

Management framework 6

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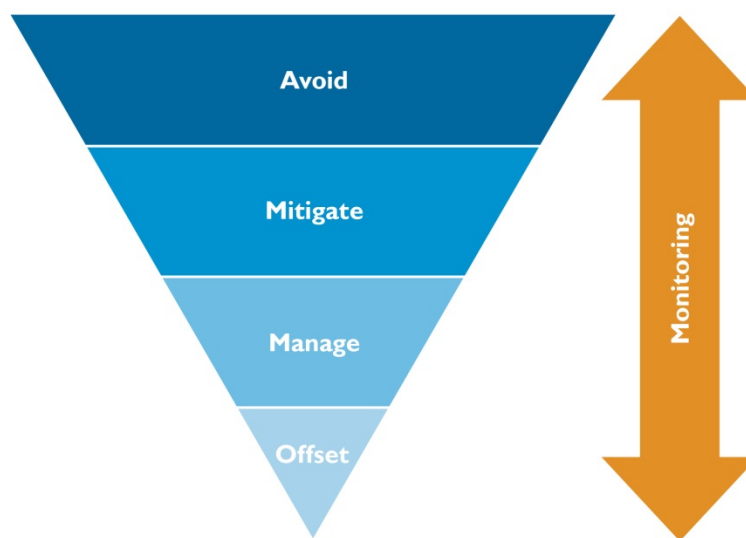
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6 Management framework

6.1 Introduction

This section outlines the environmental management framework that Santos GLNG will apply to the GFD Project. The framework adopts the hierarchy of preferred environmental management practices (illustrated in Figure 6-1), which will be implemented across every phase of the GFD Project. The framework has been developed and successfully implemented for the approved GLNG Project and has been refined over the last four years. It includes the systems and procedures that will be applied to the GFD Project to achieve predictable and sustainable outcomes.

Figure 6-1 Preferred environmental management hierarchy



Through the design, construction and operations of the GLNG Project, this environmental management framework has proven to be effective in addressing issues known to be relevant to the GFD Project and complies with the regulatory requirements for petroleum projects.

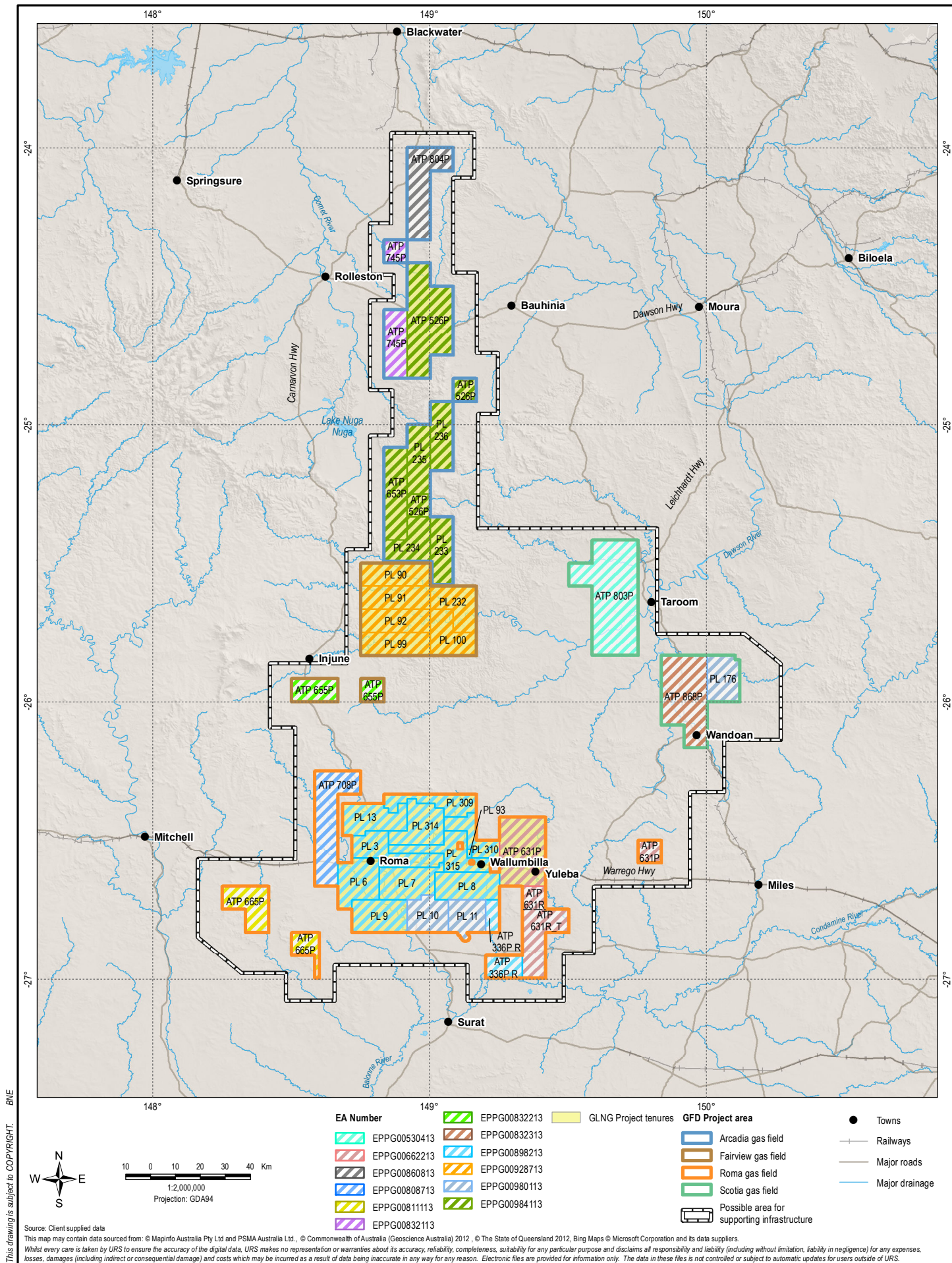
6.2 Existing approvals

Santos GLNG has been granted approvals and permits, and has entered into land access agreements (known as conduct and compensation agreements), to develop the gas fields and associated infrastructure applicable to the GLNG Project. Where they do not already exist, similar approvals, permits and agreements will be sought for the GFD Project. The approvals necessary for the GFD Project to proceed are listed in Section 2: Project approvals, while Section 5: Assessment framework provides a comprehensive description of the post-EIS approvals process.

Petroleum leases (PLs), petroleum pipeline licences (PPLs) and authorities to prospect (ATPs) together with the relevant environmental authorities (EAs) associated with the GLNG Project's upstream gas field activities are outlined in Table 6-1 and shown on Figure 6-2. This EIS assessment was undertaken in early 2014 and the tenures shown in Table 6-1 and Figure 6-2 were representative at that time. The EAs which are located in Appendix Y-A: Existing Santos GLNG environmental authorities of this EIS are those representative of October 2014.

Table 6-1 Santos GLNG Project upstream gas field environmental authorities

Gas field	Petroleum tenure	Environmental authorities
Arcadia	ATP 526P, 653 PL 233, 234, 235, 236, 420, 421 and 440	EPPG 00984113
	ATP 804P	EPPG 00860813
	ATP 745P	EPPG 00832113
Fairview	PL 90, 91, 92, 99, 100 and 232 PPL 76, 92	EPPG 00928713
	ATP 655P	EPPG 00832213
Roma	ATP 631 PL 281 and 282	EPPG 00662213
	ATP 336 □ PL 309, 310, 3/313, 314, 315, 6/316, 7/317, 8/318, 9/319, 13/322 and 93/323	EPPG 00898213
	PL 10, 11	EPPG 00980113
	ATP 665P	EPPG 00811113
	ATP 708P	EPPG 00808713
	ATP 631P	EPPG 00808613
	ATP 336P	EPPG 00898213
Scotia	PL 176	EPPG 00980113
	ATP 868P	EPPG 0832313
	ATP 803P	EPPG 00530413



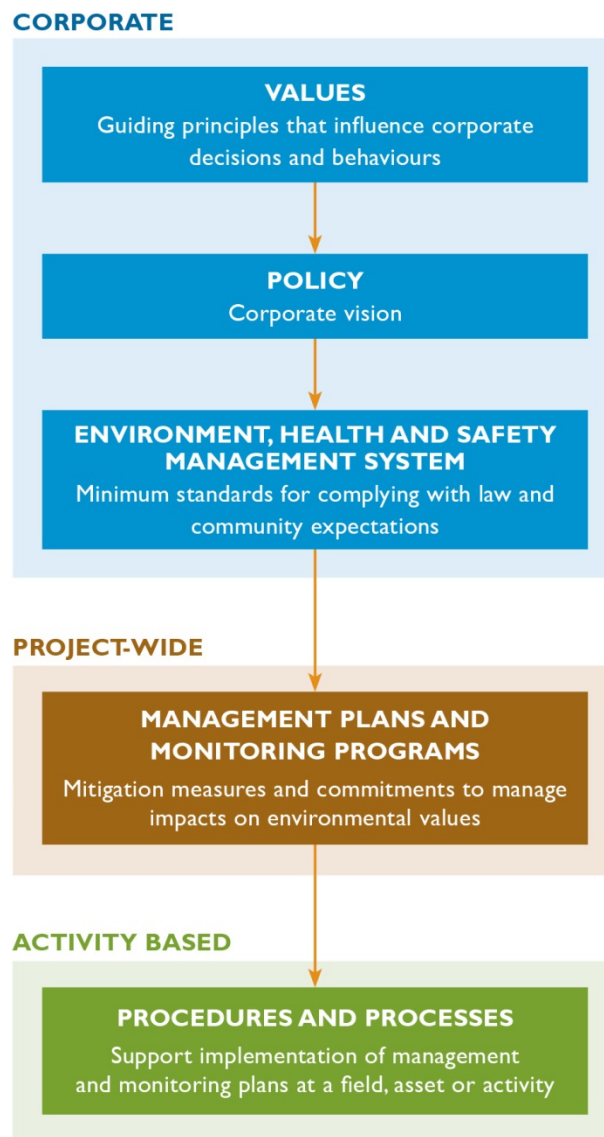
6.3 Management framework components

As an established gas field operator, Santos GLNG has developed an effective environmental management framework to be implemented during field planning and development. The framework comprises the following components:

- Core values
- Policy statements
- Environment, health and safety management system
- Management plans
- Procedures and processes.

The relationship between these components is illustrated in Figure 6-3. These multiple layers of management controls will apply to every phase of the GFD Project and across the various Santos GLNG business units and contractors. Further discussion on each of these components is provided in the following sections.

Figure 6-3 Overview of management framework



6.3.1 Corporate values

The corporate values are the guiding principles that define how Santos GLNG's business is conducted. These values are the basis of Santos GLNG's commitment to operate with a view to its long-term sustainability. This means working as a team that:

- **Discovers** — by opening minds to new possibilities, thinking creatively and having the courage to learn from successes and failures, take on new challenges, capture opportunities and resolve problems.
- **Delivers** — by taking personal responsibility and pride in work to deliver timely, quality results that benefit Santos GLNG and help achieve its vision and strategy.
- **Collaborates** — by recognising the value and power in diversity of thought and communicating openly to understand the perspectives of others, demonstrating leadership by sharing what is known and respectfully challenging each other to achieve the best results for all.
- **Cares** — by taking the long-term view to build a sustainable future for Santos GLNG, its people and the environments and communities in which it operates.

These values guide the policy statements governing Santos GLNG activities discussed below.

6.3.2 Corporate policies

Santos GLNG has adopted corporate policies and procedures that are applicable to the GFD Project. These policies are outlined in Table 6-2 with full policies included in Appendix G: Corporate environmental policy.

Table 6-2 Overview of corporate policies

Policy	Commitment
Environmental policy	The environmental policy commits Santos GLNG to continuously seek to find new ways to minimise its environmental impact across the lifecycle of its activities.
Health and safety policy	The health and safety policy commits Santos GLNG to conducting business in a manner that prevents injury or illness to workers and the public.
Community policy	<p>The community policy commits Santos GLNG to establishing and maintaining enduring and mutually-beneficial relationships with communities within which it operates.</p> <p>Underpinning the community policy is a set of principles for Santos GLNG, which guides conduct in the community. These include, but are not limited to:</p> <ul style="list-style-type: none"> • Negotiate land access in good faith and in a timely manner • Respect the wellbeing of landholders • Investigate and resolve issues experienced by landholders or community members.
Climate change policy	Climate change is a long-term issue, requiring urgent but informed action to stabilise atmospheric greenhouse gas concentrations. As a global stakeholder in the energy business, Santos GLNG recognises that one of their key social and environmental responsibilities is to pursue strategies that address the issue of climate change.
Aboriginal engagement policy	The Aboriginal engagement policy commits Santos GLNG to working with Aboriginal communities and creating beneficial relationships across all of its operations.
Land access	<p>Santos GLNG has adopted an early engagement strategy where landholders that may be affected by GFD Project activities are able to discuss the potential location, timing and impacts of infrastructure on their property or business, and how Santos GLNG can help to minimise those impacts. This early engagement strategy has been developed in accordance with the Land Access Code (Department of Employment, Economic Development and Innovation, 2010).</p> <p>Santos GLNG will negotiate a conduct and compensation agreement under the P&G Act with landholders on whose land the petroleum activities will be carried out. The locations of wells, gathering lines, and access tracks will be finalised in consultation with the landholder as part of the negotiations.</p>

6.3.3 Corporate environment, health and safety management system

Santos GLNG has adopted an environment, health and safety management system that provides a structured framework for effective environmental, and health and safety practices across its activities and operations. The environment, health and safety management system is the basis for plans and procedures and will also apply to the proposed GFD Project.

The framework has been developed to be consistent with Australian and New Zealand Standards (AS/NZS) ISO 14001: 2004 Environmental management systems – Specifications with guidance for use and AS/NZS ISO 4801: 2001 Occupational health and safety.

The documents that constitute the environment, health and safety management system are controlled, with the current version maintained in electronic form on a central database and accessible to Santos GLNG personnel.

The environment, health and safety management system framework consists of three primary layers:

- Environment, health and safety management standards (EHSMS) — identify how to systematically manage environmental health and safety risks
- Environmental hazard standards (EHS) — identify and provide controls to manage the environmental risks associated with specific activities
- Health and safety hazard standards (HSHS) — identify and provide controls to manage the health and safety risks associated with specific activities.

The environment, health and safety management system is currently undergoing review to ensure that the standards reflect best practice. The key environment, health and safety management system standards are listed in Table 6-3.

Table 6-3 Environment, health and safety management system standards

Management standard	Environmental hazard standard	Health and safety hazard standard
EHSMS01 Environmental health and safety policies	EHS01 Biodiversity and land disturbance	HSMS01 Hand safety
EHSMS02 Legal obligations and other requirements	EHS02 Underground storage tanks and bunds	HSMS02 Land transportation
EHSMS03 Environmental health and safety objectives, targets and improvement plans	EHS03 Produced (coal seam) water	HSMS03 Air transportation
EHSMS05 EHS responsibility and accountability	EHS04 Waste	HSMS04 Health and wellbeing
EHSMS06 Training and competency	EHS05 Air emissions	HSMS05 Working in hot environments
EHSMS07 Consultation and communication	EHS06 Environmental impact assessment and approvals	HSMS06 Electrical safety
EHSMS08 Document and records management	EHS07 Energy efficiency	HSMS07 Working at heights
EHSMS09 Managing environmental health and safety risks	EHS08 Contaminated sites	HSMS08 Chemical management
EHSMS10 Contractor engagement and management	EHS09 Pest plants and animals	HSMS09 Radiation
EHSMS11 Operations integrity	EHS10 Water resources	HSMS10 Food safety
EHSMS12 Management of change	EHS11 Cultural heritage	HSMS11 Manual handling and ergonomics
EHSMS13 Emergency preparedness	EHS12 Noise emissions.	HSMS12 Occupational noise
EHSMS14 Monitoring, measurement and reporting		HSMS13 Working alone in remote locations
EHSMS15 Incident investigation and response		HSMS14 Legionella
EHSMS16 Environmental health and safety audit and inspection		HSMS15 Security
EHSMS17 Management review		HSMS16 Lifting equipment
EHSMS18 Sustainability		HSMS17 Personal protective equipment
EHSMS 19 Climate change.		HSMS18 Confined space entry
		HSMS19 Excavations
		HSMS20 Plant safety.

6.3.4 Project-wide management plans

Management plans have been developed to incorporate Commonwealth and State regulatory requirements. These plans also incorporate the Santos GLNG corporate values, policies and environment, health and safety management system into project-level documents that set out measures and commitments to manage impacts to environmental values.

As the GFD Project is an extension of the gas field component of the GLNG Project, there will be common infrastructure, resources, workforces and activities across both projects. Consequently, the management plans and strategies developed and implemented for the approved GLNG Project will be applied to the GFD Project following revisions necessary to ensure that environmental conditions, values and potential risks associated with the GFD Project are adequately addressed. Many of the plans are incorporated as appendices to the GFD Project's environmental management plan. In addition, a number of other management plans and strategies that have been developed for the GLNG Project will also be implemented for the GFD Project.

The management plans and strategies that will apply to the GFD Project are outlined in Table 6-4. Copies of these plans and strategies are provided in this EIS at the locations nominated in the table.

Table 6-4 Management plans and strategies

Draft environmental management plan	Other strategies and management plans
<p>Draft environmental management plan (Appendix Y), including the following:</p> <ul style="list-style-type: none"> • GFD Project environmental protocol for constraints planning and field development (Appendix Y-B) • Environmental monitoring and reporting (Appendix Y-C) • Contingency plan for emergency environmental incidents (Appendix Y-D) • Erosion and sediment control management plan (Appendix Y-E) • Chemical and fuel management plan (Appendix Y-F) • Land release management plan (Appendix Y-G) • Significant species management plan (Appendix Y-H) • Fauna management plan (Appendix Y-I) • Pest and weed management plan (Appendix Y-J) • Noise management plan (Appendix Y-K) • Waste management plan (Appendix Y-L) • Rehabilitation management plan (Appendix Y-M) • Decommissioning and abandonment management plan (Appendix Y-N). 	Coal seam water management strategy (Appendix Z)
	Land access (Appendix AA)
	Offset strategy (Appendix AB)
	Social issues action plans (Appendix AC)
	Plan of operations (Appendix AD)
	Water resources management plan (Appendix AE), including the following:
	<ul style="list-style-type: none"> • Hydraulic connectivity characterisation (Appendix AE-A) • Joint industry plan for EPBC Act-listed springs (Appendix AE-B) • Evaluation of prevention or mitigation options for Fairview springs (Appendix AE-C) • Stimulation impact monitoring program (Appendix AE-D) • Ground deformation monitoring and management plan (Appendix AE-E) • Hydraulic fracturing risk assessment: compendium of assessed fluid systems (Appendix AE-F) • Dawson River discharge scheme receiving environmental monitoring program summary (Appendix AE-G)

There are a number of benefits that can be realised through the use of common management plans for both projects, including:

- The measures incorporated into the plans and strategies developed and implemented for the GLNG Project have, in most instances, already been assessed and approved by regulatory agencies.
- Implementing these measures for the GFD Project will be more effective, as monitoring and continuous improvement associated with the GLNG Project will inform decisions on the GFD Project.
- It allows for the application of a consistent approach to managing activities occurring within all of Santos GLNG's Queensland gas fields.

6.3.5 Activity-based procedures and processes

6.3.5.1 Work procedures

As the GFD Project will involve more of the same gas field infrastructure and activities that are already used for the GLNG Project, the established and effective work procedures that Santos GLNG has developed and implemented for the GLNG Project will also be used for the GFD Project. These procedures provide guidance to field and construction staff outlining the what, where and when to support the implementation of the plans and strategies.

6.3.5.2 Field-based work instructions

Work instructions will be prepared for operations staff and contractors working on a specific activity or at a specific location with environmental and /or safety risk and provide detail of how the project-wide plans and strategies are implemented at an asset level. Work instructions facilitate the efficient completion of work tasks and include standardised questions, checklists, and actions to ensure the completion of activities in compliance with requirements. These procedures will be integrated into the day-to-day activities and processes of the construction, operations, decommissioning and rehabilitation phases of the GFD Project.