



Global Procedure
Environment Management

Document number: GP-03-05-01

Rev. number.:0

Last verified: 2020-11-16

Table with 4 columns listing various departments and their selection status (checked/unchecked) for relevance to the document.

This document has relevance for employees working with the following processes/functions:

CONTENTS

Table-Of-Contents listing sections 1 through 7 with their corresponding page numbers.

1 Purpose and Scope

The purpose of this document is to provide Hydro business areas, locations and units with minimum requirements on environmental management in order to:

- ensure compliance with legal requirements;
- minimise the negative environmental impacts of our operations;
- safeguard the health and wellbeing of our employees and the communities in which we operate;
- promote the efficient use of resources;
- reduce and prevent pollution of surface water and/or groundwater;
- reduce and prevent air pollution;
- prevent leaks, spills and releases of liquids or solids and minimise the potential for unplanned releases when they do occur;
- reduce the adverse impacts of the generation and management of waste, and
- prevent soil pollution and environment legacies.

2 Roles and Responsibilities

It is a line management responsibility to ensure this global procedure is implemented and to ensure that the required information, training, instruction, supervision and auditing systems are in place to ensure the ongoing operation of the environment management programme.

All employees are responsible for working in accordance with this procedure, taking appropriate measures to prevent damage to the environment and for reporting any environmental incidents and risks to line management

3 Definitions

The following definitions shall apply in this document:

- Emission: the direct or indirect release of chemical substances or energy from individual or diffuse sources in the installation into air, water or land.
- Groundwater: is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.
- Hazardous waste: a waste with properties that make it potentially dangerous or harmful to human health or the environment.
- Permit: a written authorisation to operate all or part of an installation.
- Surface water: includes inland waters, except groundwater, transitional waters and coastal waters.
- Waste: any substance or object which the holder discards, intends to discard or is required to discard.

Other definitions used in this procedure are described in GD03 Appendix 2 Definitions.

4 Description

4.1 Risk Assessment, Compliance Obligations and Reporting Requirements

4.1.1 Environmental Risk Assessment

All locations / units shall:

- Have an environmental risk assessment process in place for estimating the likelihood or probability of an adverse impact to the environment resulting from the activities at the location and to ensure compliance with legal requirements, applicable international and local standards and this procedure.
- Establish a process to identify and implement effective control measures to minimise the risks resulting from the environmental risk assessment.
- Have a register of all environmental risks and control measures identified.

4.1.2 Compliance Obligations

All locations / units shall:

- Identify and comply with all applicable legal requirements and the provisions set out in this global procedure.
- Determine which permits are needed for compliance with local environmental regulations, such as for water withdrawal, water discharge, operating drinking water treatment plants, operating wastewater treatment plants, operating emission sources, generating and storing waste, recycling waste, etc. and ensure compliance with all permit requirements.
- Have processes in place to identify non-compliance situations and ensure that competent authorities and Hydro are notified as required and corrective actions are taken.

4.1.3 Reporting Requirements

All locations / units shall:

- Ensure that the Hydro Incident Management System (IMS) or Synergi Life are used to document and record non-compliances with legal and internal requirements, investigations and corrective actions (NHC-GP03-01-3 HSE Incident Management) and to record complaints against the site (noise, odour, vibration, etc.)
- Ensure that all required environment permits are readily available in digital format with support information relating to improvement conditions, Best Available Techniques (BAT) assessments or equivalent as required.
- Submit all the required legal and corporate reports in a timely manner.
- Report environment data into the Hydro HERE reporting system annually or more frequently, as required.

4.2 Water and Wastewater

4.2.1 Water management

All locations / units shall:

- Develop and maintain a description of water systems (i.e. pipelines, wastewater collection, discharge points, processes, process materials, etc.) including maps and plans, to be able to assess potential environmental impacts.
- Evaluate risks related to water withdrawal and water discharge and have plans in place to mitigate identified risks.
- Minimise water withdrawal, water discharge and water consumption in production processes.
- Evaluate risks of pollution from stormwater/flooding or similar weather-related events, have emergency plans in place for likely scenarios and actions to lower material risk.
- Evaluate risk of pollution from wastewater systems and surface water run-off and identify actions to lower material risks.
- Evaluate the impact that process changes may have on the quantity of water withdrawal and quality or quantity of water discharge as part of an environmental risk assessment. If an authorisation is required for regulatory approval of process changes, applications must be

submitted to the appropriate regulatory body in a timely manner and in accordance with legal requirements.

- Ensure that wastewater treatment plants are operated and maintained in accordance with permit conditions, manufacturer's recommendations or best management practices. Documentation of inspections, maintenance, repairs, and corrective actions shall be in place.

4.2.2 Polluted water management

- All locations / units shall evaluate the risk of runoff of polluted water from firefighting, flooding, etc. and its impact on the environment and have plans in place to mitigate identified risks (e.g. need of having collection systems such as clarifying ponds, bund systems, in-drain containment, etc.)

4.3 Air Emissions

4.3.1 Identification of air emission sources and impacts

All locations / units shall:

- Identify all sources of air pollutant emissions. Records of these sources shall be maintained and contain at least the following:
 - Sources of air emissions including fugitive emissions (e.g. stationary sources such as furnaces, presses, boilers, generators, and other manufacturing process, as well as fugitive emissions such as emissions from welding shops, waste or process tanks, wastewater treatment operations, etc.)
 - Location of emission points.
 - The amount, composition and characteristics of emissions from each source.
 - Location and type of control equipment.
- Avoid emission of pollutants to the ambient air so far as is reasonably practicable.
- Evaluate risks related to air emissions and the impact of emissions on the environment and have plans in place to mitigate identified risks.
- Evaluate the impact that process changes may have on air emissions as part of an environmental risk assessment. If an authorisation is required for regulatory approval of changes, applications must be submitted to the appropriate regulatory body in a timely manner and in accordance with legal requirements.
- Ensure that emission control devices (e.g. bag filters, cyclones, abatement systems...) are operated and maintained in accordance with permit conditions, manufacturer's recommendations or best management practices. Documentation of inspections, maintenance, repairs, and corrective actions shall be in place.

4.3.2 Greenhouse gases (GHG)

All locations / units shall:

- Set targets for reducing GHG emissions consistent with BA / corporate objectives and strategies.

4.4 Spill Prevention and Response

4.4.1 Chemical inventory and Safety Data Sheets (SDS)

All locations / units shall:

- Develop and maintain a hazardous chemical inventory. The inventory shall include name of the chemical, hazardous properties, volume stored and location.
- Minimize the amount of hazardous chemicals held and used on site.
- Ensure that all materials stored, used and handled on the site have up to date SDS. All employees who are directly affected by the substance, particularly hazardous substances, must understand the content of the SDS.
- Locate the SDS near the point of storage and at the point of use. If the SDS are maintained electronically, access must remain available to employees near to the point of storage and use.

4.4.2 Chemical storage, release prevention and containment

All locations / units shall:

- Risk evaluate and take appropriate measures to prevent leaks and spills from tanks and liquid chemical storage areas containing hazardous chemicals including keeping an inventory, inspection, maintenance and procedures for handling chemicals.
- Ensure that hazardous chemical storage containers and tanks are marked or labelled stating their content.
- Ensure that loading and unloading operations are managed to prevent releases and cross-contamination of chemicals.
- Inspect chemical storage areas to minimise the potential a release of hazardous chemicals into the environment; records of inspections shall be maintained.
- Ensure that emergency alarm systems including leak detection systems are tested according to the required or established frequency.
- Assign personnel to be responsible for chemical management and provide them with appropriate training and supervision.

4.4.3 Spill response and preparedness

All locations / units shall ensure that:

- Spill kits are readily available in areas identified by risk assessment and employees are trained in the use.
- Spill kits contents are suitable for dealing with the most likely spill possibility as defined by risk assessment.
- Spillage response testing (drills) is performed at least annually and results are documented.

4.4.4 Underground storage tanks (UST)

All locations / units operating UST shall:

- Have an inventory of UST, including: location, size, material, age, chemical stored, etc.
- Ensure that UST meet local codes and are fitted with overfill protection and leak detection.
- Ensure that all metal UST system components that are in contact with the ground and routinely contain product are protected from corrosion unless it has been determined that the site is not corrosive enough to cause it. In the latter case, records shall be maintained to demonstrate compliance with this requirement.
- Ensure that soil and groundwater remediation around leaking UST is conducted in accordance with applicable regulations.

The installation of new UST is prohibited unless required by law. The installation of new UST shall be communicated to Group HSE.

4.4.5 High risk materials

All locations / units shall:

- Evaluate equipment containing or likely containing PCB when planning technical changes and if special considerations needs to be made to ensure safe disposal and meet regulatory requirements.
- Develop an asbestos containing materials (ACM) inventory, indicating the presence of ACM or suspected ACM. Survey reports and inspection records are to be readily available and details of all ACM removal and disposal recorded (refer to NHC-GP03-05-01 Health management).
- Maintain details of all radioactive sources, storage, licensing and disposal (refer to NHC-GP03-05-01 Health management).

4.5 Waste Management

4.5.1 Waste identification and mitigation

All locations / units shall:

- Identify all waste streams and properly characterize and quantify wastes using a waste flow chart to determine their classification and legal status (e.g. dangerous, toxic, hazardous, non-hazardous, industrial, special, universal, medical, etc.)
- Use the waste hierarchy of control in waste prevention and management:
 - a) prevention,
 - b) preparing for re-use,
 - c) recycling,
 - d) other recovery (e.g. energy recovery)
 - e) disposal.
- Include waste as part of environmental risk assessments and set relevant targets consistent with BA and Hydro objectives to:
 - minimize waste generation and the negative effects of the generation and management of waste on human health and the environment,
 - eliminate waste to landfill where more sustainable opportunities exist,
 - minimize other risks related to waste generation, handling, transport and final treatment.
- Separate hazardous waste from non-hazardous waste and segregate waste as far as is reasonably practicable.
- Ensure safe and transport of hazardous waste and dangerous goods in accordance with global and local regulations.
- Evaluate critical waste receivers and include these in a supplier development system.

4.5.2 Waste storage

All locations / units shall:

- Risk assess and take appropriate measures to prevent leaks, spills and escape of waste from waste storage containers and tanks:
 - Ensure the good condition of waste storage containers and tanks (free of dents, holes, deterioration, corrosion, etc.)
 - Ensure that containers are suitable for the waste contained, i.e. the material of the container must be compatible with its content and wastes shall not react with the container or impair it (e.g. combustible containers shall not be used for flammable waste).
 - Maintain containers closed when waste is not actively being added or removed.
 - Ensure outside waste storage areas are designed to resist all weather conditions and prevent rainwater from contact with the waste.

- Maintain secondary containment for all waste storage containers and tanks in which they store hazardous waste to prevent contamination of soil or groundwater in case of leak or spillage.
- Ensure waste storage containers and tanks are marked or labelled stating their contents.
- Ensure applicable regulatory waste volume and time limits are not exceeded.

4.6 Land Management

4.6.1 Land management

All locations / units shall:

- Ensure that land that is owned, controlled or used by Hydro is managed to minimize liability through application of reasonable land management practices appropriate for the complexity and geographic location of the facility.
- All locations are required to check/update the environment legacy fact sheets in January of each year.
- All reports relating to any soil or groundwater investigations or contamination remediation undertaken are readily available and summarised in the Fact Sheet.
- All locations are required to reduce the overall exposure relating to environment legacies.
- Identify all natural and social values such as flora and fauna, sites of special scientific interest, land use, land heritage, etc.
- Details of any current or former on-site or off-site landfills operated by site are recorded.
- Ensure that neighbours and adjacent land uses has been considered in the location's land management programme with respect to neighbourhood locations, neighbour sensitivities (such as dust, noise and odours), potential impacts on neighbours (due to wind direction, surface water flow, groundwater flow) and maintaining or enhancing pre-existing natural resources (such as flora, fauna, wetlands, and forested areas).

4.6.2 Groundwater monitoring and remedial activities

- Locations that need to conduct groundwater monitoring or remedial activities shall perform these activities in compliance with regulatory requirements.
- All pertinent information pertaining to groundwater monitoring and remedial activities shall be documented and stored locally.

4.7 Sampling and Inspection

All locations / units shall:

- Ensure safe access to the emission sources / emission points / stacks / wastewater discharge points, etc. for appropriate sampling and inspection (e.g. secure stairway, permanent ladder, working platform, safety handrails, kickboards, adequate light, enough space for working...)
- Identify and perform all required sampling, monitoring, equipment calibration, notification and recordkeeping.
- Reports are reviewed and evaluated for completeness and accuracy prior to submittal. All information submitted is accurate and complete and submitted in a timely manner.

4.8 Training

All locations / units shall ensure that:

- Environmental training is included in the induction programme for all employees.
- Chemical training is provided to all employees and includes spill and overfill prevention, release detection, use of spill kits for emergency response, compatibility between chemicals and

containers / secondary containment, environmental and regulatory consequences of releases, notification requirements, etc.

- Programs exist to ensure that all employees who are involved with waste management, including off-site shipments have received training to comply with applicable regulations and to instruct them in proper waste handling methods.
- Employees are retrained according to specific needs.

5 Deviations

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

6 References

NHC-GD03 Health, Safety, Security and Environment (HSE)

NHC-GD03-01 HSE Policy

NHC-GP03-01-1 HSE Risk Management

NHC-GP03-01-3 HSE Incident Management

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

NHC-GP03-04-1 Health Risk Management

NHC-GD09 Sustainability Global Directive

7 Change log

Rev. nr.	Date	Description of change	Approver/Verifier
0	16-11-2020	New procedure	Brian Jones