

# HEALTH AND SAFETY

The health and safety of our people as well as mitigation of ore mining and processing risks is a top priority in Nornickel's operations.

## CERTIFICATION

In 2019, the Company commenced preparations for certification under ISO 45001:2018 Occupational health and safety management systems. The preparations included an external diagnostic audit, workshops for senior management and business unit heads as well as master classes on health and safety management system audit with practical work in production units for internal auditors. In addition, a new occupational safety management regulation was developed to comply with the requirements of ISO 45001:2018 and a preliminary audit of occupational safety management certification documents was carried out.

As at the end of 2019, all key production enterprises of the Group had health and safety certification:

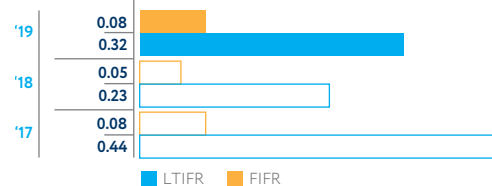
- Kola MMC, OHSAS 18001
- Polar Division GOST R 54934-2012 (Russian standard identical to OHSAS 18001)
- Norilsk Nickel Harjavalta, OHSAS 18001
- Norilsknickelremont, GOST 12.0.230-2007 (interstate standard identical to ILO-OSH 2001)

The Company's health and safety management system prioritises the life and health of our people over operating results and keeps pace with the most advanced international standards. In 2013, the Company embarked on a mission to reduce injury rates and promote health and safety culture.

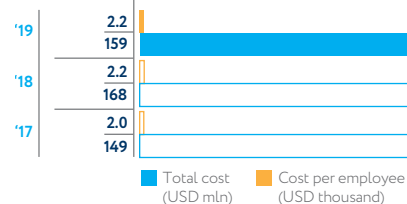
## STRATEGIC GOALS

- **Continuous reduction in injury rates:** Reduce lost time injury frequency rate (LTIFR) by 20% every year for three years starting from 2013 and by 15% every year afterwards;
- **Zero fatalities:** Zero-tolerance policy on work-related fatalities

Injury rates, per million hours worked



Industrial safety costs



## RESPONSIBILITY AND ACCOUNTABILITY

The Audit and Sustainable Development Committee deals with health and safety matters. The committee reviews management reports on health and safety performance every quarter, with management required to provide detailed account of causes of injuries, measures taken to prevent similar injuries occurring in the future and disciplinary actions taken against the employees at fault.

Nornickel's First Vice President – Chief Operating Officer is directly responsible for the development of health and safety initiatives and ensuring compliance with the relevant requirements. The KPIs of the COO and heads of production units include safety targets with weightings between 12% and 28% of the overall KPI. A failure to prevent a fatality blocks them from receiving a performance bonus. The heads of production units are personally responsible for the life and health of each of their subordinates. Managers' focus on improving safety includes:

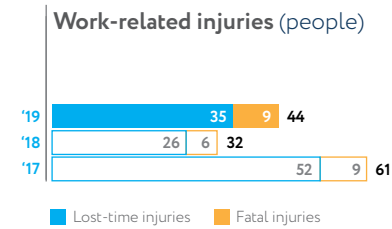
- Personal involvement in industrial safety risk assessments
- Regular visits to production facilities
- Acting as a second party in external industrial safety audits
- Meetings with enterprise teams to promote employee ownership of industrial safety improvement
- Personal participation in incident investigations

The Company's Health, Safety and Environment Committee is led by the First Vice President – Chief Operating Officer and is focused on improving efficiency and accountability in health and safety. The committee meets quarterly at various production sites of the Group to discuss H&S management improvement, including:

- Analysis of the circumstances and causes of severe and fatal work-related injuries
- Status of measures planned and implemented to prevent similar injuries
- A programme of organisational and technical measures to improve health and safety.

## OCCUPATIONAL SAFETY

BNornickel has corporate health and safety standards that apply to both the Group's employees and contractors' personnel deployed at the Group's production sites.



Nornickel's production enterprises have process-, job- and operation-specific regulations and guidelines in place containing dedicated health and safety sections. In addition, the Group's collective bargaining agreements also have health and safety provisions. At the end of 2018, key players of the copper and nickel and supporting industries developed and signed an interregional cross-industry agreement setting out among other things the obligations and commitments of the parties in relation to health and safety. The Company and most of its subsidiaries have joint health and safety committees made up of management, employee and trade union representatives.

As all maintenance and construction operations at the existing production facilities are classified as high-hazard, contractors' workers are required to attend induction and target briefings on health and safety prior to the commencement of any work. Work permits also include occupational safety requirements to be observed during work preparation and performance. A special standard setting requirements for contractors at the contractor selection phase was developed and implemented in 2018 to better monitor and promote the safety of work performed by contractors on the sites of Nornickel enterprises. In 2019, Nornickel continued to consistently implement the standard and monitor compliance with it including through joint inspections of compliance with work safety requirements and meetings of health and safety councils (committees) involving contractor representatives. Contractors failing to comply with health and safety requirements were fined for a total of more than RUB 11 mln (USD 170,000) in 2019.

The Group's production units are regularly audited for compliance with applicable health and safety requirements. A total of 81 audits took place in 2019 in accordance with the approved schedule (45 in 2018), with production site managers also involved in the audits.

## ACCIDENT RATE REDUCTION PROGRAMMES

In 2018, Nornickel launched the programme to implement the H&S process management system, which went live across the Group's key sites following a test period. The system is based on a modern risk management model focused on proactive identification of hazards in existing processes and incident cause analysis, including:

- Consideration of actual working conditions; identification of the most significant safety risks for various production operations and work areas
- Identification of actual and potential risks during incident recording and investigation or when recording identified gaps and irregularities
- Prevention of potential incidents using historical data on risks and near-misses, incidents and accidents
- Risk elimination and mitigation action planning, follow-up and performance assessment.

Since 2015, the Company has run another H&S programme, **the Technology Breakthrough**, which improves work safety through new technology:

Mine support design improvement programme was launched in 2017 to promote mining safety, in particular by minimising personnel access to unsupported parts of workings. The programme concept provides for the following measures, in particular to reduce the risk of rock fall

- Use of powered rock bolting systems, mesh hanging and scaling of workings
- Use of new methods to erect protective and temporary supports.

## TRAINING PROGRAMMES

The Company is committed to ensuring its people have all the necessary knowledge, skills and capabilities to perform their duties in a safe and responsible manner.

Each new hire receives a preliminary safety induction briefing upon employment, followed by subsequent workplace briefings. Briefings are then repeated regularly in accordance with the existing corporate programmes. There are also interactive training courses for employees in main production and mining occupations.

### The Technology Breakthrough programme

Measures	Description
Mine automation system	The automation system scans individual tags assigned to the employees and self-propelled machinery, ensuring wireless connectivity to every employee via their personal phones.
Gas protection for self-propelled machinery	Self-propelled machinery is equipped with automated gas monitoring and control systems shutting down the machinery if an explosive gas concentration is detected in the ambient air.
Radio communication and positioning system	An automated system is in place to track personnel and vehicles in mines and detect dangerous proximity between people and vehicles.
3D training simulators	Nornickel has deployed 3D training simulators with virtual reality elements to train personnel and check their skills not only in operations but also in safety.
Remote control technology	The Company has rolled out remote control solutions for its stationary equipment, enabling cuts in the number of employees deployed within hazardous work areas. Going forward, there are plans to use driverless or remotely controlled self-propelled machinery in mines, significantly reducing the number of people deployed underground.

## PERSONAL SAFETY

Employees are provided with safety clothing, footwear and other personal protective equipment to mitigate the adverse impact of work-related harm and hazards. Employees working in contaminated conditions are provided with free-of-charge wash-off and decontaminating agents. In 2019, the Nor Nickel purchased personal protective equipment worth approximately RUB 2.4 bn (USD 37 mln).

Workers with on-site production experience of less than three years wear special red helmets with the word "Caution" on them and protective clothing with "Caution" badges that make them stand out.

## INDUSTRIAL SAFETY COMPLIANCE

The Company has a zero-tolerance approach to unsafe behaviours, as prevention of safety breaches plays an important role in reducing injuries and accidents.

Nornickel has put in place an industrial safety compliance monitoring system featuring multi-tier control with ad-hoc, targeted and comprehensive inspections. The first tier control involves the line manager or the supervisor (aided by designated members of the H&S team) and focuses primarily on workplace set-up. The second and higher control tiers involve special H&S commissions with representatives of management and employees.

In addition to the above prevention and control initiatives, the Company regularly conducts behavioural audits in accordance with the approved schedule. The prevention and control team has identified and disciplined 12,000 non-compliant employees, including by partially or completely stripping them of their bonuses. A total of 221 breaches of critical safety rules have been identified with 159 employees dismissed (105 in 2018).

## PREVENTION OF OCCUPATIONAL DISEASES

The Company promotes healthy lifestyle amongst its staff to minimise the risk of occupational diseases, with management focused on communicating to all employees the importance of complying with safety requirements and protecting one's own health. Nornickel also seeks to introduce meaningful occupational health initiatives taking into account both workplace and individual risk factors.

The Company offers its staff regular disease prevention screening in line with recommendations from the healthcare authorities. Employees undergo compulsory pre-employment, regular and ad-hoc medical examinations at the Company's expense. Special medical examinations are provided to employees exposed to hazardous substances.

Production enterprises have dedicated medical aid posts to perform pre-shift health checks and provide medical assistance on request during working hours.

Implementation of electronic medical examination system has been underway since 2018 to automate pre- and post-shift health checks of employees.

If necessary, employees are provided free-of-charge with personal protective equipment (PPE), including respiratory protection (respirators, gas masks), hearing protection (earmuffs, earplugs), eye protection (glasses/goggles with UV filters, visors), skin protection (gloves, protective and regenerative creams, protective outerwear).

### Occupational diseases

Indicator	2017	2018	2019
Total	361	318	290

Employees working in harmful and hazardous conditions receive free food, milk, and other nutritional products for therapeutic and preventive purposes.

All these initiatives not only raise the living standards of the workforce, but also provide economic benefits by reducing the number of lost time illnesses and injuries.

## INDEPENDENT SAFETY ASSESSMENTS

Nornickel's safe operation culture has been assessed annually by independent consultancies since 2014. According to the latest report, Nornickel's safety culture level in May 2019 was 2.77 points according to the Bradley Curve (2.63 in 2017). The Company is currently at the third level of safety culture maturity when employees internalise the value of industrial safety, and compliance with health and safety rules and regulations is their own deliberate choice as above all they see how they benefit from it. The gradual improvements in the safety culture level were driven by increased employee engagement on safety matters and leadership demonstrated by senior management of enterprises as well as improved knowledge of risk assessment and management.

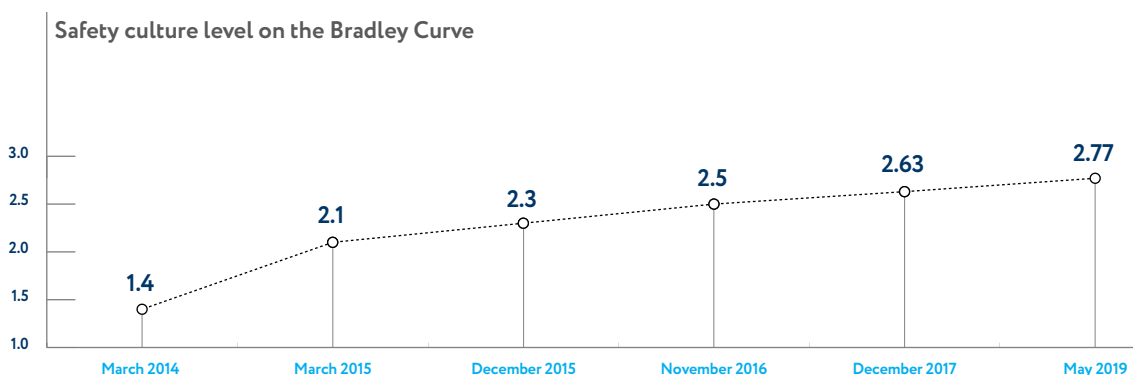
## INJURY RATES

Unfortunately, the Company was unable to reduce lost time injury frequency rate (LTIFR) and fatal injury frequency rate (FIFR) in 2019. LTIFR grew from 0.23 to 0.32 over the reporting year but is still below the global industry average. There were 9 fatalities in 2019, including one accident with multiple fatalities at Taimyrsky Mine in October.

All circumstances of the fatalities were reported to the Board of Directors and thoroughly investigated to avoid similar injuries in the future. Nornickel's management views safety and zero work-related fatalities as its key strategic priorities and continues dedicated programmes to prevent and avoid work-related injuries.



For more details on the Company's health and safety initiatives, please see the 2019 Sustainability Report



**Main causes of fatalities**

Indicator	2017	2018	2019
Fall from height	0	1	1
Falling objects	1	0	0
Moving objects/parts	1	0	2
Rock fall	0	1	0
Road traffic accident (RTA)	0	1	0
Electrocution	1	0	0
Exposure to extreme temperatures	0	0	1
Explosion	4	0	1
Other	1	3	4
<b>TOTAL</b>	<b>9</b>	<b>6</b>	<b>9</b>

**Injury rates**

Indicator	2017	2018	2019
FIFR	0.08	0.05	0.08
LTIFR	0.44	0.23	0.32
<b>Work-related injuries (people)</b>	<b>61</b>	<b>32</b>	<b>44</b>
- fatal injuries	9	6	9
- lost-time injuries	52	26	35
<b>Contractors' work-related injuries (people)</b>	<b>16</b>	<b>19</b>	<b>9</b>
- fatal injuries	1	2	1