

# ACHIEVING **EXCELLENCE** IN HEALTH AND SAFETY

A 2014 REPORT ON  
**HEALTH AND SAFETY**  
**PERFORMANCE TRENDS**  
AND IMPROVEMENT  
INITIATIVES



Canadian  
Electricity  
Association

Association  
canadienne  
de l'électricité



Manitoba Hydro employees attending a tailboard meeting where they are briefed on any hazards, risks, and procedures before work can begin. Photo courtesy of Manitoba Hydro.

Cover photos courtesy of Hydro Ottawa and Ontario Power Generation Inc.

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## PRESIDENT'S MESSAGE

It is my pleasure to present the second edition of the Canadian Electricity Association's *Achieving Excellence in Health and Safety*. This report represents the commitment Canadian utilities have to ensuring the safety and wellbeing of employees, contractors and the public.

Health and safety remains a paramount concern as the electricity industry sets a path for the future. This report demonstrates how CEA Corporate Utility Members (CEA members) are working together and independently to improve work methods, education and training, and working to create a culture of safety. These efforts have notably resulted in a decrease in all CEA member injury/illness frequency rate by 2.55 per cent in 2013, and an overall decrease of 19.55 per cent since 2009.

CEA members are committed to preventing and mitigating health and safety incidents and challenges as the industry and its processes continue to evolve. I invite you to read the report for highlighted initiatives that the industry is involved in that keep workers and Canadians safe.

Sincerely,

**Jim R. Burpee, P.Eng**  
President and Chief Executive Officer



## CHAIR'S MESSAGE

All CEA Corporate Utility Members (CEA members) provide an essential service to customers, and in providing that service, the top priority is the health and safety of employees, contractors and the public.

The CEA Occupational Health and Safety Committee defines strategic priorities and initiatives that will improve the overall safety performance of member utilities and the industry. CEA members are working to align, standardize and share best practices where it makes sense. These efforts have resulted in changes in Canadian regulations, and CEA members continue to work with government regulators and standard developers to ensure the health and safety of employees, contractors and the general public.

In this report are highlights of utility initiatives that are proactive, preventative and predictive measures of safety performance. The measures, known as leading indicators, monitor and provide information about the performance, activities, and processes of a Safety Management System. The electricity industry uses these leading indicators to identify and eliminate or control risks in the workplace. This report also features stories that demonstrate how CEA members are on the cutting edge of technological advances, research and training that improve Safety Management Systems, and encourage a culture of safety.

This report reaffirms the commitment of all CEA member utilities to be leaders in health and safety, not only within their companies, but in the communities where we operate.

**J. Harris McNamara, CRSP**  
Chair, CEA Occupational Health and Safety Committee  
Health and Safety Director, Emera Inc.





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Brookfield employees wearing the proper safety gear as they complete work on the jobsite. *Photo courtesy of Brookfield Renewable Energy Group.*

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# EXECUTIVE SUMMARY

Electricity is an essential service Canadians rely on daily. Thousands of workers do their part to generate and deliver power to homes and businesses, which in turn helps maintain economic growth and prosperity across the nation.

The Canadian Electricity Association's (CEA) Corporate Utility Members work diligently to ensure that electricity is delivered to Canadians in a manner that protects the safety and well-being of their employees, contractors and the general public. Recognizing the inherent risks associated with the business of providing electricity to customers, the industry strives for excellence in health and safety by continually reducing risk factors to minimize and eliminate injuries.

In 2012, the initial report on *Achieving Excellence in Health and Safety* was released to showcase five-year trends in health and safety statistics at Canadian electrical utilities. The purpose of these reports is to describe the health and safety performance trends of CEA Corporate Utility Members (CEA members), and provide details on

how the industry is moving towards improved performance in all areas. While the report was developed to document the health and safety efforts of utilities, the stories about innovation and partnerships are applicable to other industries searching for ways to revitalize their best practices.

The foundation of CEA member improvements is based on four key strategies:

- 1 Maintaining risk-focused health and safety management systems based on externally recognized standards, while researching new ways to implement these standards;
- 2 Providing education and training for staff while building a strong safety culture through employee engagement and ownership in the safety process;

- 3 Collectively sharing these best efforts among all CEA members through the CEA Occupational Health and Safety Committee;
- 4 Providing external resources and education opportunities to reduce safety risks for external workers and the public.

In the past two years, CEA members have built on past successes and worked hard to strengthen the areas identified as needing more focus. The result of this effort is a lower Recordable Injury rate (2.55 per cent decrease over 2012) and a lower Lost-Time Injury rate (7.56 per cent decrease over 2012).

Unfortunately, the rising trend in Lost-Time Severity rates continued into 2013 with an increase of 25.87 per cent over 2012. With new initiatives in place in 2014, CEA members continue to improve



A Nalcor Energy power line worker.  
Photo courtesy of Nalcor Energy.



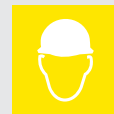
The section on **Performance Trends** features benchmarked health and safety statistics from the past five years, and provides some rationale for the changing trends.



The section on **Improving Safety Methods** focuses on CEA members' initiatives that evolve health and safety efforts through new research, technology, regulations, and documentation.



The **Education and Training: Preparing for the Journey to Improved Safety** section provides utility accounts of programs that equip employees with knowledge that results in a safer workplace.



The **Safety Culture: Building the Future through Actions and Attitudes** section recognizes utility initiatives that foster a culture of safety through encouraging positive employee education, behaviour and attitudes toward health and safety.



The section on **Moving Beyond: Bringing Safety to the Public** details CEA member stories about engaging and educating the public about safety issues.

their back-to-work programs and strive to reverse this trend, and ensure employees go home safely at the end of every workday.

The sections in this report demonstrate CEA member advancements and goals in key areas of health and safety. The report also demonstrates an

ongoing plan for developing methods of generating and delivering power to Canadians, while further reducing and even eliminating the associated risks of working around electricity.

The effort to improve health and safety do not end with the activities described in this report, as the CEA

members are dedicated to continuing on this path to build an even safer industry. With many CEA members having goals of zero lost-time incidents and injuries, it is clear that the dedication to this cause is strengthened with each milestone.



# PERFORMANCE TRENDS

Statistics are important to understanding safety matters in the electrical industry. Lost-time and total injuries as well as frequency and severity rates illustrate the current challenges for Canada's utilities. Tracking these statistics allows utilities involved to focus on the areas of need, and helps build increasingly better strategies to reduce injuries and incidents with a target of zero in mind.

## STRIVING FOR EXCELLENCE

1.73

2013 ALL INJURY/ILLNESS FREQUENCY RATE (INJURIES PER 200,000 HOURS)



19.55%

IMPROVEMENT SINCE 2009

0.73

2013 LOST-TIME INJURY FREQUENCY RATE (LOST-TIME INJURIES PER 200,000 HOURS)



7.37%

IMPROVEMENT SINCE 2009

19.50

2013 LOST-TIME INJURY SEVERITY RATE (DAYS LOST FROM LOST-TIME INJURIES PER 200,000 HOURS)



23.96%

INCREASE SINCE 2009





Carpenters working on the Waneta Expansion Project on the Pend d'Oreille River. Photo courtesy of Columbia Power Corporation.

## 2.1 RELIABLE AND CONSISTENT HEALTH AND SAFETY PERFORMANCE BENCHMARKING

Since 1990, CEA members have applied a standard injury/illness reporting protocol, the *CEA A-2 Standard for Recording and Measuring Occupational Injury/*

*Illness Experience and Transportation Incidents*, to ensure consistent reporting and reliable performance benchmarking across the industry. This document is based on CEA reporting requirements unique to the industry but consistent with recognized external standards including:

- U.S. Occupational Safety and Health Administration (OSHA) 29 CFR Part 1904

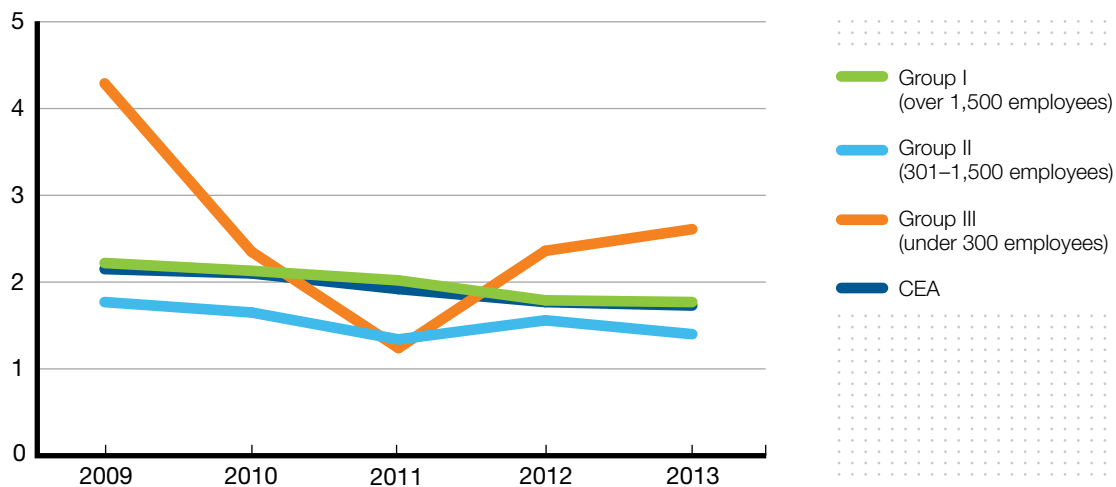
(January 19, 2001), Occupational Injury and Illness Recording and Reporting Requirements: Final Rule; and

- CSA Z795, Coding of Work Injury or Disease Information.

The CEA Occupational Health and Safety Committee maintains this standard, and has ongoing oversight on its use by members.

**FIGURE 1**

All Injury/Illness Frequency Rate – 5 Year Annual Data



## 2.2 ALL INJURY/ILLNESS FREQUENCY RATE

The CEA composite All Injury/Illness Frequency (AIF) rate was 1.73 injuries per 200,000 hours worked in 2013, an improvement of 2.55 per cent over 2012. This represents a 19.55 per cent decrease compared to 2009. (Figure 1)

Every utility is committed to continuously improving AIF performance, which measures the progress of injury/illness reduction. The consistent level of AIF improvement is attributable to the noticeable commitment of the management of each utility and the progressive programming based on the key success strategies.

### Injury/Illness Trends

Exposure to electrical energy, working at a height, and driving are the most significant safety risks for workers in the electric utility sector, and CEA members maintain

vigilance in managing these risk areas as they can result in serious injuries. With robust prevention programs in place, these risks result in a relatively low number of injuries. Unfortunately, in 2013 there were two tragic employee fatalities at CEA member utilities. The industry regrets the tragic loss of life and strives to ensure that lessons are learned and shared to enhance existing programming and prevent a reoccurrence of these incidents.

Over the last five years, major contributors to the number of injuries/illnesses have typically involved the following causal factors:

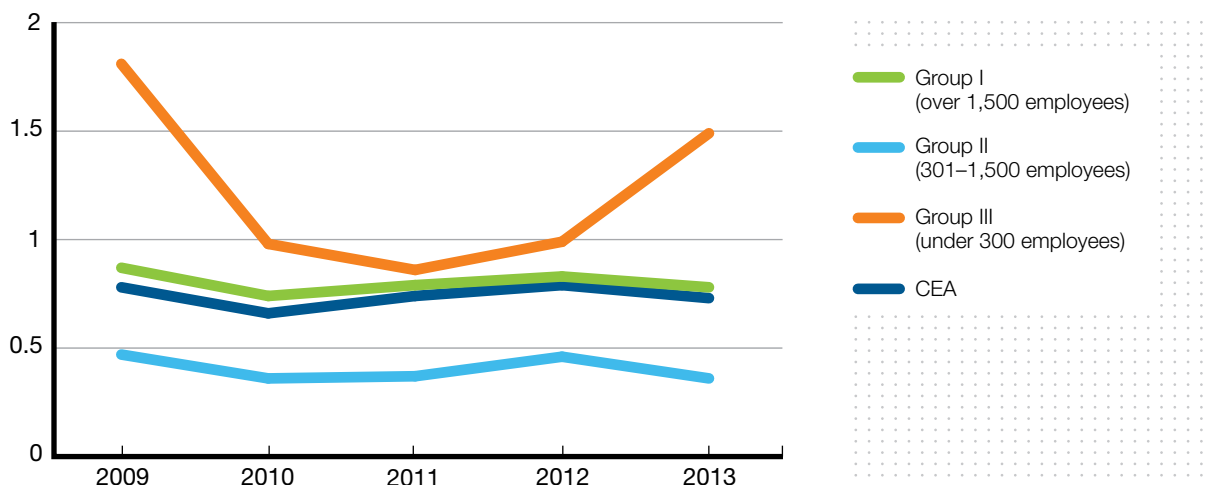
- **Overexertion and Repetitive Motion or Strain** including injuries to the musculoskeletal system involving physical exertion when lifting, pulling, pushing or throwing an object or an injury produced by repeated motion or movement to one or more areas of the body;

- **Falls at the Same Elevation Level** including slips and trips on the same level from slippery surfaces, protruding objects etc.;
- **Bodily Reaction** involving free body motion (voluntary or involuntary) which causes stress or strain on some part of the body;
- **Struck against** including impact between a person and equipment, tool, structure or moving object; and
- **Struck by** including impact from a falling or flying object.

## 2.3 LOST-TIME INJURY FREQUENCY AND LOST-TIME INJURY SEVERITY RATE

Since 2009, CEA member companies have improved their Lost-Time Injury Frequency Rate by 7.37 per cent due to their commitment to safety management system improvement initiatives. (Figure 2)

**FIGURE 2**  
Lost-Time Injury Frequency Rate – 5 Year Annual Data



Exposure to electrical energy, working at a height, and driving are the most significant safety risks for workers in the electric utility sector, and CEA members maintain vigilance in managing these risk areas as they can result in serious injuries.

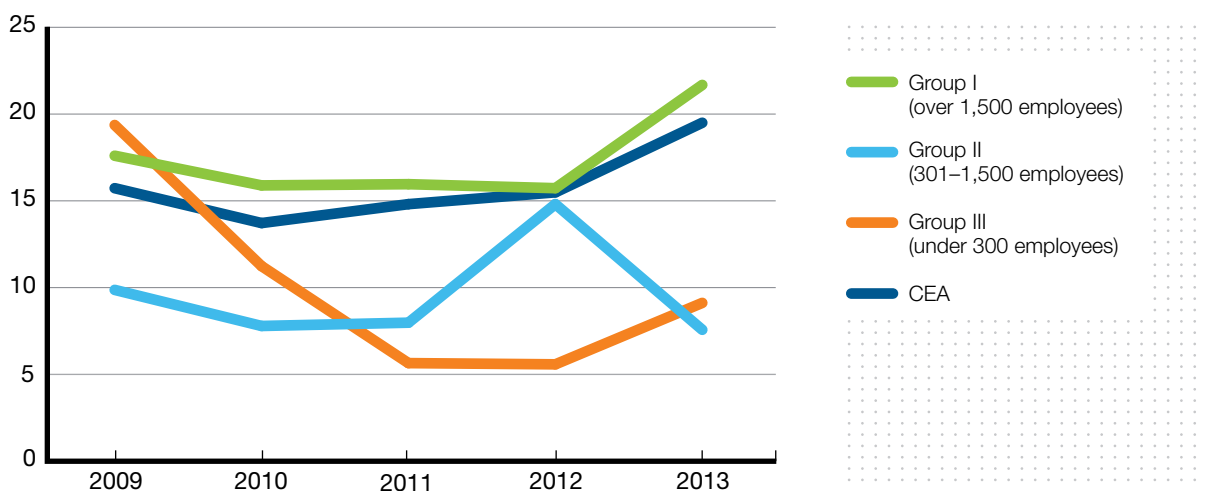
Although the 2013 CEA composite Lost-Time Injury Frequency of 0.73 lost-time injuries per 200,000 hours decreased by 7.56 per cent, the Lost-Time Severity Rate of 19.50 days lost per 200,000 hours increased 25.87 per cent over 2012 performance. (Figure 3)

This year-over-year increase in days lost reinforces that improving performance is a long-term commitment and that no company can be complacent. CEA members are committed to preventing injuries that result in lost-time and in managing the increasingly complex return-to-work issues that arise.

## 2.4 PUBLIC ELECTRICAL FATALITIES

Public electrical fatalities are recorded as such when they occur on the line side of the meter or utility owned plant and equipment. CEA members reported nine public electrical fatalities in 2013,

**FIGURE 3**  
Lost-Time Injury Severity Rate – 5 Year Annual Data





compared to three in 2012. CEA's Occupational Health and Safety Committee remains committed to the prevention of public safety incidents.

In addition to working to reduce risks and improve processes internally, CEA members are committed to ongoing partnerships with external agencies on issues of prevention related to risks and incidents. As the industry works to secure the reliability of power for the future, many members are working on new and modernization infrastructure projects. The following member story is just one example of how members are working to ensure safety on all projects.

### ENMAX Corporation Generates Shepard Project Safety Success in 2013

The Shepard Energy Centre is an 800 megawatt (MW) natural gas fired generation facility that **ENMAX Corporation (EMAX)** is currently building in east Calgary. When it comes online in early 2015, it will be the largest natural gas facility in Alberta.

In 2013, ENMAX and the construction company KVB recorded almost 1.7 million man hours on the construction project, posting an impressive Total Recordable Injury Frequency (TRIF) of only 0.84. Average TRIFs for the construction industry on similar sized projects are typically over 3.0. The safety record is particularly notable because of the complexity of the Shepard project with over 800 people onsite at one time during various phases of construction.

This outstanding record stems from a very strong safety culture and high expectations from both ENMAX and KVB. Every employee is properly trained and informed about procedures, every day starts with safety meetings, and all work areas are reviewed for what KVB calls "extreme housekeeping" to ensure that everything is organized and safe.

ENMAX and KVB's safety-first philosophy goes as far as having site-wide stoppages and reviews for all near misses. This detailed focus helps to promote a high performance culture that places an emphasis on what matters most: ensuring that everyone goes home safe at the end of the day.





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Safety is an essential part of ENMAX Corporation's Shepard Energy Centre project. The 800 megawatt (MW) natural gas fired generation facility will be completed in early 2015. *Photo courtesy of ENMAX Corporation.*

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# IMPROVING SAFETY METHODS

Safety is not a static set of rules, but an ever-changing way of looking after employees and the public to prevent injuries and keep people safe every day. Through a focus on new research, technology, improved regulations, and documentation, safety is enhanced and made easier for everyone involved. It is especially important to marry innovation and safety in the electricity industry, where the workplace risks are extremely serious and safety must remain the top priority every day.

## 3.1 RESEARCH BUILDS BETTER METHODS FOR DAY-TO-DAY SAFETY

### FortisBC Inc. and FortisAlberta Inc. Get Flexible with the MoveSafe™ Program

Injuries due to slips, trips, falls, lifting, and overexertion continue to be an issue both in the field and the office.

**FortisAlberta Inc.** and **FortisBC Inc.** teamed up with Vancouver-based ErgoRisk to develop *MoveSafe™*,

a body health program designed specifically for the day-to-day tasks of Fortis employees.

Posture affects the way people move, and bad movement causes muscle and joint compensations which can lead to musculoskeletal and repetitive strain injuries. *MoveSafe™* addresses employees' poor postural habits and promotes skills to help avoid injuries and incidents through daily awareness and practices that provide lifelong benefits. With the introduction of the program, employees are asked to think about their approach to safety in their day-to-day activities,

and empowers them to use resources to build a healthier work experience that not only reduces injuries, but promotes long-term health benefits and a better quality of life at work and beyond.

*MoveSafe™* includes video lessons, handy reference guides, and checklists to help employees use correct postures to move. Modules developed include *Bending & Lifting*, *Slipping and Tripping Prevention*, *Computer Workstation Set Up* and *Pushing, Pulling & Hand-Tool Use*.





Power line worker Jessica Hadfield safely repairing a line. *Photo courtesy of Manitoba Hydro.*

## Newfoundland and Labrador Hydro Promotes Injury Prevention with Dynamic Stretching

Over the past several years, **Newfoundland and Labrador Hydro** has experienced an increase in the frequency of musculoskeletal injuries among Power Line Technicians



Toronto Hydro employee is outfitted with the IGS-180i motion capture suit built by Animazoo. The suit includes 11 sensors placed on the trunk and limbs of the participant, which are used to create a digital record of the participant's movements while lifting the chamber lids with the different tools. This data can then be used in a simulation program to determine the joint loading of the shoulder and spine when lifting the chamber lids. *Photo courtesy of Toronto Hydro Corporation.*

(PLTs). The nature of a PLTs work involves frequent heavy lifting, carrying, reaching, climbing and working from an aerial bucket, which contribute to soft tissue injuries. To address the increasing prevalence of injuries, Newfoundland and Labrador Hydro implemented a dynamic stretching program to help promote the health and wellness of PLTs.

The stretching program promotes gently pushing the muscles towards their maximum range of motion, thus working the body in a similar fashion to how it is used in fieldwork. This activity keeps a proper blood supply to the muscles and tissues throughout the workday, which helps prevent fatigue, discomfort, and injuries. PLTs are encouraged to

stretch for approximately five to ten minutes at the beginning of their shift and after periods of extended rest such as lunch breaks or travel to warm up their muscles.

The initial rollout of the stretching program involved all line crews and their supervisors participating in awareness training that reviewed the physical demands of line work, muscle function, conditioning, stretching, and injury prevention tips. The training and promotional materials such as pocket cards were initially delivered by the Corporate Safety and Health Department, who in turn trained safety champions within the line crews to lead the stretches and assist with proper stretching techniques.

Employee feedback for the program has been very positive, with many of the line crews looking for *additional* support and materials to assist with their injury prevention activities as they embrace dynamic stretching as part of their daily work routine.

## Toronto Hydro Corporation and Ryerson University Search for New Ways to Reduce Ergonomic Risk

In 2013, **Toronto Hydro Corporation (Toronto Hydro)** and Ryerson University researchers from the Department of Occupational Health and Safety developed a partnership to identify engineering solutions for risk factors regularly encountered by employees. The partnership was formed to develop innovative new controls to minimize the ergonomic risks associated with physically demanding work, with an eye to reach a goal of zero injuries. Focus was placed on reducing shoulder musculoskeletal disorders which have a high frequency and severity rate.

In March, 2013, Toronto Hydro employees participated in a preliminary study to evaluate the effectiveness of a prototype trunk support device for employees in aerial buckets. The trunk was

intended to minimize the effort of bending or reaching forward, thus alleviating lower back and shoulder discomfort for employees working from a bucket. While this innovative product is still a few years away from market distribution, testing has been positive.

In May 2013, a two year study of shoulder-related musculoskeletal disorders began. The first phase involved an epidemiological study to identify and prioritize ergonomic risk factors specific to Toronto Hydro power line technicians and cable workers. The next step in the research is a detailed analysis of these tasks in action, and the project will then move to develop and evaluate new products to ensure they will minimize workers' physical strain and reduce injuries at Toronto Hydro and across the industry.



Employee installs an automated meter in Medicine Hat, Alberta. Photo courtesy of the City of Medicine Hat.

Tailboards are an important part of making sure all workers understand the hazards and procedures at work sites.

### 3.2 NEW TECHNOLOGY REDUCES RISKS FOR EMPLOYEES

#### The City of Medicine Hat, Electric Utility Eliminates Danger to Employees with New Automated Meters

Every month, meter readers from the **City of Medicine Hat, Electric Utility** visit thousands of homes and are subjected to numerous hazards, often unexpectedly. The range of potentially hazardous exposures includes vehicle collisions, walking over uneven and unfamiliar ground, entering the backyards of residences, encountering dogs or other animals, and contact with unpredictable people.

The City of Medicine Hat has recently implemented Automated Metering Infrastructure (AMI) which will allow for remote reads of electric, gas, and water meters, and also allow for remote disconnection of services. The elimination of manual meter reading and field services will remove the health and safety risks involved in accessing the meters. The use of AMI has also reduced the automotive carbon emissions, as fewer vehicles are required for the remote reading

process. While there are numerous operational advantages with the implementation of AMI, it is a contributing factor to help keep employees safer.

#### ENMAX Corporation's Employees Assess Risks with New Digital Tailboards

A tailboard is a jobsite meeting that includes everyone on the site. Tailboards are an important part of making sure all workers understand the hazards and procedures at work sites. To ease the amount of administrative work associated with tailboards, **ENMAX Corporation (ENMAX)** recently equipped field leads with iPads and iPhones, allowing them to complete electronic tailboard forms.

The electronic tailboards link to task hazard assessments, procedures and confined space permits, making the tool a quick safety reference for work teams. With thousands of tailboards completed annually across the organization, the time to handle and reference tailboards has been significantly reduced while accessibility has increased.

The other advantage of digital tailboards is that it allows for real-time use of the data. ENMAX employees can now reference tailboard information immediately, providing a valuable feature for safety assessments and audits.

The new process was rolled out during 2013, allowing ENMAX to continue making safety a priority for all employees while being a class leader as one of the first companies in North America to begin using digital tailboards for field workers.

#### EPCOR Utilities Inc. Linemen Supported with New Full Body Harness

After several years of working with Buckingham Manufacturing Company Inc., **EPCOR Utilities Inc. (EPCOR)** linemen are using a new harness they helped create. The harness combines a lineman's body belt with a 'Y' style full body harness, a design that makes working at height extremely comfortable and eliminates the possibility of slipping out of the body belt.



Featuring quick release buckles at the waist, an upper body chest strap and arborist-style leg straps, the harness is easy to get in and out of and maintains an arc rating for electrical utility work. The 'Y' style provides full mobility and comfort while aluminum work positioning rings and soft loops on the chest and back mean the harness is lightweight.

The chest loop provides an accessible connection point for EPCOR's new pole top rescue technique, so that while the umbilical soft loop allows

the harness to be used with a descent control device for bucket truck self-evacuation. This new harness is demonstrative of how safety requires collaboration, and is an effective tool that ensures EPCOR staff can be kept safe at heights without restricting movement.

### **EPCOR Utilities Inc. Steps Up to Improve Pole Top Rescues**

Rescue procedures for wood pole work has remained essentially

unchanged since linemen first began working at height. In 2013, the old technique of hand-lines and knot tying, which secures linemen working at great height, was phased-out at **EPCOR Utilities Inc. (EPCOR)**.

EPCOR has introduced a new approach that features a rated life safety rope, an anchor device that can be cinched around a pole or laid over a cross arm. The approach also includes a descent control device that eliminates the possibility of a casualty being dropped to the ground in an emergency situation,

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Employee uses the infrared detector. Photo courtesy of Toronto Hydro Corporation.

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with the addition of a chest mounted rescue loop on all harnesses.

With the new setup and equipment, rescues can be performed as quickly as the old technique allowed, but with improved safety for everyone involved.

### Toronto Hydro Corporation Employees Adopt Infrared for Confined Space Entry

In 2010, **Toronto Hydro Corporation (Toronto Hydro)** began a risk-based approach to managing work activities. The initial ranking of all enterprise risks rated occupational health and safety as the highest priority, with confined space entry listed as one of the most common hazards. Around the same time, Toronto Hydro began to benchmark their performance against

other electrical utilities, specifically looking at large distribution companies in dense urban environments.

It was apparent that more could be done to improve worker safety in assessing hazards prior to entering a confined space. There was a specific need for better assessment of power line splices and their likelihood of failing, as a failure would result in an arc flash and blast that would endanger a worker.

Historically, lead cable has been used in Toronto's underground infrastructure and the risk of a potential splice failure can be identified visually in most situations. As Toronto Hydro eliminates lead cables and moves to using XLPE (cross-linkable polyethylene compounds) cable, the visual indicators of a failing splice no longer exist. To find a way to identify failing splice indicators, a multi-disciplinary team was formed.

Extensive research by the team revealed that technological advancements have made solutions reasonably priced and readily available, including Forward looking Infrared (FLIR) cameras and partial discharge detection methods. After an extensive review of best practices across North America, the decision was made to use the technology for infrared and partial discharge scan of all splices as part of all cable chamber confined space entry tests.

Toronto Hydro is working with a forensic laboratory to calibrate the infrared images and the discharge readings, and training of crews in use

of the equipment and interpretation of the results is underway. Toronto Hydro plans to have this fully implemented and operational by 2015, further enhancing the worker safety through new methods and technology that better manage the risks of confined space work.

### 3.3 CERTIFICATION AND DOCUMENTATION: BEING AT THE TOP OF THE GAME

#### ATCO Power Showcases Safety with Six Standardized Processes

In 2011, **ATCO Power** began improving its *Safe Work Permitting System*, including the standardization of six safe work processes. This ambitious task focused on *Guarantee of Isolations, Hot Work, Confined Space Entry, Fall Protection, Ground Disturbances* and *Job Hazard Analysis* procedures. Aligned with ATCO Power's goal of operational excellence, the program's objective is to continually improve health and safety practices and streamline safe work processes, including planning and hazard risk assessments. It was a challenging process that required patience as it involved input from eight generating facilities.

To facilitate the standardization of the Safe Work Process (SWP), senior management supported the formation of the SWP Committee, made up of the Corporate Health and Safety group as well as selected employees from each facility. Procedures were then developed through detailed assessments of processes and best practices from each site (for each topic). Only the most current and efficient procedural aspects with the highest safety standards were considered for inclusion in the new system.



Understanding that training mitigates risk, Oakville Hydro employees receive essential overhead crane training. Photo courtesy Oakville Hydro Corporation.

The procedures were ready for final review in September 2013, after a year and a half of research, committee meetings and development. The official roll out began at the Sheerness Generating Station in October 2013 and moved to the other locations toward the end of 2013. Each station started with a two-day *Train-the-Trainer* course on the new processes and support from Corporate Health and Safety.

The result of ATCO Power's efforts are new procedures that allow for easier transition of workers between facilities, while ensuring operational consistency at all locations.

### Capital Power Corporation Enhances Organizational Standards for Health and Safety

In 2012, **Capital Power Corporation (Capital Power)** identified its lack of broad organizational standards for health and safety. All operations had standards in place, but the standards varied in content and requirement. Capital Power conducted evaluations of individual jobsites. It was increasingly difficult to identify process improvement opportunities, apply consistent evaluation and provide a measure of the strength of programs in place at acquired facilities.

As part of a long-term strategic plan, 62 standards were identified as necessary for company-wide operations and requiring updates. The process to develop first drafts of the standards began in 2013, and required internal health and safety advisors working with external support. The drafts were reviewed and revised by operational groups, and sent to all operations for agreement on their efficacy. The process allowed Capital Power to track the reviews, create accountability and maintain a high level of participation in the entire process.

Final standards were rolled out to the organization with briefing notes, implementation information and support. As a follow-up, existing site standards were then reviewed, gaps in standards were identified and changes were made align all standards (old and new). These efforts resulted in a clear set of expectations for operations, which outlined a minimum standard of care across the organization. This meant that employees trained for one site could seamlessly transfer to another.

The process to update standards also allowed for improvements to operations. There was increased flexibility at the site level to meet local requirements, and there were channels to improve standards across the organization. The process also led to better evaluation of new acquisitions, for training and improvement. With these key organizational standards in place, a standard audit tool and measurements can be applied across all facilities to ensure health and safety remained the highest priority.

### Hydro One Inc. on the Journey to Zero Injuries

In June 2013, **Hydro One Inc. (Hydro One)** received Occupational Health and Safety Assessment Series (OHSAS) 18001 standard certification, an internationally recognized occupational health and safety management system. Achieving this standard is an important step in Hydro One's *Journey to Zero*, which demonstrates the organization's mission to make sure that employees go home safe at the end of every day.

The certification can be attributed to Hydro One employees' knowledge of health and safety systems, as well as the organization's dedication to constant improvement in achieving the goal of zero workplace injuries. Auditors will continue to assess how Hydro One has addressed areas of concern, and sustain the health and safety management system, as part of certification. Maintaining certification will help uphold Hydro One's commitment to continual health and safety improvement moving forward.

### Northwest Territories Power Corporation Achieves National Safety Standard

In 2014, **Northwest Territories Power Corporation (NTPC)** implemented a new Health and Safety Management System based on the Certificate of Recognition Program (COR). This occupational health and safety accreditation verifies a fully implemented program that meets national standards.

With COR certification and a comprehensive health and safety management system now in place, NTPC is focusing on training, monitoring, and continuous improvement of the system components to provide safer and healthier workplaces across the organization.





## Oakville Hydro Corporation Frames-up Safety with Z1000

In 2013, **Oakville Hydro Corporation (Oakville Hydro)** established an Occupational Health and Safety Management System (OHSMS) using the Canadian Standards Association (CSA) Z1000 framework to promote a safe working environment.

With the use of the CSA framework, the OHSMS aims to continuously improve safety performance through the effective management of risks and activities in the workplace. The ultimate goal of the System is to help reduce injuries for all employees in all roles across the company.

With this increased focus on safety standards, Oakville Hydro is moving forward to be a best-in-class utility at all levels, and ensuring that the health of employees remains a priority in all work environments across the company.

## Ontario Power Generation Inc. Consolidates Health and Safety Management Systems

As part of **Ontario Power Generation Inc.'s (OPG)** effort to streamline processes and create efficiencies, the organization is transitioning to a single health and safety management system. Prior to 2013, most health

and safety governance at OPG was decentralized, with responsibility for development and maintenance falling to individual business units.

By adopting this new management approach, there are fewer requirements placed on a particular worksite or business unit. This new corporate level model for health and safety governance and management system documentation has resulted in the following benefits:

- Provided a more easily understood and consistent approach to health and safety across OPG;
- Eliminated the need to learn of new requirements when workers move between business units;

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An Ontario Power Generation worker reviews data to ensure the equipment is operating within expected limits. *Photo courtesy of Ontario Power Generation Inc.*

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- Established a corporate-wide standard that allows best practices to be used across the company;
- Enabled the organization to be more nimble and responsive to change in requirements;
- Allowed employees in health and safety functions to be more effective;
- Eliminated the requirement for individual sites to be registered externally by incorporating a common means of monitoring and assessment;
- Provided for the maintenance and retention of old governance in an archive, available through the newly created “Health and Safety Solutions Centre”.

The new strategy and approach to governance led to a review of the 330 health and safety documents OPG had been using, which were consolidated into 42 new documents. The new documents ensure a more consistent focus on safety across OPG. As the project enters its second year, current implementation involves representatives from across the organization. An effectiveness review is scheduled for the end of the year to further enhance results.

## Nova Scotia Power Makes Safety Easy with Refined Rules and Proactive Practices

**Nova Scotia Power Inc. (NSPI)** and its employees faced many challenges in 2013, with many changes to their business. During this change period, NSPI took the opportunity to tweak its approach to safety by modifying its risk assessment process.

NSPI has added driving to the list of potential risks employees face, and has been working hard to reduce the number of controllable vehicle incidents. One of the more innovative approaches has been to improve driver awareness with portable vehicle simulators. Since the initiative began two years ago there has been a downward trend in the number of controllable vehicle incidents across NSPI.

Employee involvement is a huge part of safety. In 2013, NSPI worked to simplify safety through a Safety Manual Revision Committee, made up of management and union representatives. Each year, safety manuals are revised and distributed to employees, so that employees

have the most current information in their pockets. One improvement to manuals involved working with employees to condense the number of safety rules from 18 to eight, while maintaining the quality of the content. This made it easier for employees to remember the rules and put them into practice while on the job.

Most important to NSPI's risk assessment process has been the use of safety stand downs as a proactive, rather than a reactive, way of helping employees focus. Previously, stand downs (meetings) were held after a serious incident to help refocus employee attention. In 2013, a quarterly safety stand down was introduced, encouraging discussions about important safety messages, trends in the business, collective safety actions and to recognize employee efforts. All of these topics helped identify risks and prevent incidents, and improve processes far more efficiently than reacting once an incident has already occurred, leading to improved safety across the company.

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Nova Scotia Power Inc.'s Power Line Technicians carry out line work. Critical risk assessment is part of every task, when conditions change, workers stop and re-assess. *Photo courtesy of Nova Scotia Power Inc.*

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# EDUCATION AND TRAINING:

## PREPARING FOR THE JOURNEY TO IMPROVED SAFETY

New work practices and improved standards are only the first step to building a safer workplace. Training and implementation remain key in ensuring the improvements are used. CEA members work hard to ensure training is continuous so employees can be their best whether work takes place in the field, at a facility or even in the office.

### AltaLink Gets Safety in Shape with Right-of-Way Boot Camp

In 2013, **AltaLink** partnered with major contractors to develop interactive training aimed at sharing best practices for safety, environment, stakeholder relations and communication on AltaLink's rights-of-way. The *Right-of-Way Boot Camp* program was developed after identifying an increased number of safety, environmental and landowner concerns across all projects that indicated performance

could deteriorate substantially with an increase in project volumes.

The training targeted audiences who plan, manage, supervise or do work on the rights-of-way and have the highest impact on improving safety. The unique and engaging format had participants learn through hands-on sessions with real-life situations.

Training topics included permitting, environment, construction, operations, first-aid, customer consultation and Aboriginal relations while focusing on:

- Identifying and mitigating hazards experienced on the rights-of-way to create safer worksites;
- Describing the roles and responsibilities of AltaLink and contractors on the rights-of-way;
- Explaining AltaLink's expectations regarding safety, landowner communication, stakeholder groups, regulatory and environmental management, and Aboriginal relations.



Participants were scored on their knowledge and practical application as they progressed through the boot camp, participating in a special Jeopardy style game at the end of the training sessions.

Feedback for the boot camp was positive. The success of the training is illustrated by a 36 per cent reduction in the injury frequency rate in 2013 from 2012, and by AltaLink's major projects south team completing a full year with zero medical aid or lost-time incidents during the construction of two substations and approximately 240 km of transmission lines.

### Brookfield Renewable Energy Group Cultivates Wide-spread Safety Programs to Match Asset Growth

**Brookfield Renewable Energy Group (Brookfield)** is dedicated to ensuring that its safety culture is consistently applied throughout its ever growing global portfolio. Through both acquisitions and development, Brookfield has seen a steady growth to over 200 hydroelectric generating stations and 11 wind farms, comprising approximately 6,000 megawatts of capacity. With this growth comes the challenge of disseminating Health,

Safety, Security and Environmental (HSS&E) fundamentals uniformly across the entire organization.

Brookfield's HSS&E culture is delivered from management to employees and contractors through a steering committee. The steering committee includes Brookfield's CEO and COO as members who participate in the detailed review of any high-risk incident and policy and procedure amendments. This steering committee is also tasked with the approval of the company's HSS&E policy with its Board of Directors.



*Caption: Brookfield employees talk about safety on site. Photo courtesy of Brookfield Renewable Energy Group.*

Training and implementation remain key to ensuring new work practices and improved standards are used.

In 2013, the HSS&E Group was centralized, overseeing all requirements of the business including policies and procedures, while specialists have broadened their roles to oversee *Health, Safety and Environment* as one element. This synergy helps share information and knowledge, and ensures existing employees can train, mentor and coach new acquisitions to Brookfield's high standards.

The integration of employees from an acquired business or green-field development requires good programs, strong culture and a clear vision. Brookfield has a zero tolerance approach to high risk incidents and focuses on a continuous improvement process. Everyone in the organization is proud to evolve in a positive environment where HSS&E comes first.

### ENMAX Corporation Apprenticeship Program Builds Safety Habits from Day One

Safety is the main focus for all **ENMAX Corporation (ENMAX)** employees from the first moment they walk through the door. ENMAX recently revamped its Power Line Technician (PLT) and Power Systems Electrician (PSE) Apprenticeship Programs to include additional learning tools to ensure that apprentices are learning everything they need to do their job safely from day one.

Program instructors follow established lesson plans and learner modules to make certain that all necessary information is reviewed in class. To confirm that apprentices have learned the lessons and can apply them effectively, students are required to complete written as well as field performance tests on a regular basis.

The implementation of this new program has increased the apprentice job-readiness and improved their knowledge on how to act with safety in mind. Since the program revamp, operations have improved and a reduction in incidents has been observed.

### FortisAlberta Inc. Celebrates Safety Leaders with New Recognition Program

Safety leadership can be demonstrated by anyone in varying ways. For employees of **FortisAlberta Inc.**, leadership about stepping up to address safety concerns. To recognize safety leadership in its organization, FortisAlberta has introduced a new program that identifies individuals who make a positive impact.

The first part of the program is managers, safety advisors, work methods specialists and Joint Health and Safety Committee (JHSC) members who recognize *Day-to-Day Safety Leaders*. This title recognizes individuals or teams that have



Lethbridge Area Foreman Warren Babe (left) receives FortisAlberta's quarterly Safety Leader award, for his diligence in thoroughly planning and reassessing a job site to ensure it was safe, from President and CEO Phonse Delaney (right). The Company also awards an annual President's Award for Safety Leadership to recognize employees who go above and beyond to ensure the safety of co-workers, contractors, customers and the general public. *Photo courtesy of FortisAlberta Inc.*



Hydro Ottawa employees receive the 2013 Outstanding Achievement Award at the Canadian Society of Safety Engineering Annual Conference. *Photo courtesy of Hydro Ottawa.*

demonstrated safety leadership beyond the expectations of day-to-day safety requirements. Individuals receive formal recognition in a formal email that describes their actions as a safety leader, which is shared with directors, department vice-presidents, and the JHSC.

Four times a year, managers nominate a *Quarterly Safety Leader*, which can recognize an individual or team from their area. After reviewing all the submissions details, a director will put forward a recommendation to the JHSC of a story worth distinction. Each individual or team nominated is recognized with a Safety Leader

certificate. From the nominees, the JHSC will select one person or group for distinction every quarter.

The final aspect of the program is recognizing an annual safety leader.

The JHSC reviews the Quarterly Safety Leaders and selects one that had the most impact on safety at FortisAlberta. The employee or team selected receives the *President's Safety Leader Award*. This distinction recognizes the role of a FortisAlberta individual or employee who has had a positive impact on health and safety in the organization, and exemplifies FortisAlberta's strong commitment to safety in the industry.

## Hydro Ottawa Finds Outstanding Achievement with the Safe Supervisor Program

**Hydro Ottawa** has an integrated Occupational Health, Safety and Environmental (OHSE) Management System, which is registered to ISO 14001/OHSAS 18001 international standards. To further strengthen management responsibility for safety and environmental activities, Hydro Ottawa has introduced an OHSE Accountability Program for supervisors in positions that support organizational goals tied to safety and the environment.





Hydro-Québec distribution lineman demonstrates transferring a pole with an isolating switch. The work is performed with voltage according to the Live Working Standard contact method (with insulating gloves). *Photo courtesy of Hydro-Québec.*

In 2010, Hydro Ottawa recognized an opportunity to develop accelerated proficiency for these supervisory roles through the development of a *Safe Supervisor Program*. Implemented in 2011, the Program provides new supervisors with critical safety knowledge and skills required for success in their roles. The Program includes a three month period of

intensive training with a Safety Specialist in the Human Resources division.

The training for these new supervisors includes practical learning. Participation in audits, field inspections, incident investigations, equipment inspections and a special project that promotes workplace safety is part of their training. The employees receive progress reports that formally assess

learning and measure vital skills including presentation development and delivery, workplace inspections, incident investigation and hazard near-miss follow-ups which the new supervisors need for their roles in the field.

In May 2013, Hydro Ottawa's efforts were recognized by the Canadian Society of Safety Engineering (CSSE)

Eastern Ontario Chapter with an Outstanding Achievement Award. The program received a second award at the National level during the CSSE's annual professional development conference in September 2013, indicating the strength and success of this program in preparing supervisors to support the safety of employees across the organization.

## Hydro-Québec Pairs Experienced Workers with New Employees in the Heat of the Action

**Hydro-Québec** introduced a new program for young worker development. The new 26-week employee support program takes place on the job, and develops the next generation of graduates who have completed initial training at Hydro-Québec.

The program allows young workers to gain practical experience while becoming accustomed to industry standards and methods of completing tasks, as well as rules on health and safety. While they work, the new employees learn about various construction and repair methods under the watchful eye of two senior employees, who act as coaches for the new workers for the entire 26 weeks.

Coaches are selected through interviews that evaluate their ability to communicate and interact with people, along with other leadership criteria. The success of the program depends on the transmission of knowledge regarding Hydro-Québec's work methods and standards. With young employees receiving timely and effective feedback, Hydro-Québec can guarantee the quality of work and the understanding of health and safety rules.

Managers meet regularly with young workers to track progress and review



As part of Nova Scotia Power Inc. and Emera Inc.'s mental health strategy, the organizations have partnered with the Dalhousie University National Mentoring Program to help make a difference at the Canadian Mental Health Association. Key participants in this initiative are (from left to right): Bev Cadham, Canadian Mental Health Association, Marg Murray, Canadian Mental Health Association, Catherine Giffen, Dalhousie University Commerce Student, Anne-Marie Curtis, Nova Scotia Power Inc., and Leanne Dixon, Emera Inc. Photo courtesy of Nova Scotia Power Inc. and Emera Inc.

coaching methods. This new program builds a succession plan for employees from the beginning of their careers, and also builds awareness for Hydro-Québec's best practices in health and safety.

## Explore Nalcor Helps New Employees On-board the Right Way

In 2011, the Safety and Health department at **Nalcor Energy (Nalcor)** began to increase focus around initiatives for new and vulnerable workers, as well as the jobsite orientations across the company. This focus prompted Human Resources to review the orientation system, which resulted in the March 2014 release of *Explore Nalcor* program.

Nalcor wanted to set new hires on the right path for safety from the start of their careers. Effective on-boarding reinforces the idea that new employees have made the right decision to work

for Nalcor Energy. *Explore Nalcor* provides employees with a positive impression of the company, an opportunity to learn more about the company's safety management system, corporate vision, goals, values and organizational culture.

*Explore Nalcor* includes a number of modules, such as: *Pre-Hire Learning Centre*, *A Supervisor's Guide for Effective On-Boarding*, *Local Safety and Health Orientation for New and Returning Employees*, *General Online Orientation* and *New Supervisor Online Orientation*.

New employees move through the modules that are designed to set people up for success from the start. Web based training sessions have been held to ensure that managers and supervisors across the company have a good understanding of responsibilities around safety, health and the on-boarding of new hires to ensure the long-term success of every employee.

## Nova Scotia Power Inc. Minding What Matters with Mental Health and Safety Program

In 2013, **Nova Scotia Power Inc. (NSPI)** along with its parent company, **Emera Inc.**, launched year one of a five year mental health strategy. The approach was created in response to the Canadian Psychological Health and Safety Standards issued in January 2013, as well as rising disability costs associated with mental health cases. NSPI's approach to the mental health strategy included a needs assessment and strategy development.

To ensure that the needs of the employees were fully understood, feedback was gathered during several focus sessions and a comprehensive survey was rolled out across the organization. Overall findings revealed a strong desire to see mental health as a priority in the workplace and on par with safety.

NSPI employees also shared that they wanted to see education sessions to support employees and managers in addressing mental health issues. In 2013, NSPI provided training for 82 per cent of managers, supervisors and executives on mental health, and approximately 1,600 employees are scheduled to attend training sessions throughout 2014.

In addition to the training, a five year mental health action plan was created to highlight milestones as the strategy rolls out across all Emera Inc. companies. With the program, the organization is building a new trend for a culture of mental health, and demonstrating a commitment to improving employees' general well-being around health and safety in all areas.

## Saint John Energy Plans New Safety Strategy

To better identify potential safety issues and develop new solutions, **Saint John Energy** has implemented an annual strategic planning day. The planning day occurs in the fourth quarter of the year, and includes a facilitated meeting for middle and senior management, as well as Joint Health and Safety Committee Members.

The meeting is held to perform a safety-specific strengths, weaknesses, opportunities and threats (SWOT) assessment. Through consensus, a safety strategy and an operational plan are developed for the upcoming year. The plan is a proactive approach to keeping Saint John Energy employees safe by considering five key elements: vision, themes, priorities, objectives and actions.

By reviewing upcoming challenges, Saint John Energy is identifying needs and providing health and safety support that considers employees.

## Yukon Energy Corporation Energises Fatigue Management Program

**Yukon Energy Corporation (Yukon Energy)** recognizes that fatigue is one of the most critical safety issues facing the electrical utility industry. While many solutions exist to mitigate the effects of fatigue, there is no single approach that solves every problem, which has led to Yukon Energy creating a multi-faceted approach.

Yukon Energy's Fatigue Management Program reflects industry best practices for alleviating fatigue and is applicable to workers on worksites or in facilities. The Program focuses on emergency work, providing definitions and standards for *extended* hours of

activity. The Program also outlines responsibility for ongoing fatigue management in overtime situations.

The Fatigue Management Program arose from the recognition that utility industry experiences significantly higher accident severity rates, due to high consequence of incidents such as electrical contacts and falls from elevations.

To further ensure employee safety, Yukon Energy has the *Safe Work Planning Program*, which provides information and guidelines for all workers at Yukon Energy facilities, aimed at helping:

- Reduce the risk of serious incidents;
- Provide knowledge necessary to identify and control hazards before work begins;
- Improve communication between workers; and
- Effectively manage change during a project or job.

Yukon Energy's Safe Work Planning Program provides pre-job planning guidelines as well as written instructions to complete a *Job Safety Analysis*. The analysis ensures that workers identify the hazards and implement effective barriers before starting work, as well as manage changing conditions after their job begins.

Through the detailed planning and preparation, fatigue management is being addressed through solutions that protect employees and promote safe work, allowing Yukon Energy to continue work, even under serious situations that require extended hours.





# SAFETY CULTURE:

## BUILDING THE FUTURE THROUGH ACTIONS AND ATTITUDES

Safety starts with a mindset that is enhanced by best practices and training. To be a part of the way organizations do business, safety needs to be embraced by employees.

Canada's electric utilities are working with employees to foster a culture of safety. Through learning from employees about what behaviours and messaging help keep them safe, the electricity industry works to prevent injuries and eliminate incidents. This section explores the attitudes and actions that contribute to employee engagement around safety.

### ATCO Electric Uses Workplace Demographics Change to Refocus on Safety

From 2006-2013, **ATCO Electric's** Distribution group's metrics for average years of experience at the company for line and service employees dropped from 19.9 to 8.9, and from 8.3 to 4.4 for construction employees. The loss of average experience presented a potentially serious influence on safety performance.

To preserve a culture focused on safety, ATCO Electric launched *Safety First, Always*. *Safety First, Always* strategy was designed with an eye to fostering a zero-injury safety culture, and helping reduce the risks associated with having a less experienced staff. ATCO Electric's initial focus was developing safety leadership activities, such as job observations and inspections as well as better communications techniques that enhance safety accountability.

ATCO Electric's strategy proved that the challenges presented by a changing workforce do not have to impact safety performance. One important metric that demonstrates the success of ATCO Electric's approach was lost-time statistics, which explain the amount of time lost due to a workplace incident, have been on a downward trend since 2006. (Incidents in 2013 were mostly caused due to slips and trips attributable to rushing or distracted behaviour instead of a lack of practical knowledge.)



The “Zero Means Everything” came to life at Capital Power in 2013. The unique internal safety brand and social marketing strategy is designed to change the way Capital Power employees talk and think about safety and achieve their zero lost-time injuries by 2015 target. *Photo courtesy of Capital Power Corporation.*

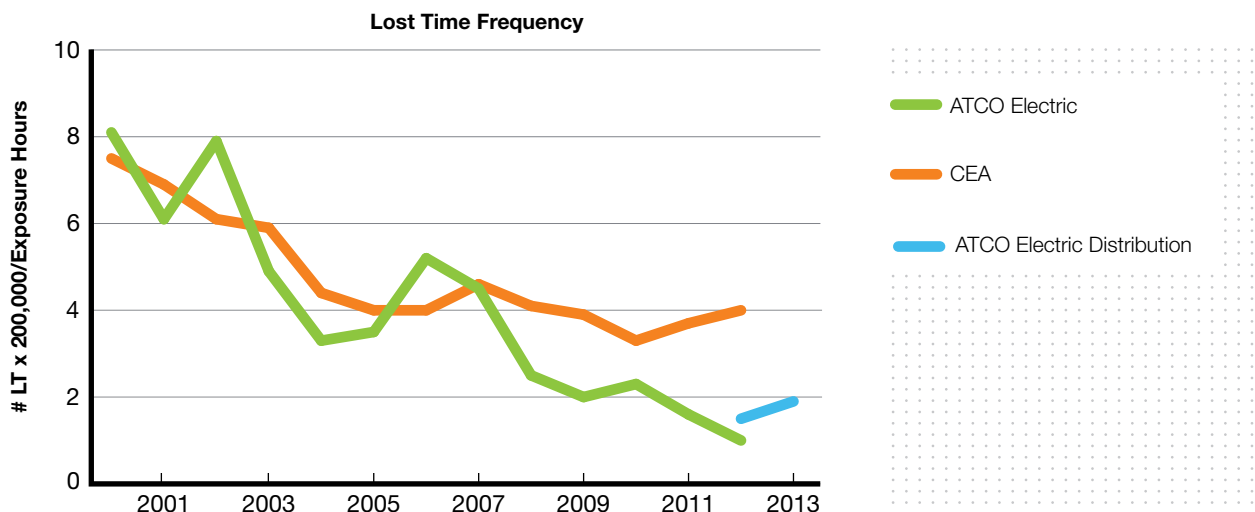
ATCO Electric has determined that the changing demographics has impacted employee subject matter expertise and that further effort is needed to ensure continued success.

Increased awareness of behaviour related to safety, and a continued focus on lessening the effects of decreased worker experience will allow ATCO Electric to continue

improving on recent accomplishments and grow a culture where every worker is invested in safety regardless of years on the job.

### ATCO ELECTRIC'S LOST-TIME FREQUENCY CHART

Chart demonstrates ATCO Electric's improve trend for Lost-Time incidents since 2006.



*Statistics courtesy of ATCO Electric.*

Safety starts with a mindset that is enhanced by best practices and training.

### Capital Power Corporation Employees Know Zero Means Everything

In 2013, **Capital Power Corporation (Capital Power)** launched new branding for its health, safety and environment to strengthen the culture within the organization. Capital Power introduced the *Zero Means Everything* initiative, with a five year implementation plan that uses consistent communication and visual elements. The platform is championed by Capital Power's board of directors, and is steered by senior leadership. The *Zero Means Everything* message makes safety personal, allowing for an approach that is transferrable to situations at work and at home.

The health, safety and environment messaging was developed through work with focus groups and professional internal and external communication support. In the *Zero Means Everything* collateral, the strategic decision was made to use only images of Capital Power employees, as opposed to stock photography, with the idea that seeing familiar faces would help engage employees.

The *Zero Means Everything* branding was launched simultaneously across the organization by senior leadership at safety celebrations. The focus of the initial messages were employees in operational and construction environments, as well support services and office staff. Going forward, the *Zero Means Everything* brand will include messages on the environment and targeting safety outside of the workplace, as well as continue to increase employee engagement.

### ENMAX Corporation Promotes Personal Accountability at Safety Symposiums

From 2012–2013, **ENMAX Corporation (ENMAX)** held safety symposiums for all 1,800 employees to discuss safety. The symposiums also provided an opportunity to identify ways employees could contribute to the *Mission Zero* safety culture at ENMAX, with the goal of achieving an injury-free ENMAX.

The theme of the symposiums, *Personal Accountability for Safety*, emphasized employee responsibility in achieving the ENMAX's safety vision, regardless of work environment and position. During the symposiums employees were shown how to ensure their own personal safety and to look after the safety of their colleagues and the public.

The symposiums also featured guest speakers, and an interactive session to evolve the *Mission Zero* program by examining the company's safety messaging. As a result of employee interaction, ENMAX's ten safety beliefs evolved into *Safe Actions for Everyone* (S.A.F.E.) – a series of recognizable safety reminders represented through symbols. The symbols allow the employees to define what safety means for their day-to-day activities. The overall result of the symposiums has been positive and brought ENMAX even closer to its injury free goal.



## Hydro One Inc.'s Journey to Zero includes Safety Perception Assessment

Health and Safety is a core value at **Hydro One Inc. (Hydro One)**; it defines the company's activities and is the focus for constant improvement. Four years ago, Hydro One began the *Journey to Zero*, an initiative with a goal of eliminating incidents, injuries and occupational illness for all employees.

In 2013, Hydro One contracted an unbiased third party to review the *Journey to Zero* initiative's progress and further strengthen the efforts. The Safety Perception Assessment that was conducted included:

- An organization-wide anonymous survey, that was available electronically or in paper format for ease of completion;

- Site assessments which included tours, field observations, focus groups and interviews with management and employees;
- A presentation of the survey and site assessment results to entire organization (including Hydro One's executive and *Journey to Zero* Steering Committee);
- A review of the improvements since the implementation of *Journey to Zero* in 2009, and suggested opportunities for further actions.
- Encouraging increased employee participation in safety and problem solving opportunities, as well as recognizing progress and accomplishments;
- Developing enhanced supervisor training, and enabling supervisors to have more time in the field with their staff.

*Journey to Zero* results have been extremely positive. Along with Assessment *Journey to Zero* work teams and management have improved employee engagement by:

- Establishing safety as a meaningful performance parameter at all levels, so performance becomes a significant factor in compensation and advancement;

Hydro One recognizes that the support and involvement of the executive and the unions that represent employees has been crucial to the success of the *Journey to Zero*. The Safety Perception Assessment was a useful tool to ensure that *Journey to Zero* was moving in the right direction, and Hydro One looks forward to continuing the journey, creating a healthy and safe workplace for all employees today and for the future.

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Capital Power company vehicles were branded with "Zero means everything" to keep safety top of mind. Photo courtesy of Capital Power Corporation.

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## *What helps health and safety to thrive at an organization?*

Establishing safety as a meaningful performance parameter at all levels, so performance becomes a significant factor in compensation and advancement.



Two apprentice power line maintainers going through a confined space entry/rescue exercise with a journeyman line maintainer, during a North American Occupational Safety and Health Week/Tool and Equipment Inspection Week event. *Photo courtesy of Hydro Ottawa.*

### **Hydro Ottawa Takes Time to Reflect for National Day of Mourning**

An important event in **Hydro Ottawa's** annual calendar is the National Day of Mourning ceremony. The day brings together all employees to reflect on the importance of workplace health and safety. The day also reaffirms Hydro Ottawa's commitment to protecting workers,

and honour those across the country who have lost their lives in workplace related fatalities.

The event takes place every April and includes a guest speaker who presents on a relevant health and safety related topic. The ceremony closes with the presentation of annual safety scholarships to children or grandchildren of Hydro Ottawa employees, which are given

in memory of employees who, decades ago, lost their lives in a workplace accident.

Through this annual event, Hydro Ottawa aims to create awareness for and strengthen the existing culture of safety. The event is an opportunity for all employees to learn from the past to help build a stronger and safer future.



## Hydro Ottawa Embraces Proactive Preparation

**Hydro Ottawa** uses a holistic approach to safety, and has a philosophy that healthy bodies and minds make for a safer workplace.

Building on its National Day of Mourning event (referenced in the previous story), Hydro Ottawa hosted a 2013 North American Occupational Safety and Health (NAOSH) Week events that combined safety with health, wellness and preparedness, in addition to integrating physical and mental health components. NAOSH activities are all aimed at supporting and promoting Hydro Ottawa's lifelong commitment to safety. There is also a focus on proactive, preventive health and wellness opportunities, and which can prepare employees to be active and safe at home and at work.

Combined with NAOSH Week there were also events and activities held in observance of Canadian Mental Health Week and Emergency Preparedness Week. The pervasive theme for NAOSH activities focused on readiness and asked employees "*Are You Ready?*" Through the activities, employees were further encouraged to reflect on the question "*Are you as Safe, as Healthy, and as Prepared as you think?*" Approximately 400 employees took part in this year's events.

During NAOSH Week Hydro Ottawa also hosted its annual Tool and Equipment Inspection Week event. The activities were spread over three days and included comprehensive inspections of tools, equipment and vehicles, as well as safety and rescue equipment. The event also showcased rescue technique practice and provided opportunities for employees to ask questions and voice their views on the NAOSH Week activities and other operational issues.

## Manitoba Hydro Finds a Dozen Reasons to Stay Focused on Safety

**Manitoba Hydro** launched the *Safety Focused Culture* campaign in December 2011 with the goal of ensuring employees return home safely at the end of their work day. The campaign featured a number of internal safety marketing pieces, such as calendars, banners, posters, safety articles and videos that communicated the message that "Safety is Personal".

Campaign pieces vividly portrays the personal side of safety through the use of testimonials accompanied by photos and illustrations of staff and their families. The photos and illustrations connect with the staffs' personal interests which powerfully demonstrate campaign the slogans "Everything you care about... starts with Safety" and "Stay Safe Together."

The campaign was inspired by the desire for an accident free workplace, achieved through the personal commitment of all employees. It focuses on motivating Manitoba Hydro employees to make decisions that enhance their personal safety as well as that of their colleagues and the public.

Each year 12 Manitoba Hydro employees are to be Safety Ambassadors who demonstrate safe work habits and provide motivation to practice safety at work and at home. Their stories are featured in a number of internal marketing pieces such as calendars, posters and videos. Safety Ambassadors' stories are included on indoor and outdoor banners, as well in feature interviews on the company's intranet site, highlighting important reasons to work safely.

This campaign, now in its third year, is continuing to build upon previous successes, as Manitoba Hydro employees continue to share their desire for a safe work place.

## Maritime Electric Company, Limited Has an Eye for the Indicators of Safe Behaviour

In 2013, **Maritime Electric Company, Limited (Maritime Electric)** implemented new health and safety initiatives that emphasize using leading indicators to drive improvements in safety culture. The vision for the initiative was to measure the proactive efforts and behaviours of employees that contribute to the success of health, safety and environment programs.

Maritime Electric started by collecting data on established indicators such as equipment and facility inspections, supervisory crew visits, and annual drills. Monthly and annual targets were captured in an electronic report, which was distributed regularly to supervisors and managers. The tracking and reporting have revealed successful and lagging indicators. This initiative has created opportunities for:

- Employees and management to observe incremental improvements in performance;
- Management to showcase positive contributions and achievements from staff as well as improvement opportunities if targets are not being met;
- Feedback to and from employees involved;
- A clear and predictive outlook on safety and environmental targets.





Nalcor Energy's Safety Summit ensures employees working in any facility are doing so with safety in mind. Photo courtesy of Nalcor Energy.



While the initiative has been very successful, Maritime Electric is committed to continued improvement. Measurement of leading and lagging indicators will inform planning and improvement for the initiatives in a systematic and steady approach that considers daily activities. Measurement of indicators has become a vital part of Maritime Electric's culture.

### Nalcor Energy Climbs to the Peak of Safety

The Safety Summit is **Nalcor Energy's (Nalcor)** annual internal safety and health forum that brings together employees from across the company to talk about workplace issues. The Summit is a day and a half event used to engage, inspire, motivate and empower to be safety leaders. It is also an important part of strengthening Nalcor's culture in the journey toward safety excellence.

When the first day-long health and safety session occurred in 2007 it consisted of 26 participants,

including Occupational Health and Safety Committee co-chairs, managers and safety personnel from across the company. The Summit was an avenue to discuss safety initiatives, challenges and lessons learned in an effort to develop consistent operational methods.

In recent years, Nalcor Energy has expanded on the success of the Summit, making it an event for all employees, as all employees have a leadership role when it comes to safety. Nalcor's diversified organizational structure has brought unique perspectives and experiences that continue to challenge mindsets and drive the safety journey through an environment of engagement and teamwork.

In 2013 the Safety Summit enjoyed its seventh year. Approximately 170 participants shared experiences and knowledge, learned from each other and further strengthened the culture. Momentum for this summit does not appear to be slowing,

as feedback for the 2013 session described it as the "best Safety Summit to date".

### Nalcor Energy Adds to Safety Awareness with Injury Prevention Campaign

Safety is the number one priority at Nalcor Energy (Nalcor), and the company has made notable progress on its journey to achieving world-class safety performance. Nalcor Energy is dedicated to keeping employees safe by providing the appropriate tools, training and support necessary to foster safety culture and improve overall performance.

Over the last decade, Nalcor has reduced injuries by 66 per cent, though this progress is in not yet complete. In July 2013, Nalcor launched an injury prevention campaign to reinforce the safety mindset and focus attention on incidents of slips, trips and falls, sprains and strains, and hand-related injuries.



A poster from Nalcor Energy's injury prevention campaign. Photo courtesy of Nalcor Energy.

The campaign focuses on hazardous situations employees encounter every day including those that are very subtle and often overlooked. Employees are provided with advice on how to prevent injuries, tip sheets, posters and visual displays as well as other activities to better educate employees about identifying and addressing workplace hazards and preventing injuries.

The campaign's tagline, *if only all hazards were this obvious*, and the use of oversized visuals encourage employees to be aware of their surroundings and that subtle hazards that may exist. Nalcor's safety programs are ongoing, as the company is dedicated to achieving safety excellence and creating an injury-free workplace.

### New Brunswick Power Holding Corporation Focuses on a Safety State of Mind

**New Brunswick Power Holding Corporation (NB Power)** is implementing a psychological module to complement their existing safety management system. Building on research from the science of industrial and organizational psychology, as well as their own safety perception surveys, NB Power has used a phased-in approach, focusing initially on the concepts of "reconnect and refocus". To promote this program, the Executive, directors and upper management participate in field activities and loss control meetings across the province.

In conjunction with these visits, a joint *Safety Commitment* document was created and signed by the Executive of NB Power and the International Brotherhood of Electrical Workers (IBEW). *Safety Commitment* describes the commitment to five basic principles: *Follow the Rules, Refuse Unsafe Work, Report Incidents, Lead by Example, and Have Courage*. It was introduced to all employees at special meetings co-led by NB Power management and the International Brotherhood of Electric Workers executive where feedback and discussion was promoted.





Newfoundland Power's 2013 President's Award winners represented in two images. Photo courtesy of Newfoundland Power Inc.



Alongside this activity is NB Power's promotion of the concept, 40-10-50. The concept 40-10-50 summarizes research findings where, on average, humans use 40 per cent of available conscious thought to focus on past activities, 50 per cent on future activities, leaving only 10 per cent to focus on present activities, the task at hand. This phrase reminds employees that 10 per cent awareness is not sufficient with high-risk tasks.

The research for the program led to the slogan "We don't need a better hard hat!" Words that recognize the excellence already present in the tools and processes designed to keep employees safe. NB Power's new approach focuses on fostering commitment to the consistent application of existing safety standards. This psychological component of safety is seen as a key area needing development in order to achieve an injury-free workplace.

### Newfoundland Power Inc. Knows that Leadership is Key for Safety

For almost 40 years, **Newfoundland Power Inc. (Newfoundland Power)** has used a wide variety of awards and recognition programs to support health and safety initiatives. While the fundamental objective of the awards has always been to foster and maintain awareness, the focus has shifted from recognition of statistics and injury-free milestones to emphasis on leadership, leading indicators and employee contributions towards building a positive safety culture.

The *President's Safety Leadership Award* is presented annually by the President and CEO to employees of the operations region or department that achieved the best overall safety performance in the previous year. While strong statistical performance including lagging indicators is a factor, this award is primarily based on 12 leading performance indicators.



Recognition also occurs at the grassroots level. A monthly *Safety Leaders Among Us Award*, is presented to any individual or small group of employees who have demonstrated their dedication to health and safety. Leaders are nominated by their co-workers or supervisors using an online application, and monthly winners are announced and congratulated via monthly newsletters, announcements and on the Newfoundland Power's intranet site.

Newfoundland Power's corporate policy on health and safety demonstrates how the company is committed to recognizing employees who demonstrate leadership at all levels. These programs support the company's commitments and promote a safety mindset for all employees throughout the year.

### Oakville Hydro Corporation Gets in the Safety Groove

In 2011, **Oakville Hydro Corporation (Oakville Hydro)** launched a multi-year *Stayin' Alive Safety Program* focused on safety, health and wellness. The Program's overarching goal is to enhance the culture of safety for employees when they are at work and at home. The *Stayin' Alive Safety Program* has been effective at creating a high-degree of employee engagement in the areas of health, safety, and wellness.

Oakville Hydro is also building on the program's success with *Safety Alerts*, which involve the timely production and distribution of brief information bulletins which focus on injury prevention including practical ways to eliminate or control workplace hazards.

Through engagement and information, Oakville Hydro is continuing to enhance the safety of employees, providing them with reasons to be safe and the methods to achieve an injury-free workplace.

### Saint John Energy Observant of New Program

**Saint John Energy** has implemented a new structured work observation program focused on all levels of management. The program promotes field observations, while monitoring compliance with safety policies, rules, regulations and work methods in order to help maintain a safe work culture.

The program seeks to communicate management's expectations with the following parameters:

- Commend and coach workers by clarifying and reinforcing management's expectations towards safety with a focus on critical safety performance;
- Document observations and assessment of performance;
- Provide constructive feedback and coaching to workers;
- Provide positive recognition for good performance;
- Correct unsafe work methods and habits;
- Identify individual and group training needs.

Through observation and training, Saint John Energy hopes to reinforce the importance of safety for all employees and create a culture of support and cooperation.



Employees participate in Oakville Hydro's Stayin' Alive – First Response Safety Session 2013. Photo courtesy Oakville Hydro.



# MOVING BEYOND:

## BRINGING SAFETY TO THE PUBLIC

Essential to preventing injuries is engaging the public. Many of Canada's electric utilities are working to share their knowledge and ensure workers in construction, agriculture, emergency services and the public know what to do to avoid an electrical incident.

### Hydro Ottawa Shows Off Strengths in Continent-wide Security Exercise

On November 13 and 14, 2013, **Hydro Ottawa** participated in GridEx II, a North American electricity grid security exercise with an objective of testing the current readiness of 230 organizations representing utilities and government agencies across the continent. The exercise focused on the response to cyber and physical security incidents,

and provided input for security program improvements to the bulk power system.

GridEx II allowed participants to test and evaluate the readiness of their crisis action plans through a simulated security exercise. This in turn provided an opportunity for the North American Electric Reliability Corporation (NERC), Ontario's Independent Electricity System Operator (IESO) and the industry to self-assess response and recovery capabilities to adjust actions and plans as needed.

Representatives from Hydro Ottawa participated in the planning of the Ontario portion of the exercise, and numerous employees played in the simulation on Hydro Ottawa's behalf, representing operations, health and safety, facilities and security, business continuity, communications, public relations, IT operations, and human resources.

The learnings from this exercise will assist Hydro Ottawa in continuously improving its programs to protect its IT assets, physical infrastructure and most importantly, keep employees and the public safe in emergency situations.

## Maritime Electric Company, Limited and Partners Team Up for Public Safety

In 2013, **Maritime Electric Company, Limited (Maritime Electric)** sought to build upon its existing public electrical safety program through a partnership with the Occupational Health and Safety Division of the Workers Compensation Board of Prince Edward Island and the municipal electric utility from the City of Summerside.

The group worked together to create electrical safety awareness presentations and radio promotions. Print advertisement were developed with a predominant focus on the construction and farming sectors. A newspaper ad was created, followed-up with the distribution of one thousand electrical safety posters that were provided to businesses and interested parties across the province of Prince Edward Island.

To complement this initiative, Maritime Electric's website was expanded in include information on the topics of *Health, Safety, Environment* and *Energy Conservation*.

Looking forward, plans are in place to attract additional partners. There is also a desire to develop awareness on other related safety topics such as roadside workplace safety messages for drivers and pedestrians, aimed at reducing the risk for employees, contractors and the public at roadside worksites.



### Work safe. Stay away from power lines.

Every year on Prince Edward Island, there are incidents and close calls involving power lines. Knowing how to work safely around electricity can prevent serious or fatal injury.

Always make it your business to know where **overhead** and **underground** power lines are located and stay a safe distance away. And remember, striking or hooking a **guy wire** can tear down a structure, so watch for guy wires and anchors and stay clear.

Please look out for power lines and stay away from them.

#### Work safe.

Visit our websites for more information on minimum safe distances and other requirements for working in proximity to power lines.



maritimeelectric.com  
1.800.670.1012



wcb.pe.ca  
1.800.237.5049



city.summerside.pe.ca  
902.432.1230

Safety poster from the *Safety Focused Culture* campaign encouraging the public to avoid power lines. Image courtesy of Maritime Electric.



Many of Canada's electric utilities are working to share their knowledge and ensure workers in construction, agriculture, emergency services and the public know what to do to avoid an electrical incident.

### Newfoundland Power Inc. Works to Prevent Power Line Contacts with New Public Programs

In the past three years in Newfoundland and Labrador, there were 260 contacts with energized power lines, 80 per cent of which involved heavy construction equipment. To address this major issue, **Newfoundland Power Inc. (Newfoundland Power)** is spearheading a public safety campaign focused on the prevention of energized line contact by partnering with industry stakeholders to form a *Public Contact Prevention Working Group*.

The *Public Contact Prevention Working Group* is comprised of utility, construction, safety industry and training-college representatives that meet quarterly. The group works to develop technical and creative strategies to decrease the number of public contacts with power lines, thereby eliminating the resulting injuries. Working with industry and safety associations, the Group is cultivating electrical safety and Power Line Hazard (PLH) awareness at the grassroots level.

The Group is also focused on influencing revisions to the provincially regulated PLH training course, assisting and supporting PLH instructors for heavy equipment operators training, introducing PLH training into the curriculum of additional industrial programs and meeting with and assisting in training with first responder groups who are at risk when arriving at a power line contact.

Additionally, representatives from the corporate safety group have been presenting at various conferences and safety summits across the province using an energized, power line hazard demonstration board. To support these efforts, Newfoundland Power also produced a widely praised video for electrical safety and energized line contact prevention which focuses on construction, contractors and even first responders that is being incorporated into many training programs.

Newfoundland Power is working with groups experiencing contacts in an effort to minimize them and cultivate a safer tomorrow. The *Public Contact Prevention Working Group* is executing this multiyear program to raise awareness and further reinforce their commitment to safety within their community.

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Some of Newfoundland Power's Contact Prevention Working Group members at an event aimed at drawing attention to the problem of contacts with power lines. Photo courtesy of Newfoundland Power Inc.

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# CONCLUSION

Safety processes continue to evolve, and each year bring new accomplishments in reducing injuries and incidents. CEA members are dedicated to injury reduction and enhanced safety with a goal of eliminating incidents. As the demand for electricity continues to grow, CEA members place safety for the public and employees at the forefront of industry growth.

Fostering a culture of safety is a continual process, fraught with employment and technology challenges. As workers retire and overall experience levels drop, new training methods will be required. Industry practices must also consider workers outside of utilities, with

education that targets contractors and third parties working near power lines. The challenge of keeping up with technological changes will grow as the pace of development increases with new means of generating and delivering electricity.

Canada's electrical utilities are poised to meet these challenges while continuing to research and implement new ways of operating that achieve the highest levels of safety. CEA members prove that safety is good for business, and good for Canadians.





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Manitoba Hydro workers review a job plan before site work can begin. *Photo courtesy of Manitoba Hydro.*

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# CEA OCCUPATIONAL HEALTH AND SAFETY COMMITTEE MEMBERS

## ABOUT THE CEA OCCUPATIONAL HEALTH AND SAFETY COMMITTEE

The CEA Occupational Health and Safety (OHS) Committee is an industry-wide occupational health and safety network dedicated to developing strategic priorities and safety initiatives that improve the overall safety performance in the electric utility industry. It has developed or facilitated the sharing of general safety management system development information, best practices, standards and safety incident related information, as

well as lessons learned adding a progressive edge in safety leadership to enhance the industry's safety management practices.

### Mandate

The CEA Occupational Health and Safety (OHS) Committee leads in advocating the electricity industry positions as it relates to occupational health and safety for generation, transmission, distribution, customer services, and corporate services, by:

- Developing, implementing and managing activities and processes that promote, encourage, and reward effective OHS practices;
- Proactively identifying occupational health and safety industry issues, trends and opportunities, and developing recommendations to address them;
- Developing and maintaining industry standards for safety performance recording, benchmarking and reporting, both leading and lagging;
- Developing and communicating national positions related to occupational health and safety;
- Providing strategic direction and subject matter expertise to both the CEA Councils and CEA Board on health and safety priorities;

- Capturing and sharing information on proven proactive safety programming on “best practices”, and on lessons learned on critical incidents and serious events; and
- Developing, implementing, monitoring and reporting on the CEA OHS Committee strategic plan.

### CEA Occupational Health and Safety Committee Members

AltaLink

ATCO Electric

ATCO Power

BC Hydro and Power Authority

Brookfield Renewable Energy Group

Capital Power Corporation

City of Medicine Hat, Electric Utility

Columbia Power Corporation

Emera Inc.

ENMAX Corporation

EPCOR Utilities Inc.

FortisAlberta Inc.

FortisBC Inc.

Horizon Utilities Corporation

Hydro One Inc.

Hydro Ottawa

Hydro-Québec

Manitoba Hydro

Maritime Electric Company, Limited

Nalcor Energy

New Brunswick Power

Holding Corporation

Newfoundland and Labrador Hydro

Newfoundland Power Inc.

Northwest Territories Power Corporation

Nova Scotia Power Inc.

Oakville Hydro Corporation

Ontario Power Generation Inc.

PowerStream

Saint John Energy

Saskatoon Light & Power

SaskPower

Toronto Hydro Corporation

TransCanada

Yukon Energy Corporation

## MORE HEALTH AND SAFETY TOOLS FROM CEA

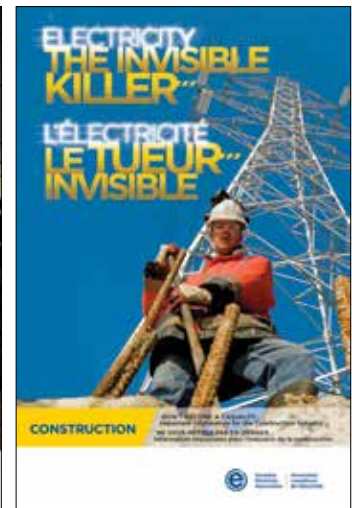
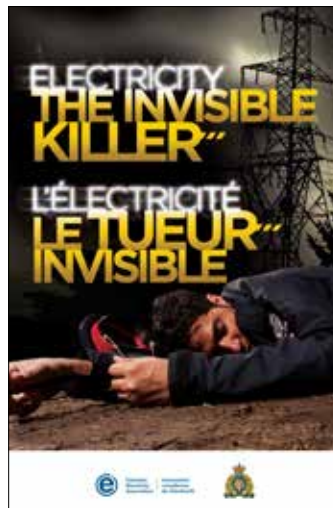
The CEA Occupational Health and Safety (OHS) Program has produced two DVDs aimed at reducing risk for the public.

### Electricity... The Invisible Killer – First Responders

Every year, many unnecessary and preventable contacts are made with energized power lines. A contact may require response from police, fire or Emergency medical services workers. This DVD provides the information first responders need to be able to recognize and work safely around electrical infrastructure while responding to an emergency or situation.

### Electricity... The Invisible Killer – Construction Industry

This DVD consists of five scenarios that construction workers may encounter when working in the vicinity of high-voltage electrical equipment, and demonstrates how to eliminate any potential fatal injuries that may occur.



[www.electricity.ca/theinvisiblekiller](http://www.electricity.ca/theinvisiblekiller)

*Back cover photos courtesy of Columbia Power Corporation and Manitoba Hydro.*



