

Health and Safety of Our Workforce

Why was Health and Safety of Our Workforce a Material Topic in 2015?

Global Context: Every day, 6,300 people die as a result of occupational accidents or work-related diseases — more than 2.3 million deaths per year — and 317 million accidents occur on the job annually, many of these resulting in extended absences from work.⁶ Many of these tragedies are preventable through the implementation of sound prevention and management practices. The International Labour Organization (ILO) has created occupational safety and health standards to provide tools for governments, employers and workers to enhance workplace safety.

Industry Context

Mining and processing involves the handling of large volumes of materials, the use of heavy equipment, and potentially hazardous production processes. It also has the potential to expose employees and contractors to chemical, physical and biological health hazards. We believe the mining industry has a responsibility to ensure that hazards associated with operations are controlled to ensure the safety and longer-term health of workers. The importance of health and safety is reflected in the International Council on Mining and Metals (ICMM) 10 Principles. ICMM Principle 5 is to “seek continual improvement of our health and safety performance” and states that member companies must implement management systems focused on continual improvement of health and safety performance and take all practical and reasonable measures to eliminate workplace fatalities, injuries and diseases among employees and contractors. Poor occupational health and safety performance can negatively impact labour costs, productivity, morale and reputation. Moreover, low performance in health and safety can significantly impact the lives of our employees, their families and the greater communities in addition to resulting in fines and other liabilities. The health and safety of employees can impact the communities where they live.

Teck Context

Safety is a core value at Teck and nothing is more important than the health and safety of our people. We recognize our responsibility to identify and mitigate health and safety risks and we believe it is possible for our people to work without serious injuries and illnesses. As a result of two fatalities in 2014, we increased our focus on the safety risks that have the highest potential to cause serious injury or loss of life.

In 2015, there were no fatalities and we continued to build on our efforts to improve safety performance, achieving a 25% reduction in our High-Potential Incident frequency compared to 2014. However, our total reportable injury and lost-time injury frequency edged upwards. This emphasizes that we must remain diligent as we work to reach our ultimate goal of everyone going home safe and healthy every day.



What is in this Topic?

Management approach and performance of health and safety including occupational health and hygiene.

Performance Highlights

Reduced High Potential Incidents (HPIs) by approximately

25%

16,000

employees and contractors have completed Courageous Safety Leadership training since 2009.

Learn More

See the recently released [Health and safety critical control management: good practice guide](#) from the ICMM



How Does Teck Manage Health and Safety?

Our Targets and Commitments

We believe that all incidents that could cause serious harm to our employees or contractors are preventable. We are responsible for providing a safe workplace by effectively managing workplace risk. We are also committed to providing leadership and resources for managing health and safety to ensure that all employees and contractors have the knowledge and ability to safely perform their duties.

We identify and manage occupational health and hygiene exposures for the protection of longer-term health. We also strive for continual improvement and hold ourselves accountable through verification and reporting of our performance.

We expect all employees and contractors to be leaders in health and safety through identification of hazards and the elimination and control of high-potential risk. We all share in the responsibility for our safety and that of our co-workers. Working together, we believe we can eliminate fatalities and serious injuries in the workplace.

Each year we set internal targets to improve our safety performance. Our goal in 2016 is to reduce our Lost-Time and Disabling Injury Frequency by 15%.

We have a three-pillar approach — embedding a culture of safety, learning from High-Potential Incidents and operating with excellence — that drives continual improvement and supports our vision of everyone going home safe and healthy every day. Our strategy is to continue to strengthen and achieve a balance between the cultural and technical aspects of our health and safety program — and to ensure that these two streams are complementary with one another.

We believe that a safe operation is an efficient operation. Applying strong operating standards informed by ILO, ICM and global best practice helps us

to optimize our production and avoid potential injuries, accidents, property damage and operational disruption.

Figure 10: **Three-Pillar Approach**



Accountability and oversight of health and safety performance rests at the highest level of our company. Health and safety incidents are reported as they occur, in monthly company-wide performance reports and on a quarterly basis to the Health, Safety, Environment and Community Risk Management Committee, which is made up of several members of our executive management team. The Safety and Sustainability Committee of the Board also plays an oversight and governance role in monitoring health and safety at Teck. We have an executive Health and Safety Steering Committee to inform our five-year health and safety plan and provide

additional oversight of performance, as well as to evaluate emerging health and safety trends and initiatives.

Our [Health and Safety Policy](#) defines our corporate commitment to providing leadership and resources for entrenching core values of health and safety across our company. In 2014, our Health and Safety policy was updated to include a statement regarding our commitment to occupational health and hygiene for the protection of longer-term health. For more information on how our Health and Safety Policy works with our Health, Safety, Environment and Communities Management Standards, please see page 12.

Values Based Organization

We believe that employee engagement through leadership and commitment is the key to achieving our health and safety vision, and we have implemented two major initiatives to foster a culture of safety at Teck: Courageous Safety Leadership (CSL) and Visible, Felt Leadership (VFL).

Launched in 2009, CSL focuses on challenging existing values, beliefs and attitudes towards safety, and builds commitment from individuals to work safely and foster safe practices at our operations. The program, rolled out in a series of phases, seeks to empower every employee to be a safety leader by playing an active role in their own safety as well as the safety of those around them. Since its inception, more than 16,000 people have participated in CSL training. In 2015, we engaged a cross-section of Teck employees to help determine the direction of the next phase of CSL. This phase will be implemented starting in 2016 to enhance the development of a positive culture of safety.

VFL is a key health and safety program for management teams across the company that helps Teck to evaluate how effectively CSL and other safety requirements are being embedded throughout the organization. Through VFL, managers interact and engage with our workforce on a regular basis to foster relationships and gain mutual understanding of the issues the workforce may be facing, particularly with regard to working in a safe way. In 2015, a company-wide guidance document for VFL was rolled out to each of our sites to outline the expectations for team site tours, solo site tours, and health and safety meeting participation and feedback.

Learning Organization

We foster a culture of continuous learning and improvement in safety performance by analyzing High-Potential Incidents, sharing best practices in safety through employee training and development and participating with our peers in mine safety working groups, including the Mining Safety Roundtable and the ICMM. We track all safety incidents and classify significant incidents as HPIs, Serious HPIs or Potentially Fatal Occurrences (PFOs). Analyzing and learning from these incidents allows us to identify and target

actions for high-risk tasks. Once we identify the root causes of PFOs, our operations also conduct a gap analysis and implement corrective actions to help prevent incidents from occurring elsewhere in the company.

We are committed to investigating all HPIs to comprehensively understand root causes and key contributing factors, and we take actions to prevent HPI recurrences. Using the Incident Cause Analysis Method (ICAM), we consider the contributing factors at the individual, team and organizational levels that led to each incident. Throughout 2015, we applied ICAM to 144 incidents.

High-Potential Risk Control

To proactively identify and mitigate High-Potential Risks, we continued to implement our High-Potential Risk Control (HPRC) strategy in 2015, which has now been implemented at all our operations. This program focuses on improving the way we identify and evaluate the controls that will most effectively prevent serious injury or loss of life.

The HPRC strategy aims to improve our ability to answer three key questions:

1. What are our high-potential risks and how do we know?
2. What critical controls — measures that, when implemented, are more effective in preventing an unwanted event — do we have in place to manage these risks?
3. What processes do we have in place to give ourselves the confidence that our controls are effective?

Employees across the business are undertaking Work Team Risk Assessments to help answer these questions, look for gaps and work together to close them. As part of our emphasis on reducing HPIs and effectively managing high-potential risk, in 2015 we continued to develop and roll out requirements that establish minimum controls and expectations for various areas that may result in HPIs, including specific standards for the following:

- Energy isolation and lockout
- Heavy mobile equipment and other vehicle interaction
- Working at heights
- Barricading

How Does Teck Manage Health and Safety?

Snapshot

Individual Risk Assessment Through Take 5

Individual risk assessments have an important role to play in identifying high-potential risks.

The Take 5 personal safety planning tool currently in use at our steelmaking coal operations is an example of an individual-level risk assessment that is helping employees form the habit of taking the time to assess workplace risks before they begin a task.

When they complete a Take 5, employees ask themselves a series of questions under five prompts:

1. Stop

- Am I clear on what the task is?
- Do I have the required skills and training?
- Is this task routine?

2. Think

- Do I need a permit?
- Could work conditions change that may introduce new High-Potential Risks during the task?
- Are there other workers involved/introduced who are unfamiliar to the task?
- Could my task seriously injure myself or other people?

3. Observe

- What High-Potential Risks may I encounter in my work environment or as I undertake this task?

4. Plan

- How will I control the High-Potential Risks?

5. Proceed Safely

- Does this task feel right to do now?
- If yes, proceed. If no, do not commence task and contact supervisors if effective controls are not in place.

Operating with Excellence

Operating with excellence in safety means that we focus on implementing supporting systems and standards that continually improve our safety performance. These include the identification of high-potential risks and associated critical controls, as well as standards, auditing, reporting on leading and lagging indicators, technological tools, and ongoing communications and training. As part of our work to manage high-potential risks and improve health and safety performance, we are implementing an occupational health and hygiene program, employee health and wellness program, and drug and alcohol policies.

Occupational Health and Hygiene

The occupational hygiene programs and procedures at our operations help prevent occupational exposures that could give rise to occupational illnesses. These programs and procedures are designed to limit worker exposure to potentially harmful substances and other sources of occupationally related illness or disease. This includes exposure to dust, noise, vibration and hazardous chemicals.

In 2014, we formed an Occupational Health and Hygiene Committee consisting of corporate and business unit health and safety representatives to assist in the development of Teck Occupational Health and Hygiene Principles and to inform strategy development.

In 2015, the committee developed and issued a self-assessment tool that was applied across all sites to determine the type of occupational health and hygiene programs in place. The results are being used to guide future strategy and improvement. The committee also assisted with establishing requirements for Teck occupational hygiene programs.

In 2016, we will work to enhance our occupational health and hygiene risk assessments, monitoring, and exposure controls to protect the long-term health of employees. Beginning in 2016, we will develop leading and lagging indicators for occupational health and hygiene reporting and incorporate these indicators into health and safety performance reporting.

Employee Health and Wellness

Our company-wide Health and Wellness strategy, which focuses on improving physical and mental well-being, continued to be implemented in 2015. The strategy brings together initiatives and resources across the company and builds on work already underway at sites and offices. One of the most successful initiatives under the program is our Know Your Numbers Campaign, a voluntary health testing program to help employees identify potential health concerns. Know Your Numbers clinics provide free cardiovascular health screening that measures several indicators, including blood pressure, cholesterol, casual glucose and body mass index. In late 2014 and in 2015, we conducted clinics at Line Creek Operations, Trail Operations, Product Technology Centre, CESL and at our offices in Toronto, Calgary, Sparwood and Vancouver, with 670 employees attending. Learn more in [this online case study](#).

Drug and Alcohol Policies

We take our obligation to provide the safest possible workplace for our employees very seriously. We strongly believe that taking measures to eliminate potential misuse of drugs and alcohol that can affect at-work performance and safety is an important way we can achieve our vision of everyone going home safe and healthy every day.

Teck's drug and alcohol policies, which include post-incident and reasonable cause testing, have been in place at the six mines in our steelmaking coal business for over 10 years. In 2012, our steelmaking coal sites expanded these policies to include random testing. Since the initiation of random testing, we have seen a decrease in post-incident positive tests. In addition, voluntary requests for drug and alcohol rehabilitation increased following the introduction of random testing. At our Cardinal River Operations in Alberta, random drug and alcohol testing was suspended in 2015 after an arbitration decision in which the arbitrator determined there was not sufficient evidence of a drug and alcohol problem at Cardinal River Operations to warrant the need for random testing. The operation continues to implement pre-employment, reasonable cause and post-incident testing. Random drug and alcohol testing at our other

steelmaking coal sites in British Columbia is subject to ongoing arbitration.

In 2015, Trail and Highland Valley Copper Operations finalized and rolled out drug and alcohol policies that include post-

incident and reasonable cause testing. Outside of Canada, all of our operations have drug and alcohol policies that allow for testing, including random testing as permitted under local laws.

Case Study

High-Potential Risk Control: Improving Working at Heights Safely at Trail Operations

Working at heights is a potential safety issue for mobile equipment operators and heavy truck drivers at our Trail Operations in British Columbia. Operators often access the tops or backs of tall equipment to adjust canopies, remove ice and snow buildup, and adjust material weight.

In alignment with the best practices for working at heights, we identified that these employees and contractors were accessing equipment at heights of 3–4 metres, which could lead to a Potentially Fatal Occurrence if they fell.

To help control this risk, Trail Operations implemented an improved fall-arrest system in 2015 designed to prevent workers from injuring themselves when working at heights on these pieces of equipment. Trail Operations installed two fall protection towers on-site. While wearing fall protection, workers on-site can use these towers to access the tops or backs of large mobile equipment.

The system — similar to that used for railcar access — is equipped with a self-rescue device that safely lowers a worker to the ground if there is a fall. Each person using the towers is required to have fall protection training completed beforehand. Instructions on how to safely use the towers is also provided.

The fall protection towers went into service in the third quarter of 2015,

and to date, the feedback from employees using the system has been positive.

The fall protection towers now in use at Trail Operations align with our High-Potential Risk Requirements (HPRR) for working at heights and are just one example of how we ensure that everyone working at our site goes home safe and healthy every day. The work done at Trail Operations has been shared with other operations so they can assess potential applicability.

“Use of the new fall protection towers has mitigated one of our working at height risks. This aligns closely with our High-Potential Risk Control strategy.”

Thompson Hickey, General Manager, Trail Operations



Sustainability Strategy Spotlight

Progress Against Our 2015 Goals

As part of our goal to reduce overall total reportable injuries, there has been a reduction in Total Reportable Injury Frequency (TRIF) of approximately 30% and in Long-Term Injury Frequency (LTIF) of approximately 27% since 2010.

For a full list of 2020 and 2030 health and safety goals, see page 18.

What was Our Performance in Health and Safety in 2015?

Outlook for Health and Safety of Our Workforce

Safety is a core value at Teck and we are committed to continually improving our performance. Moving forward, we will continue to focus on strategies to reduce incidents that have the potential to seriously or fatally injure people, or exposures that may result in occupational disease. In 2016, we will continue to improve the quality of our High-Potential Risk Control strategy implementation, roll out the next phase of Courageous Safety Leadership and build on our Occupational Health and Hygiene Strategy.

We track several leading and lagging indicators to monitor our safety performance. In this section, we report on our safety performance.

Safety Performance

In 2015, we continued to build on our safety performance in areas of greatest risk. We sustained no fatalities and we reduced our High-Potential Incident (HPI) frequency rate by approximately 25% compared to 2014. Total Reportable Injury Frequency (TRIF) was 20% higher than in 2014, largely due to an increase in medical aid injuries; our Lost-Time Injury Frequency increased by 5%. That being said, since 2010, there has been a reduction in TRIF of approximately 30% and in LTIF of approximately 27%.

Teck's TRIF is slightly above the average compared to the ICMM, which is made up of many of the world's largest mining companies. Companies vary in terms of how they define "injury" under TRIF, as does each company's individual culture of reporting, which means that a direct comparison may not be completely accurate. Our safety performance is summarized in the table below. For more detail on safety performance of employees and contractors by country of operation, [go to the Health and Safety of Our Workforce section of www.teck.com](http://www.teck.com).

Table 16: **Safety Performance**^{1,2}

| | 2015 | 2014 | 2013 | 2012 |
|-----------------------------------|-------------|------|------|------|
| Total Reportable Injury Frequency | 1.24 | 1.01 | 1.26 | 1.33 |
| Lost Time Injuries | 78 | 74 | 69 | 94 |
| Lost-Time Injury Frequency | 0.43 | 0.40 | 0.34 | 0.46 |
| Disabling Injury Frequency | 0.27 | 0.25 | – | – |
| Lost-Time Injury Severity | 18.6 | 80 | 19 | 17 |
| Number of Fatalities | 0 | 2 | 0 | 0 |

(1) Our safety statistics include both employees and contractors at all of our locations (operations, projects, exploration sites, and offices). For sites where Teck owns more than 50%, safety statistics are weighted 100%; for sites where Teck owns 50% or less, safety statistics are weighted according to Teck's ownership of the operation. This includes the Antamina mine, in which we have a 22.5% interest. We define incidents according to the requirements of the U.S. Department of Labor's Mine Safety and Health Administration. Frequencies are based on 200,000 hours worked. Severity is calculated as the number of days missed due to Lost-Time Injuries per 200,000 hours worked. New information or a reclassification of injuries may cause a change in historical data. See our [Glossary](#) for definitions of these safety indicators.

(2) Increase in severity in 2014 is a consequence of the fatalities, which are automatically counted as 6,000 lost days.

Since tracking of HPIs commenced in 2010, we have seen an overall decrease in HPI frequency (Figure 11). This improvement has been driven by our focus on learning from past incidents, and on sharing lessons learned and associated best practices across our company. Equally, while HPI frequency has declined, our operations continue to generate HPIs every year that could have seriously or fatally injured one or more of our employees or contractors, and we continue to focus on improving performance.

In 2015, there were seven PFOs, which were investigated using ICAM, and corrective actions were developed. The ICAM results are shared with all of our operations in order to facilitate a local gap analysis against the findings to prevent similar occurrences.

Figure 11: **High-Potential Incident Frequency**

