

# THE POWER OF WORKING TOGETHER



Electrical  
Safety  
Authority

## ESA Supporting Ontario's Electrical Safety System

# ESA Supporting Ontario's Electrical Safety System

## Discussion Topics




This presentation will increase participant awareness of:

- The Electrical Safety Authority
- Services ESA Provides
- Applying for Inspection
- Scheduling an Inspection
- Inspection Requirements
- OESC Residential Installation Requirements
- Training and Programs

# ESA Supporting Ontario's Electrical Safety System



Who is ESA?

- Formally,  Ontario Hydro's Electrical Inspection Division.
- April 1, 1999 ESA was introduced with the mandate for public electrical safety in Ontario.
- ESA has evolved maintained electrical inspection and introduced new regulations and services to meet the broader electrical safety needs of Ontarians.
- ESA works with safety partners to identify new services and approaches that respond to the changing environment (technological, risk, etc).

# ESA Supporting Ontario's Electrical Safety System

Who is ESA?



- Operates as a designated Administrative Authority in accordance with the *Electricity Act* and the *Safety and Consumer Statutes Administration Act* undertaking activities that improve electrical safety.
- Accountable to a Board of Directors and the Ontario Ministry of Consumer Services.
- Is a stand-alone, financially self sustaining not-for-profit corporation.
- Responsible for administering regulations that relate to public electrical safety.



# ESA Supporting Ontario's Electrical Safety System

Who is ESA?

ESA's mandate includes administering a set of regulations that include:

- Ontario Electrical Safety Code  
(Regulation 164/99)
- Licensing  
(Regulation 570/05)
- Electrical Distribution  
(Regulation 22/04)
- Product Safety  
(Regulation 438/07)



# ESA Supporting Ontario's Electrical Safety System

Who is ESA?



- **Identifying & targeting** leading causes of electrical risk.
- **Enforcing** a set of regulations related to electrical safety.
- **Investigating** fatalities, injuries, and fire losses associated with electricity.
- **Educating** on electrical safety regulations, safe use of electricity, and the dangers of unsafe electrical products and installations.
- **Advancing** the safety system through supporting standards development, working in conjunction with other safety organizations.



# ESA Supporting Ontario's Electrical Safety System



Who is ESA?

- 70% of all electrical incidents can be attributed to 5 key harms that impact Ontarians.
- ESA addresses the need for solutions to reduce harm from electrical incidents.
- To ensure success ESA engages safety stakeholders to leverage the power of working together.



# ESA Supporting Ontario's Electrical Safety System

Who is ESA?

ESA works with stakeholders to ensure public electrical safety:

- Safety Partners
- Electrical Trades
- Local Distribution Companies
- Electrical Manufacturers
- Certification Bodies
- Consumers & Homeowners
- Our Employees





# ESA Supporting Ontario's Electrical Safety System



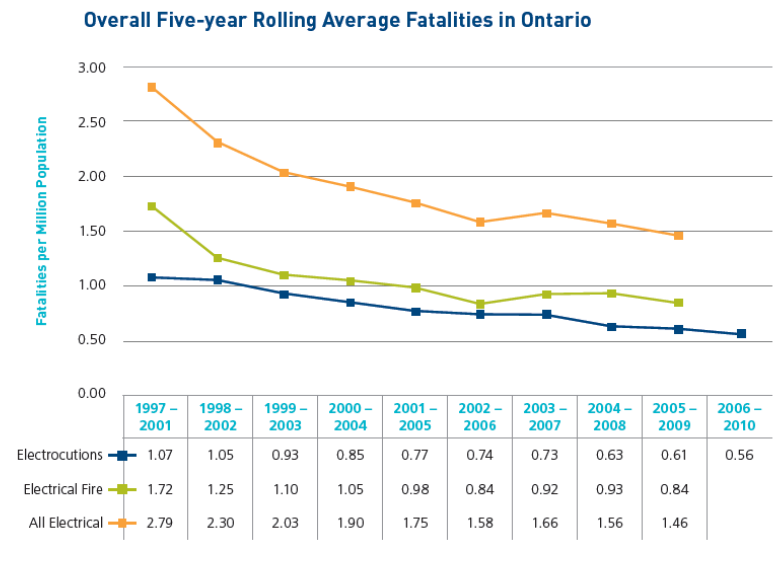
## Vision:

“An Ontario free of electrical fatalities and serious damage, injury, or loss”

## Mission:

“To improve electrical safety for the well-being of the people of Ontario”

Comparison of Electrocutions to Fire Fatalities, per million population, 2001–2010



**Conclusion:** The five-year rolling average fatality rate has decreased 38% over the last five years.

Source: ESA and Coroner's records

# ESA Supporting Ontario's Electrical Safety System

Services ESA Provides



ESA's offers Ontario Electrical Safety Code inspection and related services that include:

- Wiring Inspections
- General Inspections
- Inspection Certificates
- Unapproved Electrical Product Inspections
- Continuous Safety Services
- Plan Review
- Record Searches
- Request for Information  
(Freedom of Information Requests)



# ESA Supporting Ontario's Electrical Safety System

## Services ESA Provides



ESA's offers Ontario Electrical Safety Code related services that include:

- Ontario Electrical Safety Code & Bulletins
- Electrical Safety & Technical Training
- On-line Technical FAQ database
- Ask the Technical Expert editorials

The screenshot shows the Electrical Safety Authority website interface. At the top, there is a search bar with the text 'Browse: Electrical Services' and a 'Search' button. Below the search bar, there is a 'Login' button. The main content area displays a search result for the question 'Water heater and clearance from electrical panel?'. The result includes the question, the answer, and related answers. The answer states that the water heater should be kept at least 1 m (39") from the electrical panel. The related answers list 'Panelboard, located in a kitchen?', 'Panelboard, enclosure over top of?', and 'Panelboard, appliance in front of'. At the bottom of the page, there is a message: 'Thank you for visiting our website. Please note that the "Ask a question" feature has been temporarily disabled; we thank you for your patience in this matter.'

The screenshot shows a flyer for the 'Electrical Safety Awareness I' training workshop. The flyer includes the following information:

- Electrical Safety Awareness I**
- ESA offers Employers, Employees, General Public and Secondary School Students a 1/2 day on-site training workshop for \$2,140 + applicable taxes (group rate for up to 25 participants). Continuous Safety Services (CSS) program members receive a discount. Ask your Client Safety Specialist for details.
- Electrical Safety Awareness I**
- Learning Objectives:**
  - How ESA can help you provide a safe living and work environment for you, your family, friends and co-workers.
  - Basic electrical terminology and definitions.
  - Learn to identify and avoid common electrical hazards
  - How electrical shocks cause injuries and death.
  - Learn the legal requirements for inspection and equipment approval.
- Schedule an ESA training workshop today!**
- Topics:**
  - Introduction to the Electrical Safety Authority
  - Defining Electrical Terms
  - Managing Safety
    - Electrical Contacts
  - Reporting Serious Electrical Incidents
    - Accident Investigation Process
  - Five Steps to Managing Hazards
  - Effects of Electrical Shock
  - Ontario Electrical Safety Code (OESC) Requirements:
    - Requirement for Inspection
    - Approval of Equipment
    - Ground Fault Circuit Interrupter (GFCI)
    - Use of Releasable Cords
    - General Safety Tips
- Please note:** Participants are introduced to, and encouraged to comply with, other regulatory requirements. However, this workshop does not provide a detailed explanation of the OESC or Ministry of Labour requirements regarding electrical safety.
- Exciting up to date information on current hazards and equipment.**
- Important things to know that might save your life!**
- Get more information about:**
  - www.esasafe.com
  - 1-877-851-0079
- On-Line & Self-Study Pre-Master Electrician Courses Now Available**
- OESC (25th Edition) On-Line Courses Available March 2012**
- Mission:** Improve electrical safety for the well-being of the people of Ontario.
- Vision:** An Ontario free from electrical fatalities and serious injuries, damage or loss.

# ESA Supporting Ontario's Electrical Safety System

## Services ESA Provides



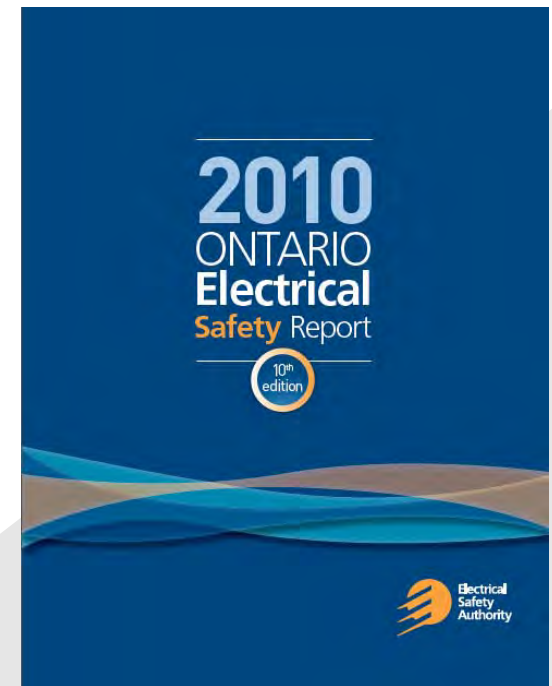
ESA works with stakeholders to advance electrical safety awareness and safe work practices. Annual public awareness campaigns are conducted to:

- Raise consumer risk awareness by sharing electrical safety information and tips.
- Increase consumer awareness of the requirements and benefits of using Licensed Electrical Contractors.
- Remind the public and high risk audiences to “Look Up! Look Out!” for overhead powerlines.
- Reinforce the importance of safe work practices – “Don’t Work Live”.

# ESA Supporting Ontario's Electrical Safety System

## Services ESA Provides

- ESA produces annual editions of the Ontario Electrical Safety Report.
- The report increases the understanding of electrical risks that impact Ontarians.
- The report is compiled using incident data from a number of sources.
- Data analysis is augmented by root cause investigation data to support the audience in gaining the best possible understanding of where the risks are and why they occur.



# ESA Supporting Ontario's Electrical Safety System

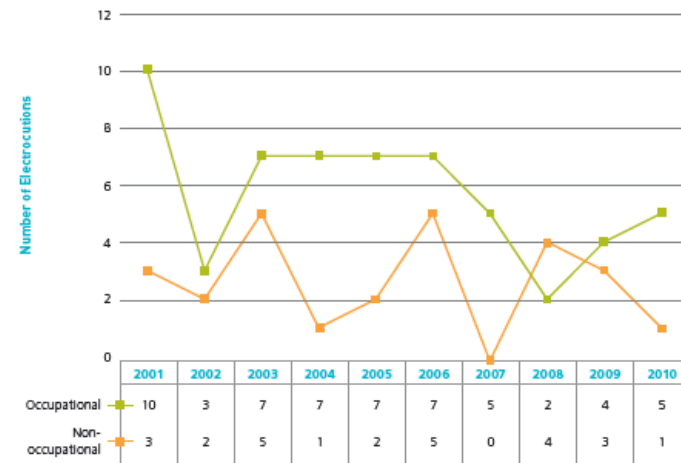
Services ESA Provides



The Ontario Electrical Safety Report data reinforces ESA's focus on five key harms:

- Powerline Safety
- High-Risk Worker Safety
- Electrical Product Safety
- Aging Infrastructure
- New Wiring

1 Number of Occupational and Non-Occupational Electrocutions in Ontario, 2001-2010



**Conclusion:** 29% reduction in occupational electrocutions since 2006.  
80% reduction in non-occupational electrocutions since 2006.

Source: ESA and Coroner's records

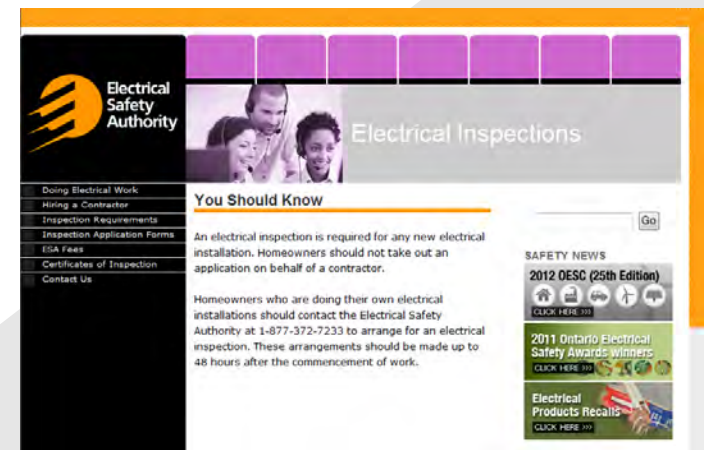
# ESA Supporting Ontario's Electrical Safety System

## Applying for Inspection



### Inspection requirements:

- An electrical inspection is required for any new electrical installation.
- An application can be made up to 48 hours after the commencement of work.
- Certain exemptions exist for an application for Inspection.
- Homeowners are not to take out an application for contractors.



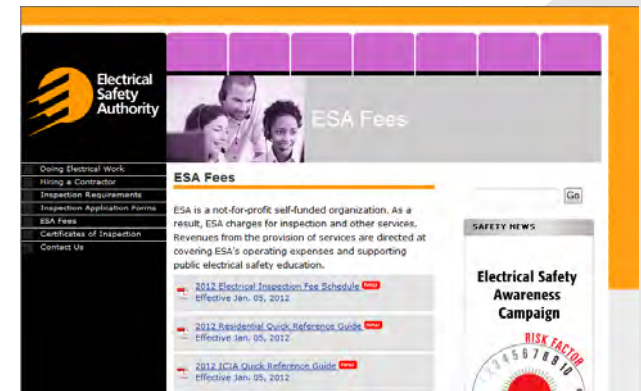
# ESA Supporting Ontario's Electrical Safety System

## Applying for Inspection



### Inspection fees:

- ESA charges for inspection and other services.
- Revenues from the provision of services cover:
  - ESA's operating expenses.
  - ESA safety investigations and root cause analysis.
  - Research and assessment of new technologies and standards.
  - Support public electrical safety education.
- More Information regarding fees are available at: [www.esasafe.com](http://www.esasafe.com).





# ESA Supporting Ontario's Electrical Safety System

## Applying for Inspection



An application for inspection can be obtained by contacting ESA:

**1-877-ESA-SAFE**  
**1-877-372-7233**

A screenshot of the Electrical Safety Authority website. The top navigation bar includes links for "LICENSED CONTRACTOR LIST", "ARRANGING FOR INSPECTION", "RISK FACTOR", "ELECTRICAL PRODUCT SAFETY", "POWERLINE SAFETY", "ELECTRICAL SAFETY REPORT", and "INSPECTION FEE SCHEDULES". The main content area is titled "Inspection Application Forms" and features a search bar with a "Go" button. Below the search bar, there is a section for "Inspection Application Forms" with a paragraph of text: "Starting April 03, 2006 the following Applications for Inspection, or the Fee Estimator, should be submitted to the Electrical Safety Authority when requesting an inspection." A highlighted note states: "Please note that application forms cannot be directly submitted to the customer service centre through the ESA website." Another paragraph explains: "To submit the form to ESA, please complete the application form and fax the printed application to 1-800-667-4278. For inquiries call 1-877-esa-safe." A final note mentions: "Please note that there are now 3 different Residential Application Forms: 1) New Residential, 2) General Inspection, and 3) Residential Renovation." On the right side, there is a "SAFETY NEWS" section with a photo of hands holding a glowing lightbulb and the text "What You Should Know About Electrical Safety in". A left sidebar contains a list of navigation links such as "You Should Know at Home", "Doing Electrical Work", "Risk Factor Model", "Inspection Requirements", "ESA's Services Overview", "Inspection Application Forms", "ESA Fees", "Certificates of Inspection", "Hiring a Contractor", "Technical FAQ", "Buying a Home", "Powerline Safety", "Electrical Safety Tips", "Electrical Product Safety", "Alternative Generation Safety", "You Should Know at Work", "Grow House and Meth Lab Info", and "Contact Us".

# ESA Supporting Ontario's Electrical Safety System

## Scheduling an Inspection



Electrical inspection can be scheduled by calling ESA at

**1-877-372-7233**

- Inspections may involve a number of visits at various stages, including:
  - Inspection of underground wiring
  - Service inspection
  - Rough-in inspection
  - Final inspection
- Inspection will usually be conducted on the next day.



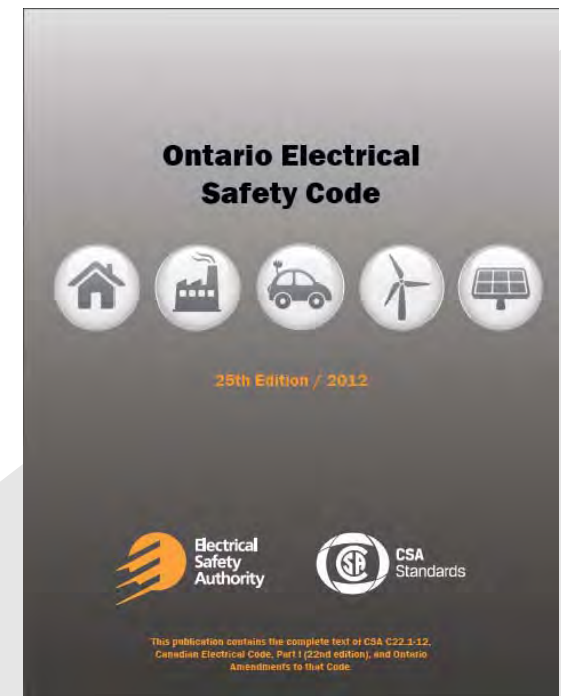
# ESA Supporting Ontario's Electrical Safety System

## Inspection Requirements



### Before Inspection:

- Ensure that the electrical installation complies with the Ontario Electrical Safety Code.
- Provide ESA at least forty-eight hours notice for inspection.
- Electrical installations are not to be concealed or rendered inaccessible.
- Inspections may be made as ESA determines.



# ESA Supporting Ontario's Electrical Safety System

## Inspection Requirements



### Inspector Conduct:

- Do what is right, fair and honest.
- Work to the letter of the law.
- Respect for all.
- Avoid conflicts of interest.
- Appropriate personal conduct.
- Portray the Values and Principles of the ESA Code of Conduct.



# ESA Supporting Ontario's Electrical Safety System Inspection Requirements



## After Inspection:

- Check status of inspection:
  - If passed OK to proceed.
  - If defected:
    - Written report available.
    - Remedy all defects In a timely manner as prescribed.
    - Schedule re-inspection.
- May be re-inspected at any time.

 **Electrical Safety Authority**  
www.esasafe.com

400 Sheldon Dr., Unit 1, Cambridge, ON, N1T 2H9  
For Inquiries:  
TOLL FREE TEL: 1-877-372-7233 TOLL FREE FAX: 1-800-667-4278

**Certificate of Inspection**

ESA TRAINING 155A MATHESON BLVD W MISSISSAUGA ON L5R 3L5	NOTICE DATE: January 31, 2012 NOTIFICATION #: 13630164 PRINT DATE: January 31, 2012 CUSTOMER ID: 17131
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Re: HOME OWNER  
123 MAIN ST  
OTTAWA ON  
OTTAWA

WE HEREBY CERTIFY THAT AN ELECTRICAL INSPECTION AT THE AFOREMENTIONED ADDRESS WAS CONDUCTED ON THE INSTALLATION DESCRIBED HEREIN

The Electrical Safety Authority (ESA) operates as a delegated authority on behalf of the provincial government in accordance with Part VIII, section 113 of the Electricity Act, 1998, S.O. 1998, c.15, Sched. A, (the Act), and the Safety and Consumer Statutes Administration Act, 1998, S.O. 1998, c.19. ESA's mandate is to administer the Act and corresponding Regulations on behalf of the Province of Ontario.

ESA is a not-for-profit corporation under the direction and control of a Board of Directors and is accountable to the Ministry of Consumer Services in accordance with an Administrative Agreement.

# ESA Supporting Ontario's Electrical Safety System

## OESC Residential Installation Requirements



### General requirements:

- Arc fault circuit interrupters for sleeping areas.
- Tamper resistant receptacles.
- Outdoor receptacles require weather proof covers.
- Receptacles as prescribed for electric vehicle charging equipment.



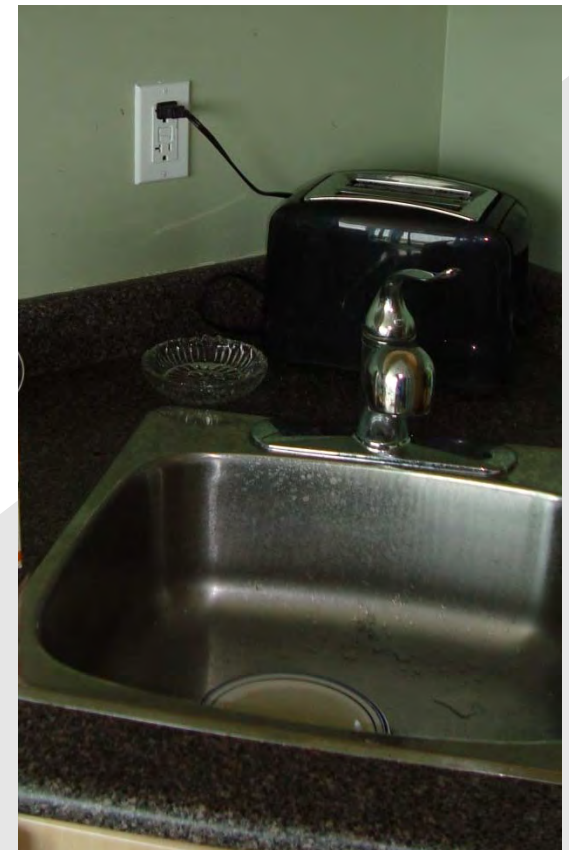
# ESA Supporting Ontario's Electrical Safety System

## OESC Residential Installation Requirements



Receptacle requirements in the kitchen:

- Refrigerator
- Gas Range
- Counter tops / island or peninsula.
- Receptacles are not to be installed in cabinets (with exceptions).
- Receptacles are not to be mounted face up in work surfaces.



# ESA Supporting Ontario's Electrical Safety System

## OESC Residential Installation Requirements



Ground Fault Circuit Interrupters required:

- Within 1.5 m of sinks or wash basins.
- Within 2.5 m of grade.
- For submersible pumps installed in lakes, rivers, and streams.





# ESA Supporting Ontario's Electrical Safety System

## OESC Residential Installation Requirements



Circuiting requirements:

- Refrigerator
- Laundry rooms
- Utility rooms
- Microwaves
- Central vacuums
- Electric vehicle charging equipment



# ESA Supporting Ontario's Electrical Safety System

## Training and Programs



ESA offers a broad selection of Safety Training including:

- Workplace Electrical Safety
- Control of Hazardous Energy
- Occupational Health and Safety
- Electrical Safety Awareness
- Protection Against Available Fault Current



# ESA Supporting Ontario's Electrical Safety System

## Training and Programs



ESA offers a broad selection of Technical Training including:

- The Ontario Electrical Safety Code
- Pre-Master Electrician
- Conductors
- Grounding and Bonding
- Solar Photovoltaic Installations
- Residential Installations (Coming Soon)

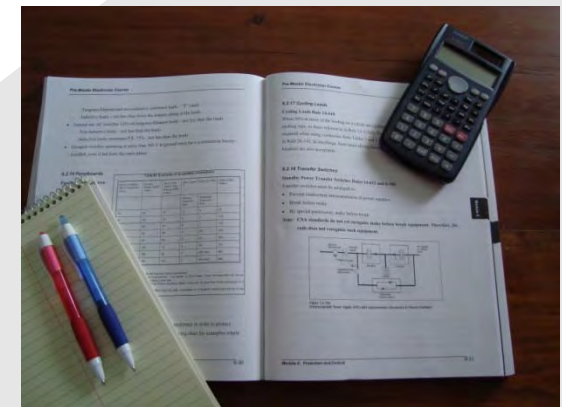
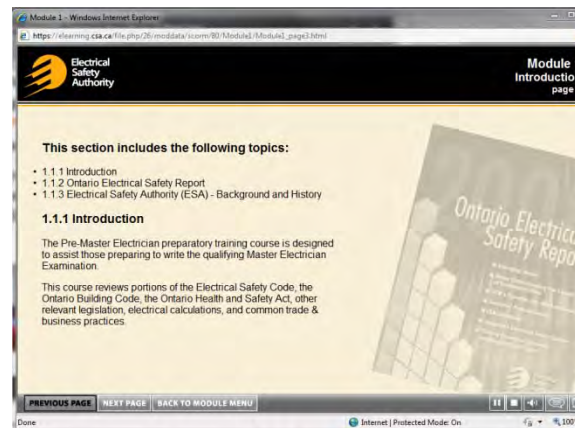


# ESA Supporting Ontario's Electrical Safety System Training and Programs



ESA Training is offered through:

- Interactive classroom learning
- Online learning
- Independent self study



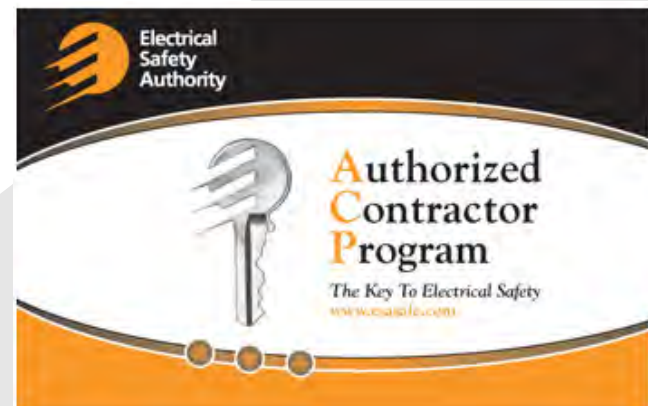
# ESA Supporting Ontario's Electrical Safety System

## Training and Programs



Programs offered by ESA include:

- Continuous Safety Services (CSS)
- Electrical Safety Plan (ESP)
- Authorized Contractor Program (ACP)



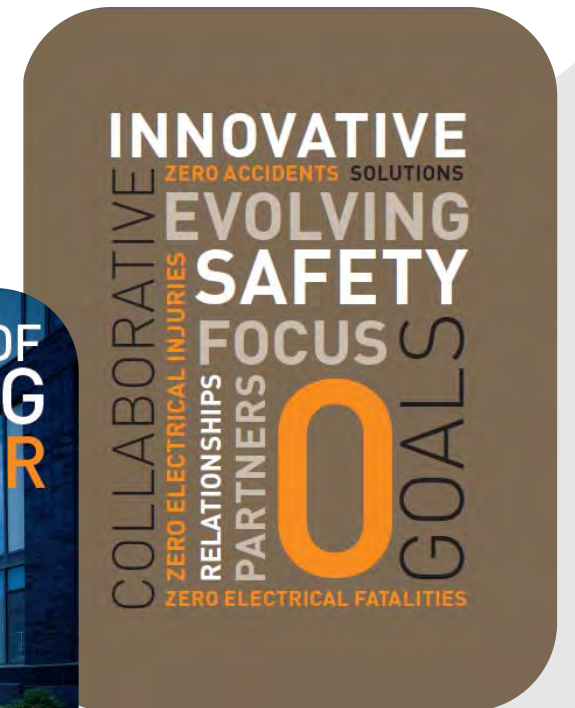
# ESA Supporting Ontario's Electrical Safety System

## Recap



We discussed:

- Who is ESA
- ESA's Vision, Mission, and Services
- Inspection application and scheduling
- Residential installations
- Training and Programs



# ESA Supporting Ontario's Electrical Safety System

## In Summary



- ESA's mission is to improve electrical safety for the well-being of the people of Ontario.
- The role of ESA is to enhance public electrical safety.
- ESA is responsible for administering specific regulations related to electrical safety.
- ESA also works extensively with stakeholders to educate, train, promote, and foster electrical safety.

# ESA Supporting Ontario's Electrical Safety System



Visit:

[www.esasafe.com](http://www.esasafe.com)

- Electrical Inspection Requirements
- Consumer Electrical Product Safety
- Electrical Product Recalls
- Electrical Safety Training
- And much more...

Harm Reduction Services:

1-877-ESA-SAFE

1-877-372-7233

[www.esasafe.com](http://www.esasafe.com)

A screenshot of the Electrical Safety Authority (ESA) website homepage. The header features the ESA logo on the left, a navigation menu with links like "Home", "About ESA", "Find a Licensed Electrical Contractor", "Report an Incident", "Electrical Code FAQ", "Contractor Online Applications", "Working at ESA", "Newsroom", and "Contact Us", and a contact number "1-877-ESA-SAFE" and "1-877-372-7233" next to a photo of a service van. Below the header is a "TOP STORY" section with a link to a public consultation. A central banner reads "RECALLS / SAFETY ALERTS - CLICK HERE FOR MORE INFO". The main content area is a grid of six categories: "CONSUMERS", "CONTRACTORS", "ELECTRICAL PRODUCTS", "BUSINESS", "ELECTRICAL INSPECTIONS", and "UTILITIES", each with a representative image and a "MORE INFO" link. A large advertisement on the left side of the grid says "THE DIFFERENCE CAN BE SHOCKING. HIRE A LICENSED ELECTRICAL CONTRACTOR. PLUGINSAFELY.ca". At the bottom left, there is a link to "ESA's Privacy Policy".





**Thank you!**