

Health & Safety



Companies must work to continually improve their health and safety practices, both for their employees and for the long-term success of their business. The human cost of occupational accidents or work-related diseases is significant, and the economic burden of poor occupational safety and health practices worldwide is estimated at approximately 4% of global gross domestic product each year.¹

International Council on Mining and Metals (ICMM) members have set the collective goal of zero fatalities and are implementing measures at mining and mineral processing operations to improve performance in avoiding injuries and loss of life. The 2017 ICMM Safety Report recorded 51 fatalities in 2017; this was a decrease from 63 fatalities in 2016.²

Technology and innovation have the potential to reduce human involvement in high safety risk activities, remove workers from high-risk areas, and develop systems for hazard and operator fatigue identification.³ We continue to look for opportunities to take advantage of these technologies, as we know protecting the health and safety of our workforce is fundamental to achieving

long-term success and upholding our commitment to sustainability.

In 2018, our High-Potential Incident Frequency was 28% lower and Total Recordable Injury Frequency remained the same as in 2017. Lost-Time Disabling Injury Frequency also remained flat year over year. We were deeply saddened by two fatalities that took place this year, one at our Fording River Operations and one at our Elkview Operations. We have carried out in-depth investigations into each of the incidents to learn as much as possible and to implement measures to prevent reoccurrences. These fatalities serve as an important reminder that we must remain diligent in our efforts to achieve our vision of everyone going home safe and healthy every day.

Our Performance in Health and Safety in 2018

Our Targets and Commitments: We engage and develop our people, and work to ensure everyone goes home safe and healthy every day. The following table summarizes our performance against our targets and 2020 sustainability goals for health and safety.

2020 Sustainability Strategy Goal	Status	Summary of Progress in 2018
Reduce serious injuries and eliminate fatalities by ensuring our high-potential risks have effective controls in place and by enhancing our culture of safety.	Not achieved	While we reduced our lost-time injuries in 2018, we unfortunately had two fatalities at our steelmaking coal operations. We are implementing our High-Potential Risk Control strategy as planned and all operations are on track to meet work team risk assessment and effectiveness review requirements. Courageous Safety Leadership 4 training was also fully completed in 2018.
Implement improved occupational health and hygiene monitoring and exposure control to protect the longer-term health of workers.	On track	Eleven out of 12 operations achieved “on track” status for implementing their exposure reduction plans, and plans for 2019/2020 were submitted by all operations. We also increased our capacity for quantitative data collection by training more than 60 sample collectors across the company.

2018 Key Performance Indicators

2018: 2	2018: no change	2018: no change	2018: 28% reduction
2017: Zero	2017: 14% reduction	2017: 12% reduction	2017: 14% reduction
Indicator⁽¹⁾ Work-related fatal injuries	Indicator⁽¹⁾ Lost-Time & Disabling Injury Frequency	Indicator⁽¹⁾ Total Recordable Injury Frequency	Indicator⁽¹⁾ High-Potential Incident Frequency
Target Zero fatalities	Target 10% year-over-year reduction	Target 10% year-over-year reduction	Target Year-on-year improvement

(1) All indicators include employees and contractors.

Building a Positive Culture of Safety

This year, we continued implementation of the fourth phase of our Courageous Safety Leadership (CSL) program. 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.

Building on previous phases of the program for both employees and contractors, CSL4 requires front-line leaders to facilitate a six-hour session with their teams to explore our company's,

and their team's, culture of safety — including safety strengths, safety opportunities and safe production challenges. For each of these areas, they identify and select commitments to work on as a team to help improve their safety journey. They must also identify a means to hold each other accountable for achieving their commitments.

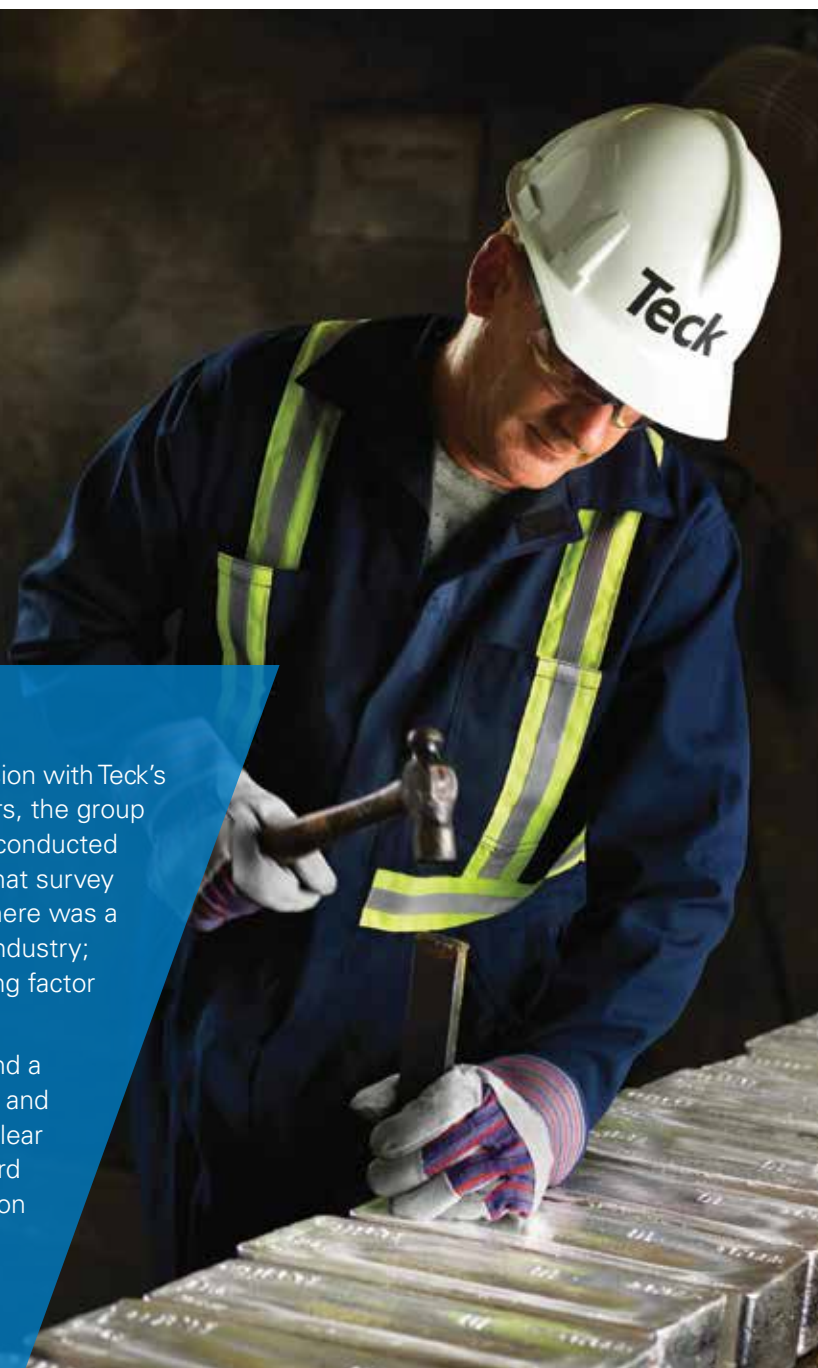
In 2018, we trained approximately 97% of employees on CSL4, and employee feedback on the program was positive.

Hazard Identification at Teck

During the Courageous Safety Leadership 4 session with Teck's senior management team and General Managers, the group reflected on the safety culture survey that was conducted company-wide a few years ago. The results of that survey indicated that, generally, most employees felt there was a very good understanding of the hazards in our industry; however, hazard identification remains a recurring factor when it comes to incidents at Teck.

In order to equip all employees with the skills and a common understanding of hazard identification, and to ensure everyone across the company has a clear understanding of key terms such as hazard, hazard types, risk and controls, a new hazard identification program was completed in 2018 and implementation will occur across Teck in 2019.

[Read the full case study in our *Connect* magazine.](#)



In addition to CSL4, a new Introduction to CSL program was rolled out across the company in 2018; all new hires are required to complete this within approximately six months of joining the company. As part of Teck's culture of safety, it is critical that new employees and contractors understand the importance of CSL, the journey we have been on to develop our culture of safety, and the part they can play in moving it forward.

High-Potential Risk Control

As part of our High-Potential Risk Control (HPRC) strategy, we set a target for each operation to complete four Work Team Risk Assessments and four Effectiveness Reviews in 2018. The Corporate Health and Safety team supported operations to reach their target by undertaking HPRC coaching sessions across operations to review risk assessment and effectiveness quality. As of the end of the year, all operations met or exceeded their targets for 2018. As a result of our improved risk assessment efforts across the company, we identified and shared stories of positive change. Teams across the company have tightened their controls for several key serious injury and fatality risks. We will continue to identify and share more stories in 2019.

In 2018, we also released new company-wide standards for Fitness for Work and Working around Water. The purpose of the Fitness for Work standard is to establish the expectations across Teck business units and operations to reduce safety risk for all employees, including risks related to fatigue and impairment. Mining and mineral processing activity can also expose workers to the hazard of working on or around water and tailings storage facilities. The Working around Water standard contains the minimum requirements for working in these conditions.

Occupational Health and Hygiene

We work to continuously enhance our occupational health and hygiene risk assessments, monitoring and exposure controls to protect the long-term health of employees. In 2018, all of our operations were required to implement the Exposure Reduction Plans (ERP) they developed in 2017. By the end of the year, 11 out of 12 operations reported that they were on track with their plan implementation.

Our Occupational Health and Hygiene Committee implemented a comprehensive sampling training program in 2018. The objective of the program is to provide all personnel who have a role in collecting hygiene samples with standard training for the collection of quality samples — including the collection of respirable particulate samples, and noise monitoring and mapping.

An Occupational Medical Specialist, Dr. Lawley, joined Teck's Health and Safety team in 2018 to help understand the needs of employees and operations in the area of occupational health. In the communities where we work, Dr. Lawley has started to build relationships with local health authorities and providers, to support our occupational health programs.

"In the period 2011 to 2017, our Quebrada Blanca Operations (QB) recorded 28 high-potential incidents associated with driving on Pintados Road near the operation. Through their ongoing implementation of the High-Potential Risk Control strategy, QB has implemented a range of control improvements to reduce incidents on this road. In 2018, no high-potential incidents were recorded. Congratulations to the team."



Enrique Castro
General Manager,
Quebrada Blanca
Operations

Safety Performance

We are deeply saddened to report that in 2018 we had two fatalities. On April 9, 2018, an amphibious excavator overturned in a tailings pond at our Fording River Operations, resulting in the death of a contractor. To ensure we learned everything possible from the incident and to help prevent a reoccurrence, an animated re-enactment has been produced and is being shared across our company and industry. [View the video here.](#)

On November 18, 2018, a vehicle collision occurred at our Elkview Operations, resulting in the death of an employee. Following a full investigation, learnings from this incident will also be shared across the industry. We share learnings from these incidents because we believe that these tragedies would be compounded if we fail to learn from them and fail to share those learnings with others.

In 2018, our High-Potential Incident Frequency was 28% lower and Total Recordable Injury Frequency remained the same as in 2017. Lost-Time Disabling Injury Frequency also remained

flat year over year. Teck's Total Recordable Injury Frequency is slightly above the average compared to the ICMM, which is made up of many of the world's largest mining companies.

Table 5: Health and Safety Performance ^{(1),(2),(3),(4),(5),(6)}

	2018	2017	2016	2015
Total Recordable Injury Frequency	1.01	1.01	1.13	1.27
Lost-Time Injuries	75	89	73	84
Lost-Time Injury Frequency	0.36	0.45	0.42	0.47
Disabling Injury Frequency	0.26	0.17	0.28	0.27
Lost-Time Disabling Injury Frequency	0.62	0.62	0.72	0.74
Lost-Time Injury Severity	73.35	24.4	28.4	18.6
Number of Fatalities	2	0	0	0

(1) Our safety statistics include both employees and contractors at all of our locations (operations, projects, closed properties, 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 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. Severity is calculated as the number of days missed due to Lost-Time Injuries per 200,000 hours worked.

(2) Increase in severity in 2018 is a consequence of two fatalities, which are automatically counted as 6,000 lost days.

(3) A Lost-Time Injury is an occupational injury that results in loss of one or more days beyond the initial day of the injury from the employee's scheduled work beyond the date of injury.

(4) A Disabling Injury is a work-related injury that, by orders of a qualified practitioner, designates a person, although at work, unable to perform their full range of regular work duties on the next scheduled work shift after the day of the injury.

(5) A fatality is defined as a work-related injury that results in the loss of life. This does not include deaths from occupational disease or illness.

(6) Frequency indicators in this table are calculated by the number of events in the period multiplied by 200,000 and divided by the number of exposure hours in the period, which refers to the total number of actual hours worked by employees/contractors at a site where one or more employees/contractors are working or are present as a condition of their employment and are carrying out activities related to their employment duties. Hours of exposure may be calculated differently from site to site; for example, time sheets, estimations and data from human resources are inputs into the total number of exposure hours.

Process Safety Events

Process safety events are those that typically involve an unexpected mechanical integrity failure in a pipeline system or processing facility that may result in a fire, explosion, rupture or hazardous chemical leak. All high-potential incidents

(including process safety events) were thoroughly investigated to identify corrective actions to minimize the potential for reoccurrence.

Table 6: Process Safety Events

	2018	2017	2016	2015
Process-Related HPIs	7	6	11	14
Frequency per 1,000,000 hours	0.17	0.15	0.32	0.39

Innovation Highlight — Future of Safety



As we advance our health and safety strategies, we are investigating and testing several technologies that have the potential to reduce the health and safety risk to our workforce. Starting in 2017, our Fording River Operations has been operating multiple drones with externally certified pilots for the use of surveying, taking photos, recording blasts, and ultimately, to improve safety performance. The use of a drone eliminates the need for employees to enter high-risk areas, such as areas surrounding congestion, high walls, blasted muck or dig faces. As for productivity, an area that would have originally taken 72 hours to survey can now be achieved in just four hours by using a drone.



Occupational Diseases

We report the incidence of occupational diseases at Teck, based on accepted workers' compensation claims from each jurisdiction in which we work, for the disease categories set out below. For Tables 7 to 9, workers' compensation claims data are for accepted claims over the past four years, and are for employees only; contractor data is not included.

In some cases, as our systems for reporting occupational diseases continue to mature, occupational disease cases and rates may increase in the short to medium term. This is a reflection of the long latency period associated with the development of occupational disease. However, at the same time, we will also continue to enhance our application of improved risk-based controls to prevent occupational diseases.

Table 7: Occupational Diseases Cases ^{(1),(2)}

Disease Category	2018	2017	2016	2015
Respiratory Disorders	1	3	1	3
Hearing Loss ⁽³⁾	2	5	9	12
Musculoskeletal Disorders	6	6	9	9
Cancer	0	0	0	1
Other Medical Disorders	8	4	2	1
Total	17	18	21	26

(1) Does not include global exploration or marketing offices.

(2) Occupational diseases are defined as an adverse, generally chronic and irreversible health effect associated with overexposure to chemical, physical or biological agents in the workplace (e.g., silicosis, bladder cancer, berylliosis, metal fume fever, asthma).

(3) The reporting for hearing loss may be under-reported, due to limited data availability.

Table 8: Occupational Disease Cases by Gender

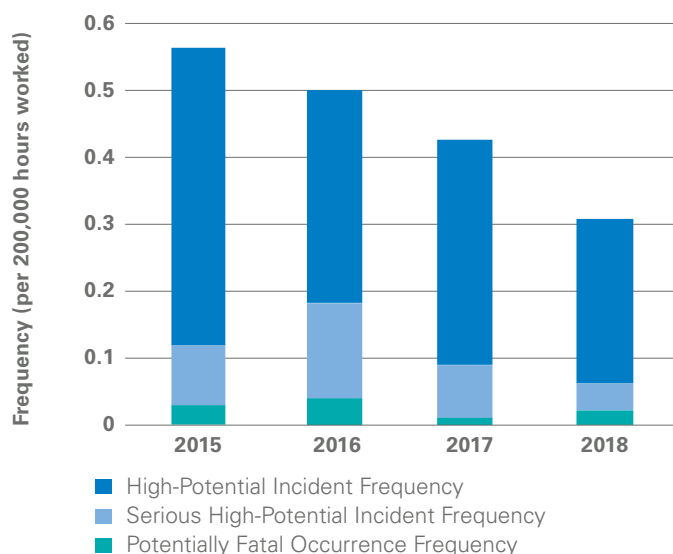
	2018	2017	2016	2015
Female	4	2	0	1
Male	13	16	21	25
Total	17	18	21	26

Table 9: Occupational Disease Rate

	2018	2017	2016	2015
Total Occupational Disease Rate (per 200,000 hours)	0.08	0.09	0.12	0.17
Total Occupational Disease Rate (per 1,000,000 hours)	0.41	0.47	0.61	0.84

In 2018, there were four Potentially Fatal Occurrences reported at Teck-operated locations that were investigated and for which corrective actions were developed. Where relevant, the results are shared with all of our operations in order to facilitate a local gap analysis against the findings to prevent similar occurrences.

While our total High-Potential Injury (HPI) frequency and severity has declined since 2010, our business units and operations continue to experience HPIs. As such, we continue to focus on improving our understanding of high-potential risk and control effectiveness.

Figure 8: High-Potential Incident Performance

Outlook for the Health and Safety of Our Workforce

Safety is a core value at Teck, and we are committed to continuously improving our performance. In 2019, we will continue to focus on reducing serious injuries and eliminating fatalities by ensuring our high-potential risks have effective controls in place and by enhancing our culture of safety. We will begin to implement our Introduction to Hazard Identification training program and practise these skills in the workplace. We will also continue the implementation of our Introduction to Courageous Safety Leadership program for new employees and conduct our second company-wide survey of safety culture. Our efforts to improve occupational health and hygiene monitoring, and improve exposure controls to protect the longer-term health of workers will also continue.

GRI Indicators and Topic Boundary

403-103, 403-1, 403-2, 403-3, 403-4

This topic is considered most material by our employees, contractors and regulators in the context of all Teck sites and in contractor selection and management.

How Does Teck Manage This Topic?

Information about how we manage health and safety, including relevant policies, procedures, management practices and systems is [available for download on our website](#).