



No one takes the safety of our pipelines more seriously than we do, which is why **we focused on building meaningful partnerships** and engaging face-to-face with emergency responders in 2015.

These outreach efforts go above and beyond the regulatory requirements to ensure we protect the public, emergency responders, property and the environment.

In 2015, we held more than 60 face-to-face meetings and Emergency Management System presentations with emergency responders. Of these, 23 were Energy East Safety and Emergency Response Safety Days presentations and 13 were town halls in partnership with the International Association of Fire Chiefs.

We also donated over \$900,000 to emergency responders across North America, including over \$300,000 invested in Energy East safety and emergency response partnerships.

- Early morning on June 29, 2015, TransCanada responded to a drop in pressure on its ANR natural gas pipeline system in Osceola County, southwest of Reed City, Michigan. TransCanada and local emergency personnel responded to the event and worked collaboratively to safely address the situation, including securing the area. Our highly trained and experienced emergency response team quickly mobilized and was able to safely assess the event and confirm that there were no injuries or casualties, and that the incident site was isolated and not blowing gas.

TransCanada has conducted comprehensive failure investigations into both incidents, as it does with any pipeline and facility incident. These investigations identify causal and contributing factors in order to improve all our asset integrity programs and to pursue the goal of preventing all incidents.

OCCUPATIONAL HEALTH AND SAFETY

TransCanada takes a holistic approach to occupational health and safety, with multiple complementary programs that address the workplace and home, the individual and family, and our employees and contractors. We allow no compromise in the welfare of employees and contractors, making health and safety integral to planning and execution, and a priority in the field, in our offices and in the boardroom.

SAFETY MANAGEMENT SYSTEMS AND PROGRAMS

TransCanada's Operational Management System (TOMS) framework, a project initiated in 2016, will establish a structure under which our corporate health and safety programs are developed, maintained and continually improved. For example,

TOMS will establish expectations for worker competency that ensure safety training and certification, and include regular refreshers and updates as part of the job. This includes training in hazardous material handling, first aid/CPR, fire and driver training, and other training and certifications demanded by specific jobs. See the Management Systems section on page 10 for more information on TOMS.

By measuring our safety programs and initiatives, we know our efforts are making a difference.

Safety Culture

A key component of TransCanada's company-wide strategy to make health, safety and environment a top-of-mind and around-the-clock value is our commitment to fostering a robust and positive safety culture. By continually modelling and reinforcing a strong safety culture, along with effective processes and systems, we strive towards our 'zero is real' goal as we won't be satisfied with anything less than a zero-incident workplace. Our safety culture includes:

- Ensuring safety is an integral part of our decisions
- Combatting complacency through relentless prevention of incidents
- Carrying work out with the right people, time, tools and equipment
- Showing safety leadership through our actions and priorities
- Empowering workers to take personal responsibility for safety
- Learning from our mistakes and the mistakes of others
- Being responsive to any risks resulting from changing business conditions

Photo at right: Our employees are trained to ensure a quick, effective and coordinated response to any pipeline emergency to prevent harm to our employees, the public, property and the environment.

LEADING SAFETY RECORD

For the second year in a row, in 2015 we received the Gold Safety Days Away Restricted Absence Award from Liberty Mutual.

Our Safety 24/7 program encourages employees to continue to foster this culture away from work, by sharing off-the-job incidents, supporting extended family safety training and providing information on a range of safety topics for home, recreation and protecting the environment.

Safety Hazard Awareness Reporting Events

Our ability to track incidents over time – including near hits – gives us a bird’s-eye view of trends so that we can prevent potentially significant incidents from occurring. Safety Hazard Awareness Reporting Events (SHARE) are proactive incident or issue notifications that focus on near hits, Safety 24/7, safe acts and safe observations.

At TransCanada, we believe that proactive reporting, both on and off the job, instils a safety culture of looking after yourself and others around you. We share information via the HSE Management reporting system, which is accessible to all employees. The information may generate a hazard alert (material defect, or activity that under certain circumstances may cause injury), business process improvement or simply be an opportunity to share lessons that TransCanada colleagues may find useful.

2015 SHARE reporting provided a wealth of actionable information:

- Employees and contractors reported 24,423 proactive events involving near hits, safe acts, safety observations and Safety 24/7s (collectively, SHARE reports)
- SHARE reports included identification and/or removal of hazards, such as removing potential falling hazards, and stopping fellow colleagues from continuing work to point out hazards or improve working conditions to eliminate the potential for injury
- Employees and contractors reported 1,579 near hits, 54 per cent (848) of which were reported by contractors
- On average, 1.46 events were reported per 2,000 hours worked (based on combined employee and contractor SHARE counts and year-to-date hours reported)

EMPLOYEE AND CONTRACTOR SAFETY

Throughout TransCanada, employee and contractor safety is a priority. Safe, supportive workplace environments, procedures, training, tools and resources all work toward preventing injuries and incidents. The company’s Contractor Safety Management Program ensures that TransCanada only does business with organizations that share its values and commitment to maintaining a safe workplace and reducing occupational injuries and illnesses.

We use internal and external resources to focus on key areas of health promotion and illness prevention, short- and long-term disability management, employee and family assistance counselling programs, illness/injury absence reporting and health issue management.

Our overall philosophy and approach to developing corporate safety targets is to set them such that we drive continuous improvement year after year. In 2015, TransCanada continued to have industry-leading safety performance. TransCanada will always strive for continuous improvement as we are committed to our goal of zero incidents so that everyone goes home safely every day.

Total Recordable Case Rate (TRCR)

refers to the number of recordable cases related to a common exposure base of 100 full-time employees. Recordable Cases are all work-related deaths and illnesses, and those work-related injuries which result in loss of consciousness, restriction of work or motion, transfer to another job, or require medical treatment beyond first aid. (Bureau of Labor Statistics, Record Keeping Guidelines for Occupational Injuries and Illnesses).

Away From Work Case Rate (AWCR)

refers to an incident, which results in an injury or illness that prevents an employee from returning to work on the next scheduled shift. The number of away from work cases, where the employee would have worked but could not because of occupational injury or illness, is related to a common exposure base of 100 full-time workers. This performance indicator is often referred to as the lost-time case rate. (Bureau of Labor Statistics, Record Keeping Guidelines for Occupational Injuries and Illnesses).

TUSCARORA PIPELINE'S PERFECT SAFETY RECORD

Vehicle Incident Frequency Rate (VIFR)

refers to the number of recordable vehicle incidents related to a common exposure base of 1,000,000 kilometres (621,400 miles) driven. A recordable vehicle incident is any incident (regardless of fault) involving a fleet or rental motor vehicle which results in an injury to any person or damage to any vehicle or property, unless the vehicle was safely and legally parked at the time of the incident. (ANSI standard D. 16.1 – 1989 “Manual on Classification of Motor Vehicle Traffic Accidents” – 5th Edition).

High Potential Incidents (HIPO)

refers to incidents with a high potential to result in a serious, debilitating injury to the worker related to a common exposure base of 100 full-time employees. Examples of high potential incidents include, but are not limited to, high speed vehicle incidents, vehicle rollovers, high voltage or high pressure incidents, injuries to the head, fall from heights, etc.

In 2015, there were no employee fatalities.

Beginning in 2015, TransCanada is disclosing contractor fatalities based on incidents that occurred under TransCanada's care and control. There were no contractor fatalities in 2015.

Every company's goal is to have a perfect safety record. But is perfection really possible? In a word: Yes.

Consider Tuscarora Gas Transmission, an interstate natural gas transportation system operated by TransCanada in California and Nevada. **After 20 years in operation, the Tuscarora pipeline has not only logged zero lost-time incidents, it hasn't had a single recordable event.**

Admittedly, at no point in its history has the pipeline had enough employees to field a football team, numbering between four and nine full-time employees at any given time over the last two decades. But **given the nature of pipeline work** and the rugged and often snow-covered terrain employees must travel every day to do their jobs, **the record is nothing short of astounding.**

Tuscarora extends 490 kilometres (229 miles) southward from the Oregon-California border at Malin across mountainous northern California and into Nevada's High Desert, where it interconnects with Paiute Pipeline near Wadsworth, Nevada.

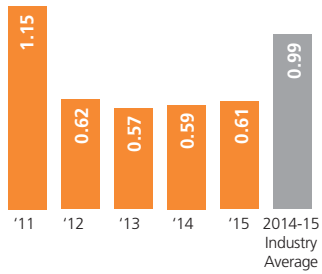


“Given the length of the pipeline and the small crew, we spend a lot of time working alone,” says Kevin Walker, a multi-skilled technician who has worked at Tuscarora since it went into service in 1995. “But we always know where the other guy is headed...**You always know the team has your back.**”

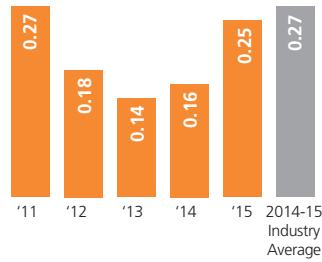
At TransCanada, **the reality of the overall safety program** – from extensive training to proper planning and efficient execution – **is that we can and will do better.** Our overall philosophy and approach to developing corporate safety targets is to set them such that we drive continuous improvement year after year.

EMPLOYEE SAFETY

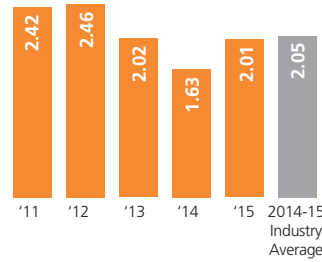
Total Recordable Case Rate (TRCR)



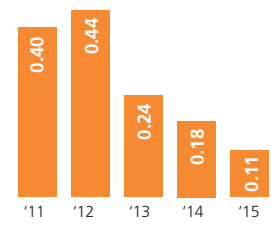
Away from Work Case Rate (AWCR)



Vehicle Incident Frequency Rate (VIFR)

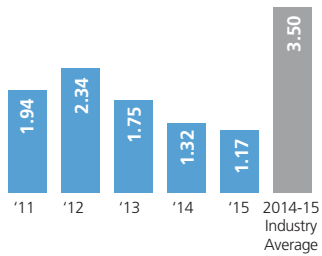


High Potential Incidents Rate (HIPO)

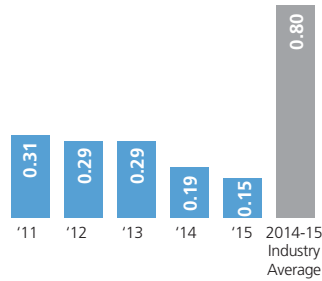


CONTRACTOR SAFETY

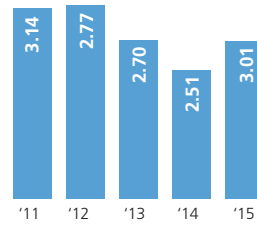
Total Recordable Case Rate (TRCR)



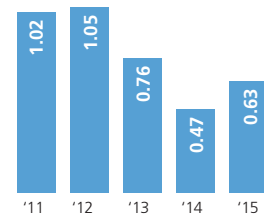
Away from Work Case Rate (AWCR)



Vehicle Incident Frequency Rate (VIFR)



High Potential Incidents Rate (HIPO)



Industrial Averages are combined data for 2014 and 2015 and are derived from the following sources:

- Canadian Energy Pipeline Association
- Canadian Gas Association
- American Gas Association
- Alberta Government Construction & Construction Trade Services
- Bureau of Labor Statistics

Industry Associations do not track High Potential Incident Rates or Contractor Vehicle Incidents. These indicators are tracked internally by TransCanada to identify those incidents that have a high potential to injure personnel, so that continuous improvement mechanisms can be applied and to track how well a contractor performs.

Photo at right: At TransCanada, we are committed to working collaboratively with our stakeholders and ensuring they are engaged and respected throughout the life cycle of all our projects.