Hazardous Substances Procedure

Purpose

The purpose of this Procedure is to define processes to effectively manage risks associated with hazardous chemicals and other hazardous materials at Queensland Hydro with a focus on hazard identification and risk assessment, procurement, storage, handling, transport, disposal, and emergency management.

Definition - Hazardous Chemical

A hazardous chemical is a substance, mixture or article that satisfies the criteria for a hazard class in the Globally Harmonised System (GHS) (including a classification referred to in Schedule 6 of the WHS Regulations, but does not include a substance, mixture or article that satisfies the criteria solely for one of the following hazard classes:

- Acute toxicity – oral – category 5;
- Acute toxicity – dermal – category 5;
- Acute toxicity – inhalation – category 5;
- Skin corrosion/inhalation – category 3;
- Serious eye damage/eye irritation – category 2B; \
- Aspiration hazard – category 2;
- Acute hazard to the aquatic environment – category 1, 2 or 3;
- Chronic hazard to the aquatic environment – category 1, 2, 3 or 4;
- Hazardous to the ozone layer.

NOTE: Schedule 6 tables replace some tables in the GHS.

Definition - Hazardous Material

Material posing an unreasonable risk to health, safety, and or environment, either by itself or through interaction with other factors.

Scope

This Procedure applies to Queensland Hydro for all office and field-based activities where hazardous substances have been introduced or are produced. This Procedure also applies to Contractors when working under the Queensland Hydro HS Management System (HSMS) or when directed under Contract.

This Procedure **does not** apply to;

- Regulated materials;
- Pesticides as identified in the **Chemical Usage (Agricultural and Veterinary) Control Act 1988 (Qld);** and
- Transporting consigned dangerous goods by road as identified in the Australian Code for the Transport of Dangerous Goods by Road and Rail. Refer to the **Transport Operations Procedure (HS-PRO-0015).**

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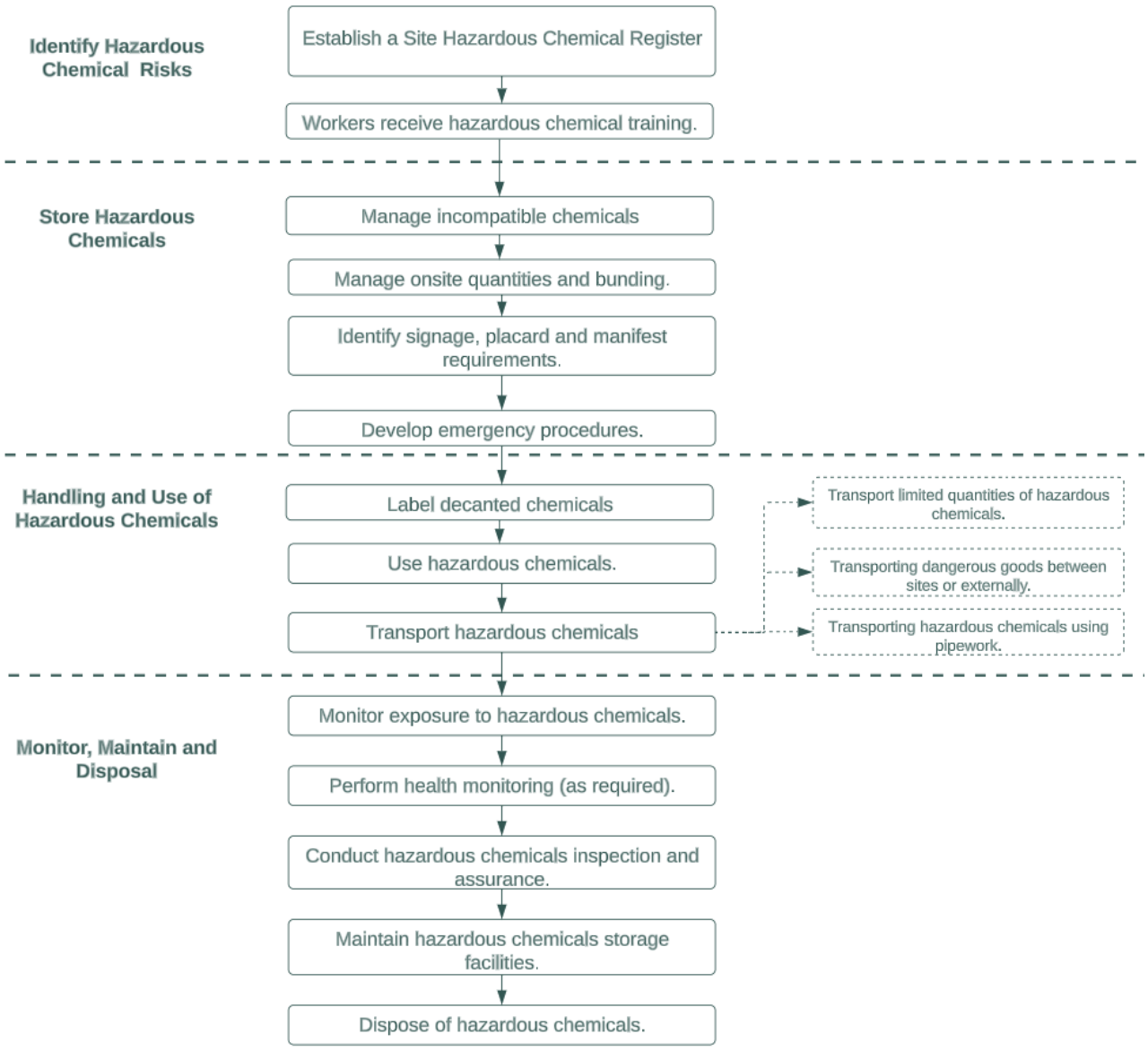
In addition, chemicals used in the workplace that are generally used for domestic use and considered safe in the home may be exempt from the following considerations:

- The chemicals are used in the same manner and quantities as normal household use;
  Risks associated with the use of the chemical have been identified, assessed and controlled; and
- The chemical has been approved for use in Queensland Hydro workplaces.

Process Map



Hazardous Chemical Management Procedure

Procedure

1 Hazardous Chemicals

1.1 Identify Hazardous Chemical Risks

Where a previously unapproved or new hazardous chemical is being introduced into Queensland Hydro, or if it has been in use for an extended period, the person responsible for introducing or managing the chemical must check if the chemical is listed in the Queensland Hydro Chemical Register and whether there is a safer substitution for that chemical.

Contractors must obtain permission from the Site Senior Person if seeking to use or store hazardous chemicals on site. All provisions of this procedure shall apply to contractors' inventory of chemicals while on site. Contractors must remove their chemicals when work on site is completed.

If the chemical is not in the Chemical Register with an associated risk assessment for the Queensland Hydro facility or operation, then a Risk Assessment is required.

1.2 Complete a Risk Assessment

Hazardous chemicals introduced to a Queensland Hydro workplace must have a risk assessment conducted and provided to the Site Senior Person prior to being brought into the workplace.

When purchasing new chemicals, refer to **Contractor and Supplier H&S Management Procedure (HS-PRO-0028).** A **Chemical Risk and Control Identification Form (HS-FRM-0035)** must be completed prior to use.

Where a hazardous chemical presents a high or critical risk, a Work Instruction must be developed with additional control measures. The work instruction must address first aid and emergency response requirements and contain the relevant approval for the use of the chemical in Queensland Hydro facilities and operations. Refer to **Crisis and Emergency Management Procedure (HS-PRO-0029)** and **First Aid Procedure (HS-PRO-0005)**.

1.3 Safety Data Sheets (SDS)

If the SDS for a hazardous chemical is not supplied, the person introducing the chemical must contact either the manufacturer, importer, or supplier to obtain one before the chemical is used at the workplace.

All contractors must provide a current SDS to Queensland Hydro prior to the start of work for the chemical/s they intend to use.

SDSs must be available where the product is used or stored and must be less than 5 years old from date of issue.

NOTE *that legislative compliance requires the use of the vendor SDS for hazard management. SDS review documents generated by Chemical Register do not meet legislative requirements for valid hazardous chemical product disclosure, hazard identification and risk management.*

1.4 Chemical Register

A register of hazardous chemicals must be available at each site. Where access to an online Chemical Register is unavailable, a hardcopy register must be provided and maintained by the Responsible Manager responsible for the site.

1.5 Hazardous Chemical Training

Workers who are required to handle, dispose of, store or transport hazardous chemicals must receive on the job training specifically related to those hazardous chemicals. Training must be given before workers commence work with the hazardous chemical, in the context of where and how it will be used.

Refer to **Training and Competency Procedure (HS-PRO-0008)**.

1.6 Store Hazardous Chemicals

Hazardous chemicals must be stored in accordance with the **Hazardous Chemical Storage Segregation and Compatibility Guideline (HS-GUI-0006).**

The storage of mixed classes of hazardous chemicals must include:

- Segregation of incompatible substances;
- Natural and mechanical ventilation;
- Globally Harmonised System compliant signage and labelling;
- Placarding and manifest requirements;
- Spill control measures including bunding; and
- Emergency response equipment.

1.7 Incompatible Chemicals

To prevent unwanted reactions from occurring in a storage area, incompatible chemicals must be separated and stored in compatible groups and as per SDS requirements.

Physical separation is the principal method by which such risks are controlled and includes:

- The use of distance;
- Effective barriers (such as fire-rated walls or vapour barriers); or
- A combination of both to achieve separation.

1.8 Onsite Quantities and Bunding

Where practicable, sites must obtain hazardous chemicals in the most practical and smallest quantity available. Refer to the **Hazardous Chemical Labelling and Decanting Guideline (HS-GUI-0005).**

For large quantities of hazardous chemicals, impervious bunds should be provided to capture liquid hazardous chemical product arising from a spill or leakage.

Bunding must be able to contain 110% of the capacity of the largest chemical container within the bunded area, plus at least 25% of all containers stored within the bunded area.

Where applicable, bunding solutions must comply with permit conditions specific to activity – e.g. Environmental Relevant Authority 57.

1.9 Signage, Placarding and Manifest Requirements

The use of signs and placarding is part of the overall management of the hazardous chemicals store and is intended to:

- Alert people to the presence of hazardous chemicals;
- Identify the categories of hazardous chemicals stored; and
- Indicate required emergency actions and contacts.

Signs and placarding for stores of hazardous chemicals must comply with the requirements of the GHS and *AS 1319 Safety signs for the occupational environment requirements.*

1.10 Emergency Procedures

Sites that store Hazardous Chemicals must document relevant spill control and other emergency response scenarios in the relevant Emergency Response Plan. This includes response and associated environmental management, decontamination, investigations, and reporting, corrective actions, management review and health monitoring after exposure to hazardous chemicals.

Refer to **Crisis and Emergency Management Procedure (HS-PRO-0029)** for the development of emergency procedures.

1.11 Labelling Hazardous Chemicals in Special Situations

A container that has had chemicals decanted into it must be labelled if the contents are not used immediately. The container must be labelled with at least:

- The product identifier;
- The relevant hazard and precautionary statements; and
- Hazard pictogram/s consistent with the correct classification of the chemical.

The minimum requirements for labelling chemicals in special situations (e.g. decanted and diluted chemicals) are set out in the **Hazardous Chemical Labelling and Decanting Guideline.**

1.12 Use Hazardous Chemicals

When mixing, handling and using hazardous chemicals, the controls defined in the SDS must be implemented. All reasonably practicable methods must be implemented to ensure that hazardous chemicals do not contaminate the water supply, food, food packaging or personal use products.

Personal Protective Equipment (PPE) must be used as required by the SDS and in accordance with the **PPE Management Procedure (HS-PRO-0001)**.

If hazardous chemicals are being used during high-risk construction work, the information relating to the hazards, risks and controls for using the hazardous chemical/s must be included in the relevant Safe Work Method Statement (SWMS). Any Contractor using hazardous chemicals at a Queensland Hydro controlled construction site must ensure that the risk associated with hazardous chemicals is considered in the Contractor's Safety Management Plans relevant to the construction work.

1.13 Transporting Hazardous Chemicals

Workers responsible (consignors – refer to the **Transport Operations Procedure** [**HS-PRO-0015]**) for transporting hazardous chemicals must review the relevant SDS to determine if the chemical and quantity is classed as Dangerous Goods. If the hazardous chemical is not classified as dangerous goods, the Worker can arrange for transport, however, the Worker must make certain that a compliant SDS is attached to the product.

The transportation of dangerous goods in a receptacle with a capacity of more than 500L or 500kg must be performed in accordance with *Transport Operations (Road Use Management – Dangerous Goods) Regulation 2008 (Qld)* and the *Australian Code for the Transport of Dangerous Goods by Road and Rail* (ADG).

The transport of limited quantities (<50L or kg) of chemicals by road in Queensland Hydro road vehicles is governed by the *Australian Dangerous Goods Code of Practice 2011, Version 7.3 (ADG) Chapter 3.4.*

If it is necessary to transport limited quantities of dangerous goods by road it is required that the following principles be followed:

- The chemicals are in appropriate containers with correct labels;
- The chemical containers are secured to prevent rotating, crashing or falling off the vehicle;
- Extreme heat to the chemicals is mitigated;
- Current SDSs are carried in the vehicle;
- An appropriate form of bunding to contain any leaks in vehicles is considered; and
- Appropriate PPE, spill kits and first aid kits are available.

1.14 Monitor, Maintain and Disposal

1.14.1 Monitor Exposure to Hazardous Chemicals (Occupational Monitoring)

The Site Senior Person must ensure that people at the workplace are not exposed to a substance or mixture in an airborne concentration that exceeds the Workplace Exposure Standard (WES). Refer to the **Airborne Contaminants Health Management Guideline (HS-GUI-0004)** for the substance or mixture. This is managed through the occupational health monitoring processes, facilitated by the Health and Wellbeing Manager.

Where required, air monitoring and biological monitoring can be carried out to confirm exposure levels, refer to the **Occupational Health and Hygiene Management Procedure (HS-PRO-0031)**.

Exposure monitoring must be performed by suitably qualified and competent occupational hygienists.

1.14.2 Health Surveillance

Health Surveillance involves monitoring a person to identify changes in a person's health status due to exposure to certain substances. Health surveillance may be specified in an SDS.

Health Surveillance at Queensland Hydro is carried out by or under the supervision of a registered medical practitioner with experience in health monitoring. Refer to the **Occupational Health and Hygiene Management Procedure (HS-PRO-0031)**.

Health surveillance records must be maintained at the workplace for 30 years. Records of air monitoring for airborne contaminants with WES must be kept for a minimum of 30 years and must be available to workers who are exposed.

1.14.3 Conducting Hazardous Chemical Inspections and Assurance

All work areas must be inspected by the Responsible Manager (or delegate) as part of their general area inspections and safety observations. Requirements for the management of the hazardous chemicals must be conducted in accordance with the **HS Assurance and Improvement Procedure (HS-PRO-0004).**

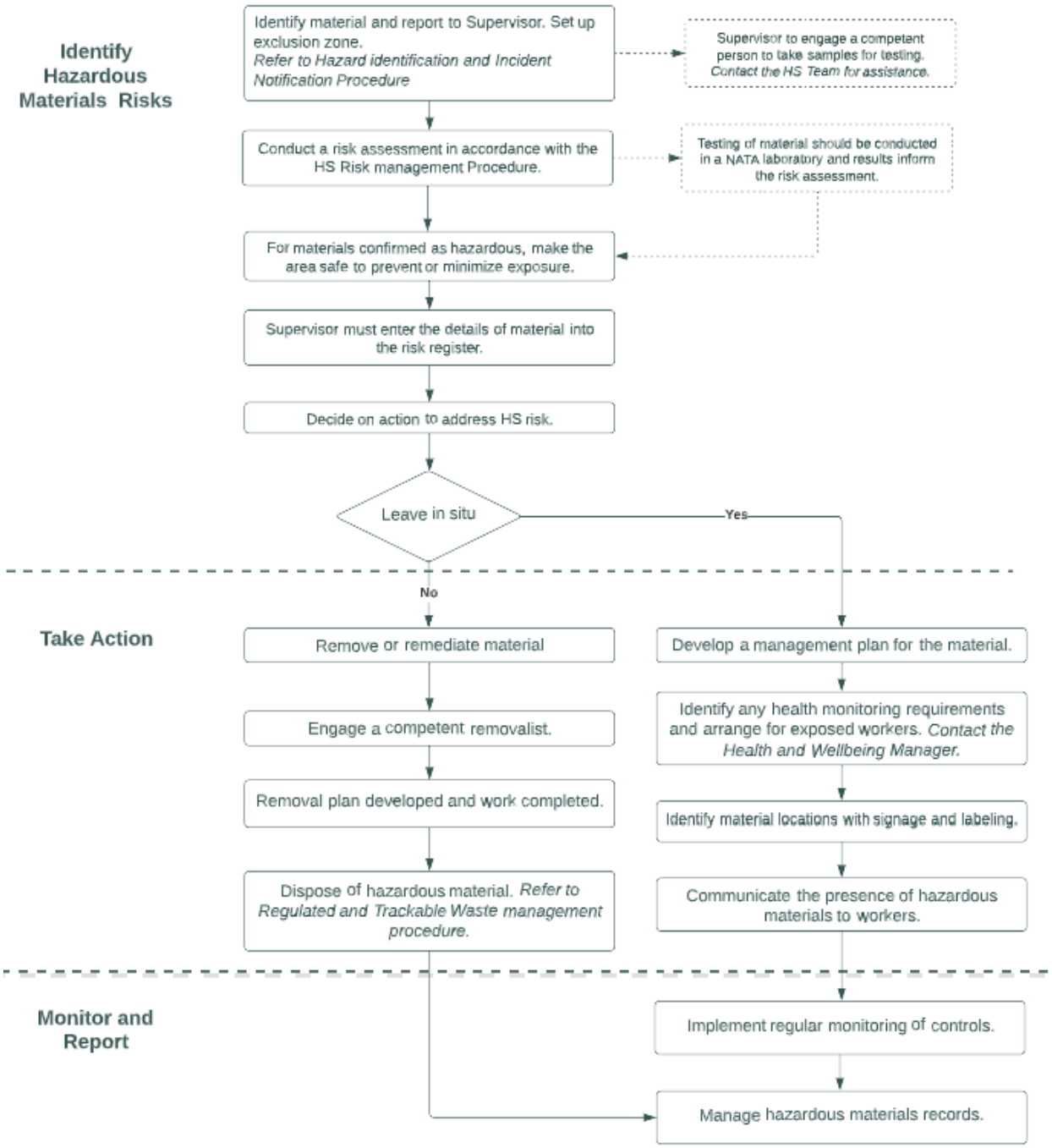
1.15 Disposing of Hazardous Chemicals

The Site Senior Person must identify appropriate disposal facilities and have systems in place to dispose of hazardous chemicals appropriately. When selecting a provider for the removal of an unknown substance, make certain they have the capacity to identify and safely remove hazardous chemicals.

Hazardous chemicals must be disposed of in accordance with the SDS/Chemical Risk Assessment and the environmental guidelines for the product.

2 Hazardous Materials

Process Map



Hazardous Material Management Procedure

2.1 Identify Hazardous Materials

Hazardous materials may be found at Queensland Hydro facilities or sites that pose a significant risk to the environment or the health and safety of people. Queensland Hydro Workers must establish a separation zone and report suspected hazardous materials in accordance with the **Incident Management Procedure (HS-PRO-0026).**

2.1.1 Engage a Competent Person to Take Samples for Testing

When a hazardous material is suspected, a competent person must be engaged/notified by the Site Senior Person to collect samples for material identification purposes.

Only competent persons should take samples, such as:

- Occupational hygienists;
- Licensed removalists and assessors for the hazardous material;
- Individuals who have undertaken a recognised training course and been deemed competent in hazardous material identification; or
- An accredited laboratory.

Refer to the **Occupational Health and Hygiene Management Procedure (HS-PRO-0031).**

2.1.2 Conduct a Risk Assessment

Once test results have been returned and the material confirmed as hazardous, a risk assessment must be completed by the Site Senior Person for the site, to determine and implement the measures necessary to make the area safe and control the risks of exposure to people and the environment.

Once complete, the action to leave in situ or remediate will require authorisation by the position identified in the **Risk Management Procedure (HS-PRO-0007).**

A decision about long-term strategy for managing the exposure risk or removal must be consulted with the impacted workers and stakeholders. Refer to the **Communication and Consultation Procedure (HS-PRO-0002).**

2.1.3 Enter Details of Material into the Relevant Risk Register

All known instances of hazardous materials on Queensland Hydro sites must be recorded in a register (e.g. Digital asbestos register) by the Site Senior Person.

At each site, a register containing the identified hazardous materials must be developed, implemented and maintained by the Responsible Manager. The presence and location of this register must be communicated to all Workers at induction, toolbox talks and signage.

NOTE: Where the decision is made to remediate /remove the hazardous material, there is no need to record the risk assessment in the register.

2.2 Engage a Competent Removalist

If the decision to remove the hazardous material is made, a competent person, licensed in the removal of the material must be engaged.

2.2.1 Competent Removalist Develops a Removal Plan

Prior to the removal/remediation of any hazardous material, the competent person must prepare removal and remediation plans.

The removal plans must include:

- Details of the licences and competencies of the persons carrying out the removal work;
- Details of how the hazardous material removal will be carried out, including the method to be used and the tools, equipment and personal protective equipment to be used; and
- Details of the hazardous material to be removed, including the location, quantity, type and condition of the hazardous material.

The competent removal person must give a copy of the removal plan to the person who commissioned the removal work.

2.2.2 Disposal of Hazardous Materials

A specialist Contractor must be engaged to dispose of hazardous material and must provide evidence (e.g. Regulated Waste tracking certificate) that the hazardous material is disposed appropriately.

2.3 Removal not an Option

2.3.1 Develop a Management Plan for the Material

The Site Senior Person must develop a management plan specifically for each identified hazardous material. The Hazardous Material Management Plan (HMMP) will outline requirements to be adhered to for the management of each hazardous material within all Queensland Hydro sites.

A management plan for each hazardous material must clearly identify the person responsible for the implementation of the management plan and the roles and responsibilities of Queensland Hydro Workers to reduce the potential for related health effects from the hazardous materials.

2.3.2 Identify any Health Monitoring Required

The Management Plan must outline the health monitoring requirements where required. Health monitoring, in accordance with **Occupational Health and Hygiene Management Procedure (HS-PRO-0031)** must be provided if:

- A worker is using, handling, generating or storing hazardous chemicals;
- The work is ongoing;
- There is a significant risk to the Worker's health because of exposure;
- Health monitoring is used to detect changes in a worker's health because of exposure to certain substances and may include:
  - Consultation with a registered medical practitioner;
  - A physical examination, for example, skin checks or lung function (spirometry) test;
  - Clinical tests, for example, urine or blood test; and
  - X-rays.

2.3.3 Identify Material Locations with Signage and Labelling

On all sites where the hazardous material is present or suspected to be present, a warning sign must be prominently positioned on the main entry gate to notify those entering that a hazardous material has been identified on site and the location of the specific Hazardous Material Register is on site.

A competent person should determine the number and position of the labels required.

2.3.4 Communicate The Presence of a Hazardous Material with Workers

The identification of a hazardous material including the management plan is to be communicated to all Workers within the site of operation or facility. Communication methods may include:

- Induction;
- Signage and labelling; and
- Pre-start meetings.

2.4 Monitoring and Reporting

2.4.1 Conduct Regular Monitoring of Implemented Controls

The person responsible for the implementation of the management plan will ensure that the controls provided in the management plan of specific hazardous materials have been implemented and effective. Refer the **Health and Hygiene Management Procedure** and the **Airborne Contaminants Health Management Guideline.** If required, air monitoring can be carried out to confirm exposure levels. As some materials can be absorbed through the skin, biological monitoring may be necessary for assessing Worker's overall exposure.

Responsibilities

Who	What
Purchaser	• Ensuring thorough evaluations are undertaken in accordance with the hazardous chemical purchase process; • Completing risk assessments and obtaining SDS's; • Updating Chemical Register if necessary; • Consulting with relevant people throughout the purchase evaluation; • Communicating control measures where appropriate; and • Seeking additional expert advice, either internally or externally as necessary.
Responsible Manager	• Preparing and updating the site manifest; • Ensuring the site has an Emergency Response Plan in place; • Notifying and supplying Work Health and Safety Queensland (WHSQ) with the site manifest if necessary; • Maintaining emergency information (HAZMAT) box, if required; • Arranging for health monitoring when required. • Ensure Workers are trained to perform activities in accordance with this procedure; • Monitor to ensure Workers are undertaking work in accordance with the procedure; • Conduct Risk Assessments; • Develop a Hazardous Material Management Plan, if required; • Ensure periodic inspections and reviews are performed and required corrective actions are taken; • Record all known instances of hazardous materials on Queensland Hydro sites, in the risk register; and • Review and maintain all required documentation relating to hazardous material management including registers, risk assessments, management plans etc.
Supervisor	• Where access to online Chemical Register is unavailable, provide and maintain a hardcopy register; • Making available Safety Data Sheets (SDS) to all Workers prior to use of a substance and keeping the SDS close to where the substance is being used; • Maintaining relevant hazardous chemical registers; • Making certain that thorough purchase evaluation(s) are completed; • Making certain that all containers of hazardous chemicals are correctly labelled; • Consulting with workers if proposed changes may affect the health and safety of workers; • Making certain risk assessment controls are implemented; • Approving the risk assessments for usage/storage of the hazardous chemical; and • Making certain that workers involved in hazardous chemicals tasks are adequately trained in the correct use and storage of the chemicals being used.
H&S Team; Health and Wellbeing Manager	• Provide advice on matters related to the hazardous materials; • Coordinate health monitoring as required; and • Undertake periodic audits of the management of hazardous materials.

Workers	• Performing all duties in accordance with this procedure; • Report suspected hazardous materials; • Participate in risk assessments and other work procedures; • Follow management plan requirements for the hazardous materials; • Referring to the SDS, advice on container labels and work instruction prior to using a chemical; • Confirming containers of hazardous chemicals are correctly labelled; • Assisting in the implementation of controls; • Wearing any necessary PPE; • Labelling where required; and • Maintaining basic hygiene.

Defined Terms

Terms	Definition
ACM	Asbestos Containing Materials – Any material, object, product or debris that contains asbestos.
Chemical	This is a general term that includes substances, products and preparations composed of elements, compounds or mixtures. Chemicals may exist as solids, liquid or gases. Chemicals may be classed as hazardous or non-hazardous, or as dangerous goods depending on their potential to cause harm to workers, the environment or property.
Combustible liquid	Any liquid, other than a flammable liquid, that has a flash point and has a fire point that is less than its boiling point. For the purposes of AS1940, combustible liquids are divided into two classes as follows: • Class C1 - a combustible liquid that has a closed cup flashpoint of greater than 60°C and no greater than 93°C; and • Class C2 - a combustible liquid that has a flash point exceeding 93°C or has been excluded from being a flammable liquid by any of the criteria for sustaining combustion.
Competent Person	A person who has acquired, through training, qualification or experience, the knowledge and skills to carry out the task specified or relevant to the subject matter and can provide assessment, advice and analysis of the task using the relevant codes of practice, standards, methods or literature
Consigned Dangerous Goods	Describes dangerous goods that have been consigned and carried by road under the Heavy Vehicle National Laws. Refer to the Heavy Vehicles Procedure.
Dangerous Good/s	Dangerous goods is a substance, mixture or article that presents a risk during transport, either through its physical and chemical (physicochemical) hazards, acute toxicity or hazards to the environment. A dangerous good is classified on the basis of immediate physical or chemical risk and it usually presents an immediate hazard to people, property or the environment due to the possibility of fire, explosion, chemical reaction or release of toxic, flammable or corrosive chemicals during storage or handling. **NOTE:** Most substances and mixtures that are dangerous goods under the ADG Code 7th edition are hazardous chemicals.
Hazardous Materials	A material or substance capable of posing an unreasonable risk to health, safety, and property, either by itself or through interaction with other factors.

Hazardous Substances	Refers to both Hazardous Chemicals and Regulated (Hazardous) Materials.
High Risk Construction Work	Has the meaning given to that term in the Work Health and Safety Regulations (Qld).
Manifest	A Manifest list the maximum quantities of hazardous substances that are usually stored at each individual location, as well as other information, such as the classification, which would be of interest to the Emergency Services in an emergency. It also contains information such as site plans and emergency contact details.
Non-hazardous Chemical	Any chemical that is not classified as a hazardous chemical is referred to as a non-hazardous chemical. A non-hazardous chemical generally does not represent a threat to the health and safety of workers and others provided they are used for their intended purpose and in a way that they are designed to be used.
Regulated Material	A material that is present in Queensland Hydro workplaces that are not Hazardous Chemicals and has specific requirements for the management and disposal of the product under the WH&S, Environment or local government legislation.
Regulated waste	Waste that is commercial or industrial waste and is of a type or contains a constituent of a type listed in Schedule 7, Part 1 of the Environmental Protection Regulation 2008. Includes anything that contains residues of the waste, for example, a container contaminated with the waste. Waste is not Regulated waste if the waste is of a type listed in Schedule 7, Part 3, Division 1. Waste is also not Regulated waste if current test results for the waste meet the relevant criteria listed in Schedule 7, Part 3, Division 2.
Register (Chemical)	The chemical register is a list of the product names of all hazardous chemicals used, handled or stored at the workplace accompanied by the current SDS for each hazardous chemical.
Safety Data Sheet	A Safety Data Sheet (SDS) provides information about a chemical. This information Includes the product name, chemical and physical properties, health hazards, safe use, and other important information (see Chapter 7 of the Work Health and Safety Regulation).
Scheduled Chemical	Scheduled chemical means a chemical listed in schedule 14 of the Work Health and Safety Regulation 2011.
Supervisor	A Queensland Hydro worker who has hierarchical responsibility for and/or directs and oversees the work of another worker.
Worker	Any person who carries out work for Queensland Hydro Queensland, including work as an employee, contractor, subcontractor, self-employed person, outworker, apprentice or trainee, work experience student, employee of a labour hire company placed with a 'host employer' and volunteers.
Workplace Exposure Standard	Maximum upper limit of a workplace health hazard prescribed by legislation. While an exposure standard determines the level at which adverse health effects or discomfort to nearly all workers, it is not a dividing line between a healthy and an unhealthy work environment.

References

Document code	Document title
HS-PRO-0028	Contractor and Supplier H&S Management Procedure
HS-PRO-0029	Crisis and Emergency Management Procedure
HS-PRO-0005	First Aid Procedure
HS-PRO-0015	Transport Operations Procedure
HS-PRO-0004	Assurance and Improvement Procedure
HS-PRO-0008	Training and Competency Procedure
HS-PRO-0031	Occupational Health and Hygiene Management Procedure
HS-PRO-0001	PPE Management Procedure
HS-GUI-0004	Airborne Contaminants Health Management Guideline
HS-GUI-0005	Hazardous Chemical Labelling and Decanting Guideline
HS-GUI-0006	Hazardous Chemical Storage Segregation and Compatibility Guideline
Regulation 2008 (Qld)	Transport Operations (Road Use Management – Dangerous Goods)
Code of Practice 2021	Managing risks of Hazardous Chemicals in the Workplace