	Fire	No	Unknown	Unknown	EF16017	Property damage from fire originating from meter base	Yes	None	No
2016	May	Toronto	Occupation	No	Unknown	Unknown	CA16006	Property damage from exploding meter base	Yes	None	No
2016	May	Kingston	Occupation	Yes	No	Lack of awareness of hazard	EI16015	Worker was injured when on a scaffold; service entrance conductors were mislabelled during initial service connection	No	Injury	N/A
2016	May	Kingston	Occupation	Yes	No	Lack of awareness of hazard	EI16015	Worker was injured when on a scaffold; service entrance conductors were mislabelled during initial service connection	No	Injury	N/A
2016	May	Kingston	Occupation	Yes	No	Lack of awareness of hazard	EI16015	Worker was injured when on a scaffold; service entrance conductors were mislabelled during initial service connection	No	Injury	N/A
2016	Apr	Toronto	Occupation	Yes	Yes	Unknown	CA16008	Near miss from contact between shovel and underground 240 V line	Yes	None	N/A
2016	Apr	Ottawa	Fire	Yes	No	Miscommunication	EF16014	Property damage from fire from contact between excavator and underground cables	Yes	None	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2016	Apr	St. Clair Township	Occupation	No	No	Incorrect procedure	WI16007	Property damage from arc flash when using a grounding and testing device on a 4160 V disconnect	Yes	None	N/A
2016	Apr	Mississauga	Non-occupation	Yes	Yes	Improper procedure	CUA16004	Person was injured from contact when snow shovel came into contact with 4 kV primary line	No	Injury	N/A
2016	Apr	Ancaster	Occupation	No	No	Lack of awareness of hazard	WI16005	Near miss from arc flash when replacing a 200 A panel; one line was energized	No	None	N/A
2016	Apr	Azilda	Occupation	No	No	Improper procedure	NI16001	Worker was injured from arc flash from contact between energized disconnect switch and screwdriver	Unknown	Injury	N/A
2016	Apr	Brantford	Unknown	Yes	Yes	Improper installation	WI16004	Property damage from a 4 kV underground primary cable that faulted	Yes	None	N/A
2016	Apr	Ottawa	Non-occupation	No	No	Faulty equipment	EI16021	Person was injured from contact with an energized oven door	No	Injury	Unknown
2016	Mar	Guelph	Fire	No	No	Misuse	WF16005	Property damage from fire originating from bedroom receptacle	Yes	None	Unknown
2016	Mar	Toronto	Occupation	No	No	Defective equipment	CA16003	Worker was injured when changing 60 A fuse in a bus duct mounted switch	Yes	Injury	N/A
2016	Mar	Belleville	Fire	No	No	Unknown	EF16013	Property damage from fire originating from wiring above the panel in the basement of a house	Yes	None	Unknown
2016	Mar	North Bay	Occupation	No	No	Unknown	NF16001	Property damage from fire originating from electrical room panelboard	Yes	None	Unknown
2016	Mar	Hamilton	Occupation	No	No	Defective equipment	WI16002	Electrical worker was electrocuted from contact with energized equipment while replacing a motor	Yes	Fatality	N/A
2016	Dec	Minto	Fire	No	No	Unknown	WF16017	Property damage from fire originating from belt room	Yes	None	Unknown
2016	Mar	Smiths Falls	Fire	No	No	Aging	EF16009	Property damage from fire originating from loose lugs in electrical panel in electrical room	Yes	None	N/A
2016	Mar	Peterborough	Occupation	No	No	Improper procedure	EI16028	Electrical worker was injured when resetting the overload on a 600 kV starter and made contact with an energized lug	Unknown	Injury	N/A
2016	Nov	Guelph	Occupation	Yes	No	Human error	SI16005	Property damage from cutting into a live 13.8 kV cable in generator building	Yes	None	N/A
2016	Mar	Mississauga	Fire	No	No	Animal	CF16001	Property damage from fire from PV generator fire due to animal contact	Yes	None	Unknown
2016	Mar	Bath	Occupation	No	No	Miscommunication	EI16011	Worker was injured when cleaning insulators on the secondary side of a transformer for a precipitator	No	Injury	N/A
2016	Mar	Collingwood	Occupation	No	No	Improper procedure	NI16002	Near miss from contact between ground wire and energize phase terminal lug	No	None	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2016	Feb	Hamilton	Occupation	No	No	Improper procedure	WI16003	Electrical worker was injured when working on an energized old dryer feed conductor with a cable cutter	No	Injury	Unknown
2016	Feb	Napanee	Occupation	No	No	Improper procedure	EA16008	Worker was injured from arc flash from contact between screw and conduit	Unknown	Injury	N/A
2016	Feb	Napanee	Occupation	No	No	Improper procedure	EA16008	Worker was injured from arc flash from contact between screw and conduit	Unknown	Injury	N/A
2016	Feb	Garrison Petawawa	Occupation	Yes	No	Other	EA16007	Near miss from contact between excavating equipment and 600 V underground secondary line	No	None	N/A
2016	Feb	London	Fire	No	No	Unknown	WF16001	Property damage from fire originating from kitchen potlight	Yes	None	Unknown
2016	Feb	Ottawa	Fire	No	No	Unknown	EF16006	Property damage from fire originating from basement receptacle	Yes	None	Unknown
2016	Jan	Napanee	Occupation	No	No	Equipment failure	EI16005	Worker was injured when replugging a monitor	Unknown	Injury	Unknown
2016	Jan	Stratford	Fire	No	No	Poor design	SF16001	Property damage from ceiling mounted heater	Yes	None	Unknown
2016	Jan	London	Occupation	No	No	Equipment failure	WI16001	Electrical worker was injured from arc flash when switching on heater blowers using the disconnect switch	Yes	Injury	N/A
2016	Jan	Stratford	Fire	No	No	Unknown	WF16002	Property damage from fire originating from bedroom receptacle	Yes	None	Unknown
2016	Jan	North York	Occupation	No	No	Improper procedure	CA16002	Near miss from contact between saw and feeder wire	No	None	N/A
2016	Jan	Ajax	Fire	No	No	Loose connection	EF16003	Property damage from poorly wired receptacles	Yes	None	Unknown
2016	Dec	Dysart and Others	Occupation	Unknown	Unknown	Unknown	EI15010	Worker was injured from contact between dam gate and steel chocker	No	Injury	N/A
2016	Nov	St. Catharines	Fire	No	No	Defective equipment	WF16016	Property damage from fire originating from short circuit in receptacle	Yes	None	Unknown
2016	May	St. Clair Township	Occupation	Yes	Yes	Human error	WUI16002	Property damage when tractor made contact with guy wire and snapped overhead 13.8 kV powerlines	Yes	None	N/A
2015	Dec	Ottawa	Fire	No	No	Unknown	EF15010	Property damage from fire originating from basement ceiling joist	Yes	None	Unknown
2015	Dec	Mississauga	Occupation	Yes	Yes	Unknown	CUA15007	Near miss from contact between truck's raised box and guy line	Yes	None	N/A
2015	Dec	Toronto	Occupation	Yes	Yes	Unknown	CUA15006	Near miss from contact between backhoe and three phases of a 4 kV underground utility line	No	None	N/A
2015	Nov	Fort Erie	Occupation	No	No	Improper procedure	SI15007	Near miss from contact between panel and two main sections of internal phase bus	No	None	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2015	Nov	Thornhill	Occupation	Yes	Yes	Unknown	CUA15002	Worker was injured from contact with overhead 16 kV overhead powerline while putting up lighting decorations	Unknown	Injury	N/A
2015	Nov	Thornhill	Occupation	Yes	Yes	Human error	CUA15003	Worker was electrocuted from contact between boom and 16 kV overhead powerline	Unknown	Fatality	N/A
2015	Nov	Sudbury	Occupation	No	No	Human error	NA15007	Worker was injured when plugging a laptop into a notebook cart receptacle	Unknown	Injury	Unknown
2015	Nov	Toronto	Fire	No	No	Equipment failure	CF15006	Property damage from fire originating from attic as a result of modified knob and tube wiring	Yes	None	Unknown
2015	Nov	Brantford	Occupation	No	No	Misuse	WI15006	Worker was injured when holding a co-ax cable in one hand and reaching for a coupling	Unknown	Injury	Unknown
2015	Nov	Markham	Occupation	Yes	Yes	Miscommunication	CUA15005	Near miss from contact between backhoe and 16 kV underground utility line	No	None	N/A
2015	Nov	Toronto	Occupation	No	No	Equipment failure	CA15005	Worker was injured from arc flash when resetting the breaker and attempting to turn on a light switch	Yes	Injury	Unknown
2015	Oct	Ottawa	Occupation	Yes	Yes	Miscommunication	EI15007	Near miss from contact between underground secondary service conductors and directional boring	No	None	N/A
2015	Oct	Georgetown	Non-occupation	No	No	Misuse	SI15006	Person was injured when inserting paper clip into receptacle	No	Injury	Unknown
2015	Oct	Mississauga	Occupation	No	No	Improper procedure	CF15005	Near miss from fire when bond conductors made contact with energized 600 A bus or termination	No	None	N/A
2015	Oct	Sarnia	Occupation	Yes	Yes	Miscommunication	WUI15007	Near miss from contact between conductor and energized 4.8 kV line	No	None	N/A
2015	Oct	Mississauga	Occupation	Yes	Yes	Unknown	CUA15004	Worker was injured from contact when hydrovac truck boom made contact with powerline	Unknown	Injury	N/A
2015	Oct	Dysart and Others	Occupation	Yes	No	Poor design	EI15005	Near miss from contact between excavator and conduit	No	None	N/A
2015	Oct	Stratford	Non-occupation	No	No	Incorrect installation	SI15008	Person was injured from contact with streetlight pole	No	Injury	N/A
2015	Oct	St. Catharines	Occupation	Yes	Yes	Human error	WI15006	Property damage from contact between tower crane arm and power line	Yes	None	N/A
2015	Sep	Thames Centre	Occupation	Yes	Yes	Lack of awareness of hazard	WI15003	Worker was injured from contact between overhead 16 kV primary line and ladder	Unknown	Injury	N/A
2015	Sep	Norwich	Non-occupation	No	No	Lack of maintenance	WI15004	Person was electrocuted by a heat lamp with a frayed cord	Unknown	Fatality	Yes
2015	Sep	Norwich	Non-occupation	No	No	Lack of maintenance	WI15004	Person was injured by a heat lamp with a frayed cord	Unknown	Injury	Yes

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2015	Sep	Belleville	Occupation	Yes	Yes	Damaged equipment	EI15002	Worker was injured from contact between exposed termination crimps on a service conductor	Unknown	Injury	N/A
2015	Aug	Wardsville	Fire	No	No	Improper use	WF15012	Property damage from fire originating from wall cavity	Yes	None	Unknown
2015	Aug	Oakville	Occupation	No	No	Lack of hazard assessment	SI15005	Worker was injured from contact between saw and conduits underneath concrete floor	Unknown	Injury	N/A
2015	Aug	Windsor	Fire	No	No	Improper use	WF15011	Property damage from fire from a spliced extension cord plugged into a 15 A outlet on a 30 A breaker	Yes	None	Unknown
2015	Jul	Brampton	Fire	No	No	Unknown	SF15001	Property damage from fire from AC unit	Yes	None	Unknown
2015	Jul	Toronto	Fire	No	No	Human error	CF15002	Property damage from fire from unattended greasetop fire	Yes	None	Unknown
2015	Jul	Malahide	Non-occupation	Yes	No	Human error	WI15002	Person was electrocuted from contact between ladder and 4.8 kV overhead powerline	Unknown	Fatality	N/A
2015	Jul	Richmond Hill	Occupation	No	No	Unknown	CA15004	Worker was electrocuted from contact between girder crane and energized shoe	Unknown	Fatality	Unknown
2015	Jun	Ottawa	Occupation	No	No	Equipment failure	EI15003	Worker was injured from arc flash when using a multimeter	Unknown	Injury	Unknown
2015	Jun	London	Fire	No	No	Overloading	WF15008	Property damage from fire originated from overloaded bedroom receptacle	Yes	None	Unknown
2015	Jun	Meaford	Fire	No	No	Equipment failure	WF15009	Property damage from fire from loose connections on meter base	Yes	None	No
2015	Jun	Hamilton	Occupation	Yes	No	Lack of awareness of hazard	WUI15005	Near miss from contact between zoom boom and HV lines	No	None	N/A
2015	Jun	Tecumseh	Occupation	No	No	Unknown	WI15001	Worker was electrocuted when working on heating/cooling unit on rooftop	Unknown	Fatality	N/A
2015	Jun	Guelph	Fire	No	No	Unknown	WF15014	Property damage from fire from bedroom receptacle	Yes	None	Unknown
2015	Jun	Toronto	Occupation	Yes	Yes	Unknown	CA15003	Worker was injured from contact between conductive pole and 8 kV overhead powerlines	Unknown	Injury	N/A
2015	Jun	Collingwood	Fire	No	Yes	Equipment failure	CF15001	Property damage from fire originating from below the meter, meter base and conductors encased in the meter base	Yes	None	No
2015	May	Milton	Occupation	Yes	Yes	Unknown	WUI15004	Near miss from contact between excavator and 16 kV overhead powerlines	No	None	N/A
2015	May	Thunder Bay	Occupation	No	No	Lack of awareness of hazard	NA15005	Electrical worker was injured when changing a 1000 W metal halide lamp in an energized circuit	Unknown	Injury	Unknown
2015	May	Toronto	Occupation	No	No	Unknown	CA15002	Electrical worker was injured while working on a 34.7 V lighting circuit	Unknown	Injury	Unknown

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2015	May	Thunder Bay	Fire	No	No	Improper installation	NF15002	Property damage from fire originating from basement luminaire that had non-compliant wiring	Yes	None	Unknown
2015	May	Ottawa	Occupation	Yes	Yes	Aging	EUI15011	Worker was injured from contact with bare service feeder while on the rooftop	Unknown	Injury	N/A
2015	May	Windsor	Fire	No	No	Improper use	WF15015	Property damage from fire originating from several power bars and battery chargers in front of a computer	Yes	None	Unknown
2015	Apr	London	Fire	No	No	Misuse	WF15007	Property damage from fire originating from overloaded power bar in bedroom	Yes	None	Unknown
2015	Apr	Hamilton	Non-occupation	No	No	Misadventure	WUI15003	Person was injured from contact with 13.8 kV energized line while stealing copper	Unknown	Injury	N/A
2015	Apr	Toronto	Non-occupation	No	No	Equipment failure	CA15001	Person died when apartment sauna did not wind down its temperature	Unknown	Fatality	Unknown
2015	Apr	Wallaceburg	Fire	No	No	Improper installation	WF15006	Worker was injured by fire from an uninspected power generation system with solar panels and small wind turbine; fire was suspected to be initiated by battery charger	Yes	Injury	Yes
2015	Apr	Kingston	Fire	No	No	Damaged equipment	EF15003	Property damage from fuses feeding the panel were blown; cause may have been from animal contact	Yes	None	N/A
2015	Mar	London	Occupation	No	No	Equipment failure	SI15003	Worker was injured from arcing when turning off light switch; operating arm of switch had broke and contacted the mounting bracket, creating a short	Unknown	Injury	N/A
2015	Mar	Kitchener	Occupation	No	No	Improper procedure	SI15004	Worker was injured from arc flash when removing a fuse in an energized disconnect switch	Unknown	Injury	N/A
2015	Mar	Hamilton	Fire	No	No	Improper use	WF15004	Property damage from fire from non-compliant wiring of multiple heaters using a cheater junction box	Yes	None	N/A
2015	Mar	Simcoe	Occupation	No	No	Improper procedure	SI15002	Near miss from arc flash when worker was installing a small board and drilled through the distribution panel on the other side of the wall	No	None	N/A
2015	Mar	Prince Edward County	Occupation	No	No	Incorrect installation	EI15001	Electrical worker was injured from contact with exposed wiring in a junction box with missing cover	Unknown	Injury	N/A
2015	Mar	Thunder Bay	Occupation	No	No	Incorrect installation	NA15003	Electrical worker was injured from arc flash when energizing a panel; found a live wire and ground wire were connected together	Yes	Injury	N/A
2015	Mar	Timmins	Occupation	No	No	Unknown	NA15001	Worker was injured from arc event when removing a tangled cord from an electric bed	Yes	Injury	Unknown

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2015	Mar	Sault Ste. Marie	Occupation	No	No	Improper installation	NA15004	Electrical worker from injured from arc flash while energizing a panel; one of the exterior cover fasteners had shorted out with one of the cables in the panel	Yes	Injury	N/A
2015	Feb	Oakville	Fire	No	No	System failure	WF15005	Property damage from explosion where concrete duct bank shifted with ground settlement	Yes	None	N/A
2015	Feb	Sault Ste. Marie	Fire	No	No	Equipment failure	NF15001	Property damage from fire originating from a 1 kW baseboard heater	Yes	None	N/A
2015	Feb	Ottawa	Fire	No	No	Improper use	EF15002	Property damage from fire originating from ceiling trusses; there were 1500 W heaters located all over the house that had overloaded the circuit	Yes	None	N/A
2015	Jan	Ottawa	Occupation	No	No	Unknown	EA15002	Electrical worker was injured from contact with transformer	Unknown	Injury	N/A
2015	Jan	Thorold	Occupation	No	No	Improper installation	WU115002	Worker was injured when working in a building; a phase conductor was found to be wired to the neutral, energizing all grounded metal components	Unknown	Injury	N/A
2015	Jan	Chatham	Occupation	Yes	Yes	Improper procedure	WU115001	Near miss from contact between excavator and overhead powerline	No	None	N/A
2015	Jan	Hamilton	Occupation	No	No	Improper procedure	SI15001	Electrical worker was injured from arc event when performing maintenance on energized generator splitter	No	Injury	N/A
2015	Jan	Toronto	Occupation	No	No	N/A	CA15008	Electrical worker was injured from arc flash when working within energized switchboard	Unknown	Injury	N/A
2014	May	Guelph	Occupation	No	No	Improper procedure	WI16006	Electrical worker was injured from arc flash when installing metering equipment in an energized distribution panel	Yes	Injury	Unknown
2014	Dec	London	Fire	No	No	Improper use	SF14003	Property damage from fire originating from light tube	Yes	None	Unknown
2014	Dec	Falconbridge	Fire	No	No	Human error	NF14007	Property damage from fire originating from space heater being placed too closely to combustibles	Yes	None	Yes
2014	Dec	London	N/A	Yes	Yes	Improper installation	WA14018	Property damage from fire when ice melting heat trace cable failed on the roof and caught fire	Yes	None	N/A
2014	Dec	Toronto	Occupation	No	No	Improper procedure	CA14005	Electrical worker was injured from arc flash when working on energized switchboard where bond wire made contact with phase conductor	Unknown	Injury	N/A
2014	Dec	Niagara-on-the-Lake	Occupation	Yes	Yes	Improper procedure	WUA14018	Near miss from contact between severed tree branch and 16 kV single phase line	No	None	N/A
2014	Dec	Niagara-on-the-Lake	Occupation	Yes	Yes	Improper procedure	WUA14017	Near miss from contact between severed tree branch and 2.4 kV single line	No	None	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2014	Nov	Atikokan	Occupation	No	No	Unknown	NA14004	Property damage from arc flash when electrical worker was closing a breaker	Yes	None	N/A
2014	Nov	Milton	Occupation	No	No	Improper procedure	WA14017	Worker was injured when driving rebar into concrete encased duct; shorting out the duct	Yes	Injury	N/A
2014	Oct	Kingston	Fire	No	No	Improper installation	EF14022	Property damage from fire originating from damaged conductors in ceiling space	Yes	None	Unknown
2014	Oct	Toronto	Occupation	No	No	Unknown	CUA14008	Property damage from arc flash from working in a vault of the secondary side of a transformer	Yes	None	N/A
2014	Oct	Brampton	Occupation	Yes	Yes	Improper procedure	SA14002	Near miss from contact between auger and overhead 44 kV powerline	No	None	N/A
2014	Oct	Toronto	Occupation	No	No	Improper procedure	CA14004	Worker was injured from arc flash when cutting wires in a disconnect switch box	No	Injury	N/A
2014	Oct	Acton	Occupation	No	No	Improper procedure	WA14015	Electrical worker was injured from arc flash when removing a fuse in an energized fused disconnect switch	Unknown	Injury	N/A
2014	Oct	London	Non-occupation	No	Yes	Misadventure	WUA14014	Person was electrocuted in a transformer station; suspect copper theft	Yes	Fatality	N/A
2014	Oct	St. Catharines	Occupation	Yes	Yes	Improper procedure	WUA14015	Near miss from cutting into the wrong energized line; fuse was tripped	No	None	N/A
2014	Oct	Hamilton	Occupation	No	No	Unknown	WA14013	Electrical worker was injured from arc flash when troubleshooting a MCC	Unknown	Injury	N/A
2014	Oct	Etobicoke	Non-occupation	Yes	No	Misadventure	CA14009	Person was injured when making contact with another person who was electrocuted	Unknown	Injury	N/A
2014	Oct	Etobicoke	Non-occupation	Yes	No	Misadventure	CA14009	Person was electrocuted from contact with an overhead powerline	Unknown	Fatality	N/A
2014	Oct	Oshawa	Fire	No	No	Unknown	SF14002	Property damage from fire originating from bedroom receptacle	Yes	None	Unknown
2014	Oct	Mississauga	Occupation	No	No	Human error	CA14003	Property damage from contact between fish tape and energized bus	Yes	None	N/A
2014	Sep	Petrolia	Fire	Yes	Yes	Improper installation	WUA14012	Property damage from fire when a metallic rigid conduit became a conductor	Yes	None	N/A
2014	Sep	West Lincoln	N/A	No	No	Loose connection	WA14016	Property damage from arcing when lug feeding a 100 A disconnect switch fell off the bus bar and shorted to an adjacent phase	Yes	None	N/A
2014	Aug	Toronto	Occupation	Yes	Yes	Improper procedure	CUA14006	Electrical worker was injured from contact with energized equipment when performing maintenance work on 14 kV equipment in substation	Unknown	Injury	N/A
2014	Aug	Toronto	Occupation	No	No	Improper installation	CA14001	Electrical worker was injured when plugging into dishwasher; neutral and hot wires were reversed	Unknown	Injury	Unknown

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2014	Aug	Huntsville	Non-occupation	No	Unknown	Damaged equipment	NA14003	Person was injured from contact between broken charger and receptacle in public dock	Unknown	Injury	Yes
2014	Aug	Cherry Valley	Occupation	No	No	Improper installation	EA14003	Worker was injured from contact between copper waterline and frame of mobile structure	Unknown	Injury	N/A
2014	Aug	Toronto	Non-occupation	No	No	Misadventure	CA14002	Person was injured from contact with exposed energized relays in elevator machine room	Unknown	Injury	N/A
2014	Aug	Thunder Bay	Occupation	Yes	Yes	Improper procedure	NA14002	Property damage from contact between 4 kV duct bank and backhoe	Yes	None	N/A
2014	Aug	London	Fire	Yes	Yes	Equipment failure	WUA14011	Property damage from fire when underground cable faulted	Yes	None	N/A
2014	Jul	Stratford	Occupation	No	No	Unknown	WF14011	Property damage from fire when removing plaster on the backside of electrical service panel	Yes	None	N/A
2014	Jul	Thorold	Occupation	Yes	Yes	Miscommunication	WUA14008	Near miss from contact between auger and underground 13.8 kV powerline	No	None	N/A
2014	Jul	Windsor	Fire	No	No	Unknown	WF14010	Property damage from fire from electric stove	Yes	None	Unknown
2014	Jul	Ottawa	Occupation	No	No	Incorrect installation	EA14001	Worker was injured from arc flash when installing duct work insulation and was pushing protruding wires into junction box	Yes	Injury	N/A
2014	Jun	Belleville	Occupation	Yes	Yes	Unknown	EUA14001	Worker was injured from arc flash from contact between overhead powerline and flashing	Unknown	Injury	N/A
2014	Jun	Kitchener	Fire	No	No	Improper installation	WF14014	Property damage from fire originating from a built-in hair dryer	Yes	None	Unknown
2014	Jun	Cambridge	Occupation	Yes	Yes	Human error	WA14009	Property damage from contact between boom truck and overhead powerlines	Yes	None	N/A
2014	Jun	Cambridge	Occupation	Yes	Yes	Human error	WA14009	Property damage from contact between boom truck and overhead powerlines	Yes	None	N/A
2014	Jun	London	Non-occupation	No	No	Unknown	WA14011	Person was injured when resetting a 15 A single pole breaker	Unknown	Injury	N/A
2014	Jun	Thunder Bay	Occupation	Yes	Unknown	Miscommunication	NA14001	Property damage from contact between excavator and exposed cables	Yes	None	N/A
2014	Jun	Thunder Bay	Fire	No	No	Equipment failure	NF14003	Property damage from fire originating from lamp	Yes	None	Unknown
2014	Jun	London	Fire	No	No	Unknown	WF14009	Property damage from fire originating from toaster	Yes	None	Unknown
2014	Jun	Ottawa	Fire	No	No	Unknown	EF14013	Property damage from fire originating from keyless light in furnace room	Yes	None	Unknown

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2014	May	Cambridge	Occupation	No	No	Misuse	WA14010	Near miss from worker incorrectly connecting generator to a residential complex for temporary power; transformer was rated 347/600 V on a 120/208 V system on site	No	None	N/A
2014	May	Windsor	Non-occupation	No	No	Unknown	WA14008	Person was injured when removing winter caps to open in ground pool	No	Injury	N/A
2014	May	Gravenhurst	Fire	No	No	Improper installation	NF14006	Property damage from fire originating from heater that was poorly wired in a non-compliant manner; paper clip was used to complete a circuit	Yes	None	Yes
2014	May	Middletown Township	Non-occupation	Yes	Yes	Unknown	WUA14004	Person was injured from contact between falling tree branch and 16 kV powerline	Unknown	Injury	N/A
2014	Apr	Niagara Falls	Fire	No	No	Unknown	WF14003	Property damage from fire originating from light fixture	Yes	None	Unknown
2014	Apr	Greater Napanee	Fire	No	No	Lack of maintenance	EF14011	Property damage from fire originating from exhaust fan that had not been cleaned and was covered in dust and dirt	Yes	None	Unknown
2014	Apr	Ottawa	Fire	No	No	Equipment failure	EF14012	Property damage from fire originating from force flow heater	Yes	None	Unknown
2014	Apr	Niagara-on-the-Lake	Non-occupation	No	No	Improper installation	WA14007	Person was electrocuted from an incorrectly installed electrical heated floor	Unknown	Fatality	Yes
2014	Apr	Guelph	Fire	No	No	Unknown	WF14005	Property damage from fire from energized potlight that overheated wood	Yes	None	Unknown
2014	Apr	Ottawa	Fire	No	No	Unknown	EF14009	Property damage from fire originating from ceiling space where #6 AWG conductor cable feeding a furnace was not properly supported	Yes	None	Unknown
2014	Mar	Burlington	Occupation	Yes	Yes	Unknown	WUA14005	Worker was injured from contact between ladder and 2400 V overhead powerline	Yes	None	N/A
2014	Feb	London	Fire	No	Yes	Unknown	WUA14002	Property damage from explosion from faulting utility transformer	Yes	None	N/A
2014	Feb	Cambridge	Fire	No	No	Over fusing	WF14006	Property damage from fire when a 30 A fuse blew from a failing heater	Yes	None	Unknown
2014	Feb	St. Catharines	Occupation	No	No	Unknown	WA14006	Worker was injured when installing a new gas water heater	No	Injury	Unknown
2014	Feb	Ottawa	Fire	Yes	Unknown	Unknown	EF14004	Property damage from fire when deteriorated exterior service melted at ground level, allowing water into conduit; conductors faulted phase to phase, or phase to ground	Yes	None	N/A
2014	Feb	Ottawa	Fire	No	No	Improper use	EF14005	Property damage from fire originating from extension cord used to feed portable heater	Yes	None	Unknown
2014	Feb	Toronto	Occupation	Yes	Yes	Improper procedure	CUA14002	Electrical worker was injured when working on an energized switch	Unknown	Injury	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2014	Feb	Toronto	Occupation	Yes	Yes	Improper procedure	CUA14002	Electrical worker was injured when working on an energized switch	Unknown	Injury	N/A
2014	Feb	St. Catharines	Occupation	No	Unknown	Improper procedure	WA14004	Near miss when electrical worker made contact with energized equipment with screwdriver	Unknown	None	N/A
2014	Feb	Stirling	Fire	No	No	Unknown	EF14003	Property damage from fire originating from a light fixture	Yes	None	Unknown
2014	Feb	Cobourg	Fire	No	No	Loose connection	SF14001	Property damage from fire originating from outer sock of tandem lamp holder; a loose connection resulted in excessive heating	Yes	None	Unknown
2014	Feb	Adelaide Metcalfe	Occupation	Yes	Yes	Improper procedure	WUA14001	Near miss from contact between auger and underground 4.8 kV primary cable	No	None	N/A
2014	Feb	Simcoe	Occupation	No	No	Improper procedure	WA14003	Electrical contractor was injured when replacing defective limit switch within energized panel	No	Injury	N/A
2014	Feb	Thunder Bay	Fire	No	No	Improper installation	NF14002	Property damage from fire originating from electrical panel; screw for bonding had penetrated red wire	Yes	None	N/A
2014	Jan	Toronto	Occupation	Yes	Yes	Unknown	CUA14001	Worker was injured from contact between ladder and overhead powerline	Unknown	Injury	N/A
2014	Jan	Windsor	Occupation	No	No	Improper installation	WA14002	Near miss from arc flash when secondary cables faulted due to damage from a guy anchor which had been installed into a secondary duct for dead end guy support	No	None	Unknown
2014	Jan	Thunder Bay	Fire	No	No	Unknown	NF14001	Property damage from fire originating from bathroom fan cable; evidence of rodent contact	Yes	None	Unknown
2014	Jan	St. Marys	N/A	No	No	Lack of maintenance	WA14001	Property damage from arc flash when a combination starter exploded within a switch gear	Yes	None	N/A
2014	Jan	Ottawa	Fire	No	No	Incorrect installation	EF14001	Property damage from fire originating from wiring near a ceiling octagon box; wiring was fed through the box without proper connector leading to a compressed wire	Yes	None	N/A
2014	Jan	Thorold	Fire	No	No	Lack of maintenance	WF14001	Property damage from fire when excessive moisture entered control panel of duct heating	Yes	None	N/A
2014	Dec	Wyoming	Fire	No	Yes	Unknown	WUA13009	Property damage from fire originating from meter	Yes	None	No
2014	Jul	Chatham	Occupation	Yes	Yes	Unknown	WUA14009	Near miss from contact between helicopter crop duster and overhead powerline	No	None	N/A
2014	Jul	Port Stanley	Occupation	No	No	Incorrect procedure	WA14019	Electrical worker was injured from arc flash when wire from neutral conductor in control panel came into contact with energized 600 V fuse	Unknown	Injury	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2013	Dec	Brock Township	Occupation	No	Unknown	Misuse	EA13012	Person was electrocuted when contacting an energized 27.6 kV transformer; building safety systems had been bypassed	Unknown	Fatality	N/A
2013	Dec	Woodstock	Non-occupation	No	No	Improper installation	WA13022	Person was injured from contact with building downspout; an improperly installed sign that had no bonding was found	Unknown	Injury	Unknown
2013	Dec	Ottawa	Occupation	No	No	Equipment failure	EA13013	Worker was injured when a tube fell out of a light fixture and made contact with the skate sharpening machine that was being operated on	Yes	Injury	Unknown
2013	Nov	Oshawa	Occupation	No	No	Improper procedure	EA13010	Worker was injured when attempting to work on energized equipment within a glue machine	Unknown	Injury	Yes
2013	Nov	Cornwall	Occupation	Yes	Yes	Lack of hazard assessment	EUA13005	Near miss from contact between tractor trailer catwalk and overhead lines	Yes	None	N/A
2013	Nov	Niagara-on-the-Lake	Occupation	No	No	Unknown	WA13020	Electrical worker was injured when resetting a tripped 400 A breaker on temporary service	Unknown	Injury	N/A
2013	Nov	Thorold	Occupation	No	No	Unknown	WA13019	Electrical worker was injured when touching an EMT conduit running as part of a temporary feed between two buildings; junction box was not properly bonded	Unknown	Injury	N/A
2013	Oct	Forest	N/A	Yes	Yes	Aging	WUA13008	Property damage when a porcelain insulator on a 27.6 kV broke, causing line to fall on 2.4 kV line below and creating a surge to the feeder	Yes	None	N/A
2013	Oct	Toronto	Occupation	No	No	Improper procedure	CA13007	Electrical worker was injured from arc flash when removing cable from energized 416 V disconnect switch; bonding conductor in cable made contact with energized lug	Yes	Injury	N/A
2013	Oct	Tavistock	Non-occupation	No	No	Human error	WA13018	Near miss from arcing when resident's bed made contact and dislodged mounted wire mould box off the wall	Yes	None	N/A
2013	Oct	Sudbury	Fire	No	No	Misuse	NF14004	Property damage from fire when combustibles were placed on the stove top plates	Yes	None	N/A
2013	Oct	Mississauga	Occupation	No	No	Improper procedure	CA13006	Electrical worker was electrocuted when cutting into energized 347 V switch	Yes	Fatality	N/A
2013	Oct	Ottawa	Occupation	No	No	Faulty equipment	EA13011	Worker was injured originating from mixer that had a broken ground pin and a pinched wire	Yes	Injury	Yes
2013	Oct	Sault Ste. Marie	Fire	No	No	Equipment failure	NF13004	Property damage from fire originating from shredder	Yes	None	N/A
2013	Oct	Markham	Fire	No	No	Improper installation	CF13006	Property damage from fire originating from canopy where neon lights were replaced by LED; two neon transformers were missed and left energized	Yes	None	Unknown

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2013	Oct	Thunder Bay	Occupation	Yes	No	Lack of hazard assessment	NA13006	Near miss from contact between excavator and utility cable	No	None	N/A
2013	Oct	London	Fire	No	No	Human error	WF13009	Property damage from fire originating from stove	Yes	None	Unknown
2013	Sep	Toronto	Occupation	No	No	Human error	CA13005	Electrical worker was injured from an energized scissor lift with a punctured extension cord	Yes	Injury	N/A
2013	Sep	Toronto	Occupation	No	No	Human error	CA13005	Electrical worker was injured from an energized scissor lift with a punctured extension cord	Yes	Injury	N/A
2013	Sep	Mississauga	Fire	No	No	Unknown	CF13004	Property damage from fire originating from ceiling light fixture or associated wiring	Yes	None	Unknown
2013	Aug	Kingsville	Occupation	Yes	Yes	Unknown	WUA13007	Near miss from contact between excavator and 16 kV underground primary cable	No	None	N/A
2013	Sep	North Dumfries	Occupation	Yes	Yes	Lack of hazard assessment	WUA13006	Near miss from contact between dump truck and overhead powerlines	No	None	N/A
2013	Aug	Stoney Creek	Occupation	No	No	Improper procedure	WA13015	Electrical worker was electrocuted after repairing an overhead crane	Unknown	Fatality	N/A
2013	Aug	Lambton Shores	Occupation	Yes	Yes	Unknown	WUA13004	Near miss from contact between excavator and primary submarine cable	No	None	N/A
2013	Aug	Markham	Occupation	Yes	Yes	Unknown	SUA13005	Near miss from contact between excavator and overhead secondary powerline	No	None	N/A
2013	Aug	Sugar Bush Island	Non-occupation	Yes	Unknown	Unknown No	EUA13003	Person was electrocuted when weed whacker made contact with powerline	Unknown	Fatality	N/A
2013	Jul	Minto	Non-occupation	Yes	Yes	Human error	WUA13010	Near miss from contact between plane and primary overhead powerline	Yes	None	N/A
2013	Jul	Thorndale	Occupation	No	No	Improper procedure	WA13013	Worker was electrocuted when working on pipe extruder when contact was made with energized equipment	Unknown	Fatality	N/A
2013	Jul	Mississauga	Fire	No	No	Loose connection	CF13005	Property damage from fire when a 3000 A bus duct had failed; loose terminations were found	Yes	None	N/A
2013	Jul	Sault Ste. Marie	Fire	No	No	Unknown	NF13002	Property damage from fire when copper conductor failed at point of entry into receptacle; nick in wire found	Yes	None	N/A
2013	Jun	Whitby	Fire	No	No	Unknown	SA13004	Property damage from contact between screwdriver and line side of breaker in MCC unit	Yes	None	N/A
2013	Jun	Windsor	Occupation	Yes	Yes	Unknown	WUA13005	Worker was injured from arc flash when chainsaw made contact with high voltage overhead powerline during tree trimming	Unknown	Injury	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2013	Jun	Goderich	Non-occupation	No	No	Incorrect installation	WA13006	Person was injured when leaning on an energized metal fire extinguisher; one of the screws used for fastening it had pierced a PVC conductor which was feeding 347 V to the exit lighting	Unknown	Injury	N/A
2013	Jun	New Hamburg	Non-occupation	Yes	Yes	Misadventure	WUA13004	Person was injured from contact with 27.6 kV conductors while climbing a utility pole	Unknown	Injury	N/A
2013	Jun	Ilderton	Fire	No	No	Aging	WF13002	Property damage from fire when HVAC ventilation fire starter coil failed	Yes	None	N/A
2013	Jun	Windsor	Occupation	Yes	Yes	Unknown	WUA13002	Person was injured from arc flash when screwdriver made contact with a ground wire	Unknown	Injury	N/A
2013	Jun	Toronto	Occupation	No	No	Improper procedure	CUA13005	Near miss from contact between backhoe and 13.8 kV duct bank	No	None	N/A
2013	Jun	Ancaster	Non-occupation	No	Yes	Misadventure	WUA13003	Person was injured from contact with 115 kV tower; person was climbing tower to take pictures	No	Injury	N/A
2013	Jun	London	Fire	No	No	Animal	WF13004	Property damage from fire originating from a cable feeding a light fixture with evidence of rodent contact	Yes	None	Unknown
2013	May	Scarborough	Occupation	No	No	Lack of training	CA13003	Worker was electrocuted while working on a 347 V switch and made contact with energized equipment	Unknown	Fatality	N/A
2013	May	Ingersoll	Fire	No	No	Unknown	WF13006	Property damage from fire from a transformer with a history of failing	Yes	None	N/A
2013	May	Windsor	Occupation	No	No	Unknown	WA13011	Worker was injured from arc flash while cleaning electrical equipment that was energized	Unknown	Injury	N/A
2013	May	Sarnia	Occupation	No	Yes	Human error	WUA13001	Near miss from contact between a multimeter and primary energized terminal	No	None	N/A
2013	May	Mississauga	Occupation	No	No	Unknown	CA13004	Near miss from contact between a multimeter and energized terminals	No	None	N/A
2013	May	Guelph	Occupation	No	No	Poor design	WA13004	Electrical worker was injured from contact with hoist cover; hoist was plugged in incorrectly	Unknown	Injury	N/A
2013	May	Hamilton	Occupation	No	No	Improper procedure	WA13010	Electrical worker was injured from arc flash when attempting to cut the DC output leads of the charger	Unknown	Injury	N/A
2013	May	Dryden	Occupation	Yes	Yes	Human error	NA13005	Near miss from contact between excavator boom and 14 kV overhead powerline	Yes	None	N/A
2013	May	Neebing	Occupation	Yes	Yes	Lack of hazard assessment	NA13002	Near miss from contact between aerial work platform and overhead 25 kV powerline	No	None	N/A
2013	May	Oakville	Fire	No	No	System failure	SF13002	Property damage from fire originating from distribution panel board	Yes	None	Unknown

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2013	May	Neebing	Occupation	No	Unknown	Unknown	NA13001	Worker was injured when leaning on building; cover fell off a service connection resulting in a live phase making contact with the steel building	Unknown	Injury	N/A
2013	Apr	Saugeen Shores	Occupation	Yes	Yes	Human error	WUA13000	Near miss from contact between tree trimming and primary conductor	No	None	N/A
2013	Apr	Bracebridge	Occupation	No	No	Human error	NA13001	Near miss when wrong feeding wire was cut	No	None	N/A
2013	Apr	Ancaster	Fire	No	No	Unknown	WF13003	Property damage when two transformers overheated and caught on fire	Yes	None	N/A
2013	Apr	St. Catharines	Occupation	Yes	No	Lack of hazard assessment	WA13007	Near miss from contact between excavator and underground secondary bus duct	No	None	N/A
2013	Apr	Ottawa	Fire	No	Yes	Unknown	EF13006	Property damage from fire originating from line side of disconnect switch feeding detached home	Yes	None	N/A
2013	Apr	Greater Napanee	Fire	No	No	Over fusing	EF13007	Property damage from fire originating from power bar cord; branch circuit feeding this outlet this cord was plugged into was overfused at 30 A instead of 15 A	Yes	None	Unknown
2013	Apr	Brampton	Occupation	No	No	Unknown	SA13002	Person was injured from contact with cover plate of night light; may have been a pinched wire	No	Injury	Unknown
2013	Apr	Brampton	Non-occupation	No	No	Unknown	SA13002	Person was injured from contact with cover plate of night light; may have been a pinched wire	No	Injury	N/A
2013	Apr	Teeswater	Occupation	No	No	Human error	WA13008	Near miss from arc flash when fault occurred in switchgear after a set of grounds were left on	No	None	N/A
2013	Apr	Southgate Township	Occupation	No	No	Unknown	WA13003	Worker was injured when coming into contact with a welding control box	Unknown	Injury	N/A
2013	Mar	Thunder Bay	Non-occupation	No	No	Lack of awareness of hazard	NA13004	Person was injured when coming into contact of exposed energized terminals of a dryer whose back cover had fallen off	Unknown	Injury	N/A
2013	Mar	Mississauga	Fire	No	No	Unknown	CF13002	Property damage from fire originating from subpanel in basement	Yes	None	N/A
2013	Mar	Sturgeon Falls	Fire	No	No	Improper installation	NF13002	Property damage from fire originating from bathroom receptacle; loose connection in a GFCI receptacle was found	Yes	None	Unknown
2013	Mar	Kingston	Occupation	No	No	Improper procedure	EA13005	Worker was injured when performing a Megger test at a 3000 V railway switch	Unknown	Injury	N/A
2013	Mar	Dover	Occupation	No	No	Unknown	WA13003	Near miss from explosion in a 230 kV substation; attributed to a phase to ground short in switchgear	No	None	N/A
2013	Mar	Cobourg	Occupation	No	No	Equipment failure	EA13003	Near miss when a fused disconnect switch failed, blowing all fuses	No	None	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2013	Mar	Toronto	Fire	No	Yes	Unknown	CUA13003	Near miss from fire in underground cable chamber	No	None	N/A
2013	Mar	Orangeville	Occupation	Yes	Yes	Lack of hazard assessment	CUA13004	Near miss from contact between dump truck and overhead powerlines	No	None	N/A
2013	Mar	Toronto	Fire	No	Yes	Unknown	CUA13002	Near miss from fire in underground cable chamber	No	None	N/A
2013	Feb	Toronto	Fire	No	No	Unknown	SF13001	Property damage from fire originating from joists under the first floor	Yes	None	Unknown
2013	Feb	Ottawa	Occupation	No	No	Improper procedure	EA13004	Worker was electrocuted when making contact with leads of capacitor while performing the work	Unknown	Fatality	N/A
2013	Feb	Brampton	Occupation	No	No	Improper installation	CA13002	Worker was injured when unintentionally making contact with energized conductors while installing overhead door operator	Unknown	Injury	N/A
2013	Feb	Brockville	Fire	No	No	Unknown	EF13009	Property damage from fire originating from solar panel inverter housing	Yes	None	Unknown
2013	Feb	Rockland	Fire	No	No	Incorrect installation	EF13002	Property damage from fire when the neutral and voltage lines were reversed in the solar panel control system, creating energized system	Yes	None	N/A
2013	Feb	Toronto	Occupation	Yes	Yes	Lack of hazard assessment	CUA13001	Near miss from contact between crane and 27 kV overhead powerline	Yes	None	N/A
2013	Feb	Milton	Occupation	No	No	Equipment failure	WA13000	Near miss when a short circuit occurred on the line side of the switchgear in a main breaker	No	None	N/A
2013	Feb	Woodstock	Occupation	No	No	Human error	WA13001	Electrical worker was injured from arc flash when concentric neutrals made contact with energized main bus at back of switchgear	Unknown	Injury	N/A
2013	Feb	Ottawa	N/A	No	No	Equipment failure	EA13006	Near miss from general switch that failed as a result of in-rush current	No	None	N/A
2013	Jan	Thunder Bay	Fire	No	No	Equipment failure	NF13001	Property damage from fire when DA double fused pullout failed	Yes	None	N/A
2013	Jan	Toronto	Fire	No	No	Water leak	CF13003	Property damage from fire when a flood made its way into the basement electrical room disconnect switch	Yes	None	N/A
2013	Jan	Mississauga	Fire	No	No	Unknown	CF13001	Property damage from fire originating from disconnect switch in electrical room	Yes	None	N/A
2013	Jan	Mississauga	Occupation	No	No	Equipment failure	SA13001	Worker was injured when inflator shorted and burned	Yes	Injury	Yes
2013	Jan	Williamsburg	Fire	No	No	Unknown	EF13001	Property damage from fire originating from back of house	Yes	None	Unknown

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2013	Jan	Kingston	Occupation	No	No	Improper procedure	EA13001	Near miss from contact between RGC saw and underground feeders; worker was cutting concrete	No	None	N/A
2013	Oct	Port Perry	Occupation	No	Unknown	Improper procedure	EUA13004	Person was electrocuted when removing padlock off a pad mount transformer and contacted energized equipment	No	Fatality	N/A
2013	Oct	Southwold	Occupation	Yes	No	Human error	WA13017	Near miss when underground HV was cut	No	None	N/A
2013	Aug	Watford	Occupation	Yes	No	Lack of hazard assessment	WA13012	Worker was electrocuted when metal supports of tent made contact with overhead powerline	Unknown	Fatality	N/A
2013	Aug	Watford	Occupation	Yes	No	Lack of hazard assessment	WA13012	Worker was injured when metal supports of tent made contact with overhead powerline	Unknown	Injury	N/A
2013	Aug	Watford	Occupation	Yes	No	Lack of hazard assessment	WA13012	Worker was injured when metal supports of tent made contact with overhead powerline	Unknown	Injury	N/A
2013	Aug	Watford	Occupation	Yes	No	Lack of hazard assessment	WA13012	Worker was injured when metal supports of tent made contact with overhead powerline	Unknown	Injury	N/A
2013	Aug	Watford	Occupation	Yes	No	Lack of hazard assessment	WA13012	Worker was injured when metal supports of tent made contact with overhead powerline	Unknown	Injury	N/A
2013	Jul	Central Elgin	Occupation	Yes	Yes	Human error	WA13016	Near miss from contact between helicopter and 4.8 kV distribution line	No	None	N/A
2012	Dec	North York	Occupation	No	No	Improper use	CA12015	Worker was electrocuted when operating a drive saw that had a replacement cord cap on its cord which had a ground pin removed	Unknown	Fatality	Yes
2012	Dec	Belleville	Fire	No	No	Human error	EF12031	Property damage from fire originating from electric wall heater and debris falling into it	Yes	None	Unknown
2012	Dec	Ottawa	Occupation	Yes	Yes	Lack of awareness of hazard	EUA12005	Worker was injured from contact between excavator and an underground 13.8 kV line	Unknown	Injury	N/A
2012	Dec	Toronto	Occupation	No	No	Human error	CA12012	Worker was injured when relocating disconnect switches for charging stations in a plant; main disconnect switch was energized	Unknown	Injury	N/A
2012	Dec	Petrolia	Non-occupation	No	No	Equipment failure	WA12019	Person was injured from arc flash when testing a receptacle with a multimeter; red lead was placed into the hot side	Unknown	Injury	N/A
2012	Dec	Belleville	Fire	No	No	Unknown	EF12028	Property damage from fire from conductor failure	Yes	None	N/A
2012	Nov	Cookstown	Occupation	No	Yes	Poor design	CUA12009	Near miss when contact was made between fish tape and energized bus	No	None	N/A
2012	Nov	Osgoode	Fire	Yes	No	Act of God	EF12026	Property damage from fire from duress on the conductors at the bottom of the service entrance conduit	Yes	None	N/A
2012	Nov	Toronto	Occupation	Yes	Yes	Lack of hazard assessment	CUA12008	Near miss from contact between crane and overhead high voltage powerline	No	None	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2012	Nov	Niagara Falls	Fire	No	No	Equipment failure	WF12007	Property damage from fire originating from failed splitter block behind a TV	Yes	None	Unknown
2012	Nov	Toronto	Occupation	Yes	Yes	Miscommunication	CUA12007	Near miss from contact between excavator and underground 13.8 kV duct bank	No	None	N/A
2012	Nov	Welland	Occupation	No	No	Human error	WA12019	Near miss when solar panel controls failed from an incorrect wiring installation	No	None	Unknown
2012	Nov	Brougham Township	Fire	No	No	Equipment failure	EF12029	Property damage from fire originating on line side terminations of a 600 V disconnect switch; loose connection at the terminal of this phase	Yes	None	N/A
2012	Nov	Lambton Shores	Non-occupation	Yes	Yes	Unknown	WUA12022	Near miss from contact between tree trimming and overhead powerline	No	None	N/A
2012	Oct	Sarnia	Occupation	Yes	Yes	Improper procedure	WUA12019	Worker was electrocuted when working overhead in a bucket repairing a broken neutral	Unknown	Fatality	N/A
2012	Oct	Whitby	Occupation	Yes	Yes	Human error	SA12009	Near miss from contact between sailboat mast and overhead powerline	No	None	N/A
2012	Oct	Ottawa	Fire	No	No	Unknown	EF12021	Property damage from fire originating from closet halogen light	Yes	None	Unknown
2012	Oct	Sault Ste. Marie	Fire	No	No	Improper use	NF12002	Property damage from fire originating from extension cord with signs of balling and arcing	Yes	None	Yes
2012	Oct	Owen Sound	Occupation	Yes	Yes	Lack of hazard assessment	WUA12018	Worker was injured from arc flash when lawn tractor trailer caught an air break switch	No	Injury	N/A
2012	Oct	Casselman	Fire	No	No	Equipment failure	EF12022	Property damage from fire originating from fluorescent light fixture	Yes	None	Unknown
2012	Oct	Mississauga	Fire	No	No	Improper installation	CF12005	Property damage from fire originating from spray booth that had non compliant wiring	Yes	None	N/A
2012	Oct	Mount Forest	Occupation	Yes	Yes	Lack of hazard assessment	WUA12017	Near miss from contact between delivery truck and secondary overhead powerline	No	None	N/A
2012	Oct	Bancroft	Occupation	Yes	Yes	Unknown	EUI16029	Worker was injured from contact when delivery truck made contact with overhead powerline	Unknown	Injury	N/A
2012	Oct	Toronto	Occupation	Yes	No	Lack of hazard assessment	CA12013	Near miss from contact between excavator and crushed bus duct	No	None	N/A
2012	Sep	Oshawa	Occupation	Yes	Yes	Lack of hazard assessment	EUA12004	Worker was injured when metal ladder made contact with 8 kV overhead powerline	Unknown	Injury	N/A
2012	Sep	Oshawa	Occupation	Yes	Yes	Lack of hazard assessment	EUA12004	Worker was injured when metal ladder made contact with 8 kV overhead powerline	Unknown	Injury	N/A
2012	Sep	Ottawa	Fire	No	No	Loose connection	EF12010	Property damage from fire originating from electrical panelboard; main breaker had a loose termination with heavy signs of arcing	Yes	None	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2012	Sep	St. Catharines	Occupation	No	No	Human error	WA12018	Worker was injured from arc flash when working on live disconnect switch	Unknown	Injury	N/A
2012	Sep	Mississauga	Occupation	No	No	Improper procedure	CA12011	Worker was injured while working on live disconnect switch	Yes	Injury	Unknown
2012	Sep	London	Occupation	No	No	Improper procedure	WA12013	Worker was injured by explosion when bug spray made contact with water heater	Unknown	Injury	Unknown
2012	Sep	London	Occupation	No	No	Improper procedure	WA12013	Worker was injured by explosion when bug spray made contact with water heater	Unknown	Injury	Unknown
2012	Aug	Kingston	Occupation	Yes	Yes	Lack of hazard assessment	EUA12002	Near miss from contact between excavator and overhead secondary powerline	No	None	N/A
2012	Aug	Napanee	Fire	No	No	Unknown	EF12014	Property damage from fire originating from outside of house at connection point between utility conductor and consumer cable; circuit was ungrounded	Yes	None	N/A
2012	Aug	St. Catharines	Occupation	No	No	Damaged equipment	SA12005	Worker was injured when removing a cord from a receptacle; contact was made with exposed portion of another cord feeding power to an air compressor from same receptacle	Unknown	Injury	Unknown
2012	Aug	Newmarket	Fire	No	No	Improper installation	CF12003	Property damage from fire originating from meter base; conductor was found to be in contact with metal side of box resulting in high impedance fault to the neutral and energizing bonding path	Yes	None	N/A
2012	Aug	Windsor	Occupation	Yes	Yes	Lack of hazard assessment	WUA12016	Worker was injured from contact between 16 kV overhead powerline and scaffold	Unknown	Injury	N/A
2012	Aug	Mississauga	Fire	No	No	Unknown	CF12002	Property damage from fire originating from disconnect switch and splitter	Yes	None	N/A
2012	Aug	Kingston	Fire	No	No	Unknown	EF12017	Property damage from fire originating from branch wiring leading to luminaire	Yes	None	Unknown
2012	Aug	Ottawa	Fire	No	No	Unknown	EF12019	Property damage from fire originating from power bar	Yes	None	Unknown
2012	Aug	Whitby	Non-occupation	No	No	Unknown	SA12006	Person was injured while playing soccer; lighting pole near player bench had melted bonding conductor into a phase conductor, thus energizing its surroundings	Unknown	Injury	N/A
2012	Aug	Whitby	Non-occupation	No	No	Unknown	SA12006	Person was injured while playing soccer; lighting pole near player bench had melted bonding conductor into a phase conductor, thus energizing its surroundings	Unknown	Injury	N/A
2012	Aug	Whitby	Non-occupation	No	No	Unknown	SA12006	Person was injured while playing soccer; lighting pole near player bench had melted bonding conductor into a phase conductor, thus energizing its surroundings	Unknown	Injury	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2012	Aug	Whitby	Non-occupation	No	No	Unknown	SA12006	Person was injured while playing soccer; lighting pole near player bench had melted bonding conductor into a phase conductor, thus energizing its surroundings	Unknown	Injury	N/A
2012	Aug	Toronto	Occupation	No	No	Unknown	CA12010	Electrical worker was injured while making connections in a junction box	Unknown	Injury	N/A
2012	Aug	St. Thomas	Non-occupation	No	Yes	Damaged equipment	WA12015	Animal was injured when it made contact with a wooden streetlight pole; bare copper conductor was exposed at the base	No	None	N/A
2012	Aug	Wilmot	Non-occupation	No	No	Improper procedure	WA12012	Person was injured when working on an electrical panel	No	Injury	Unknown
2012	Jul	Cambridge	Occupation	Yes	No	Lack of hazard assessment	WA12016	Near miss from contact between crane boom and overhead powerline	No	None	N/A
2012	Jul	Mississauga	Occupation	No	No	Incorrect installation	CA12008	Electrical worker was injured from aluminum sheath in a coreflex cable that was not bonded on the supply end	Unknown	Injury	N/A
2012	Jul	Lasalle	Occupation	Yes	Yes	Lack of hazard assessment	WUA12013	Near miss from contact between boom truck and primary 4 kV overhead powerline	No	None	N/A
2012	Jul	Toronto	Occupation	Yes	Yes	Lack of hazard assessment	CUA12006	Near miss from contact between backhoe and 13.8 kV primary duct cable	No	None	N/A
2012	Jul	Concord	Occupation	No	No	Equipment failure	CA12007	Worker was injured from arc flash when disconnect switch failed	Yes	Injury	N/A
2012	Jul	London	Occupation	No	No	Incorrect procedure	WA12007	Worker was injured from arc flash when removing a fuse from energized disconnect switch	Unknown	Injury	N/A
2012	Jul	Dover	Occupation	Yes	Yes	Lack of hazard assessment	WUA12011	Near miss from contact between machine and overhead single phase primary line	No	None	N/A
2012	Jul	Sault Ste. Marie	Occupation	No	No	Improper procedure	NA12002	Worker was injured from arc flash when contact made with energized parts	Unknown	Injury	N/A
2012	Jul	Ottawa	Occupation	Yes	Yes	Lack of hazard assessment	EAU12003	Near miss from contact between excavator and underground powerline	No	None	N/A
2012	Jul	Toronto	Occupation	Yes	Yes	Lack of hazard assessment	CA12012	Worker was injured when excavator made contact with 13.8 kV powerline	Unknown	Injury	N/A
2012	Jun	Cambridge	Occupation	No	No	Unknown	WA12008	Near miss from contact between metal tip of air blow gun and winding transformer coil	No	None	N/A
2012	Jun	Guelph	Occupation	No	No	Lack of training	WA12006	Electrical worker was injured from arc flash when working on a fan that came into contact with energized equipment	Unknown	Injury	N/A
2012	Jun	Oakville	Fire	No	No	Equipment failure	SF12004	Property damage from fire originating in capacitor bank	Yes	None	N/A
2012	Jun	Toronto	Non-occupation	Yes	Yes	Lack of awareness of hazard	CUA12005	Near miss from contact between tree trimming and 27.6 kV overhead powerline	Unknown	None	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2012	Jun	Adolphustown	Fire	No	No	Incorrect installation	EF12009	Property damage from fire originating from heater in crawlspace; heater was mounted upside down in contradiction to manufacturer specifications	Yes	None	Unknown
2012	Jun	Campbellville	Occupation	No	No	Improper installation	WA12009	Worker was injured when making contact on fuel tank; tank did not meet applicable codes and wiring to the pumps were done with unapproved products	Unknown	Injury	Yes
2012	Jun	Milton	Non-occupation	No	No	Improper installation	WA12017	Person was injured when using hot tub; hot tub was not installed in accordance to manufacturer requirements	Unknown	Injury	Unknown
2012	Jun	Kingston	Non-occupation	No	No	Improper installation	EA12007	Person was injured when using pool pump; switch was incorrectly wired leaving a 120 V potential	Unknown	Injury	Unknown
2012	May	Timmins	Fire	No	No	Improper use	NF12003	Property damage from fire originating from glue gun; breaker for circuit had tripped	Yes	None	Yes
2012	May	Toronto	Occupation	No	No	Improper procedure	SA12005	Worker was injured when backfeed from another generator was on the same circuit as an energized generator terminal	No	Injury	Unknown
2012	May	Nipigon	Occupation	No	No	Improper procedure	NA12001	Worker was injured when making contact with an energized relay in HVAC unit	Unknown	Injury	N/A
2012	May	Oakville	N/A	No	No	Equipment failure	WA12010	Near miss from an explosion where underground cable failure occurred	No	None	N/A
2012	May	Vaughan	Occupation	No	No	Lack of training	CA12005	Worker was injured from arc flash when testing for voltage with a tester incorrectly	Unknown	Injury	N/A
2012	May	Alliston	Occupation	Yes	Yes	Lack of hazard assessment	CUA12001	Near miss from contact between dump truck and overhead 13.8 kV powerline	No	None	N/A
2012	Apr	Niagara Falls	Occupation	No	Yes	Human error	WUA12009	Near miss when solar array was incorrectly wired 240 V to the neutral	No	None	N/A
2012	Apr	Ottawa	Occupation	No	No	Improper installation	EA12004	Near miss from arc flash when wire was pinched during electrical maintenance	No	None	N/A
2012	Apr	St. Catharines	Occupation	Yes	Yes	Lack of awareness of hazard	WUA12007	Near miss from contact between excavator and underground powerline	No	None	N/A
2012	Apr	Woodbridge	Occupation	No	No	Equipment failure	CA12003	Worker was injured from arc blast when operating 600 V 30 A disconnect switch	Unknown	Injury	N/A
2012	Apr	Hamilton	Occupation	Yes	Yes	Human error	WA12005	Near miss when extension cord was inserted into 230 kV power swing stage	No	None	N/A
2012	Apr	Toronto	Occupation	No	No	Human error	CA12004	Property damage from arc flash from contact between fish tape and conduit that led to electrical distribution panel	Yes	None	N/A
2012	Apr	Belleville	Occupation	No	No	Unknown	EA12006	Near miss when underground conductors failed causing failure to panel board	No	None	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2012	Apr	Brockville	Non-occupation	No	No	Improper use	EA12005	Person was injured when unplugging a power cord from wall; paper clip had been untwisted and wrapped between two prongs on the plug of the cord	No	Injury	Yes
2012	Apr	St. Catharines	Occupation	Yes	Yes	Lack of awareness of hazard	WUA12006	Near miss from contact between excavator and underground powerline	No	None	N/A
2012	Mar	Nichol Township	Occupation	No	No	Mechanical damage	SA12003	Worker was injured when servicing a 400 W luminaire; metal housing was energized when fault occurred in the circuit	No	Injury	Unknown
2012	Mar	Toronto	Occupation	No	No	Improper procedure	CA12001	Electrical worker was injured from arc flash when replacing disconnect switch; contact was made with an energized conductor	Yes	Injury	N/A
2012	Mar	Ottawa	Fire	No	No	Unknown	EF12003	Property damage from fire originating from bathroom exhaust fan	Yes	None	Unknown
2012	Mar	Nepean	Occupation	Yes	Yes	Lack of hazard assessment	EUA12001	Worker was electrocuted when guiding truck boom into energized overhead powerline	Unknown	Fatality	N/A
2012	Mar	Nepean	Occupation	Yes	Yes	Lack of hazard assessment	EUA12001	Worker was injured when assisting coworker who had guided truck boom into energized overhead powerline	Unknown	Injury	N/A
2012	Mar	Nepean	Occupation	Yes	Yes	Lack of hazard assessment	EUA12001	Worker was injured when assisting coworker who had guided truck boom into energized overhead powerline	Unknown	Injury	N/A
2012	Mar	Dunwich Township	Non-occupation	Yes	Yes	Human error	WA12004	Near miss from contact from tree cutting and severed three phases of 4.8 kV overhead powerline	No	None	N/A
2012	Mar	Burlington	Occupation	Yes	Yes	Unknown	WUA12004	Near miss from contact between excavator and 13.8 kV underground powerline	No	None	N/A
2012	Mar	Peterborough	Occupation	No	No	Improper installation	EA12003	Near miss from arc flash when electrical worker drilled screws through the panel cover and into a 600 V breaker	No	None	N/A
2012	Mar	Burlington	Fire	No	No	Unknown	WF12002	Property damage from fire originating from attic	Yes	None	Unknown
2012	Mar	Puslinch	Fire	No	No	Unknown	WF12003	Property damage from fire originating from overheated garage door opener	Yes	None	Unknown
2012	Feb	Mississauga	Fire	No	No	Unknown	CF12001	Property damage from fire originating from service conductors inside a steel conduit	Yes	None	N/A
2012	Feb	Etobicoke	Non-occupation	No	No	Improper installation	CA12002	Person was injured when making contact with receptacle; receptacle was loose in outlet box and made contact with energized components in box	No	Injury	Unknown
2012	Feb	Ottawa	Fire	No	No	Unknown	EF12002	Property damage from fire originating from behind a microwave	Yes	None	Unknown
2012	Feb	Ayr	Occupation	No	No	Mechanical damage	SA12001	Worker was injured from contact with metal portion of a portable conveyor; power cord was pinched	No	Injury	Unknown

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2012	Feb	Cambridge	Occupation	Yes	Yes	Human error	WUA12002	Near miss from contact between tree falling and 23 kV primary line	Yes	None	N/A
2012	Feb	Beaverton	Occupation	No	No	Lack of training	EA13002	Worker was injured from arc flash when removing load side cable from disconnect switch; bonding conductor made contact with energized line side of switch	Unknown	Injury	N/A
2012	Jan	Brantford	Occupation	Yes	Yes	Lack of hazard assessment	WUA12003	Near miss from contact between truck boom and overhead 27.6 kV powerline	No	None	N/A
2012	Jan	Milton	Fire	No	No	Equipment failure	WF12001	Property damage from fire originating from overheated sump pump	Yes	None	N/A
2012	Jan	Kanata	Occupation	No	No	Improper installation	EA12002	Worker was injured when changing an energized ballast	Unknown	Injury	N/A
2012	Jan	Niagara Falls	Occupation	No	No	Improper procedure	SA12002	Near miss when a cable was cut from an energized disconnect switch	No	None	N/A
2012	Jan	Waterloo	Occupation	Yes	No	Human error	WUA12001	Near miss from contact between boom truck and overhead secondary line	No	None	N/A
2012	Jan	Belleville	Non-occupation	No	No	Equipment failure	EA11010	Person was injured from arc flash when cooking; stove top element had signs of arcing	Yes	Injury	Unknown
2012	Jan	Windsor	Occupation	No	No	Lack of awareness of hazard	WA12003	Worker was injured when putting out a fire in an energized home	Yes	Injury	Unknown
2012	Jan	Windsor	Occupation	No	No	Lack of awareness of hazard	WA12003	Worker was injured when putting out a fire in an energized home	Yes	Injury	Unknown
2012	Sep	Seaforth	Occupation	No	No	Unknown	WF12004	Worker was injured from an explosion at a farm	Yes	Injury	Unknown
2012	Sep	Seaforth	Occupation	No	No	Unknown	WF12004	Worker was injured from an explosion at a farm	Yes	Injury	Unknown
2012	Apr	Ashfield Township	Occupation	Yes	Yes	Unknown	WUA12008	Near miss from contact between tractor and 44 kW overhead powerline	No	None	N/A
2012	Apr	Southgate Township	Non-occupation	Yes	Yes	Human error	WUA12005	Near miss from contact between saw and overhead powerline	No	None	N/A
2011	Jan	Mississauga	Occupation	No	No	Incorrect procedure	MA11006	Near miss from arcing when a string to the combiner box was reversed when installing a rooftop PV system	No	None	N/A
2011	Dec	Osgoode	Fire	No	No	Unknown	EF11041	Property damage from fire originating from light fixture	Yes	None	Unknown
2011	Dec	Etobicoke	Occupation	No	No	Human error	CA11016	Near miss from contact between trenching equipment and underground conductors	No	None	N/A
2011	Dec	Camden Township	Occupation	Yes	Yes	Lack of hazard assessment	WA11023	Near miss from contact between dump truck and overhead powerlines	No	None	N/A
2011	Dec	St. Clair Township	Fire	No	No	Unknown	WF11021	Property damage from fire originating from a light fixture	Yes	None	Unknown

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2011	Dec	Huntsville	Fire	No	No	Unknown	NF11006	Property damage from fire originating from ceiling where two wire ungrounded cables passed through the ceiling joist	Yes	None	N/A
2011	Dec	Toronto	Fire	No	No	Poor design	CF11006	Property damage from fire when a partially open cabinet door as within proximity to potlight; cabinet door heated to point of ignition	Yes	None	Unknown
2011	Dec	Belleville	Fire	No	No	Over fusing	EF11039	Property damage from fire originating from wiring in attic; circuit was overfused	Yes	None	Unknown
2011	Dec	Etobicoke	Fire	No	No	Improper use	SF11003	Property damage from fire originating from battery chargers that were plugged in and left overnight; manufacturer's instructions indicated chargers not be plugged in overnight	Yes	None	Unknown
2011	Dec	Toronto	Occupation	No	No	Equipment failure	CA11017	Worker was injured from arc flash when removing a fuse out of switch; worker did not notice the blades within the "off" switch had failed to release	Unknown	Injury	N/A
2011	Dec	Brampton	N/A	No	No	Incorrect material	SA11005	Worker was injured from arc flash when turning on light switch; switch that failed controls eight ballasts and could not handle the in-rush current	Yes	Injury	N/A
2011	Nov	Kingston	Occupation	Yes	Yes	Lack of hazard assessment	EUA11003	Near miss from contact between dump truck and secondary overhead powerline	No	None	N/A
2011	Nov	Cornwall	Fire	No	No	Unknown	EF11038	Property damage from fire from fluorescent light fixture	Yes	None	Unknown
2011	Nov	Toronto	Occupation	No	No	Human error	CA11015	Near miss from contact between drill bit and coreflex conductors	No	None	N/A
2011	Nov		Non-occupation	Yes	Yes	Improper procedure	WA11021	Person was injured from contact with 4.8 kV overhead powerlines while tree trimming	No	Injury	N/A
2011	Nov	Toronto	Occupation	Yes	Yes	Lack of awareness of hazard	CA11014	Worker was injured when moving overhead supply conductors	Unknown	Injury	N/A
2011	Oct	Toronto	Occupation	No	No	Unknown	SA11003	Worker was injured when working on heating and air ventilation system; contact was made between screwdriver and energized parts of disconnect switch panel	Unknown	Injury	N/A
2011	Oct	Toronto	Occupation	No	No	Unknown	CA11013	Worker was injured when climbing a scaffold and operating a shut off valve	Unknown	Injury	N/A
2011	Oct	Toronto	Occupation	No	No	Equipment failure	CA11012	Electrical worker was injured from arc flash from a faulty disconnect switch	Unknown	Injury	N/A
2011	Oct	Burlington	Occupation	No	No	Improper procedure	WA11020	Electrical worker was burned from arc flash when screwdriver made contact with energized parts of disconnect switch	Yes	Fatality	N/A
2011	Oct	Elizabethtown	Fire	No	No	Unknown	EF11031	Property damage from fire originating from dryer fuse block in 200 A panel	Yes	None	Unknown

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2011	Oct	Guelph	Occupation	No	No	Incorrect procedure	WA11021	Electrical worker was injured from arc flash when moving filler plates and made contact with energized bus	Unknown	Injury	N/A
2011	Oct	Lavigne	Fire	No	No	Unknown	EF11030	Property damage from fire originating in 240 A 200 A distribution panel; dryer was running at the time	Yes	None	N/A
2011	Oct	Ottawa	Non-occupation	No	No	Misadventure	NA11004	Person was injured from arc flash when inserting key into receptacle	Unknown	Injury	Unknown
2011	Oct	Concord	Occupation	No	No	Miscommunication	CA11010	Electrical worker was injured from arc flash when drill made contact with energized bus	Unknown	Injury	N/A
2011	Sep	Ottawa	Occupation	No	No	Lack of awareness of hazard	EA11009	Worker was injured when fish tape made contact into energized high voltage vault, contacting a live bus	Unknown	Injury	N/A
2011	Sep	Cambridge	Fire	No	No	No Incorrect installation	WF11017	Property damage from fire originating from microwave/hood fan in kitchen; wiring had been modified at some point and cable was pinched	Yes	None	Unknown
2011	Sep	Ottawa	Fire	No	No	Improper use	EF11040	Property damage from fire originating from dryer; lots of lint observe below the drum	Yes	None	Unknown
2011	Sep	Strathroy	Occupation	No	No	Improper procedure	WA11010	Electrical worker was injured when attempting to install breaker into an energized panel	Unknown	Injury	N/A
2011	Aug	London	Occupation	Yes	Yes	Lack of hazard assessment	WUA11012	Worker was injured when lowering boom of crane into primary line	Unknown	Injury	N/A
2011	Aug	Ottawa	Fire	No	No	Lack of maintenance	EF11019	Property damage from fire originating in dedicated bus duct which fed heating into apartment building	Yes	None	Unknown
2011	Aug	Kingston	Fire	No	No	Unknown	EF11022	Property damage from fire originating from bedroom receptacle	Yes	None	Unknown
2011	Aug	Kingston	Fire	No	No	Equipment failure	EF11021	Property damage from fire as a result of failing controls in boiler control panel	Yes	None	N/A
2011	Aug	Toronto	Non-occupation	Yes	Yes	Misadventure	CA11009	Person was injured when climbing a hydro pole and contacted live blue phase conductor	Unknown	Injury	N/A
2011	Aug	Toronto	Fire	No	No	Improper use	SF11002	Property damage from fire originating from illuminated display case; boxed items made contact with 12 V lamp	Yes	None	Unknown
2011	Aug	Port Colborne	Occupation	Yes	Yes	Lack of hazard assessment	WUA11011	Near miss from contact between truck boom and 27 kV overhead powerline	No	None	N/A
2011	Aug	Belleville	Fire	No	No	Act of God	EF11023	Property damage from fire when lightning strike on roof travelled down a gusset, igniting cables on rafters	Yes	None	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2011	Aug	Marmora Township	Non-occupation	Unknown	Unknown	Unknown	EA11011	Person was injured when contact was made with antenna hanging onto a steel cable attached to a dust collector	Unknown	Injury	N/A
2011	Aug	London	Fire	No	No	Misuse	WF11015	Property damage from fire when hot plate was left energized near combustibles	Yes	None	Unknown
2011	Jul	London	Fire	No	No	Other	WF11014	Property damage from fire originating from stove area; dog may have knocked an item into stove and causing it to turn on	Yes	None	Unknown
2011	Jul	Ottawa	Fire	No	No	Improper use	EF11025	Property damage from fire originating from overloaded power bar	Yes	None	Unknown
2011	Jul	Leamington	Occupation	No	No	Improper procedure	WA11009	Worker was injured from arc flash from contact between 1200 A breaker supply conductors and internal filler material from cable	Unknown	Injury	N/A
2011	Jul	Leamington	Occupation	No	No	Improper procedure	WA11009	Worker was injured from arc flash from contact between 1200 A breaker supply conductors and internal filler material from cable	Unknown	Injury	N/A
2011	Jul	Sault Ste. Marie	Fire	No	No	Equipment failure	NF11005	Property damage originating from a thermostat that failed in an unsafe manner	Yes	None	Unknown
2011	Jul	Hamilton	Occupation	Yes	Yes	Human error	WA11008	Near miss from contact between tarp and service mast conductors	No	None	N/A
2011	Jul	Kingston	Fire	No	No	Incorrect installation	EF11014	Property damage from fire originating from a receptacle where an ungrounded black conductor was loose	Yes	None	Unknown
2011	Jun	Chenau	Occupation	No	No	Incorrect installation	EA11006	Worker was injured when test leads made contact with energized equipment; current transformer was improperly installed	No	Injury	N/A
2011	Jun	St. Catharines	Occupation	Yes	Yes	Incorrect procedure	WUA11010	Near miss from contact between auger and 13.8 kV underground powerline	No	None	N/A
2011	Jun	Newmarket	Occupation	No	No	Faulty equipment	SA11002	Worker was injured when GFI receptacle failed	Unknown	Injury	Unknown
2011	Jun	Stouffville	Occupation	Yes	Yes	Human error	SA11001	Worker was injured from arc blast when a phase to phase short circuit at the transformer secondary was created by tapping a lug into place with a hammer	Unknown	Injury	N/A
2011	Jun	Ottawa	Fire	No	No	Misuse	EF11020	Property damage from fire originating from a light bulb pigtail being plugged into an extension cord	Yes	None	Unknown
2011	Jun	Sault Ste. Marie	Fire	No	No	Misuse	NF11004	Property damage from fire originating from closet where extension cord was daisy chained to another	Yes	None	Unknown
2011	Jun	Sebringville	Occupation	No	No	Improper procedure	WA11007	Electrical worker was injured when removing broken parking lot light lamp; bulb was broken and contact was made with the filament	No	Injury	Unknown

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2011	Jun	Kingston	Occupation	No	No	Unknown	EA11007	Near miss from contact between floor cutter and buried consumer conductor	No	None	N/A
2011	Jun	Oshawa	Non-occupation	No	No	Unknown	EA11008	Person was injured from contact between light switch and receptacle cover screw	No	Injury	Unknown
2011	Jun	St. Catharines	Occupation	Yes	No	Lack of awareness of hazard	WUA11009	Near miss from contact between scaffold and secondary overhead line	No	None	N/A
2011	Jun	Collingwood	Occupation	Yes	Yes	Human error	WUA11008	Near miss from contact between excavator and primary conductor	No	None	N/A
2011	Jun	Stoney Creek	Occupation	Yes	Yes	Human error	WUA11006	Near miss from contact between excavator and 16 kV overhead powerlines	No	None	N/A
2011	Jun	Belleville	Occupation	No	No	Improper procedure	EA11005	Electrical worker was injured when pushing conductor into an enclosure while the switch was energized	Unknown	Injury	N/A
2011	Jun	Owen Sound	Occupation	Yes	Yes	Improper procedure	WUA11007	Near miss from contact between excavator and overhead powerline	No	None	N/A
2011	May	Sault Ste. Marie	Fire	No	No	Misuse	NF11002	Property damage from fire originating from ceiling fan; fan was not sized for the application	Yes	None	Unknown
2011	May	Collingwood	Fire	No	No	Lack of maintenance	WF11009	Property damage from fire originating from elevator control cabinet	Yes	None	N/A
2011	May	Mississauga	Fire	No	No	Unknown	CF11002	Property damage from fire originating from light fixture	Yes	None	Unknown
2011	May	Toronto	Fire	No	No	Unknown	SF11002	Property damage from fire originating from PV panel; crossed polarity connections of the feeder was the cause	Yes	None	Unknown
2011	Apr	Southampton	Non-occupation	Yes	Yes	Human error	WUA11004	Near miss from contact between 2.4 kV powerline and ladder	No	None	N/A
2011	Apr	Orleans	Fire	No	No	Unknown	EF11011	Property damage from fire originating from ceiling of dwelling	Yes	None	Unknown
2011	Apr	Sarnia	Occupation	Yes	Yes	Lack of hazard assessment	WUA11005	Near miss from contact between overhead 600 V service conductors and garbage truck	No	None	N/A
2011	Apr	Ottawa	Fire	No	No	Act of God	EF11013	Property damage from fire originating from roof; exposed mechanical split bolt connector made contact with overhead single phase conductor due to wind	Yes	None	N/A
2011	Apr	Ottawa	Fire	No	No	Mechanical failure	EF11010	Property damage from fire from locked rotor condition of bathroom exhaust fan	Yes	None	N/A
2011	Apr	Toronto	Fire	No	No	Unknown	CF11003	Property damage from fire originating from electrical panel	Yes	None	Unknown
2011	Apr	Windsor	Occupation	No	No	Lack of awareness of hazard	WA11006	Near miss from contact between hacksaw and energized conductor	No	None	N/A

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2011	Apr	Kingston	Occupation	No	No	Improper procedure	EA11004	Worker was injured when operating hair dryer; cord on dryer had been stored improperly and over time, the copper conductor was exposed	No	Injury	Unknown
2011	Apr	Kingston	Occupation	No	No	Miscommunication	EA11003	Worker was injured from contact between drywall taper and bare energized 120 V wire	No	Injury	N/A
2011	Apr	Brantford	Fire	No	No	Equipment failure	WF11007	Property damage from fire originating from 400 A, 600 V disconnect switch	Yes	None	N/A
2011	Apr	Oakville	Fire	No	No	Unknown	CSSF11001	Property damage from fire originating from paint shop area of plant	Yes	None	Unknown
2011	Apr	South Frontenac	Fire	No	No	Misuse	EF11007	Property damage from fire originating from pinched extension cord under garage door track	Yes	None	Unknown
2011	Mar	Sault Ste. Marie	Fire	No	No	Incorrect installation	NF11003	Property damage from fire where cable feeding the garage was in contact with siding and ignited combustibles nearby	Yes	None	N/A
2011	Mar	Binbrook	Occupation	No	No	Human error	WA11005	Near miss from contact between drill and energized service cable	No	None	N/A
2011	Mar	Yarmouth Township	Fire	Yes	Yes	Aging	WF11004	Property damage from fire when hydro pole fell over and shorted service conductors created the fire	Yes	None	N/A
2011	Mar	Brantford	Occupation	No	No	Incorrect installation	WA11003	Near miss from contact between screw and insulated 600 V conductor	No	None	N/A
2011	Feb	Kitchener	Fire	No	No	Unknown	WF11005	Property damage from fire originating from junction box above light fixture	Yes	None	N/A
2011	Feb	North Bay	Non-occupation	No	No	Unknown	NA11001	Person was injured when coming into contact with light standard	No	Injury	Unknown
2011	Feb	Trenton	Fire	No	No	Misuse	EF11003	Property damage from fire originating from space heater on porch and nearby combustibles	Yes	None	Unknown
2011	Feb	Picton	Occupation	No	No	Unknown	EA11002	Worker was injured when working on panel; disconnect switch was faulty and remained energized work was being done	Unknown	Injury	N/A
2011	Feb	Ottawa	Fire	No	No	Incorrect installation	EF11002	Property damage from fire originating from broken down insulation in sauna	Yes	None	Unknown
2011	Jan	Stratford	Occupation	No	No	Faulty equipment	WA11002	Worker was injured from arc flash from contact between a screwdriver and energized parts of disconnect switch	Unknown	Injury	N/A
2011	Jan	Whitby	Fire	No	No	Unknown	CF11004	Property damage from fire originating from closet ceiling	Yes	None	Unknown
2011	Jan	Sudbury	Fire	No	No	Incorrect installation	NF11001	Property damage from fire originating from electric heater; heater was installed upside down, and high limit switch was obstructed, causing overheating	Yes	None	Unknown

Year	Month	Location	Occupation/ Non-occupation	Powerline	Utility Infrastructure	Cause of incident	ESA #	Incident summary	Property damage	Electrical Injuries/ Fatalities to Person	Consumer electrical product was unapproved
2011	Jan	Thorold	Occupation	Yes	No	Human error	WA11001	Near miss from contact between excavator and electrical busses	No	None	N/A
2011	Jan	Toronto	Occupation	No	No	Human error	MA11001	Near miss from contact between drill and phases	No	None	Unknown
2011	Jan	Ottawa	Fire	No	No	Incorrect installation	EF11001	Property damage from fire from main distribution panel; loose breaker for workmanship was found to be the cause	Yes	None	N/A
2011	Jan	Cambridge	Fire	No	No	Incorrect installation	WF11001	Property damage from fire originating from improperly installed lamp holder in basement	Yes	None	Unknown
2011	Jan	Binbrook	Occupation	Yes	Yes	Incorrect procedure	WUA11002	Near miss from contact between excavator and underground line	No	None	N/A
2011	Jan	Ottawa	Occupation	No	No	Incorrect procedure	EA11001	Electrical worker was injured after contact with light fixture	No	Injury	Unknown

**This document was prepared
by the Regulatory Centre of
Excellence of the Electrical
Safety Authority.**

**For queries and additional
information, please contact the ESA
at freda.lam@electricalsafety.on.ca**

