Global Directive
Health, Safety, Security, Environment (HSE)

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☒ General Mgmt & Admin	☐ Supply Chain Management	☒ HSE	☐ Finance & Accounting
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This document has relevance for employees working with the following processes/functions:

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1 Purpose and Scope

Health, safety, security and environment (HSE) are an integrated part of Hydro's daily activities and our responsibility is to protect the health and safety of our employees, contractors and visitors and to contribute to the sustainable development of the communities in which we operate.

Based on Hydro's values of Care, Courage and Collaboration, the Code of Conduct and in line with the HSE Policy, we are committed to set health, safety, security and environment as core elements of Hydro's identity and business success.

This Global Directive and associated Global Procedures prescribes Hydro's mandatory health, safety, security and environment requirements and is compliant with ISO14001, IS045001, ISO50001, ISO18788 and The Voluntary Principles on Security and Human Rights.

This directive ensures that the Corporate Hydro HSE management system and those of Business Areas are constructed and maintained considering the context in which they operate in order to:

- Determine the intended outcomes of the HSE management system;
- Determine the relevant external and internal issues;
- Identify relevant external and internal interested parties, their needs and expectations and determine those requirements that become compliance obligations;
- Develop the scope of the Hydro HSE management system;
- Establish the Hydro HSE management system;
- Establish the Hydro HSE Policy.

These mandatory documents cover the entire life cycle of operations, from exploration and planning through to operation and closure including decommissioning, remediation and rehabilitation.

The terminology 'Health, Safety, Security, Environment' (HSE) has been utilized throughout these standards to highlight the following four key components.

1. Health – provide a health promoting work environment to all employees and operate without a negative health impact on neighboring communities.
2. Safety – Providing a workplace where people can work without being injured and operating our installations without harm to neighboring communities.
3. Security – Protecting our people, physical and intellectual assets and contributing to business continuity.
4. Environment – Minimizing our environmental impact by promoting the efficient use of resources (including water and energy), reducing the generation of our emissions and enhancing their treatment (solid, liquid and gaseous) and restoring impacted biodiversity.

This Global Directive, including underlying Global Procedures and appendices, is mandatory for:

- Wholly owned companies and employees worldwide;
- Wholly owned development projects, mergers, acquisitions and divestments processes;
- Activities by contractors under Hydro management control.

For legal entities where Hydro holds directly or indirectly less than 100% of the voting rights and in compliance with GP01-01 Governance Documents and for contractors, suppliers and commercial contracts, we shall exert our influence to create consistency with this Global Directive, acting reasonably and with respect for other owners' legitimate views in order to make the Global Directive apply.

Relevant international, national and local legislation will supersede this Global Directive in areas of conflict. However, where local legislation does not require an adequate level of HSE performance, activities shall be conducted in a manner consistent with this Global Directive and relevant international HSE standards, practices and guidelines.

Further details are to be found in GP01-01 Global Governance Documents.

2 Definitions

The definitions used in this Directive are described in GD03 Appendix 1 Definitions.

3 Description

3.1 Leadership and Commitment

Line managers at all levels of the organization shall comply with internal and external HSE requirements and ensure that enough resources and competence are allocated to control risks in their area of responsibility. They shall strive to establish a sustainable HSE culture through visible leadership, proactive commitment to HSE and involvement and engagement of employees.

The CEO will chair the CEO's HSE Committee to assist the deployment of Hydro's HSE Policy, and in the development and implementation of Corporate HSE Directives and Procedure documents that are deemed necessary to make Hydro's HSE Policy operational.

Each Hydro Business Area's top management is accountable for implementing their organizations HSE Policy and developing, implementing and sustaining their organizations HSE management system in line with this Directive and associated Global Procedures.

3.2 Responsibility and Authority

HSE at Hydro is a line responsibility.

All employees, visitors and contractors shall understand their responsibility and commitment to health, safety, security and environment and contribute to Hydro's obligations and goals. Following rules, reporting incidents, deviations, improvement possibilities and stopping unsafe behavior is a duty of every single Hydro employee and contractor. Employees have the right to refuse to work in any situation that represents an acute and significant threat to their health, safety or to the environment.

All personnel are responsible for reporting HSE incidents, hazards, accidents and emergency situations immediately upon discovery.

Group HSE has the duty to support the organization and advise and coach line management and employees how to live up to and achieve Hydro's ambitions and how to fulfil their obligations in the best possible way.

In addition, Group HSE fulfils a compliance role by conducting regular HSE audits at selected sites in order to provide facts on this topic towards the corporate management board.

HSE staff on other levels fulfil a similar role within their respective organizational units.

Hydro location/business unit's top management must assign responsibilities and authority to:

- Ensure that their organizations HSE management system meets the requirements of this Directive and associated Global Procedures;
- Report on the performance of their organizations' HSE management system, including HSE performance to top management for review and as a basis for improvement of the HSE management system.
- Ensure HSE responsibilities are assigned at each level of the organization

Each Hydro location/business unit is required to perform periodic job reviews to determine the responsibilities, tasks and competencies required of specific roles. These reviews include

assessment of management system roles, responsibilities, tasks and competencies associated with the role.

Each Hydro location / business unit must integrate personal HSE management performance into organizational reward, discipline and appraisal systems in accordance with organization policies on such matters.

Hydro location / business unit HSE is responsible for communicating relevant HSE roles, responsibilities, authorities and competencies/qualifications to line management.

3.3 Health, Safety, Security and Environmental Policy

Hydro location / business unit top management are required to establish, implement and maintain an HSE Policy, which is appropriate/relevant to the purpose and context of the location / business unit and provide a framework for setting HSE objectives.

The Hydro HSE Policy statement shown in 3.3 and a print version in NHC-GS03-00 is to be followed by all Hydro entities.

All Business Areas are required to use the Corporate HSE Policy to develop their own HSE policy to further promote ownership and the context of their HSE management systems, and in all cases compliance with the Corporate HSE Policy is required.

Hydro locations / business units are required to ensure the Hydro HSE Policy and Business Area HSE Policies are communicated to all employees and others who work at, or on behalf of Hydro and made available to interested parties.

All HSE Policies must be reviewed at least annually as part of the management review process or as changes to the business requires it and updated as necessary.

HSE Policy

Hydro believes in Health, Safety, Security and Environment (HSE) excellence. Our ambition is to set health, safety, security and environment as core elements of Hydro's identity and business success. The company will be recognized for its outstanding performance, demonstrating a strong sense of responsibility for people and the environment, and through innovation and efficient production, contributing to the creation of a sustainable society. All who work in Hydro are expected to understand, promote and assist in the implementation of this Policy.

Responsibilities
We value human life above all other considerations and will not compromise our HSE ambitions.

Management must have knowledge of relevant HSE issues and demonstrate HSE commitment through hands-on leadership and behavior.

A Safe and Healthy Workplace
Hydro is committed to the provision of safe and healthy working conditions for the prevention of work-related injury and ill health.

Hydro is committed to the elimination of HSE hazards and reduction of HSE risks related to our operations.

Hydro will protect the security of our personnel, environment, assets, reputation and stakeholders against damaging incidents caused by deliberate actions.

Hydro will contribute to the promotion of health and wellbeing.

Environment
Hydro recognizes its role in contributing to a sustainable society and is committed to minimizing its environmental footprint at all stages of the aluminium value chain.

Hydro will work systematically to improve resource efficiency, reduce emissions and implement the waste mitigation hierarchy, working towards the concept of a circular economy.

Hydro will also work systematically to prevent pollution and address our impacts where necessary, protecting and/or restoring both the environment and the value of our assets.

Compliance
Hydro is committed to the fulfilment of legal and other requirements, including Hydro internal HSE and Security requirements.

Emergency
If incidents occur, we shall be prepared to do the utmost to prevent and mitigate injury, damage to the environment, property and Hydro's reputation.

Continual Improvement
We are committed to the continual improvement of our HSE management system to enhance HSE performance. We continually review our HSE standards, our conduct and our equipment to reduce risk and environmental impact.

Hydro shall set and review measurable and achievable HSE objectives to assess our performance.

We are committed to the consultation and participation of workers and workers' representatives in HSE matters.

Value Chain
We have a commitment to our customers to not only comply with all applicable HSE standards and regulations throughout our value chain, but also increase the awareness of HSE-related matters to drive industry change. We see it as our role to develop knowledge in both directions of our value chain to reach world class HSE performance.

Communities
We will be an active member in societies where we operate and building skills and capacity within surrounding communities, government and organizations on HSE matters to create mutual benefit.

Communication
We will be open and transparent in our communication with stakeholders.
This policy is made available to all employees, contractors and to the public.

Note: A text version of the HSE Policy is available for translation and printing at NHC-GS03-00.

3.4 Context

Hydro locations / business units are required to:

- Undertake a context analysis and document and maintain records of the location / business unit external and internal issues that are relevant and interested parties and their requirements.
- Obtain endorsement of the context analysis results from top management.
- Ensure that external and internal issues, interested parties and their requirements are considered when establishing, implementing and maintaining the HSE management system.
- Determine and document the scope and HSE Policy for HSE management system and compliance with the Corporate HSE Policy.
- Ensure top management reviews the external and internal issues, interested party requirements, intended outcomes and the scope and HSE Policy.

3.5 HSE Management System

Hydro locations / business units, are required to establish, implement, maintain and continually improve its HSE management system including the processes needed and their interactions to meet the requirements of ISO 14001, ISO 45001, ISO 18788.

Appendix 2 to this document shows how Hydro's HSE Management System conforms with ISO 14001, ISO 45001 and ISO 18788 etc.

3.6 Hazard Identification, Risks and Opportunities

Company-wide defined and regularly reviewed risk acceptance criteria, hazard identification and risk management represent the precondition for any sustainable development within HSE and is therefore of paramount importance for Hydro's overall HSE approach.

Detailed requirements are found in the Global Procedures GP03-01-1 HSE Risk Management.

For risks and opportunities linked to impact on local communities and in supply chain, reference is made to Global Procedures GD09 Hydro's Social Responsibility.

Hydro location / business unit HSE management systems are required to determine the risks and opportunities related to the external and internal issues and interested parties' requirements and to document those risks and opportunities that need to be addressed and act accordingly.

Hydro locations / business units must determine and document the intended outcomes of their HSE management system.

HSE and Security Risk Management is a key input into the Enterprise Risk Management (ERM) process, for more information refer to the ERM Global Directive.

3.7 Legal and Other Requirements

All locations / business units shall have a process to identify and assess compliance with all applicable internal and external HSE and Security laws, regulations, approvals, licenses, permits, corporate needs and other requirements and determine how they apply.

Based on this assessment, a register of relevant documents and requirements shall be established, reviewed and revised on a regular basis to ensure they are up to date and compliance is assured.

3.8 Planning, Goals and Targets

Based on a global risk assessment to be performed by Business Areas and supported by Group HSE and validated by the Corporate Management Board, opportunities, predicted future needs and long-term targets in the area of HSE are to be defined.

A corresponding HSE strategy, which expresses how those long-term targets are to be met shall be established in close cooperation with the Business Areas and communicated.

Both long-term targets and corresponding strategy are to be reviewed periodically with progress monitored annually and adjustments made where necessary.

HSE shall be an integrated part of the annual business planning process based on locally and centrally identified significant HSE issues, legal and other requirements, risks and opportunities, and appropriately reflecting Hydro's long-term ambitions and targets as expressed in the overall HSE strategy.

Aligned with Hydro's overall HSE business plan and HSE strategy, all relevant organizational levels down to at least production sites shall define a prioritized list of HSE challenges, key performance indicators and targets as well as translate them into appropriate action plans.

Reference: GD04 "Hydro's Strategy, Business Planning and Performance Management Process".

3.9 Resources

Hydro Business Areas top management are required to determine and provide the resources needed for the establishment, implementation, maintenance and continual improvement of their HSE management system, including financial, organizational, technological and human resources.

Resources required for the HSE management system are reviewed at least annually as part of the management review process but also during the annual budgeting process and the setting of HSE objectives.

3.10 Training and Competence

Hydro locations / business units must determine the health, safety, security and environmental competencies and qualifications for key job functions (including contractors where relevant).

Hydro locations / business units must complete a training needs analysis associated with its HSE aspects / risks and its management system to determine who needs to be trained in what, and how often the training must be repeated. This training needs assessment is to be used to develop training programs which shall be reviewed periodically to validate progress against the training plan.

Relevant training shall be provided prior to commencement of employment and before job reassignment.

A process for evaluating the effectiveness of training must be implemented. HSE training shall be provided, at the frequency needed to ensure compliance with regulatory requirements, Hydro needs and to maintain awareness.

Hydro locations / business units shall ensure compliance against the requirements set out in this directive and Global Procedure NHC-GP03-01-2 Training, Awareness & Competence.

3.11 Communication and Engagement

Hydro locations / business units shall develop and implement a communication program compliant with the local legal requirements and requirements described in this Directive.

A two-way communication process shall be established promoting involvement and engagement of all Hydro employees and contractors performing work for Hydro.

Hydro locations / business units must plan, monitor and review their internal and external communications. The need to communicate will be primarily based on the Hydro location / business unit legal requirements and other requirements. These processes shall identify what will be communicated, when it will be communicated, with whom it will be communicated and how it will be communicated.

The organization shall respond to relevant communications on its HSE management system.

The organization shall retain documented information as evidence of its communications, as appropriate.

The organization shall strive for extensive involvement and engagement of relevant employees to fully benefit from the existing competence and experience. Depending on the risk level and complexity of the situation and tasks, an appropriate competence level is required.

3.12 Document and Review

Hydro locations / business units must document risks and opportunities, external and internal issues and interested parties and their requirements in a register.

The process and actions needed to determine, and address risks and opportunities arising from external and internal issues and interested parties, must also be documented.

Hydro locations / business units are required to review, at least annually, the identified external and internal issues, interested parties and their requirements; and associated risks and opportunities through the management review or sooner where changes to the location / business unit context requires it.

Each location has overall responsibility for the identification, storage, protection, retrieval, retention periods and disposal of all management system records.

3.13 Implementation and Operation

Specific Health, Safety, Security and Environment (HSE) topics and tasks are regulated company-wide in underlying Global Procedures because of their inherent high risks. These underlying Global Procedures ensure that the risks associated with those topics and tasks will be mitigated to an acceptable risk level and controlled.

These HSE requirements are minimum requirements and are developed following consultation with Business Areas and other stakeholders.

Business Areas, Business Units and other organizational units can set stricter requirements, which need to be authorized by competent line management.

Global procedures for HSE and Security are allocated the following number ranges:

NHC-GP03-01-01,02,03 etc.… HSE and Security management

NHC-GP03-02-01… Asset Management

NHC-GP03-03-01,02,03 etc.… Safety

NHC-GP03-04-01,02,03 etc.… Health

NHC-GP03-05-01,02,03 etc.… Environment

The following underlying Global Procedures detail the mandatory requirements for:

HSE management System

NHC-GP03-01-1 HSE Risk Management
NHC-GP03-01-2 Training, Awareness and Competence
NHC-GP03-01-3 HSE Incident Management
NHC-GP03-01-4 HSE Management System Audit

Asset Management

NHC-GP03-02 Plant Design, Construction and Decommissioning
NHC-GP03-02-01 Technical and Process Modifications (was NHC-GP03-05)

Safety and Security

NHC-GP03-03-01 Safe Systems of Work (including Work permit)
NHC-GP03-03-02 Energy Control
NHC-GP03-03-03 Systematic Maintenance
NHC-GP03-03-04 Mobile Equipment
NHC-GP03-03-05 Security Risk Management Process
NHC-GP03-03-06 Emergency Planning and Crisis Management (previously NHC-GP03-03-05)
NHC-GP03-03-07 Housekeeping
NHC-GP03-03-08 Molten Metal
NHC-GP03-03-09 Electrical Safety
NHC-GP03-03-10 Fall Control
NHC-GP03-03-11 Confined Space Entry
NHC-GP03-03-12 Overhead Crane Safety
NHC-GP03-03-13 Contractor Management
NHC-GP03-03-14 Hot Work
NHC-GP03-03-15 Explosive Dusts and Flammable Atmospheres
NHC-GP03-03-16 Machine Safety
NHC-GP03-03-17 Behavior Program

Note: NHC-GP03-06 Incident and Emergency Management has been incorporated into NHC-GP03-03-6 Emergency Planning and Crisis Management.

Health

NHC-GP03-04-01 Health Risk Management
NHC-GP03-04-02 Occupational Health Surveillance
NHC-GP03-04-03 Wellbeing

Note: NHC-GP03-03-7 Health and Work Environment has been incorporated into NHC-GP03-04-1.

Environment

NHC-GP03-05-01 Environment Management

Note: The Hydro Corporate Sustainability function includes further environment requirements including Legacy Management and sustainability topics such as climate.

3.13.1 Emergency and Crisis Management

To ensure that Hydro locations / business units plan appropriate and effective responses to emergency situations all locations are required to develop and maintain emergency and crisis management plans. These plans will assist Hydro locations / business units to respond to emergency situations in an efficient and systematic manner based on the type of emergency being faced.

The Hydro Crisis Management Plan will provide rapid and effective strategic support to Hydro sites, that have activated their local emergency plan and need to escalate their response countermeasures.

All Hydro locations Business Continuity Plan (BCP) must contain details of how to restore operations to normal conditions quickly and safely, to clean up properties and the environment and to learn from the incident.

Hydro locations / business units shall ensure compliance against the requirements set out in this directive and Global Procedure NHC-GP03-03-6 Emergency Planning and Crisis Management.

3.13.2 Security

Security within Hydro is delivered and implemented through a Security Risk Management Process. All Hydro sites and locations shall complete a Security & Business Resilience Risk Assessment (S&BRRA).

The S&BRRA identify hazards and risks which may affect a plant or location ensuring that there are security risk mitigating measures to protect:

- Hydro Personnel, assets, critical infrastructure, critical processes, environment and reputation
- Contractors, subcontractors, contracted services, visitors and vendors
- Partners and the Hydro supply chain
- Local stakeholders and communities

Hydro Security Management conforms to The Voluntary Principles on Security and Human Rights and ISO 18788 Management System for Private Security Operations, incorporating both international and industry best practice.

Hydro locations / business units shall ensure compliance against the requirements set out in this directive and Global Procedure NHC-GP03-03-5 Security Risk Management Process.

3.14 Management System Audit

3.14.1 Corporate HSE Audit

Group HSE shall develop, plan and maintain an audit program that will be used to determine compliance against this Hydro Directive and its Global Procedures, legal requirements and to identify best practices and benchmarks.

The Corporate Audit program must comply with the requirements set out in NHC-GP03-01-4 HSE Management System Audit.

3.14.2 Internal HSE audits

Hydro locations / business units shall develop an internal audit program, periodic audits need to be planned and carried out to provide information on whether the location HSE management system and HSE operational controls conforms to the requirements for its HSE management system and the requirements of ISO 14001; ISO 45001, ISO 50001 and ISO 18788 and that it is effectively implemented and maintained.

This audit program should be recorded as documented information compliant with Hydro and ISO requirements.

The internal audit program must comply with the requirements set out in NHC-GP03-01-4 HSE Management System Audit.

3.15 Management Review

Hydro location / business unit top management shall, as a minimum, perform an annual review of the suitability, adequacy and effectiveness of their HSE system and procedures. Internal and external audit results, incident reports, performance reports and relevant views from stakeholders shall be included in the review.

A summary of the meeting including actions taken or proposed and the follow up process is documented and communicated to the Hydro location / business unit, HSE teams and the workforce.

Corrective actions resulting from the management review are agreed with responsibilities and appropriate timescales allocated.

3.16 Monitoring, Measuring, Incident Reporting and Analysis

Hydro locations / Business units shall establish a program to ensure that all HSE incidents are analyzed, classified and recorded into an electronic reporting system. The classification and reporting deadlines shall comply with the requirements set out in the Global Procedure NHC-GP03-01-3 HSE incident management.

HSE performance shall regularly be measured, monitored, recorded, analyzed with appropriate key performance indicators (KPI) and reported through the line organization, including the Corporate Management Board and others as appropriate.

4 Deviations

Deviations from this directive are not permitted without permission from EVP People and HSE.

5 References

NHC-GP01-01 Preparing and Publishing Governance Documents in Hydro

NHC-GS03-00-HSE Policy Print Version

Appendix 1 Definitions

Appendix 2 Alignment of Hydro HSE Management System with applicable ISO standards

NHC-GP03-01-1 HSE Risk Management

NHC-GP03-01-2 Training, Awareness & Competence.

NHC-GP03-01-3 HSE Incident Management

NHC-GP03-01-4 HSE Management System Audits

NHC-GP03-03-5 Security Risk Management Process

NHC-GP03-03-6 Emergency Planning and Crisis Management.

ISO 14001; ISO 45001; ISO 50001; ISO 18788

NHC-GD09 Hydro's Social Responsibility

NHC-GP09-03 Hydro's Human Rights Policy.

Enterprise Risk Management

Corporate Sustainability Directive (under development)

6 Change log

Rev. nr.	Date	Description of change	Approver/Verifier
4	14/09/2020	Change to structure and content to comply with ISO requirements and governance document structure.	Hilde Vestheim Nordh

Appendix 1 - Definitions

Term / abbreviation		Definition
A	Accident	A sudden, unintended work-related incident that results in personal injury and/or business interruption and/or damage to property, the environment or a third party.
	Accidental emissions or releases	Following from fires or explosions should be classified as a fire or explosion with material (in the meaning of "significant") damage giving a cross reference to the associated emissions or releases.
	Actual work-related ill-health	Actual work-related ill-health are illnesses which • Have been confirmed by relevant authorities / insurance companies or doctors (depending on the national system) • Have led to any kind of permanent disability, disablement pension, loss of function and/or are one of the listed Work-related Diseases See work-related ill-health and potential work-related ill-health.
	Actual risk	The risk level of a process or equipment after the implementation of mitigating actions. See also Residual risk.
	ALARP ("as low as reasonably practicable")	For a Risk to be classified as ALARP it must be possible to demonstrate that the cost involved in reducing the risk further would be grossly disproportionate to the benefit gained.
	Asbestos	Asbestos actinolite, CAS No 77536-66-4 Asbestos grunerite (amosite), CAS No 12172-73-5 Asbestos anthophyllite, CAS No 77536-67-5 Chrysotile, CAS No 12001-29-5 Crocidolite, CAS No 12001-28-4 Asbestos tremolite, CAS No 77536-68-6
	Asbestos containing materials	Man-made materials containing intentionally added asbestos (such as roofing sheet, sheet covering, floor tiles, friction products, insulation products, lagging, gaskets etc.)
	At work or work related	• on property for which Hydro has supervisory responsibility • during an activity performed on Hydro's behalf (excluding travel to and from work) • expatriated personnel • on business travel, representation, seminars courses • work assignments and similar official, offsite activities sanctioned by Hydro The following activities or conditions are not included • activities on own leisure time, even if sponsored by Hydro • staying on business trips when the organized activity is finalized
B	Barrier	– see "Control"

	Brownfield	Area underused or formerly used for industrial purposes; often used in the context of project management at an existing Hydro site when revamping an area or conducting major changes, where Hydro is in full control of the area and executes full supervision over all activities.
C	CMR chemicals ("carcinogenic, mutagenic, reprotoxic")	Carcinogenic and mutagenic chemical agents and chemicals that are toxic to reproduction
	Company representative	A qualified individual who are responsible to oversee and monitor HSE practices of Contractors.
	Confined Space	Any place, including any chamber, tank, vat, silo, pit, trench, pipe, sewer, flue, well or other similar space in which, by virtue of its enclosed nature, there arises a reasonably foreseeable specified risk
	Contractor	A contractor is an employee of a company contracted by the employer to do work on its behalf and under its control with respect: to location, work practices, and application of safety and health standards.
	Contributing factor	Risk increasing condition at the workplace related to design, organization or behavioral factors
	Control	A Control can be any measure taken that acts against some undesirable force or intention, in order to maintain a desired state. There are proactive Controls that prevent the event from happening and there are also reactive Controls that prevent the event resulting into unwanted consequences or limiting the consequences.
	CMMS	Abbreviation for Computerized Maintenance Management System
	Corrective action	Corrective actions aim at the improvement of insufficient or inadequate or missing barriers. ⇔ See also Preventive actions.
	Critical Behavior	In absence of a Critical Control, which is a technical measure, certain behaviors (acts of individuals) are necessary to prevent a major unwanted event. Critical Behavior is considered much weaker than Critical Controls.
	Critical Control	A technical control that, if missing or not working, would significantly increase the risk for a *major unwanted event* (see below) despite the existence of other controls.
	Criticality classification	The criticality classification is a risk analysis of events and faults in production system or subsystem including technical safety barriers (loss of function) and the ranking of these in order of their consequence.
	CSR	Abbreviation for Corporate Social Responsibility
E	Emergency	A situation that, immediately or potentially, represents a threat to an establishment, neighboring establishments, personnel, the general

		public, off-site property, the environment or the company's business operations. Emergency situations may arise from e.g. on-site accidents, transport accidents, bomb threats, kidnap and external hazards.
	Energy control	The system established for placement of a lockout device on an energy-isolating device, in accordance with an established procedure, ensuring that the energy-isolating device and the equipment being controlled cannot be operated until the lock is removed. Any remaining energy is released or physically controlled.
	Energy isolating device	A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: A manually operated electrical circuit breaker, a disconnect switch, a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors and, in addition, no pole can be operated independently; a line valve; a block; and any similar device used to block or isolate energy. Push buttons (includes also emergency buttons); selector switches and other control circuit type devices are not energy isolating devices.
	Ergonomics	The understanding of interactions among humans and other elements of a system, and methods to design in order to optimize human well-being and overall system performance. It covers manual handling, e.g. lifting, lowering, pushing, pulling, moving or carrying a load.
F	Fatality	Fatalities are work related incidents which lead to the death of a Hydro employee, contractor or subsequent subcontractors, temporary workers (including vacation workers, students etc.). Fatalities related to persons or groups of persons, which do not work for Hydro on Hydro's premises except deliveries (such as transport companies, vendors, suppliers, visitors etc.) are reported and analyzed equally to fatalities affecting a Hydro employee, but will not be included in the official statistics.
	Fatality rate	The formula is as follows: Number of fatalities / hours worked x 100.000.000
	FA ("First aid")	Examples given in NHC-GD03-07 Reporting, app 1
	Functional safety	Functional Safety is the part of the overall safety of a system or piece of equipment that depends on the system or equipment operating correctly in response to its inputs, including the safe management of likely operator errors, hardware failures and environmental changes.
G	Greenfield	Greenfield means an area ready for development or currently under development. In a Greenfield area there are normally no conflicting industrial activities.

H	Hazard	ISO 45001 defines hazard as a source with a potential to cause injury and ill health. Hazards can include sources with the potential to cause harm or hazardous situations, or circumstances with the potential for exposure leading to injury and ill health Hazard potential is the existence of hazards that may result in the occurrence of a major accident leading to fatalities, disability, serious injury to third party/off-site, environmental pollution of national concern, extensive property damage and/or business interruption loss.
	Health	Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.
	Hours worked	Number of hours worked by respective groups of people, usually Hydro employees, contractor (and subcontractor) employees or combined. The number includes white collar and blue-collar employees, any overtime, but not planned hours which were not worked. Travel time on behalf of the company should be included. Hours worked are usually used to calculate incident and sick leave rates.
	HRI (High Risk Incident)	An accident or incident that had an inherent hazard that could result in the occurrence of a major accident leading to fatalities, disability, serious injury to third party/off-site, environmental pollution of national concern, extensive property damage and/or business interruption loss. An injury or injury free incident rated at three or four stars.
	HSE	Abbreviation for Health, Safety, Security and Environment
I	Ill health	ISO 45001 has classified ill-health as the adverse effect on the physical, mental or cognitive condition of a person These adverse effects include work-related disease, ill-health and death. See Work-related ill-health
	Incident	A collective event term, including accidents, permit and security breaches, near misses and dangerous conditions
	Inherent risk	The probability of loss arising out of circumstances or existing in an environment, in the absence of any action to control or modify the circumstances.
	Injury Free Event (IFE)	A near miss or observed condition that poses a risk of injury, ill health or environment incident and where there was no injury.
L	Lockout device	A device that utilizes a positive means such as a lock, either key or combination type, to hold an energy isolating device in the safe position and prevent the energizing of a machine or equipment. Included are blank flanges and bolted slip blinds.
	LTI (“lost time incident”)	A personal injury at work that leads to unfitness for work and absence beyond the day of the accident. This applies even if the

		next day is planned leisure time (e.g. holiday, Sunday). Also known as Lost Workday Incident.
	LTI rate	The formula is as follows: Number of lost time incidents (LTI) / hours worked x 1.000.000 The rate is usually calculated for a full year (“12 month rolling average”), for a specific period (1 month, 3 month) or year to date (“YTD”).
M	Major accident	Major accidents are work related accident, which lead to death or a permanent disability (including loss of limbs), or similar severe incidents in the area of environment, health and security
	Modification Major modification	Any change in plant or equipment regarding construction or materials. • Any change in process medium or conditions beyond design. • Any change of safety-, security- or control systems. • Any change in documented routines Major modifications are a sub-class of modifications and are characterized according to the machinery directives i.e. change of the purpose of an equipment or change of the process (such as change of source of power, change of production method etc.)
	M-rate	The number of new Occupational illnesses per million hours worked
	MTC (“medical treatment case”)	Treatment (other than first aid) administered by physician or registered professional personnel under the standing orders of a physician. This does not include first aid treatment even if provided by physician or registered professional personnel.
	MTC rate	The formula is as follows: Number of medical treatment cases (MTC) / hours worked x 1.000.000 The rate is usually calculated for a full year (“12 month rolling average”), for a specific period (1 month, 3 month) or year to date (“YTD”).
	Major unwanted event MUE	An unwanted event where the potential or real consequences exceeds a threshold defined by the company as warranting the highest level of attention = essentially a catastrophic event leading to fatalities, major environmental damages, severely damaging Hydro’s reputation, binding Corporate Management Board’s attention for a considerable time etc.
N	NM (“Near miss”)	A sudden, unintended work-related event with no consequence, but which under slightly different circumstances, could have become an accident
	Non-compliance	Non-fulfilment of a requirement set in a regulation, law, directive or procedure (internal standard description) or systems

O	Occupational disease	See work-related disease
	Occupational health and safety risk	ISO 45001 defines OH&S risk as combination of the likelihood of occurrence of a work-related hazardous event(s) or exposure(s) and the severity of injury and ill health that can be caused by the event(s) or exposure(s)
	Occupational ill-health	See work-related ill-health
	OEL (“occupational exposure limit”)	Maximum allowable concentration of a chemical agent in the working atmosphere, according to national or EU legislation
	Override	Technical safety functions which were made ineffective permanently or temporarily while the connected equipment remains fully functional qualify as overrides.
P	Potential work-related ill-health	Potential work-related ill-health cases are ill-health cases, which have been officially reported by a doctor to the authorities or the insurance company (depending on the national system), in copy to Hydro, as potential work-related ill-health. See Actual work-related ill-health
	Pre-qualification	A pre-qualification process is to assess the HSE program and HSE performance statistics; HSE policy and management commitment; organization, resources and documentation; risk management, environmental system; standard operating procedure and work instructions; implementation of HSE strategy and monitoring; subcontractor management; and Corporate Social Responsibility.
	Preventive action	Action to eliminate the cause of a potential nonconformity ⇔ See also Corrective action
	Procedure	Specified way to carry out an activity or a process, documented
	Product Stewardship	Product stewardship is the responsible and ethical management of the health, safety and environmental aspects of a product throughout its total life cycle.
R	Reasonable Worst Case	An estimate of a negative outcome for an individual or a process for a defined event that is greater than the 90th percentile but less than the 98th percentile.
	Residual risk	Risk of a process, event or method that still conceives dangers, even if all theoretically possible safety measures are applied.
	Risk	Risk is the potential that a chosen action or activity (including the choice of inaction) will lead to a loss (an undesirable outcome).
	Root cause	A root cause is an initiating cause of a causal chain which leads to a specific outcome or effect.
	RWC (“restricted work case”)	Abbreviation for Restricted work case.

		A personal injury at work that does not lead to absence beyond the day of the accident, because of alternative job assignment.
	RWC rate	The formula is as follows: Number of restricted work cases (RWC) / hours worked x 1.000.000. The rate is usually calculated for a full year ("12 month rolling average"), for a specific period (1 month, 3 month) or year to date ("YTD").
S	Safety function	Technical system (software or hardware) which is intended to achieve or maintain a safe state for an equipment, machinery, process or plant.
	SDS	Abbreviation for Safety Data Sheet
	S&BRRA	Security and Business Resilience Risk assessment. This has replaced the previous Threat and Vulnerability Risk Assessment
	Sick leave	All absence that is authorized by a doctor's certificate or by legitimate self-declaration. It includes all absence whether caused by injuries, work or other illness It does not include: • maternity leave • career's leave • personal days leave
	Sick leave rate	The formula is as follows: Number of hours lost due to sick leave / (Number of hours worked + Number of hours lost due to sick leave) x 100%
	SJA	Abbreviation for Safe Job Analysis
	SOP	Abbreviation for Standard Operating Procedure
	Subcontractor	A subcontractor is an individual or in many cases a business that signs a Contract to perform part or all the obligations of another's Contract
T	Third party	A third party is someone who is present within an employer's-controlled location but is who is neither a direct employee nor a contractor. Third party individuals may be workers, members of the general public, or other visitors. Common examples of third parties are operators of vehicles delivering supplies and materials
	TRI ("total recordable injury")	The number of fatalities, lost-time injuries, restricted/modified duty and medical treatment cases, excluding first-aid injuries per million working hours.
	TRI rate	The formula is as follow: (Number of Lost Time Incidents LTI + Number of Restricted Work Cases RWC + Number of Medical Treatment Cases MTC) / hours worked x 1.000.000.

		The rate is usually calculated for a full year (“12 month rolling average”), for a specific period (1 month, 3 month) or year to date (“YTD”).
	TVA	Abbreviation for Threat and Vulnerability Assessment. This has been replaced by the Security and Business Resilience Risk Assessment.
V	Visitor	A visitor is a non-Hydro employee or a Hydro employee who does not regularly work at the visited Hydro site. For visitors, specific, locally defined HSE regulations are effective. Hydro employees from one site working on a project at another site are not considered visitors.
W	Wellbeing at work	ISO 45003 has defined wellbeing at work as fulfilment of the physical, mental and cognitive needs and expectations of a worker related to their work. Well-being at work relates to all aspects of working life, including work organization, social factors at work, work environment, equipment and hazardous tasks. Wellbeing at work can also contribute to the 201 quality of life outside of work.
	WERA	Abbreviation for Working Environment Risk Assessment
	Work environment	All factors related to our activities which singly or jointly, suddenly or long term, may influence the mental and physical health and welfare of the employees. This includes psychosocial, organizational, physical, chemical and biological factors.
	Worked hours	See Hours worked
	Work Permit	A work permit is a time and job specific and limited permit to conduct a work as defined on the work permit or attached work order, which was risk assessed, comes with job and risk specific precautionary actions and is signed by an authorized person. See GD03-03-1 for details.
	Work-related disease	May be defined as a pathological process. The quality which identifies disease is some deviation from a biological norm. There is an objectivity about disease which can be seen, touched or measured by medical professionals. Work-related disease refers to the medical diagnosis made to describe the work-related ill-health
	Work-related ill-health	Any abnormal condition or disorder, other than one resulting from a work-related injury caused or aggravated by exposures to factors associated with employment. It includes acute or chronic ill-health or diseases which may be caused by inhalation, absorption or direct contact. In this context ill-health is distinguished from injuries in that the latter occurs at "an instant in time" and the gap between exposure and onset of signs/symptoms is short (minutes to hours) whereas the gap for ill-health normally is longer (days, weeks, years).

		If there is a known latency period for the development of ill-health following an acute exposure, the condition is to be considered an ill-health. This will also apply to injuries that eventually result into diseases e.g. asthma resulting from an acute high-level exposure to an irritant gas. See Actual and Potential work-related ill-health.
Z	Zero energy state	Zero energy state means all types of power including electricity, air under pressure, oil or water under pressure, and steam are dissipated so that operation of any controls will not produce movement.

Appendix 2 - Alignment of Hydro HSE Management System with applicable ISO standards

The table shows the alignment of Hydro HSE Directive GD03 and Global Procedures against ISO 14001:2015 and ISO 45001:2018.

ISO 14001:2015	**ISO 45001:2018**	**Hydro Corporate HSE Procedure**
4.1 Understanding the organization and its context	4.1 Understanding the organization and its context	NHC-GD03 Global Directive Health, Safety, Security and Environment-Section 3.4
4.2 Understanding the needs and expectations of interested parties	4.2 Understanding the needs and expectations of workers and other interested parties	NHC-GD03 Global Directive Health, Safety, Security and Environment-Section 3.4
4.3 Determining the scope of the environmental management system	4.3 Determining the scope of the OH&S management system	NHC-GD03 Global Directive Health, Safety, Security and Environment-Section 3.4
4.4 Environmental Management System	4.4 OH&S Management System	NHC-GD03 Global Directive Health, Safety, Security and Environment-Section 3.5
5.1 Leadership and commitment	5.1 Leadership and commitment	NHC-GD03 Global Directive Health, Safety, Security and Environment-Section 3.1
5.2 Environmental Policy	5.2 OH&S Policy	NHC-GD03 Global Directive Health, Safety, Security and Environment-Section 3.3
5.3 Organizational roles, responsibilities and authorities	5.3 Organizational roles, responsibilities and authorities	NHC-GD03 Global Directive Health, Safety, Security and Environment-Section 3.2
	5.4 Consultation and participation of workers	NHC-GD03 Global Directive Health, Safety, Security and Environment-Section 3.2 and Section 3.11
6.1.1 Actions to address risks and opportunity	6.1.1 Actions to address risks and opportunity	NHC-GD03 Global Directive Health, Safety, Security and Environment-Section 3.6 NHC-GP03-01-1 HSE Risk Management
6.1.2 Environmental Aspects	6.1.2 Hazard Identification and Assessment of Risks and Opportunities	NHC-GD03 Global Directive Health, Safety, Security and Environment-Section 3.6 NHC-GP03-01-1 HSE Risk Management
6.1.3 Compliance obligations	6.1.3 Determination of legal requirements and other requirements	NHC-GD03 Global Directive Health, Safety, Security and Environment-Section 3.7

ISO 14001:2015	ISO 45001:2018	Hydro Corporate HSE Procedure
6.1.4 Planning Action	6.1.4 Planning Action	NHC-GD03 Global Directive Health, Safety, Security and Environment- Section 3.8
6.2.1 Environmental objectives	6.2.1 OH&S objectives	NHC-GD03 Global Directive Health, Safety, Security and Environment- Section 3.8
6.2.2 Planning to achieve environmental objectives	6.2.2 Planning to achieve OH&S objectives	NHC-GD03 Global Directive Health, Safety, Security and Environment- Section 3.8
7.1 Resources	7.1 Resources	NHC-GD03 Global Directive Health, Safety, Security and Environment- Section 3.9
7.2 Competence	7.2 Competence	NHC-GD03 Global Directive Health, Safety, Security and Environment- Section 3.10 NHC-GP03-01-4 Training, Awareness & Competence
7.3 Awareness	7.3 Awareness	NHC-GD03 Global Directive Health, Safety, Security and Environment- Section 3.10 NHC-GP03-01-4 Training, Awareness & Competence
7.4 Communication	7.4 Communication	NHC-GD03 Global Directive Health, Safety, Security and Environment- Section 3.11
7.5 Documented information	7.5 Documented information	NHC-GD03 Global Directive Health, Safety, Security and Environment- Section 3.12
8.1 Operational planning and control	8.1 Operational planning and control including Eliminating hazards and reducing OH&S Risks Management of change Outsourcing; Procurement; Contractors	NHC-GD03 Global Directive Health, Safety, Security and Environment- Section 3.13 Health Global Procedures Safety Global Procedures Security Global Procedures Environment Global Procedures
8.2 Emergency preparedness and response	8.2 Emergency preparedness and response	NHC-GD03 Global Directive Health, Safety, Security and Environment- Section 3.13.1 NHC-GP03-03-6 Emergency Planning and Crisis Management.

ISO 14001:2015	**ISO 45001:2018**	**Hydro Corporate HSE Procedure**
9.1.1 Monitoring, measurement, analysis and evaluation	9.1 Monitoring, measurement, analysis and evaluation	NHC-GD03 Global Directive Health, Safety, Security and Environment- Section 3.16
9.1.2 Evaluation of compliance	9.1.2 Evaluation of compliance	NHC-GD03 Global Directive Health, Safety, Security and Environment- Section 3.6 NHC-GP03-01-4 HSE Management Systems Audits
9.2 Internal audit	9.2 Internal audit	NHC-GD03 Global Directive Health, Safety, Security and Environment- Section 3.14 NHC-GP03-01-9 HSE Management Systems Audits
9.3 Management review	9.3 Management review	NHC-GD03 Global Directive Health, Safety, Security and Environment- Section 3.15
10.1 Improvement	10.1 Improvement	NHC-GD03 Global Directive Health, Safety, Security and Environment- Section 3.15 and Section 3.16
10.2 Nonconformity and corrective action	10.2 Incident, Nonconformity and corrective action	NHC-GD03 Global Directive Health, Safety, Security and Environment- Section 3.16 NHC-GP03-01-3 HSE incident management NHC-GP03-01-4 HSE Management System Audits
10.3 Continual improvement	10.3 Continual improvement	NHC-GD03 Global Directive Health, Safety, Security and Environment- Section 3.15 and Section 3.16 NHC-GS03-00 HSE Policy Statement