

PHA Environmental Management System Framework

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Table 1 – Table of Definitions

Term	Definitions
Pacific Hydro Pty Ltd	Refers to the Regional Company operating within Australia, Pacific Hydro Australia
Corporate Office	The integrated Global Corporate Office of SPICOI and Pacific Hydro and the staff who work within the scope of the Global Corporate Office
ECO	Environmental Compliance Officer
EDM	Environment & Development Manager
EMS	Environmental Management System
EDT	Environment and Development Team
ISO	International Organisation for Standardization
Management System	A management system is a set of interrelated processes and elements intended to manage and achieve one or more business objectives.
Management System Framework	The standards, processes and procedures which relate to the management system. It may also show how different management systems interrelate.
PHA	Pacific Hydro Australia

1. Introduction

1.1 Purpose

The purpose of this Environmental Management System (EMS) manual is to describe the environmental management measures and procedures that are implemented within the Australian part of Pacific Hydro Pty Ltd (PHA), in alignment with the Health, Safety, Environment and Quality requirements.

This manual describes how:

- The requirements of ISO14001:2016 are being met;
- PHA has implemented the HSEQ Policy as it relates to environmental management;
- PHA conducts work in an environmentally responsible manner;
- PHA complies with applicable environmental legislation;
- PHA meets its aspiration to be a leading renewable energy provider; and
- PHA implements industry standard environmental best practice.

This manual describes the systems, processes and procedures, tools and templates that are to be applied during the development, construction, operation and decommissioning of power generation assets owned by PHA.

1.2 Scope and Application

The scope of this EMS includes:

- All operating generation assets;
- Assets currently under construction;
- All development sites; and
- The Pacific Hydro offices.

This EMS applies to all work undertaken by PHA and its contractors during project development, construction, operation and decommissioning of power generation facilities in Australia.

2. Health, Safety, Environment and Quality Management System

2.1 HSEQ Policy

A Health, Safety Environment and Quality (HSEQ) Policy has been implemented which conforms to the requirements of ISO 9001, ISO 45001, ISO14001 and the Pacific Hydro Global Corporate Office (GCO) requirements. The HSEQ Policy is endorsed and reviewed annually by PHA's senior leadership teams.

The relevant HSEQ policies are located:

- In the Melbourne office Reception;
- On the HSEQ [NEXO](#) page (the company's intranet site); and
- On the Pacific Hydro [website](#).

It is communicated to all persons working for or on behalf of the organisation as part of the office or site induction process. Hard copies are given to the public, regulators or other stakeholders on request.

Reference:

- *Health, Safety, Environment and Quality Policy.*

2.2 Standards

A set of Corporate Standards are implemented which describe the expectations for all Pacific Hydro's regional companies (Australia, Chile and Brazil) working under corporate governance. Standard CS-15 - Environmental Management defines the environmental performance requirements at the corporate level.

2.2.1 Standard CS-15 – Environmental Management

The requirements of Standard CS-15 Environmental Management address the following elements:

- (1) Due diligence;
- (2) Design;
- (3) Procurement;
- (4) Management Processes;
- (5) Evaluation; and
- (6) Education and Training.

Reference:

- *Standard CS-15 – Environmental Management (Asset Management » Group Asset Management » Corporate Standards).*

2.3 Management Systems

The Environmental Management System has been implemented for PHA. Figure 1 – Management System below provides an overview of the documentation including the following:

1. HSEQ Policy – Details the statement of intent from the leadership. The document includes 'WHY' it must be done;

2. HSEQ Management Systems – Details the requirements on ‘**WHAT**’ needs to be done to achieve the statement of intent; and
3. Procedures, Processes and Guidelines – Details the exact steps on ‘**HOW**’ it needs to be done to achieve the requirements.

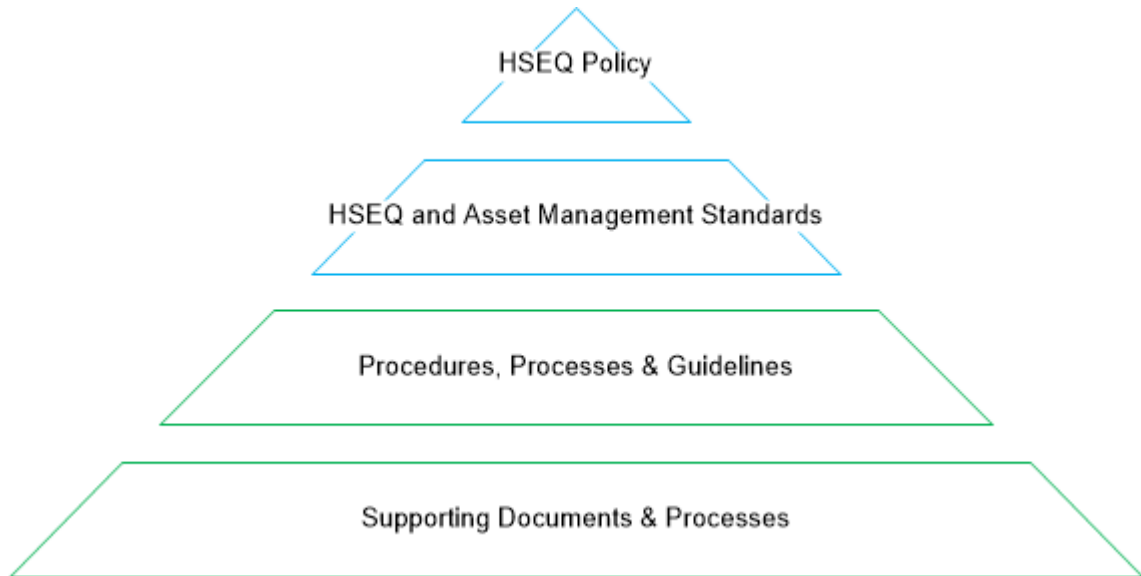


Figure 1 – Management System Framework

PHA’s Environment and Development team (EDT) manages the environmental documentation which identifies environmental aspects and how these are to be protected. The environmental documentation is supported by PHA’s Process Management documentation or flow charts, where applicable. The Processes Management documentation identifies key work-flows that are the responsibility of the EDT.

Environmental documentation is stored in the EDT Nexo page and linked on the Operations Dashboard. The EDT facilitates training and awareness sessions where required.

Reference:

- *Processes Management documentation (Health Safety and Environment » PHA Process Management » Shared Documents 02. Development); and*
- *Environment and Development Team – Procedures and Forms (Environment & Development » Procedures and Forms » All Documents).*

2.4 Control of Documents and Records

The EDT has a document control system which ensures processes such as review, approval, revisions, issue, and control are developed and documented.

The EDT store and maintain documents so that they are readily retrievable and protected against damage, deterioration or loss.

Reference:

- *PHA.ENV.PRO.009 - Document Control Procedure (Environment & Development » Procedures and Forms » All Documents);*
- *PHA.ENV.REG.008 - Document Control Register (Environment & Development » Procedures and Forms » All Documents); and*

- *Electronic Storage System (Nexo) (Environment & Development).*

2.5 Resources, Roles, Responsibilities and Leadership

2.5.1 Leadership

All Managers responsible for personnel and/or business functions ensure that the applicable Policies and Standards are implemented, maintained and communicated to the workforce and relevant stakeholders. Objectives are established accordingly which are compatible with the context and strategic direction of the organisation.

Furthermore, staff know and understand their role, responsibilities and expected behaviours under the relevant management systems.

Management system reviews are conducted regularly (at least annually).

Reference:

- *Standard CS02 Leadership and Engagement (Asset Management » Group Asset Management » Corporate Standards).*

2.5.2 Environment and Development

The EDT team is led by the Executive Manager - Projects and is headed by the Environment and Development Manager.

The Environment and Development Manager, with assistance from the EDT, is responsible for ensuring that the EMS is implemented, maintained and complied with.

The structure and layout of the EDT is described in the Australian Org Chart.

Reference:

- *Australian Org Chart (Group Human Resources » Org Charts » All Documents).*

2.5.3 Operations

PHA Operations are responsible for:

- Understanding and complying with all relevant EMS Procedures, guidelines or other defined procedures;
- Adherence to site risk and aspect registers;
- Periodically reviewing the potential for environmental harm and informing the site risk and aspect registers;
- Periodic trials of emergency response and adjusting as required;
- Where applicable, ensuring that EMS records are maintained; and
- Report promptly any environmental incident as defined in the Environment Incident Procedure.

Reference:

- *PHA.ENV.PRO.003 – Environment Incident Procedure (Environment & Development » Procedures and Forms » All Documents).*

2.5.4 Engagement and External Affairs

Where applicable, fulfil the duty as required in emergency response plans, provide assistance with communication to external parties, media responses and management, stakeholder management and engagement with the local community through its delegates including management of the complaints handling process.

2.5.5 Information Systems and Technology

The Head of Information Systems and Technology is responsible for the regular back-up of computer records, their secure storage, document and record control procedure and systems.

2.5.6 Employees and Contractors

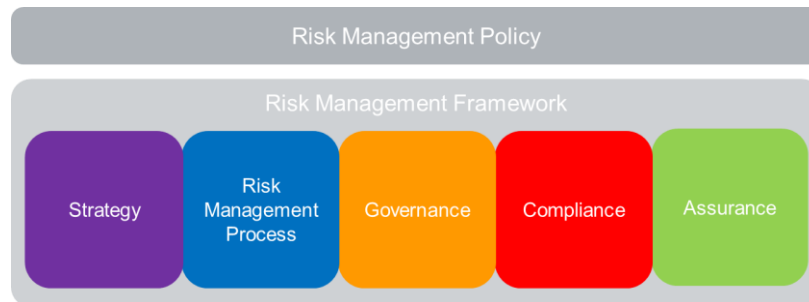
All employees and contractors are responsible for:

- Working in accordance with the company's HSEQ Policy;
- Participating in relevant EMS objectives and targets;
- Following appropriate procedures if they become aware of an environmental incident; and
- Being aware of how their activities interact with each other, contractors, the public and the environment.

3. Planning

3.1 Risk Management Framework

PHA's Risk Management Framework includes a set of components, known as the "5 Pillars", that provide the foundations and organisational arrangements that integrate Risk Management throughout the company at all levels:



The 5 Pillars work to:

- Manage the effects of uncertainty associated with an agreed strategy;
- Ensure that risk information is adequately reported and used as a basis for decision making and accountability at all levels of the organisation; and
- Increase the likelihood that business objectives are achieved.

3.2 Environmental Impacts, Aspects and Risks

An Environmental Risk Register Procedure has been developed to support the Risk Management Policy. The procedure provides detailed steps and guidance for how to implement effective and demonstrable environmental risk management practices. Through this Procedure, the PHA aims to achieve consistent application of risk management principles and maintenance of the Environmental Risk Register. PHA has examined its activities, products and services to determine which of them have the potential to create a hazard, risk or impact to the environment.

A register of environmental impacts, aspects and risks has been developed. The register identifies how each of the risks are managed.

The Environmental Impacts, Aspects and Risk Register provides reference to applicable legislation pertinent to the State that the asset is operating in. If changes to legislation require PHA to make changes in the way it operates, the relevant environmental procedures will be revised, or new procedures will be written to accommodate the change.

Reference:

- PHA.ENV.PRO.005 – *Environmental Risk Register Procedure (Environment & Development » Procedures and Forms » All Documents)*; and
- PHA.ENV.REG.001 - *Environmental Impacts and Aspects Risk Register (Environment & Development » Team Development » All Documents)*.

3.3 Environmental Planning and Requirements

Compliance requirements (such as legislation, planning permit conditions, licence conditions and secondary approval requirements) are presented in the Compliance Register for each operating asset or sites under construction.

The Compliance Register outlines the external notification requirements.

Reference:

- *PHA.ENV.REG.003 - Compliance Register (Environment & Development » Team Development » All Documents).*

3.4 Objectives and Targets

PHA considers all environmental risks and aspects when setting environmental objectives and targets. PHA may also set objectives and targets based on:

- Environmental Policy;
- Relevant legislation;
- Environmental best practice;
- Views of relevant Stakeholders;
- Obligation to prevent pollution; and
- Key Performance Indicators.

Global objectives are agreed as part of the business Key Performance Indicators and at a regional level, Managers set their own objectives and targets with their teams. The method of developing and measuring Key Performance Indicators is set out in the Training and Development Policy.

Reference:

- *Training and Development Policy (HR) (Group Human Resources » Policies and Procedures » All Documents).*

4. Competency, Training and Awareness

PHA operates a procurement process and supplier pre-qualification system which supports PHAs legal obligations under the various State-based Work Health and Safety legislation and environmental obligations. This process and system assist PHA with its legal, financial, reputational and environmental risks in the event of an incident and enables PHA to select suppliers with desirable environmental certifications, accreditations and/or memberships wherever possible.

PHA has position descriptions which reflect company requirements and provide the basis for employing staff. A compliance training procedure is implemented to ensure employees are trained in accordance with the training matrix.

Reference:

- *Procurement Procedure (Procurement Excellence); (Procurement Excellence » Policies & Procedures » All Documents);*
- *Supplier Pre-Qualification System (Operations) (Procurement Excellence » Policies & Procedures » All Documents);*
- *Australia Compliance Training Procedure (HR) (Group Services » Corporate Training Matrix Project » Shared Documents » All Documents);*
- *Training & Development Policy (HR) (Group Human Resources » Policies & Procedures » All Documents); and*
- *PH Skills Training Matrix (HR) (Group Services » Corporate Training Matrix Project).*

5. Communication and Consultation

PHA recognises that accurate and continued communication and consultation with all Employees and Contractors on environmental matters is essential.

Where applicable, the Engagement and External Affairs team will fulfil their responsibilities as required in emergency response plans, provide assistance with communication to external parties, media responses and management, stakeholder management and engage with the local community through its delegates by managing the complaints process and maintaining public websites, where applicable.

A Complaints Register is maintained by the Engagement and External Affairs team which facilitates the management of complaints. In some circumstances, where appointment of an externally appointed Environmental Representative (ER) occurs, this ER will be notified of all complaints received and will participate in the Complaint Handling Process and provide advice on a suitable response and actions, as required.

Complaints that are of a serious nature will be reported to the Operations team and may also be logged as an incident in Pacific Hydro's incident reporting system. The Operations team is also frequently consulted to verify or ascertain an asset's operating conditions or characteristics at the time of a complaint.

5.1 Internal Communication

In addition to routine and organic internal collaboration, the following methods of structured internal communications provide for communication on environment management matters and these are implemented as appropriate:

- Australian Safety Meeting – hosted monthly and covers HSE aspects and updates;
- Australian Monthly Operations Meeting – hosted monthly and provides an opportunity to raise current HSE issues and proposed actions;
- NEXO HSEQ communications;
- Group & PHA HSEQ monthly meetings; and
- Monthly newsletters.

5.2 External communication

The following methods of external communications provide for communication on environment management matters and are implemented as appropriate:

- National Greenhouse and Energy Reporting (NGER) annual report; and
- Site specific environmental annual reports or notifications.

6. Performance Evaluation and Improvement

6.1 Monitoring and Measurement

A procedure for monitoring environmental compliance is established, implemented and maintained. Environmental audits occur in accordance with the Environmental Audit Schedule to assess the level of compliance with applicable requirements and this EMS. Each audit report will define the applicable assessment criteria. The schedule is maintained by the ECO.

A procedure for reporting and disseminating company information about greenhouse gas emissions, energy production and energy consumption is established. Reporting is due on an annual basis as required by The National Greenhouse and Energy Reporting Act 2007 and is completed by a member of the EDT.

Reference:

- *PHA.ENV.PRO.002 - Environment Compliance Monitoring Procedure (Environment & Development » Procedures and Forms » All Documents);*
- *PHA.ENV.PRO.017 – NGERs – Basis of Preparation (Environment & Development » NGERs » Group By); and*
- *PHA.ENV.REG.007 – Environment Audit Schedule (Environment & Development » Team Development » All Documents).*

6.2 Evaluation of Compliance and Improvement

As mentioned at Section 3.3, PHA's legislative, planning permit, licence and secondary approval requirements are presented in the Compliance Register.

Environmental compliance is also documented and reported via internal and external environmental audits but also logged in the Audit Action Register where compliance is monitored, and processes are improved.

A member of the EDT is always involved in the auditing process.

Reference:

- *PHA.ENV.REG.004 - Audit Action Register (Environment & Development » Team Development » All Documents).*

6.3 Incident Investigation, Nonconformity, Corrective Action and Complaints

Any environmental non-conformance or incident is recorded and investigated. Steps are taken to control any impact caused and depending on the significance of the incident, corrective or preventative action is taken to prevent a recurrence. Where necessary, EMS procedures will be revised, or new EMS procedures written.

Non-conformances or incidents may arise from:

- Non-compliance with legislation, planning permit conditions, licence conditions and secondary approval requirements;
- Failure to meet an EMS requirement;
- Failure to observe Environment Procedures;
- Inadequate Environment Procedures;
- Unforeseen circumstances; or

- Emergencies.

Reference:

- PHA.ENV.PRO.002 - *Environment Compliance Monitoring Procedure (Environment & Development » Procedures and Forms » All Documents)*;
- PHA.ENV.PRO.003 - *Environment Incident Procedure (Environment & Development » Procedures and Forms » All Documents)*; and
- 2019-03-PH-Complaints Management Process
(<http://www.pacifichydro.com.au/english/contact/offices-in-australia/?language=en>).

7. Operation

7.1 Environmental Management Plans

Federal and State approvals for projects typically require the development of Environmental Management Plans which cover the construction, operational and decommissioning phases. Environmental Management Plans outline how the risks identified in the Environmental Risk Register will be managed.

Some of PHA's projects were developed and constructed before planning approvals routinely required the development of Environmental Management Plans. The environmental procedures and environmental risk register provide the primary basis for environmental management at these sites.

Management Plans are prepared and submitted to the relevant authority for federal or state approval. All approved management plans are store via the PHA electronic storage system.

Reference:

- *Approved and Current Applications (Environment & Development » Project Development Planning Development Application).*

7.2 Emergency preparedness and response

Emergency Response Plans have been created for each operational site to manage emergency situations.

Site Emergency Response Plans are developed in accordance with PHA procedures and are reviewed periodically taking into consideration corrective actions arising from practical exercises and incidents or near misses that may have occurred since the last review.

Site Emergency Response Plans are stored via the electronic storage system in the Operations library and are the responsibility of the operator of each facility. The Site Emergency Response Plans are tested annually to ensure that they are in line with the current operational activities.

Reference:

- *Emergency Response Plans (Australia Ops » Operations Library » All Docs); and*
- *Corporate Standard 14 – Crisis and Emergency Management (Asset Management » Group Asset Management » Corporate Standards).*

8. Management Review

A management review of the EMS is conducted annually. This can result in updates to the Policy, Corporate Standards, EMS, or procedures.

The management review will be performed by senior executives along with members of the EDT.

The following items will be considered in the management review:

- Status and progress of past internal audit findings and actions;
- Any changes in internal or external circumstances affecting the management systems;
- External audits; and
- Current management systems, HSEQ Policy, and Corporate Standards.

The output of the management review includes:

- Changes recommended to the HSEQ Policy, Corporate Standards or management systems;
- Prioritised recommendations for improvement; and/ or
- Recommended further audits and inspections.

Management Review recommendations will be provided to the Senior Management Team for information. The Operations and HSEQ departments will prepare an action plan based on the Management Review recommendations.

Reference:

- *PHA.HSE.12.003 Management Review Procedure (Health Safety and Environment » Shared Documents » Shared Documents);*
- *PHA.HSE.12.003.1 HSE Management Review Committee Charter; (Health Safety and Environment » Shared Documents » Shared Documents); and*
- *PHA.HSE.12.007 Health and Safety Reporting Procedure Health Safety and Environment » Shared Documents » Shared Document).*