Section 12 Gas Transmission Pipeline Environmental Management Plan

12.1 Introduction

The purpose of this preliminary Environmental Management Plan (EMP) prepared for the GLNG Project is to propose environmental protection commitments to protect the environmental values that may be affected by the development of the project and to assist the administering authorities to decide the appropriate approval conditions for the project.

EMPs are designed to be dynamic documents, which will be reviewed and revised as the project progresses through public consultation, detailed design, to construction, operational and decommissioning phases. It is envisaged that the final EMPs for each component of the project will provide additional, more detailed guidance for construction and operational personnel, regulators and stakeholders prior to the application for the respective environmental authorities.

The following five preliminary EMPs were prepared as part of the EIS process for the GLNG project:

- Coal Seam Gas Fields EMP;
- Gas Transmission Pipeline EMP;
- LNG Facility EMP;
- Marine Facilities EMP; and
- Access Road and Bridge EMP.

Each EMP has been prepared as a 'standalone' document, to be used as the basis for actively managing activities as the project progresses. The EMPs outline the overarching performance criteria, control strategies, monitoring, auditing and corrective actions proposed in accordance with the TOR.

Each of the preliminary EMPs has incorporated the Santos Environmental Health and Safety Management System (EHSMS) that will provide the overarching management system for all of the project's activities.

This preliminary EMP relates to construction and operation of the gas transmission pipeline which forms part of the GLNG Project. The EMP has been developed to cover the petroleum activities associated with the construction and operation of the pipeline that will connect the CSG fields to the proposed LNG facility on Curtis Island.

This preliminary EMP has been structured to satisfy the requirements of the relevant EPA guidelines and related operational policies. Information obtained during the preparation of this EIS has provided the basis for preparing this EMP. The EMP proposes environmental management strategies to prevent or minimise environmental harm while allowing for environmentally sustainable development. Monitoring, corrective actions and reporting requirements form part of this EMP, which will ensure that the proposed management strategies are being properly implemented.

The final gas transmission pipeline EMP will be used to support an application for one or more environmental authorities (petroleum activities) for respective pipeline licenses issued under the *Petroleum and Gas (Production & Safety) Act 2004* and/or the *Petroleum (Submerged Lands) Act 1982*.

12.2 Objectives

The objectives of this EMP are to provide:

- Evidence of practical and achievable plans to ensure that the project's environmental requirements are complied with;
- An integrated plan for monitoring, assessing and controlling potential impacts;
- Local, State and Commonwealth authorities with a common focus for approval conditions and compliance with policies and conditions; and

- The community with evidence that the gas transmission pipeline development will be managed in an environmentally acceptable manner.

This EMP will be reviewed and updated, to reflect knowledge gained during the course of the assessment of the GLNG Project. Changes to the EMP will be made in consultation with the relevant authorities where necessary.

12.3 Links to EIS

Potential environmental issues requiring management and monitoring were identified during the impact assessment process and detailed throughout the GLNG EIS.

This EMP has been structured to provide a link between the proposed authorised activities, the receiving environment and the selection of appropriate management strategies to prevent or minimise any potential environmental harm arising from the development of the GLNG Project. The EMP also incorporates monitoring and corrective actions to ensure compliance with the commitments made in the EIS and the conditions of any statutory approvals. The management strategies outlined within this EMP were selected after detailed investigations of potential environmental impacts assessed during the EIS process.

A number of other key aspects of construction, operation and decommissioning phases for the gas transmission pipeline have been included such as weed management, emergency response procedures and incident management.

12.4 Legislation

Section 1 of this EIS specifies the legislation and policies controlling the approval process for the gas transmission pipeline. Appendix C provides a list the development approvals required for the GLNG Project including the gas transmission pipeline.

Environmental requirements of all relevant legislation are addressed within the EMP. The requirements of local government, the community and other stakeholders have also been addressed.

12.5 Santos Environment, Health and Safety Management System (EHSMS)

Santos has a company-wide EHSMS which provides a structured framework for effective environmental and safety practice across all of its activities and operations (see Section 1.2.3.3). The framework has been developed to ensure compliance with AS/NZS ISO 14001:1996 *Environmental Management Systems – Specification* with guidance for use and Australian Standard 4801:2000 *Occupational Health and Safety Management Systems – Specification* with guidance for use.

The EHSMS framework consists of multiple layers, the key components being management and hazard standards that have been developed as part of the EHSMS. These standards guide the implementation of the EMPs. The management standards define the requirements necessary to ensure that environmental (health, safety and process safety) risk is systematically managed.

Hazard standards detail the controls required to manage the risks of specific hazards to acceptable levels. These apply to all Santos operations. They contain specific requirements for planning and undertaking activities and include checklists and references to internal and external approvals and controls.

The environment hazard standards that have been developed under the Santos EHSMS are shown in Table 12.5.1. These standards (where applicable) will apply to the construction and operation of the gas transmission pipeline.

Table 12.5.1 EHSMS Management, Hazard and Environment Standards

(Version 3.0 September 2007)

Standard	Title
Management Standards	
EHSMS01	Environment, Health and Safety Policies
EHSMS02	Legal and Other Obligations
EHSMS03	Objectives and Targets
EHSMS04	Improvement Plans
EHSMS05	Responsibility and Accountability
EHSMS06	Training and Competency
EHSMS07	Consultation and Communication
EHSMS08	Document and Record Management
EHSMS09	Hazard Identification, Risk Assessment and Control
EHSMS09.1	Job Hazard Analysis and Stepback
EHSMS09.2	Hazard Studies
EHSMS09.3	Workplace Inspections
EHSMS09.4	Behaviour Improvement
EHSMS09.5	Environmental Impact Assessment and Approvals
EHSMS10	Contractor and Supplier Management
EHSMS11	Operations Integrity
EHSMS11.1	Design Basis - Facility Equipment
EHSMS11.2	Facilities Design and Construction
EHSMS11.3	Pre-Startup EHS Review
EHSMS11.4	Structural Integrity
EHSMS11.5	Mechanical Integrity
EHSMS11.6	Ignition Control
EHMSM11.7	Critical Protection Systems
EHSMS11.8	Operating Procedures and Safe Practices
EHSMS11.9	Maintenance
EHSMS11.10	Fire Risk Management
EHSMS11.11	Decommissioning and Abandonment
EHSMS11.12	Operated by Others
EHSMS12	Management of Change
EHSMS12.1	Critical Drawing and Control System Change
EHSMS12.2	Vacant (Changes to operating procedures and safe work practices is now addressed in EHSMS11.8
EHSMS12.3	Disablement of Protective Devices (Bridging)
EHSMS12.4	Substitution of Materials and Equipment Components
EHSMS12.5	Acquisition and Divestment of Assets
EHSMS12.6	Management of Personnel Change
EHSMS13	Emergency Preparedness
EHSMS13.1	First-Aid & Medical Facilities
EHSMS14	Monitoring, Measuring and Reporting

Standard	Title
EHSMS15	Incident and Non-Conformance Investigation, Corrective and Preventative Action
EHSMS15.1	Injury Management
EHSMS16	Management System Audit and Assessment
EHSMS17	Management Review
Environment Hazard Standards	
EHS01	Land Disturbance
EHS02	Underground and Secondary Containment Systems
EHS03	Produced Water Management
EHS04	Waste Management
EHS05	Air Emissions
EHS06	Greenhouse Gas Management
EHS07	Energy Efficiency
EHS08	Contaminated Site Management
EHS09	Weed and Pest Animal Control
EHS10	Water Resource Management
EHS11	Indigenous Cultural Heritage Management (for Australian Operations)
EHS12	Noise Emissions

12.6 Responsibilities

Santos will be responsible for ensuring that this EMP is implemented. The assignment of roles, responsibilities and accountability will be in accordance with the Santos Management Standard EHSMS 05.

All Santos and contractor staff will be responsible for the environmental performance of their activities and for complying with the general environmental duty as outlined in the *Environmental Protection Act 1994* (EP Act). Section 319(1) of the EP Act states that *"a person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practical measures to prevent or minimise the harm."*

Santos staff and contractors will be responsible for implementing the final EMP in a manner which complies with all relevant environmental standards, adheres to all legislative requirements, and ensures that all environmental objectives associated with the work are achieved. Contract documents will include the necessary environmental specifications and commitments and require compliance with the EMP, construction specifications, technical drawings and the general environmental duty.

12.7 Monitoring Programs

Monitoring of the gas transmission pipeline will be in accordance the Santos Management Standard EHSMS14 and regulatory requirements. This standard requires that environmental monitoring, measuring and reporting be considered and where appropriate implemented.

Routine environmental monitoring of the gas transmission pipeline will be conducted to ensure performance standards put in place are met. Monitoring, undertaken by Santos operational and corporate personnel and specialist service providers, will be periodically conducted in accordance with site-specific monitoring plans.

Specialist studies to investigate particular aspects of the environment (e.g. flora and fauna, weeds, hydrological risk) will be periodically commissioned when a need is determined during environmental review and risk assessment.

12.8 Reporting and Auditing

Compliance audits will be conducted in accordance with Santos Management Standards EHMS 14 and 16 against the requirements of this EMP, the construction procedures, relevant legislation, license and permit conditions and industry standards.

All inspection and audit reports of environmental performance will be stored in the Audit and Inspection Manager (AIM). AIM is an electronic database that is used to enable corrective actions identified during the inspection / auditing process to be recorded, tracked and closed out. The information will be made available to the relevant regulatory authorities as required.

In addition to the monitoring and reporting requirements documented in the relevant sections of the EMP, the following auditing regime will be implemented:

- During construction, internal audits will be undertaken at regular intervals to verify that all work is proceeding in accordance with the EMP;
- A post-construction audit of the gas transmission pipeline right of way and other related infrastructure will be conducted annually for two years following construction to evaluate revegetation, erosion and soil stability, weed control, watercourse alteration prevention and success of bed and bank re-profiling; and
- During the operational phase of the gas transmission pipeline, internal audits of environmental compliance will be undertaken on a regular basis.

Section 37 of the EP Act requires that any person who becomes aware of any event that may cause or has caused environmental harm, reports the event/incident to their employer. Details of the nature and circumstances of the event must be provided.

Any environmental incident, hazard, near miss, non-conformance or third party complaint will be managed in accordance with Santos Management Standard EHMS 15. Unwanted events will be recorded and managed by the Santos Incident Management System (IMS). In the case of non-conformances identified during an audit or inspection, the notification and rectification of the non-conformance shall be managed through the Santos' AIM.

Regulatory agencies will be notified of any reportable environmental incident or non-conformance with statutory approvals within the appropriate timeframe and as soon as practicable.

Relevant records supporting inspections and audits (in addition to monitoring and other critical aspects of the management system) will be generated and maintained. In accordance with the various statutory approvals required for the project, Santos will report annually to the administering authorities on the petroleum activities undertaken during the previous 12 months.

12.9 Training and Communications

In accordance with Santos Management Standard EHSMS06, all Santos personnel, contractors and visitors are required to undertake appropriate environmental training and induction programs.

All managers and supervisors will be responsible for ensuring that personnel under their control have the requisite competencies, skills and training to carry out their assigned tasks in accordance with the requirements of the EMP. They will also be responsible for identifying additional training and competency requirements.

All staff will complete a comprehensive project induction. The induction will include a comprehensive review of environmental requirements and standards, safety, and access protocols. All project supervisors and managers will have additional detailed training on the use and implementation of the EMP.

All managers and supervisors will hold regular toolbox meetings with personnel to discuss issues associated with their scheduled work. This will include highlighting and discussing relevant environmental issues.

12.10 Review

This EMP will be a dynamic document. The EMP will be reviewed regularly and revised to reflect project changes and new developments. Revisions will include, but not be limited to:

- Inclusion of final organisational structures for construction and operational staff and the allocation of responsibilities in line with the organisational structure;
- Inclusion of relevant approval conditions arising from the project's approval and subsequent permits, authorities and/or licenses; and
- Inclusion of any site-specific elements relevant to new developments as they occur during the life of the project.

Additional revisions will occur on an as-needed basis, including revisions to address items identified during incident investigations, inspections or audits.

Santos will be responsible for regular review of the EMP to achieve continuous improvement in environmental performance.

12.11 Description of Relevant Petroleum Tenures

Santos proposes to construct a high pressure gas transmission pipeline that will transport CSG from the CSG fields at Roma, Fairview and Arcadia Valley to the proposed LNG facility on Curtis Island. The gas transmission pipeline will require one or more pipeline licences issued under the *Petroleum and Gas (Production & Safety) Act 2004* and/or the *Petroleum (Submerged Lands) Act 1982*. Separate environmental authorities will be required for each pipeline licence.

Section 3 of this EIS provides a detailed description of the proposed gas transmission pipeline and the preferred pipeline route. The gas transmission pipeline will be a buried, high pressure steel pipeline. It will be designed in accordance with the requirements of AS 2885 Pipelines – Gas and Liquid Petroleum and constructed in accordance with the Australian Pipeline Industry Association's Code of Environmental Practice (APIA, 2005).

The proposed gas transmission pipeline corridor is closely aligned with the existing Queensland Gas Pipeline (QGP) for much of its length with the exception of the section north of Injune where the corridor will run up the western side of the Arcadia Valley. The pipeline will approach Gladstone from the south-west and will pass through the Gladstone State Development Area (GSDA) before crossing Port Curtis to Curtis Island. The length of this route is approximately 435 km. There will be no linkages to any existing gas pipelines along the route.

The proposed gas transmission pipeline will be located adjacent to the existing QGP right of way (ROW) for approximately 300 km of the corridor from south of Rolleston to Gladstone. This will reduce the area of land disturbed and the impact on existing land use and infrastructure. However there are sections along the corridor where due to land use, environmental or topographical constraints the proposed GLNG pipeline will by necessity deviate from the QGP ROW.

The criteria used to determine the most appropriate route for the gas transmission pipeline were based on the APIA (2005) code and Australian Standard AS2885.

The gas transmission pipeline will have the following above ground infrastructure along the pipeline ROW:

- Mainline Valves. A mainline valve (MLV) is a buried valve with an above-ground bypass valve and blowdown piping. MLVs are used for isolating sections of the pipeline and venting gas to enable maintenance activities or in the event of an incident.
- Scraper Stations. Scraper stations are used for inserting and removing in-line cleaning and inspection tools to enable cleaning, maintenance and assessment of pipeline integrity.
- Gas Receival and Metering Stations. A gas receival station will be constructed at the LNG facility on Curtis Island where the gas will leave the gas transmission pipeline. The gas receival station will

consist of a station limit valve, scraper receiver, gas filters and flow control equipment together with metering.

- Warning Signs. Pipeline warning signs will be erected along the gas transmission pipeline ROW in accordance with AS 2885.
- Aerial pipeline markers will be installed along the pipeline and denote the chainage in kilometres from the start point. Aerial markers will be at 10 km intervals.

Section 7 of this EIS provides real property descriptions, mining and petroleum tenures that are traversed by the gas transmission pipeline corridor and the relationship with disturbance types, identifies the topographic features, places and/aspects of potential interest to the administering authorities or other relevant stakeholders.

Section 9 of the GLNG EIS identifies all relevant stakeholders and details the consultation process that undertaken for the gas transmission pipeline during the preparation of the EIS.

12.12 Description of Relevant Petroleum Activities

Section 3 of this EIS provides a detailed description of the relevant petroleum activities that will be undertaken as part of the construction and operation of the gas transmission pipeline for the project. The section includes a description of:

- The type and scale of the proposed petroleum activities;
- The petroleum operations and environmentally relevant activities carried out on the site;
- The planned project life identifying construction, operation, decommissioning and rehabilitation phases;
- Activities which may cause environmental harm; and
- Strategies for the rehabilitation and remediation of environmental harm caused by petroleum activities.

A summary of the typical construction procedures and activities is provided below.

- Survey of the pipeline route.
- Provision of access tracks and temporary facilities. Existing roads will be utilised as far as practicable to minimise disturbance to the surrounding areas. Access tracks will be positioned and constructed in consultation with landholders.
- Clear and grade the ROW. The gas transmission pipeline route will be marked, vegetation and other obstacles removed from the ROW, topsoil removed and stockpiled. Temporary fencing and gates will also be installed to allow easy access between properties.
- Pipe stringing and bending. The pipe will be laid out in preparation for welding and pipes bent as required by route and terrain.
- Pipe welding. The pipe will be welded into long lengths, typically up to 1000 m, called pipe strings.
- Trenching. A pipeline trench will be excavated, with the subsoil stockpiled adjacent to the trench.
- Pipe placement in the trench (lowering in and laying). The trench spoil, where suitable, will be used as bedding and backfill for the pipeline. The pipe will then be lowered into the trench using side boom tractors and the trench backfilled and compacted. In addition, marker tape will be laid in the trench at designated areas.
- Hydrotesting. The gas transmission pipeline will be cleaned and gauged prior to being hydrostatically tested for strength and leaks.
- Rehabilitation. Following construction, rehabilitation will involve removal of construction material, surface re-contouring, fence repair, respreading of topsoil and vegetation and seeding/revegetation.

The construction of the submerged gas transmission pipeline that crosses Port Curtis between Friend Point and Laird Point will require a different suite of techniques. The gas transmission pipeline will be laid

in a trench below the sea bed and backfilled with rock for protection. Construction techniques to install the pipeline may include:

- Lay barge – progressively constructing / laying the pipeline; or
- Floatation – fabrication of the pipe string onshore and floating it to the crossing location before sinking it into position.

The layer of rocks will act:

- As additional buoyancy protection;
- As mechanical protection from vessels (e.g. anchors, hulls); and
- To limit scouring due to tidal flows.

The construction techniques that will be chosen will be determined during the FEED process to reflect design and operational requirements, local conditions and any regulatory requirements.

Section 5 of this EIS provides a detailed waste inventory for the gas transmission pipeline. A comprehensive waste management plan (WMP) has been developed that details the proposed source, nature, composition, rate and the immediate or ultimate destination of wastes generated during the construction and operation of the gas transmission pipeline. The WMP will be incorporated into this EMP.

12.13 Description of Environmental Values, Potential Impacts and Proposed Management Strategies

Section 7 of this EIS provides a detailed description of the environmental values that occur along the gas transmission pipeline corridor, the potential impacts from the proposed activities, environmental protection objectives and management strategies to mitigate those impacts. The potential impacts on environmental values that were identified through the EIS process form the basis for developing the most appropriate mitigation measures.

The assessment of the beneficial or adverse effects has included an assessment of the following aspects:

- Magnitude or relative size of impact in relation to the environmental value being affected;
- Severity of any adverse effect or scale of beneficial outcome;
- Duration of the effect, for example the impact may range from a seasonal change, or it may end with the petroleum activity or extend beyond cessation of the petroleum activity; and
- An indication of the level of uncertainty and any assumptions used to address the uncertainty in any of the data or proposed commitments to protect the environmental values.

In relation to Sections 11.10, 11.11 and 11.2 of this EMP, the GLNG EIS provides appropriate maps, plans and/or aerial photographs to identify the location of the gas transmission pipeline, related infrastructure and environmentally sensitive areas.

12.14 Rehabilitation Program and Financial Assurance

This EMP incorporates a rehabilitation program and decommissioning plan for the gas transmission pipeline. Sections 3 and 7 of this EIS outline the rehabilitation objectives, performance criteria and strategies that will be employed for rehabilitating the areas disturbed during the construction phase of pipeline.

The EP Act requires the holder of an environmental authority (petroleum activities) to provide a financial assurance in the amount and form required by the administering authority (the EPA) as security to ensure compliance with an environmental authority or to cover costs or expenses, or likely costs or expenses, associated with rehabilitation of disturbed areas should the holder default on their rehabilitation obligations. The calculation of financial assurance must be in accordance with the EPA guideline document *Financial Assurance for Petroleum Activities*.

The amount of financial assurance may change over the life of the project. The amount is defined as the maximum total rehabilitation cost to complete rehabilitation of all disturbed areas at any one time, which may vary on an annual basis due to progressive rehabilitation. This includes any disturbance that occurred under a prerequisite or replaced petroleum authority. The amount required for the financial assurance must be the highest total rehabilitation cost calculated for any year of the EMP.

During the application stage for the relevant environmental authority, Santos will calculate the required financial assurance for the initial construction and operation of the gas transmission pipeline. The financial assurance will be calculated using the EPA guidelines and will be regularly reviewed in accordance with any statutory requirements.

12.15 Gas Transmission Pipeline Environmental Management Plan Overview

The gas transmission pipeline EMP consists of construction and operational elements.

12.15.1 Construction Activities

The construction elements of the EMP consist of:

- Access;
- Clear and grade;
- Pipe stringing and welding;
- Trenching;
- Pipe laying and backfilling;
- Hydrotesting;
- Rehabilitation;
- Flora and fauna management;
- Weed management;
- Water management;
- Soil management;
- Waste management;
- Chemical and dangerous goods management;
- Noise and vibration;
- Air quality;
- Transport and traffic management;
- Cultural heritage;
- Third party infrastructure;
- Emergency response; and
- Incidents and complaints.

12.15.2 Operational Activities

Prior to commencement of operations, the EMP will be reviewed and updated to:

- Include the organisational structure for operations and allocation of responsibilities in line with the organisational structure;
- Establish reporting structures based on the organisational structure;

- Include relevant approval conditions arising from the approval process and subsequent permits, authorities and licences relevant to the pipeline's operation;
- Review control strategies, objectives and performance indicators to ensure that these are appropriate for operations;
- Include reference to “as constructed" drawings, particularly those that reference areas of environmental sensitivity; and
- Review inspection and audit schedules and inclusion of specific locations where a higher level of inspection is required (e.g. to monitor rehabilitation success of sensitive areas);

The key operational activities that may have an impact on environmental values are:

- Access to the ROW;
- Maintenance of the ROW, involving management and/or control of vegetation, weeds, pests, bushfire, erosion and sedimentation, pipeline subsidence, cultural heritage and third party infrastructure/landuse;
- Maintenance of the pipeline, including excavation, hydrotesting, pigging, and welding. Where maintenance activities to be undertaken are similar to construction activities, the activity-based management plans presented in the construction EMP will apply;
- Operation of the pipeline involving management of leaks and emergency response; and
- Monitoring activities including patrols, inspections, marine and aerial surveys.

12.15.3 Operational Monitoring

The GLNG gas transmission pipeline is to be monitored remotely from a gas control centre via supervisory control and data acquisition system.

12.15.4 Ground Patrols

Regular inspections will be carried out along the pipeline ROW by vehicle and foot patrols to check on the condition of the ROW and identify any activities that may have the potential to impact on the integrity of the pipeline. The inspection will include, but not be limited to, a review of:

- Activity on the pipeline corridor and in the vicinity;
- Use of access tracks and pipeline corridor and any unauthorised traffic;
- Access track condition and maintenance requirements;
- Evidence of erosion, washouts or land subsidence;
- Evidence of pipeline exposure;
- Vegetation cover;
- Excess vegetation on the pipeline corridor;
- Weed and pest infestation;
- Condition of pipeline crossings;
- Disturbance to protected heritage sites;
- Indications of leaks;
- The presence of refuse or litter;
- Damages to fences, gates, signs, markers etc; and
- Security of sites and evidence of unauthorised entry.

Ground patrols will be undertaken monthly. Special patrols will be undertaken after heavy storms or significant events to check for damage to the pipeline.

12.15.5 Aerial Surveillance

Aerial patrols along the pipeline ROW will be undertaken on a regular basis. The frequency of aerial patrols will be determined during the FEED process and will reflect operational requirements, local conditions and regulatory requirements. Aerial surveillance will check for:

- Bare patches or damaged vegetation (indicating possible leaks or erosion);
- Pipeline exposure;
- Scouring, sink holes, areas of active or potential erosion;
- Condition of water crossings;
- Noxious weed areas;
- Ploughed areas and/or evidence of third party activity;
- Areas of limited revegetation success; and
- Vegetation regrowth that will require control.

12.15.6 Marine Surveillance

The submerged gas transmission pipeline from Friend Point on the mainland to Laird Point on Curtis Island will be regularly inspected to confirm that the backfill protection to the pipeline is intact and has not been degraded. The inspection will be mainly visual, supplemented as-and-when required by seabed profiling using echo-sounding or similar equipment.

12.15.7 Internal Pipeline Inspections

Internal pipeline inspections to monitor the integrity of the pipe will be carried out by intelligent pigs at the start of operations and on an as-required basis. The frequency of intelligent pigging will be determined during the FEED process to reflect operational requirements, local conditions and regulatory requirements.

12.15.8 Cathodic Protection Surveys

A cathodic protection system will be installed along the gas transmission pipeline and will be checked on a regular basis. The frequency of checking the cathodic protection system will be determined during the FEED process to reflect operational requirements, local conditions and regulatory requirements. Similarly, the location and numbers of test points will also be determined during the front end engineering design process to reflect design and operational requirements, local conditions and regulatory requirements.

12.15.9 Issue Specific Monitoring

Areas that require a high level of monitoring, such as water course crossings, will be identified and incorporated into the operations monitoring program.

Special ground, marine and/or aerial patrols may be undertaken after heavy storms or earthquakes to check for damage to the pipeline.

12.15.10 Decommissioning

The EMP includes a decommissioning element outlining the implementation strategies, monitoring, auditing, reporting and corrective actions at pipeline end-of-life.

12.16 Environmental Management Plan - Construction

12.16.1 Access

Element/Issue	Access
Operational Policy or Management Objective	To utilise, to the extent practicable, existing cleared areas and access tracks so as to: • Minimise impacts to native flora and fauna. • Minimise impacts to soil and water. • Reduce the likelihood of the spread of weeds. • Minimise impacts on visual amenity. • Minimise the number of access tracks and diversions. • Minimise disruption to landholders and third parties. • Manage road and track usage, and achieve satisfactory road and site rehabilitation. • Minimise damage to existing road networks.
Performance Criteria	• No complaints from landholders, authorities and the public. • Access tracks and work areas/sites are readily manageable and able to be rehabilitated using standard techniques. • Erosion and sediment control in place.
Implementation Strategy	• Santos and/or the pipeline contractor will liaise with all residents along the pipeline corridor prior to any construction activities taking place to ensure that residents are fully informed of the proposed nature, timing and location of the construction works and any site specific mitigation measures to be implemented. • Route alignment, location of accommodation facilities, storage and additional work areas and new access tracks will be based on, to the extent practicable, the following criteria: – Avoiding unduly steep or rugged terrain. – Avoidance of areas of significant environmental value. – Avoidance of areas subject to flooding. – Avoidance of conflicting land uses. – Maximise the use of existing roads and tracks. – Minimise the width of tracks. – Landholder requirements. – Provision of adequate road access. – Proximity to existing infrastructure. • Existing roads and tracks will be used where practicable. • Only designated access tracks will be used by construction vehicles, including personnel vehicles. • Property access will be provided for landholders at all times. • Property fences and gates will be installed, maintained and reinstated to a condition at least equal to the pre-existing condition. • Gates will be left as found. If closed gates are required to be open for a period of time, they will not be left unattended unless by prior agreement with the landholder. • Where access is required in the long term, tracks will be constructed with a gravel surface and maintained to permit all weather access. Where access is required for temporary (construction) use only, disturbed areas will be rehabilitated. • Temporary access tracks will be removed land unless otherwise agreed with the landholder. Disturbed areas will be graded to a level consistent with lands adjacent, pre-stripped topsoil replaced and erosion protection measures installed. • Where there is a risk of land degradation, access during wet weather will be undertaken in consultation with the relevant landholder. • Public and private access tracks will be reinstated to the pre-construction condition. • Workforce education, signage and boundary demarcation will be used to ensure vehicles remain on designated access tracks.

Element/Issue	Access
	• New tracks will be located as close to fences or property boundaries as possible subject to the requirements of the landholder. • Santos and/or the construction contractor will consult with all landholders prior to construction commencing to minimise fragmentation or reduced property access.
Monitoring and Auditing	Access roads will be regularly inspected to assess the effectiveness of protection measures with particular attention to erosion control, topsoil management and waste management.
Reporting and Corrective Action	• Environmental incidents, hazards, near misses, non-conformance events and third party complaints will be managed in accordance with EHSMS15 (*Incident and non-Conformance Investigation, Corrective and Preventative Action*). • Non-compliance and incident reports will be closed out by senior management. • Any landholder complaints will be recorded in the Santos complaints register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager.

12.16.2 Clearing and Grading

Element/Issue	Clearing and Grading
Operational Policy or Management Objective	To manage the impact of site clearing and disturbance such that: • Impacts on vegetation and ecological communities are minimised. • Cleared material is stored appropriately and able to be effectively used during restoration activities. • The rehabilitation success of the disturbed areas is optimised.
Performance Criteria	• No complaints from landholders. • Environmental impacts are within authorised limits.
Implementation Strategy	• Where appropriate, containment devices (e.g. silt fences) will be used to preserve stockpiled soils to prevent siltation of any land surface water or blockage of any existing drainage channels. • Soil stockpiles will not be placed within the bed or banks of watercourses. • The stockpiles will be breached in appropriate locations (coinciding with designated access roads or tracks, fence lines) to allow vehicular, stock and wildlife access. Vehicular movement over stockpiled soil will not be allowed. • Soil and surface stability will be maintained at all times (e.g. temporary erosion control berms, drains and sediment barriers will be installed as necessary and maintained until final construction clean-up is completed). • Erosion along the pipeline ROW will be minimised through the implementation of appropriate engineering solutions (e.g. grading, mounds, diversions, trench-breakers). • Water trucks will be used (particularly in hot and windy conditions) where necessary, on access roads to reduce dust generation. • Vehicle speeds will be restricted on unsealed roads.
Monitoring and Auditing	Monitoring and auditing will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). All cleared areas will be regularly inspected to assess the effectiveness of the environmental protection measures. This will be undertaken by the Pipeline Environmental Manager.
Reporting and Corrective Action	• Reporting of environmental performance data will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). • Reporting, investigation and management of corrective actions associated with environmental events (including incidents, hazards, near misses, non-compliance vents and third party complaints) will be conducted in accordance with EHSMS15 (*Incident and non-Conformance Investigation, Corrective and Preventative Action*). • Non-compliance and incident reports will be closed out by senior management. • Any landholder complaints will be recorded in the Santos Complaints Register (part of

Element/Issue	Clearing and Grading
	• Any landholder complaints will be recorded in the Santos Complaints Register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager.

12.16.3 Pipe Stringing and Welding

Element/Issue	Pipe Stringing and Welding
Operational Policy or Management Objective	To carry out pipe stringing and welding in a safe and responsible manner with minimal interference to landholders or risk to the environment.
Performance Criteria	• No complaints from landholders. • No uncontrolled fires. • Debris removed from ROW.
Implementation Strategy	• Pipe will be strung, allowing gaps for access across the line of pipe. Gaps will coincide with access roads or tracks, boundary fences and gaps in stockpiled vegetation, and will be located in consultation with relevant landholders. • Dust and noise impacts related to pipe transport traffic will be minimised by scheduling deliveries during daylight hours where practicable. • All welding, welding procedures, welder qualifications, the use of welding consumables, and the removal of weld defects will conform to relevant Australian Standards. • The following precautions will be taken to minimise the possibility of fire due to welding activities: – The construction area along the ROW will be cleared of combustible vegetation to reduce the risk of fire. – Stockpiled vegetation will be separated from welding activity. – Water trucks (also used for dust suppression) will be available for use as fire trucks in the event of fire. – Fire extinguishers will be available to all appropriate crew members. • 'Night caps' or other appropriate devices will be placed over the open pipe string ends to prevent the ingress of dust, wildlife or other objects into welded pipes. • All welding waste will be managed appropriately and removed from the ROW on a daily basis.
Monitoring and Auditing	The entire length of the ROW will be regularly inspected to assess the effectiveness of protection measures, with particular attention to debris control and availability of fire fighting equipment and crew preparedness.
Reporting and Corrective Action	• Reporting of environmental performance data will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). • Reporting, investigation and management of corrective actions associated with environmental events (including incidents, hazards, near misses, non-compliance vents and third party complaints) will be conducted in accordance with EHSMS15 (*Incident and non-Conformance Investigation, Corrective and Preventative Action*). • Non-compliance and incident reports will be closed out by senior management. • Any landholder complaints will be recorded in the Santos Complaints Register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager.

12.16.4 Trenching

Element/Issue	Trenching
Operational Policy or Management Objective	To manage the impacts of trenching activities such that: • Disturbance to landholders and third parties is minimised. • The likelihood of erosion or subsidence is minimised. • Topsoil quality is protected. • Third party infrastructure is identified and protected. • Adverse impacts to native fauna are minimised.
Performance Criteria	• Subsoil segregated from topsoil and vegetation. • Ramps and fauna exit points are installed and maintained. • Access for landholders and third parties maintained.
Implementation Strategy	• All activity will be conducted in accordance with EHS01 (*Land Disturbance*). • The location of the existing third party infrastructure in the ROW will be accurately identified on the alignment sheets and marked physically on the ground prior to trenching activities. • Crossing of infrastructure will be completed in accordance with agreements reached with infrastructure owners/managers. • Known contaminated areas will be avoided. • Trenching supervisor will be instructed in process for handling previously unidentified contaminated areas (e.g. dip, waste pit) or acid sulphate soil (ASS) in the event that any such areas are uncovered during trenching. These will include: – Cessation of trenching at the location. – Relocation and recommencement of trenching 50 m ahead. – Advising Construction Manager and completing an assessment of the potential contamination. This may require the collection and analysis of the soil. – Initiating appropriate remedial action based on the assessment. This may include deviating around the site. • Topsoil stockpiles will not exceed 1.5 m in height. • Trench spoil (sub soils) will be stockpiled separately to topsoil and vegetation. • Areas of potential ASS will be clearly marked on construction drawings. Where potential or actual ASS is disturbed during trenching, trench must be stockpiled within a contained area. • Trench spoil will be stockpiled outside watercourses, and/or behind containment structures so as to prevent siltation of any land or surface water or blockage of any existing drainage channels. • Regular gaps and spaces in the topsoil, subsoil and vegetation stockpile will be provided for fauna movement. • The distances between gaps in stockpiles will be reduced at approaches to stream crossings. • Trench plugs will be utilised at appropriate intervals to minimise erosion and allow access across the ROW. • The pipeline trenches will be left open for the minimum time practicable. • The trench will not be left open for extended periods on slopes leading to drainage lines or watercourses. • Ramps will be installed in the trench to allow the easy egress of fauna trapped in the trench. In areas of high fauna density, additional ramps, branches, hessian sacks or similar devices to enable small fauna to exit the trench will be used. • Temporary sediment and erosion control devices will be reinstated. • The crossing method for all major road and rail crossings will be agreed beforehand with the facility owner/manager. • Open cut crossing of minor roads and tracks will be managed in consultation with landholders and relevant third parties and alternative traffic management plans

Element/Issue	Trenching
	developed and implemented.
Monitoring and Auditing	Monitoring and auditing will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). Completed trenches will be regularly inspected to assess the effectiveness of protection measures with particular attention to areas such as soils management and trench compaction. During construction, the entire length of the ROW will be regularly inspected to assess the effectiveness of protection measures, with particular attention to areas such as soils segregation, erosion control devices, fauna escape ramps and access across the easement.
Reporting and Corrective Action	• Reporting of environmental performance data will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). • Reporting, investigation and management of corrective actions associated with environmental events (including incidents, hazards, near misses, non-compliance vents and third party complaints) will be conducted in accordance with EHSMS15 (*Incident and non-Conformance Investigation, Corrective and Preventative Action*). • Non-compliance and incident reports will be closed out by senior management. • Any landholder complaints will be recorded in the Santos Complaints Register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager.

12.16.5 Pipe Laying and Backfilling

Element/Issue	Pipe Laying and Backfilling
Operational Policy or Management Objective	To manage the impacts of pipe laying and backfilling such that: • Disturbance to landholders and third parties is minimised. • The likelihood of erosion or subsidence is minimised. • Topsoil is preserved for rehabilitation. • There are no significant barriers to the re-establishment of overland flow of water.
Performance Criteria	• No landholder complaints. • No inversion of subsoil and topsoil. • Well compacted trench line with appropriately installed trench breakers and contour banks.
Implementation Strategy	• All activity will be conducted in accordance with EHS01 (*Land Disturbance*). • The period of time between trenching and backfilling will be minimised to prevent erosion of exposed soils. • Appropriate means, such as trench blocks (i.e. trench/sack breakers) and compaction of backfilled soils, will be used to prevent erosion along the backfilled trench. • Compaction will be carried out in layers and will use techniques and equipment that will not damage the pipeline, pipeline coating and/or fibre optic cable. • Pipe laying crews will prepare for identified third party crossings and will have materials and equipment available. • Gentle crown to be left over the trench line to allow for future settlement of soils, with appropriate breaks to allow for natural surface water flows across the ROW. • Measures including pipeline markers and landholder liaison will be used to alert third parties to the presence of the buried pipelines. Markers will be installed with appropriate regard to land use. • Topsoil will not be used as bedding material. • Topsoil will only be reinstated after the excavated spoil has been backfilled and compacted. • Compaction is to be completed prior to spreading topsoil. • Erosion berms will be constructed across the ROW on slopes to divert rainfall runoff away from the ROW and to discharge onto stabilised areas.

Element/Issue	Pipe Laying and Backfilling
Monitoring and Auditing	Monitoring and auditing will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). The gathering network will be regularly inspected to assess the effectiveness of protection measures with particular attention to areas such as soils management and trench compaction.
Reporting and Corrective Action	• Recommendations and corrective actions arising from audits and reviews will be implemented. • Routine work reports will be recorded and reviewed by each supervisor/manager. • Non-compliance and incident reports will be closed out by senior management. • Any landholder complaints will be recorded and appropriate corrective actions implemented and closed out by the Pipeline Environmental Manager.

12.16.6 Hydrotesting

Element/Issue	Hydrotesting
Operational Policy or Management Objective	To protect the quality of local land and water resources during pipeline hydrotesting.
Performance Criteria	• Appropriate permits obtained prior to drawing water. • No existing water sources unsustainably depleted to provide hydrotesting water. • No adverse impacts on soil or surface water as the result of discharging hydrotesting water.
Implementation Strategy	• Relevant permits to draw water obtained. • Hydrotest water will be re-used on multiple and adjacent pipeline sections as much as possible to reduce actual volumes used. • Pipe sections crossing water bodies will be tested prior to installation • Inspection of all pipeline section welds, or hydrotesting of pipeline sections before installation under water bodies, will be performed in accordance with construction specifications/procedures. • Biocides, where required, will be biodegradable. • Where biocides are added, discharge water will be aerated. • Prior to discharge of hydrotesting water, the Pipeline Environmental Manager will be consulted about requirements for water quality testing. Where the water source and water quality is known, and no chemicals have been added, water quality testing may not be required. • Hydrotest water will be filtered and then disposed of such that it does not enter into and watercourses or run in an uncontrolled manner onto open land. Where necessary, tankering off-site will be used. • Discharge of hydrotesting water will comply with all regulatory and landholder requirements.
Monitoring and Auditing	Inspections of hydrotesting water source against requirements of relevant permits and discharge locations will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*).
Reporting and Corrective Action	• Reporting of environmental performance data will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). • Reporting, investigation and management of corrective actions associated with environmental events (including incidents, hazards, near misses, non-compliance vents and third party complaints) will be conducted in accordance with EHSMS15 (*Incident and non-Conformance Investigation, Corrective and Preventative Action*). • Non-compliance and incident reports will be closed out by senior management. • Any landholder complaints will be recorded in the Santos Complaints Register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager.

12.16.7 Rehabilitation

Element/Issue	Rehabilitation
Operational Policy or Management Objective	To restore the ROW to be compatible with the surrounding conditions and pre-construction land use as far as practicable and compatible with the pipeline's operation.
Performance Criteria	• No new weed species introduced. • Revegetation re-established similar to surrounding condition. • No significant change in drainage pattern. • ROW stabilised with no significant erosion events. • Reinstated drainage patterns.
Implementation Strategy	• Rehabilitation of disturbed areas will be undertaken progressively as works progress. • Subsoil will be respread and compacted over the trench, with crown development, and used for the construction of contour banks on steep slopes and above banks at water crossings. • Areas of the ROW will be deep ripped prior to topsoil spreading. • The ROW will be re-profiled to original or stable contours, re-establishing surface drainage lines and other land features. • Topsoil application will only take place after subsoil respreading and compaction and will be evenly spread and left with a slightly rough surface. • Driving vehicles on freshly topsoiled ROW will be prohibited. • Subsoil displaced by the pipe, and not utilised in backfill, may be stockpiled in locations approved by the landholder for use during operations. • Imported topsoil, of an appropriate quality and weed free, may be required for ROW repairs, and will only be used with landholder approval. • Flagging used to identify clearing boundaries and sensitive features will be removed. • Erosion and sediment control measures will be installed where necessary. Existing soil erosion measures will be reinstated to a condition at least equal to the pre-existing state. • Cleared native vegetation will be respread over the ROW to assist in the distribution of seed stock and provide shelter for fauna. Distribution of vegetation will be controlled to ensure that any erosion or subsidence that may occur will not be hidden from view during subsequent monitoring inspections. • Native groundcover and shrubs will be encouraged to revegetate wherever appropriate to minimise habitat barrier effects in significant habitat areas. • Trees will be permitted to grow in proximity to the pipeline only when pipeline integrity is not affected. • Environmental features such as rocks and dead timber will be replaced in the ROW where appropriate. • If revegetation is proposed, it will take place as soon as practicable after topsoiling. • A reseeding plan based on soil types, existing local vegetation characteristics and landholder preferences will be developed. • Seeding will be utilised in areas where rapid restoration is required e.g. watercourse crossings and areas of high erosion potential. • Where disturbed areas are to be re-planted or reseeded, preference will be given to local native species. However, non-native and non-invasive grass seed stock may be used where approved by the landholders to provide environmentally acceptable short term surface stability. • Trees and shrubs will be allowed to regenerate naturally on cleared areas not required to be kept tree free for pipeline protection and maintenance. • Where applied, seed will be evenly dispersed over the entire disturbed area. • Fertilisers and soil supplements will be used only as necessary with the agreement of landholders and authorities. • Permanent pipeline warning signs will be erected along the easement.

Element/Issue	Rehabilitation
	• All waste materials and equipment will be removed from the ROW once backfilling and tie-ins are completed. • Temporary access roads will be closed and rehabilitated to a condition compatible with the surrounding land use or as agreed with the landholder. • Where access routes are to be retained, but are not public access, the entry will be disguised (e.g. by dog-legging, brush spreading). • Disused silt fences will be removed. • Fences or other barriers will be installed where appropriate and where approved by the landholder to minimise unauthorised access.
Monitoring and Auditing	Monitoring and auditing of rehabilitation will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). A photo record will be preserved before work commences for use during rehabilitation. Regular inspections will be undertaken during construction to monitor for trench subsidence, presence of weeds, revegetation success and stability of the ROW. Until regrowth is established, significant (e.g. riparian zones) areas and any seeded areas will be monitored regularly to ensure adequate growth and if necessary appropriate reapplication of seed will be carried out. The success of restoration will be assessed by comparing the percentage cover and species diversity on the ROW with that of adjoining land. Monitoring will also include an assessment of the effectiveness of weed control measures.
Reporting and Corrective Action	• Reporting of environmental performance data will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). • Reporting, investigation and management of corrective actions associated with environmental events (including incidents, hazards, near misses, non-compliance vents and third party complaints) will be conducted in accordance with EHSMS15 (*Incident and non-Conformance Investigation, Corrective and Preventative Action*). • Any sites not displaying stability (after 12 months) will undergo additional rehabilitation using a method approved by the relevant authority or landholder. • Non-compliance and incident reports will be closed out by senior management. • Any landholder complaints will be recorded in the Santos complaints register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager.

12.16.8 Flora and Fauna Management

Element/Issue	Flora and Fauna Management
Operational Policy or Management Objective	To minimise and manage impacts to the ecological values of the project and to rehabilitate disturbed areas to as close as practical to the pre-construction condition.
Performance Criteria	• Minimal disturbance of terrestrial flora and fauna during construction of the pipeline, associated tracks, services and accommodation facilities. • No unplanned or unapproved damage to flora and fauna. • Restoration of disturbed areas to equivalent to surrounding area after construction.
Implementation Strategy	**Planning** • The route has been selected to avoid disturbance to endangered, vulnerable and rare (EVR) flora species as far as possible and to minimise fragmentation and habitat disturbance of protected fauna species. • The sites of accommodation facilities, additional work areas, storage areas and access roads will be selected to avoid clearing of significant remnant vegetation. • A pre-construction vegetation survey will be completed in targeted areas of the ROW to identify for flagging individual EVR species and trees that contain hollows that may be avoided during construction. • Appropriate permits for the clearing of vegetation, including any marine vegetation, will

Element/Issue	Flora and Fauna Management
	be obtained prior to the commencement of construction. • The location of vegetation to be retained will be clearly indicated on all construction drawings. • Flagging of clearing boundaries though areas of significant vegetation will be completed during the pre-construction pegging of the pipeline alignment. • Construction will be scheduled for the dry season wherever possible. • A program to implement offsetting of cleared vegetation communities will be undertaken as required in accordance with legislative criteria for the offsetting of significant vegetation communities. A biodiversity offset strategy and management plan will be developed. **Construction** • Disturbance will generally be restricted to the ROW and designated work areas. • Physical barriers will be installed around significant vegetation areas in order to restrict access and avoid disturbance. • Trenching will occur progressively to minimise the length of time the trench is open. • Clearing of hollow bearing trees will be avoided as far as possible. • Areas of vegetation to be cleared will be restricted to the minimum width required. Areas to be cleared will be clearly delineated, prior to commencement. Clearing of all remnant regional ecosystems will be avoided where possible. All vegetation clearance will be undertaken in accordance with Santos EHS Management System Standard – EHS01 Land Disturbance. • Clearing and disturbance in riparian and marine areas will be minimised to that necessary to safely construct the pipelines and meet other environmental requirements (e.g. separation of stockpiles, erosion control). • Removed vegetation will be respread over the ROW. • Trees and shrubs will be allowed to regenerate naturally on cleared areas not required to be kept clear for pipeline protection and maintenance (subject to landholder agreement). • Fauna escape ramps or ladders and water soaked, sawdust filled hessian sacks (used to support pipes prior to lay-in) will be placed at regular intervals along the open trench. • Where habitat is to be cleared, appropriate mitigation measures will be implemented including adopting a protocol to ensure fauna spotters are present during clearing of woodland vegetation and any other areas of faunal habitat. • Liaison with wildlife rescue organisations or individuals. • Minimise speed limits in high-potential areas for faunal impact. • Cleared native vegetation and timber will be respread over the ROW to aid regeneration and provide fauna habitat (subject to landholder agreement).
Monitoring and Auditing	Monitoring and auditing will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). The entire length of the ROW will be regularly inspected to assess the effectiveness of protection measures, with particular attention to management of flora and fauna protection and clearing boundaries. Ongoing monitoring will be undertaken to assess the success and integrity of construction and rehabilitation measures and ensure appropriate follow-up rehabilitation measures are implemented.

Element/Issue	Flora and Fauna Management
Reporting and Corrective Action	• Reporting of environmental performance data will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). • Reporting, investigation and management of corrective actions associated with environmental events (including incidents, hazards, near misses, non-compliance vents and third party complaints) will be conducted in accordance with EHSMS15 (*Incident and non-Conformance Investigation, Corrective and Preventative Action*). • Non-compliance and incident reports will be closed out by senior management. • Any landholder complaints will be recorded in the Santos complaints register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager.

12.16.9 Weed Management

Element/Issue	Weed Management
Operational Policy or Management Objective	To prevent the introduction and spread of weed species in association with the construction and operation of the pipeline.
Performance Criteria	• No new weed infestation in the ROW as a result of construction or operational activities. • No spread of weeds from infested areas to previously weed-free areas. • ROW restored to a state that minimises the potential for weed colonisation of disturbed areas.
Implementation Strategy	• Weed management will be conducted in accordance with EHS09 (*Weed and Pest Animal Control*). • Weed inspection of the ROW will be completed prior to construction and the location of declared plants and other noxious weeds recorded. • Weed control of the ROW and relevant access tracks will be undertaken prior to construction. • Upon arrival at the construction area all vehicles, equipment and portable infrastructure (including trailers, generators, workshop and accommodation huts etc.) will be washed at a designated weed washdown area. • Access roads to the ROW will be defined to minimise the potential for the spread of weed species and protocols established for washdown of vehicles travelling along the ROW. • Cleaning procedures will be thorough to remove all soil or organic matter from the surfaces of vehicles, equipment and portable infrastructure, including the undercarriage. Personnel will also ensure all soil and organic matter is removed from clothing and footwear. • Washdown by air or water of a vehicle and/or portable equipment will be supervised by trained personnel and the vehicles details recorded in a vehicle washdown register to be maintained by the construction contractor. • All vehicles will be certified and registered as clean before these are permitted access to the pipeline ROW. • Topsoil and vegetation material will be respread in the immediate vicinity of the area of origin to limit the potential spread of weeds and pathogens.
Monitoring and Auditing	Monitoring and auditing will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). A pre-construction weed survey of the ROW will be undertaken and all identified areas of weed occurrence identified. The ROW, work areas and access tracks will be regularly inspected to assess the effectiveness of protection measures with particular attention to access to and travel along the ROW, washdown activities and records and restoration activities.

Element/Issue	Weed Management
Reporting and Corrective Action	• Reporting of environmental performance data will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). • Reporting, investigation and management of corrective actions associated with environmental events (including incidents, hazards, near misses, non-compliance vents and third party complaints) will be conducted in accordance with EHSMS15 (*Incident and Non-Conformance Investigation, Corrective and Preventative Action*). • Non-compliance and incident reports will be closed out by senior management. • Any landholder complaints will be recorded in the Santos Complaints Register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager.

12.16.10 Water Management

Element/Issue	Water Management
Operational Policy or Management Objective	To minimise the potential impacts associated with erosion, prevent the release of contaminants that may adversely affect downstream surface water quality, and protect the quality of the existing groundwater resources.
Performance Criteria	• Prevention of direct or indirect release of contaminants to surface waters. • Minimisation of incidences of accelerated erosion as a result of construction activities. • Groundwater quality will not be impacted by development activities. • Spill containment facilities constructed in accordance with AS 1940 (2004) and AS 3780 (1994). • Environmental impacts are within authorised limits.
Implementation Strategy	Activities will be conducted in accordance with HSH08 (*Chemical Management and Dangerous Goods)* and EHS10 (*Management of Water Resources*). **Planning** • Watercourse crossing points will be selected to, where practicable: – Minimise the extent of clearing of riparian vegetation. – Avoid unstable and/or steep incised banks. – Avoid bends in the channel and confluence with other channels. – Avoid permanent and semi-permanent waterholes, and artesian springs. • Detailed watercourse crossing plans will be prepared once the crossing methodology has been selected. • Findings of engineering and geotechnical studies will be utilised in the design of crossings to ensure that the hydrological flow regimes are maintained. • Horizontal directional drilling (HDD) will be used on selected watercourses, where practicable, taking into account environmental, engineering, logistical and geotechnical issues and advice from the drilling operator. • Relevant approvals and permits will be obtained for crossings prior to construction. • Crossings will, where practicable, be constructed in no-flow or low-flow conditions, and rehabilitation completed prior to the next wet season. • The crossings will typically be at right angles to the direction of water flow to minimise scour potential. • The disturbance corridor for the bed, bank and approaches to watercourses will be the narrowest practicable for safe construction. • Additional work areas may be required at crossing locations for equipment operation and stockpiling of excavated material. These will be located outside the riparian area. **Construction** • Activities will be conducted in accordance with EHS10 (*Water Resource Management*). • No refuelling of plant, equipment or vehicles will occur within 50 m of any watercourse. • All construction vehicles shall carry spill clean-up kits, commensurate with the size and

Element/Issue	Water Management
	type of vehicle. • Regional weather conditions and river flow levels will be monitored during construction to pre-empt changes in weather patterns and flow regimes to minimise impacts associated with wet weather. • Storage and loading/decanting areas for fuels and chemicals will be bunded and located outside the floodplain of the stream channels (i.e. approximately 50 m away from the top bank). • The staging areas will be limited to the narrowest area feasible and located outside the stream channel and riparian area. • Large mature trees will be retained where practicable and trees will be trimmed in preference to removal to retain the root stock for stabilisation of the banks. • Clearing of the slopes leading to the watercourses will be delayed until the construction of the crossing is imminent. Where this is not possible, other soil protection measures will be applied. • All stockpiles (vegetation, watercourse bed material, watercourse bank material) will be stockpiled and stored separately in areas above the top of the bank and outside the riparian area where it will not be buried or damaged (i.e. free from traffic). • Stream bed material consisting of rocks, pebbles or course gravel overlaying finer material will be stockpiled separately for replacement during restoration. • Silt fences will be located on the lower side of topsoil and bed and bank stockpiles and installed between the watercourse and the construction area to minimise sediment releases. • Soils will be graded away from the watercourse, not towards it. • Sediment and erosion control measures will be installed as required on watercourse approaches and banks to prevent any runoff from entering watercourses. • Diversion banks will be used at the crest of, and on the slopes of, approaches to stream crossings to divert sheet flow away from backfilled trenches. • Each diversion bank will have a stabilised outlet to safely disperse channelised flows. • Watercourse crossings will be rapidly stabilised following construction. • The bed and bank of watercourses will be restored as near as practical to the original profile and banks compacted to ensure stability. • Topsoil will be respread over the area from where it was removed. • Where required, sandbags, gabion or other scour protection measures will be installed, ensuring these are placed to conform as far as possible with existing natural contours. • Where required and agreed by landholders, access to the crossings will be restricted (i.e. by fencing or barriers). • Where required, terracing or surface water diversion berms will be placed along the top and intermediate points down the bank slope to encourage runoff to discharge on to stable (i.e. vegetated) areas or via sediment settling basins and not directly to the watercourse. • Silt and sediment fences will be installed on slopes where appropriate to filter surface runoff water even if the watercourse is dry. • Watercourses will be stabilised (e.g. rock gabion, jute matting) as required. • All flammable and combustible liquids and dangerous goods will be stored, handled, used and transported in accordance with relevant Australian and Santos standards. • Hydrocarbon spillage from storage areas, diesel and chemical spills from construction equipment, and industrial waste spill will be contained, reported, and treated/remediated in accordance with appropriate legislative and regulatory agency requirements.Drainage will be reinstated. • Wastewater from construction, cleaning and testing operations will be treated and managed in accordance with the relevant environmental authorities. • Treated sewage effluent will generally be disposed of by irrigation. Sensitive areas will be avoided as will soil erosion and soil structure damage. There will be no discharge of treated effluent from wet weather storage to any waters. • Management of hydrotest water will be in accordance with the environmental authority.

Element/Issue	Water Management
	• A water supply strategy will be developed for the provision of water for the pipeline's construction. All necessary approvals will be sought from the relevant authorities.
Monitoring and Auditing	Monitoring and auditing will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*) and licence conditions. Watercourse crossings will be regularly inspected to assess the effectiveness of protection measures with particular attention to clearing of riparian area, location of work activities with respect to watercourses, timing of construction of crossings and restoration activities. Erosion control and sediment collection devices will be inspected regularly, particularly following heavy rain. Monitoring of water quality during crossing construction upstream and downstream of the construction area on wet crossings will include: • Observation of sediment plumes and surface sheen; and • Measurement of turbidity, suspended solids, pH and dissolved oxygen. Monitoring of the watercourses post-construction will be carried out to ensure that rehabilitation works and stability of the watercourses is at least equal to the pre-construction condition.
Reporting and Corrective Action	• Reporting of environmental performance data will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). • Reporting, investigation and management of corrective actions associated with environmental events (including incidents, hazards, near misses, non-compliance vents and third party complaints) will be conducted in accordance with EHSMS15 (*Incident and Non-Conformance Investigation, Corrective and Preventative Action*). • Non-compliance and incident reports will be closed out by senior management. • Any landholder complaints will be recorded in the Santos Complaints Register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager.

12.16.11 Soil Management

Element/Issue	Soil Management
Operational Policy or Management Objective	To appropriately minimise and manage adverse impacts to soils by: • Limiting the occurrence and extent of trench subsidence and soil erosion. • Preventing soil inversion. • Developing a stable, vegetated ROW post-construction.
Performance Criteria	• No evidence of uncontrolled erosion following high rainfall. • No evidence of sedimentation in watercourses. • Erosion controlled and limited to that consistent with "natural processes" such that pipeline cover is maintained and land capacity is not reduced. • All topsoil stockpiled separately and no spoil piles remain on surface after restoration. • All access contained to designated areas.
Implementation Strategy	**Topsoil and Subsoil** • Where present, topsoil will be stripped across the ROW and trench for re-use. • Topsoil and subsoil will be stockpiled separately within the easement and all necessary measures will be taken to prevent contamination. • Stripped vegetation will be stockpiled separately from soil stockpiles. • Topsoil will be placed on the high side of the ROW on hills and slopes where practicable and safe to do so. • Stockpiles will not exceed 1.5 m in height and will have gaps for drainage and possible stock and wildlife movement. • Topsoil will not be used for backfill. • Where practicable, additional topsoil and subsoil from places where cut and fill is required will be stockpiled in a temporary work space, wherever possible, practicable

Element/Issue	Soil Management
	or relevant. • Soil stockpiles near drainage lines will be bound with silt fencing on the down slope and placed at least 10 m away (where practicable) from banks. • Where strongly or very strongly sodic and/or dispersive materials are identified they will not be used for rehabilitation purposes. Suspected sodic or dispersive materials exposed as a result of site earthworks will be treated as appropriate. **Erosion** • Temporary and permanent erosion control banks will be installed across slopes and in the vicinity of drainage lines along the easement as necessary. • Permanent trench breakers will be placed at regular intervals along sloping trenches, at the bases of slopes, adjacent to water bodies and wetlands and at road crossings. • Location of trench breakers will be marked prior to backfilling. • Final diversion banks will be installed immediately down slope of the trench breaks so that seepage water will be diverted away from the easement. • Earth banks across entire disturbed width will be installed on slopes (depending on gradient and soil type) immediately following clear and grade. • Banks will be high enough to collect water but low enough to drive out safely. • Banks will be restored, if damaged, until permanent establishment (sandbags replaced regularly can be used as an alternative). • Water will be discharged down slope to undisturbed vegetation where practicable or into a silt fence. • Erosion control measures put in place prior to construction will be recontoured to the original conditions as soon as practicable following construction, in consultation with the landholder. **Acid Sulphate Soils (ASS)** • A targeted ASS survey will be completed where there is the potential to disturb potential ASS and the results will be considered in the design of the crossings. • Where identified, all areas of Actual ASS (AASS) or Potential ASS (PASS) will be clearly shown on construction plans. • If ASS is identified, site specific mitigation measures will be developed such as: – Minimising time the trench spoil is stockpiled. – Neutralising trench spoil with lime. – Containing runoff from stockpile areas in holding ponds or bunded areas. – Disposing of trench water only after analysis. – Burying of soil below the water table. – Compacting the backfill to pre vent acid leach migration. • An ASS management plan will be developed to detail the specific measures to be implemented to manage ASS. **Land Contamination** • Consultation will continue with landholders prior to construction to determine whether any potential areas of contamination are located within the ROW. • Site-specific and contaminant-specific management measures will be developed for any areas that are not avoidable through realignment of the pipeline. • If suspect contamination is found during earthworks, work in that area will stop until a suitably qualified person has inspected the site, the hazard has been assessed and appropriate action has been taken. • EPA approval will be obtained if contaminated material must be removed from the work area. • All personnel will be made aware of potential contamination issues during induction training.
Monitoring and Auditing	Monitoring and auditing will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*) and licence conditions. The entire length of the ROW will be regularly inspected to assess the effectiveness of

Element/Issue	Soil Management
	protection measures with particular attention to management of soil and spoil stockpiles, erosion control devices and the effectiveness of control measures following rainfall.
Reporting and Corrective Action	• Reporting of environmental performance data will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). • Reporting, investigation and management of corrective actions associated with environmental events (including incidents, hazards, near misses, non-compliance vents and third party complaints) will be conducted in accordance with EHSMS15 (*Incident and Non-Conformance Investigation, Corrective and Preventative Action*). • Non-compliance and incident reports will be closed out by senior management. • Any landholder complaints will be recorded in the Santos complaints register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager.

12.16.12 Waste Management

Element/Issue	Waste Management
Operational Policy or Management Objective	To ensure that the transmission pipeline construction adheres to the waste management hierarchy of avoid, reuse, re-use and recycle. Where this is not possible, to dispose of waste in the most appropriate manner.
Performance Criteria	• No inappropriate disposal or management of waste. • No contamination of soil, air or water as a result of waste handling.
Implementation Strategy	**General** • Activities will be conducted in accordance with EHS04 (*Waste Management*) to ensure appropriate mitigation measures are implemented in the management of waste. • Management strategies for specific waste streams will be developed prior to the activity commencing. • On completion of each section of pipeline, all waste material will be removed from the workplace. No wastes will be buried or disposed of on-site without local government and/or EPA approval. • The Construction Manager will advise designated disposal areas for each section of the ROW. • General waste will be collected and transported generally to local council approved disposal sites. • Food wastes will be collected, where practicable, considering health and hygiene issues, for disposal off-site. • Refuse containers will be located at each worksite. • Where practical, wastes will be segregated and reused / recycled (e.g. scrap metal). • All personnel will be instructed in project waste management practices and procedures as a component of the environmental induction process. • Suppliers will be requested to minimise packaging where practicable. • Emphasis will be placed on housekeeping and all work areas will be maintained in a neat and orderly manner. • All equipment and facilities will be maintained in a clean and safe condition. **Liquid Waste** • Sewage or grey water will either be collected for treatment and disposal off-site or treated via an on-site treatment system and disposed of to effluent absorption beds or irrigation fields. • The treatment method will be selected in consultation with a relevant local authority and EPA and the relevant environmental authority obtained. • Sewage effluent absorption beds and/or irrigation fields will be selected and designed to ensure that: – Sensitive areas are avoided.

Element/Issue	Waste Management
	– There is no ponding or runoff of effluent. – The receiving environment has the capacity to assimilate the contaminants. **Hazardous Waste** • Chemical wastes will be collected in 200 litre drums (or similar sealed container) and appropriately labelled for safe transport to an approved chemical waste depot or collection by a liquid waste treatment service. • Storage, transport and handling of all chemicals will be conducted in accordance with all legislative requirements. • Containment bunds and/or sumps will be drained periodically to prevent overflow and subsequent pollution of the surrounding land and/or water body. • All hazardous wastes will be appropriately stored in bunded areas away from watercourses and in accordance with legislative requirements. • Hazardous wastes, such as solvents, rust proofing agents and primers will be managed in accordance with the requirements of relevant legislation and industry standards. • A hazardous materials inventory will be prepared. • Material Safety Data Sheets (MSDS) for hazardous materials will be available at all work sites. • Hydrocarbon wastes, including lube oils, will be collected for safe transport off-site for reuse, recycling, treatment or disposal at approved locations.
Monitoring and Auditing	Monitoring and auditing will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). Housekeeping checks will be undertaken to ensure waste is being stored correctly and that no littering is occurring. Work and accommodation sites will be inspected after relocation to ensure that no waste material remains. The quality characteristics of treated effluent (if discharged to land) will be monitored in accordance with the environmental authority conditions.
Reporting and Corrective Action	• Reporting of environmental performance data will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). • Reporting, investigation and management of corrective actions associated with environmental events (including incidents, hazards, near misses, non-compliance vents and third party complaints) will be conducted in accordance with EHSMS15 (*Incident and Non-Conformance Investigation, Corrective and Preventative Action*). • Non-compliance and incident reports will be closed out by senior management. • Any landholder complaints will be recorded in the Santos Complaints Register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager.

12.16.13 Chemical and Dangerous Goods Management

Element/Issue	Chemical and Dangerous Goods Management
Operational Policy or Management Objective	To ensure that storage and handling of chemicals and dangerous goods does not cause environmental harm or harm to persons.
Performance Criteria	• No hazardous goods contamination of the environment. • Storage and handling procedures correct and appropriate. • Chemicals stored in secure areas.

Element/Issue	Chemical and Dangerous Goods Management
Implementation Strategy	• All activity will be conducted in accordance with HSHS08 (*Chemical Management and Dangerous Goods*). • Spill control procedures will be prepared and personnel trained. • Dangerous goods will be stored and handled as per the requirements of relevant Australian Standards. • Dangerous goods will, where appropriate (e.g. outside locations), be stored in bunded areas away from watercourses. • Explosives will be stored in magazines constructed and located as prescribed in AS 2187. • Material safety data sheets for chemicals and dangerous goods will be available on-site. • Waste dangerous goods, which cannot be recycled, will be transported to a designated disposal site as approved by the local authority. • Spills of dangerous goods will be rendered harmless and collected for treatment and disposal at a designated site, including cleaning materials, absorbents and contaminated soils. • Absorbent and containment material (e.g. absorbent matting) will be available where hazardous materials are used and stored and personnel trained in their correct use. • Protective clothing, appropriate to the materials in use, will be provided. • Relevant permits will be held and conditions of permits met.
Monitoring and Auditing	Monitoring and auditing will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). Regular inspections to ensure that chemical storage facilities continue to meet Australian Standards. Audits will include inspection of dangerous goods storage areas.
Reporting and Corrective Action	• Reporting of environmental performance data will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). • Reporting, investigation and management of corrective actions associated with environmental events (including incidents, hazards, near misses, non-compliance vents and third party complaints) will be conducted in accordance with EHSMS15 (*Incident and Non-Conformance Investigation, Corrective and Preventative Action*). • Non-compliance and incident reports will be closed out by senior management. • Any landholder complaints will be recorded in the Santos Complaints Register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager.

12.16.14 Noise and Vibration

Element/Issue	Noise and Vibration
Operational Policy or Management Objective	• To construct the pipeline in a manner to minimise the impact of construction related noise and vibrations on surrounding residences and industry.
Performance Criteria	• No noise related complaints received from residents and landholders during construction. • Compliance with Santos' EHS Management System Hazard Standard EHS12 (*Noise Emissions*). • Noise mitigation measures will be implemented where required in accordance with AS 2436-1981 "Guide to Noise Control on Construction, Maintenance and Demolition Sites". • Blasting activities will meet the airblast criterion of 115 dBL (maximum of 120 dBL) based at the minimum offset distances.

Element/Issue	Noise and Vibration
Implementation Strategy	• All activities will be conducted in accordance with EHS12 (*Noise Emissions*). • Where heavy rock-breaking and/or drilling and blasting is necessary for rock removal for pipeline trench excavation, the work will be carried out during normal daylight working hours to minimise the effects of noise impacts in built-up or established farming areas. In general, any blasting that may be required will be carried out in accordance with relevant guidelines and AS 2885. • All activities will be conducted in accordance with EHS12 (*Noise Emissions*). • Where heavy rock-breaking and/or drilling and blasting is necessary for rock removal for pipeline trench excavation, the work will be carried out during normal daylight working hours to minimise the effects of noise impacts in built-up or established farming areas. In general, any blasting that may be required will be carried out in accordance with relevant guidelines and AS 2885. • Adequate community consultation will be provided of any scheduled atypical noise events and protection of third party infrastructure. • Where applicable, construction work during evening and night-time periods (6.30pm to 6.30am) and on Sundays/Public Holidays will be undertaken in accordance with "best practice" noise management. • Any blasting will be carried out in accordance with relevant legislation. • A blasting plan will be prepared prior to the commencement of any blasting activities, giving consideration of potential air blast pressure and vibration and will include mitigation measures. • Construction equipment will be fitted with noise control devices. • Pipe laydown areas along the rail line will only operate during daytime hours.
Monitoring and Auditing	Construction equipment will be inspected regularly to maintain optimal working conditions. Throughout construction, the contractor's environmental representative will undertake regular environmental audits.
Reporting and Corrective Action	• Reporting of environmental performance data will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). • Reporting, investigation and management of corrective actions associated with environmental events (including incidents, hazards, near misses, non-compliance vents and third party complaints) will be conducted in accordance with EHSMS15 (*Incident and Non-Conformance Investigation, Corrective and Preventative Action*). • Non-compliance and incident reports will be closed out by senior management. • Any landholder complaints will be recorded in the Santos Complaints Register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager.

12.16.15 Air Quality

Element/Issue	Air Quality
Operational Policy or Management Objective	• To complete the installation of the pipelines in a manner that maintains ambient air quality within the local airshed.
Performance criteria	• No excessive dust emissions during construction or operation of the pipeline. • No air quality-related complaints from neighbouring residential areas and industrial areas. • Compliance with Santos document EHS Management System Hazard Standard, EHS05 Air Emissions.

Element/Issue	Air Quality
Implementation Strategy	• All activities will be conducted in accordance with EHS05 (*Air Quality*). • Consult with and advise any landholders with the potential to be impacted by temporary construction dust emissions prior the commencement of activities. • Vehicles and machinery will be fitted with appropriate exhaust systems and emission control devices. The devices will be maintained in good working. • Construction sites and access roads will be watered on an as required basis to minimise the potential for environmental nuisance due to dust. Watering frequency will be increased during periods of high risk (e.g. high winds). • The extent and period of exposure of bare surfaces will be minimised. • The disturbed corridor will be promptly restored following construction to stabilise the disturbed surface and limit the potential for dust generation. • Vehicles will be operated in a fuel efficient manner so as to minimise fuel consumption and vehicle emissions at all times. • Maintenance procedures during operations will ensure that the duration and frequency of venting of gas via the main release valves is minimised. • A "no burning" policy will be implemented.
Monitoring and Auditing	All active and rehabilitated work areas will be regularly inspected to assess the effectiveness of dust mitigation measures. Regular visual monitoring of dust emissions will be conducted and watering frequency altered as required.
Reporting and Corrective Action	• Reporting of environmental performance data will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). • Reporting, investigation and management of corrective actions associated with environmental events (including incidents, hazards, near misses, non-compliance vents and third party complaints) will be conducted in accordance with EHSMS15 (*Incident and Non-Conformance Investigation, Corrective and Preventative Action*). • Non-compliance and incident reports will be closed out by senior management. • Any landholder complaints will be recorded in the Santos Complaints Register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager.

12.16.16 Transport and Traffic Management

Element/Issue	Transport and Traffic Management
Operational Policy or Management Objective	To minimise any potential impacts associated with traffic generated by construction traffic.
Performance Criteria	No traffic-related complaints and incidents.
Implementation Strategy	• All heavy vehicles travelling to and from the construction areas will follow dedicated heavy vehicle routes to avoid built-up areas wherever possible. • Access to and from the ROW will be via designated routes. • No vehicles associated with pipeline activities will be driven on unauthorised land. • Use of carpooling and bus services will be implemented where practicable to minimise worker trips during construction. • Where practicable, truck deliveries will be restricted to daytime working hours. • Dangerous goods will be transported along preferred dangerous goods routes in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail and in accordance with the requirements of the Queensland *Transport Operations (Road Use Management – Dangerous Goods) Regulation 1998* and the *Transport Infrastructure Act 1994*. • If possible, the transport of oversize loads will be restricted to non-peak periods to minimise traffic disruptions and will be provided with appropriate escorts and approvals

Element/Issue	Transport and Traffic Management
	from both the Main Roads Department and the Police. • Clear traffic signs and signals will be installed on-site to provide for safe traffic movement. • Santos will negotiate with the Department of Main Roads and relevant local authorities regarding the development of a traffic management plan for the construction of the pipeline. This will be undertaken during the detailed design phase of the project, once the pipe source and delivery mode has been determined. The following issues will be specifically addressed in the plan: – Development of designated access routes for pipeline delivery and construction traffic. – Inspection of the access roads in consultation with relevant local authority representatives to determine the state of the road, whether any upgrade is required, and to record the preconstruction condition of the road (e.g. written record, photographs). – Identification of locations where additional traffic control measures will be necessary to ensure safe traffic movement and minimise disruption to public traffic flows. • Development of temporary traffic control measures necessary to ensure safe traffic movement during construction.
Monitoring and Auditing	Any incidents or complaints received in relation to project traffic will be recorded and responded to in accordance with EHSMS15 ((*Incident and Non-Conformance Investigation, Corrective and Preventative Action*).
Reporting and Corrective Action	Reporting of environmental performance data will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). Any landholder complaints will be recorded in the Santos complaints register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager. The following will constitute an incident or failure to comply in regard to traffic management: • Not following designated routes. • Vehicles not observing site traffic regulations e.g. speed regulations. • Transport of oversize loads at times and in such manners as to disrupt other on-site and off-site road users. • Necessary approvals for traffic-related activities not obtained from relevant bodies e.g. Main Roads and local councils. In the event of a complaint, an incident or failure to comply with requirements, relevant corrective action will be taken which could include the following: • Traffic patterns will be investigated and vehicles will be rescheduled or rerouted if possible. • Repeatedly offending vehicles will be identified and operators instructed in the required of operation for the vehicle. • Appropriate approvals will be sought from relevant authorities where this has not been done. • Issues of non-compliance will be rectified. • Review and modification of the traffic management plan.

12.16.17 Cultural Heritage

Element/Issue	Cultural Heritage
Operational Policy or Management Objective	To protect the cultural heritage values of the transmission pipeline corridor.

Element/Issue	Cultural Heritage
Performance Criteria	• Compliance with the requirements of the *Aboriginal Cultural Heritage Act 2003* and the relevant Cultural Heritage Management Plans (CHMPs). • No disturbance of any place on the Queensland Heritage Register in accordance with the requirements of the *Queensland Heritage Act 1992*.
Implementation Strategy	• Santos will develop and implement CHMPs in consultation with the relevant Aboriginal Parties. Protection, management and mitigation measures will be agreed after cultural heritage surveys are complete, and will be incorporated in the Santos cultural heritage management system. • Santos will seek to gain relevant native title permissions for the pipeline via the negotiation and registration of Indigenous Land Use Agreements (ILUAs) or the grant of Ministerial permissions under the *Petroleum and Gas (Production and Safety) Act 2004* where ILUAs are not achievable. • Protection of indigenous cultural heritage will be conducted in accordance with EHS11 (Indigenous Cultural Heritage Management) and agreed Cultural Heritage Management Plans. • Infrastructure will be located to avoid known cultural heritage sites. All heritage sites shall be demarcated and access restricted where construction works are close to the heritage site. • Where potential non-indigenous heritage material is identified and likely to be disturbed, Santos will determine the significance of the site in consultation with the EPA and undertake relocation / preservation of the material. A project specific conservation management plan will be prepared to establish mitigation, management and approval procedures. • Include cultural heritage issues in the project induction program and involve representatives from the Aboriginal Parties in the development and implementation of such programs. • Specific mitigation measures will be developed to minimise any impact on the Kilbirnie Homestead site in consultation with relevant stakeholders including the EPA. • Santos will educate its staff and contractors on the location and significance of the heritage sites to avoid disturbance.
Monitoring and Auditing	Auditing of compliance with the CHMPs in accordance with the processes defined within the CHMP. Auditing of any non-indigenous cultural heritage encountered during pipeline activities.
Reporting and Corrective Action	Any signs of disturbance of artifacts will be reported in accordance with EHS11. The following will constitute an incident or failure to comply: • Failure to prepare and/or implement a CHMP. • Unauthorised disturbance of any artifacts. In the event of an incident or failure to comply, the commitment that has not been undertaken will be reviewed and modifications implemented as appropriate.

12.16.18 Social and Community

Element/Issue	Social and Community
Operational Policy or Management Objective	To minimise any social disruption to the local communities from the construction of the gas transmission pipeline.
Performance Criteria	No complaints from local communities about the construction or operation of the gas transmission pipeline.
Implementation Strategy	To minimise social and community impacts from the project Santos will: • Provide on-site accommodation for construction workers. • Develop a social management plan to monitor social impacts associated with the project and work with local services and stakeholders to develop practical solutions. • Adopt local procurement policies in order to enhance local economic benefits.

Element/Issue	Social and Community
	• Minimise social impacts on indigenous persons in the project area by the implementation of the Santos Aboriginal Engagement Plan. • Contribute to local liveability programs and will initiate a community consultation and awareness campaign to promote project benefits to the community.
Monitoring and Auditing	Auditing of compliance with the social management plan and the Aboriginal Engagement Plan.
Reporting and Corrective Action	The following will be classified as an incident or failure to comply: • Failure to prepare or comply with the social management plan or the Aboriginal Engagement Plan. • Receipt of complaints from local communities members about the construction or operation of the pipeline. In the event of an incident or failure to comply, the commitment that has not been undertaken will be reviewed and modifications implemented as appropriate.

12.16.19 Third Party Infrastructure

Element/Issue	Third Party Infrastructure
Operational Policy or Management Objective	To minimise potential impacts to third party infrastructure during the construction of the pipeline.
Performance Criteria	Minimal interruption to third party infrastructure.
Implementation Strategy	• Infrastructure will be accurately identified during detailed design and recorded on construction drawings. • Disturbance to pre-existing soil conservation measures (e.g. levee/contour banks) will be avoided as far as possible. Where disturbance is required, the banks/levees will be reinstated as soon as practicable, in consultation with the relevant landholder. • Where required along the route, temporary fences will be installed to protect humans and livestock. • The location of existing fences will be determined prior to construction and temporary gates will be installed at locations where the pipeline crosses fence lines. • Fences will be reinstated post construction. • Santos will work with infrastructure owners/managers (road, rail, pipelines, powerlines) in regard to: – Accurately determining the location of existing underground infrastructure. – Designing the crossings, taking into account the specific requirements of the infrastructure owners/managers. – Developing agreed safety protocols for the purpose of constructing crossings. – Obtaining the relevant consent/licence agreements for crossings. – Agreeing a schedule for construction of crossings. – Developing agreed protocols for any operational activities associated with the pipelines where an infrastructure crossing exists. • Where the pipeline crosses a rail line, the crossing will be either bored or directionally drilled. Where the pipeline parallels a rail line it will be set back an appropriate distance (as stipulated in AS 2885) so as not to interfere with railway infrastructure or to induce electric currents in the pipe. • Road crossing arrangements as determined in consultation with the Department of Main Roads and local authorities will be documented in a traffic management plan. • When the pipeline is required to cross a powerline it will be located so as to not interfere with any pylons or other associated infrastructure. • Crossings will be designed in accordance with AS 2285 to maintain the integrity of the existing infrastructure and public safety.

Element/Issue	Third Party Infrastructure
	• Santos will consult with relevant petroleum authorities to ensure disruption to activities is minimised to the extent practicable.
Monitoring and Auditing	Routine monitoring of implementation of agreed protocols.
Reporting and Corrective Action	• Reporting of environmental performance data will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). • Reporting, investigation and management of corrective actions associated with environmental events (including incidents, hazards, near misses, non-compliance vents and third party complaints) will be conducted in accordance with EHSMS15 (*Incident and Non-Conformance Investigation, Corrective and Preventative Action*). • Non-compliance and incident reports will be closed out by senior management. • Any landholder complaints will be recorded in the Santos Complaints Register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager.

12.16.20 Emergency Response

Element/Issue	Emergency Response
Operational Policy or Management Objective	To ensure that project personnel can respond effectively and efficiently in the event of an emergency associated with development and operation of the gas transmission pipeline.
Performance Criteria	• Emergency plans for construction developed and in place prior to activities commencing. • All personnel familiar with emergency procedures and their role in the event of emergency, and drills undertaken.
Implementation Strategy	Emergency response preparedness will be undertaken in accordance with EHSMS 13 (*Emergency Preparedness*). Santos will prepare a detailed emergency response plan which will include consideration of the following: • Response procedures in the event of a fire, chemical release, spill, leak, explosion, equipment failure, bomb threat, natural disaster (including severe storm and flood events) or any other likely emergency. • Communication arrangements and contact details. • Roles and responsibilities of responsible personnel. • Emergency controls and alarms. • Evacuation procedures. • Emergency response equipment. • Leak detection and control points. • Training requirements. • Site access and security.
Monitoring and Auditing	The effectiveness of the emergency response plan will be regularly tested and audited.
Reporting and Corrective Action	Reporting, investigation and management of corrective actions associated with emergency response events (including incidents, hazards, near misses, non-compliance vents and third party complaints) will be conducted in accordance with EHSMS 13 (*Emergency Preparedness*) and EHSMS15 (*Incident and Non-Conformance Investigation, Corrective and Preventative Action*). Non-compliance and incident reports will be closed out by senior management. Any landholder complaints will be recorded in the Santos Complaints Register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager. The Pipeline Health and Safety Manager will be responsible for compiling the results of

Element/Issue	Emergency Response
	testing and auditing programs. The following constitute incidents or failure to comply: • Emergency response plan is not prepared or implemented. • Emergency response equipment is not provided. • Emergency response training is not undertaken. • Emergency response procedures not followed in the event of an incident. In the event of an incident or failure to comply, one or more of the following actions will be undertaken as appropriate: • Prepare or implement the emergency response plan. • Provide the necessary equipment or training. • Investigate why the emergency response procedures were not followed and implement mitigation measures.

12.16.21 Incidents and Complaints

Element/Issue	Incidents and Complaints
Operational Policy or Management Objective	To manage and respond to any environmental or social incidents and complaints from the community regarding the development and operation of the gas transmission pipeline.
Performance Criteria	Incidents and complaints regarding environmental and social issues will be minimised and mitigation measures implemented to reduce the incidence of complaints.
Implementation Strategy	All incidents and complaints will be documented in the Santos Incident Management System (IMS - part of the EHSMS) and will be guided by EHSMS15 (*Incident and Non-Conformance Investigation, Corrective and Preventative Action*). The complaints form will document at least the following information: • Time, date and nature of complaint. • Type of communication (telephone, letter, email, visit). • Name, contact address and contact number (if provided). • Response and investigation undertaken as a result of the complaint. • Action taken and signature of person investigating complaint. Each complaint will be investigated as soon as practicable and, where appropriate, corrective action taken to remedy the cause of the complaint.
Monitoring and Auditing	The Construction Manager will ensure the IMS complaints register is maintained and ensure all complaints are resolved. The complaint form will be checked within two weeks of complaint receipt to ensure follow-up action has been taken to resolve the issue.
Reporting and Corrective Action	All complaints and incidents are to be reported to the Construction Manager and reported within the IMS. The complainant will be advised of what action, if any, has been taken as a result of the complaint. Should further incidents occur or complaints be received in relation to previous occurrences, an appropriate selection of the following corrective actions will be undertaken: • Additional environmental awareness training of the workforce with respect to the procedures to be followed for environmental incidents or complaints. • Investigation into why the incident/complaint was not addressed within the specified time frame. • Incident/complaint follow-up according to the results of the investigation. • Where required, work place practices will be reviewed.

12.17 Environmental Management Plan – Operations

12.17.1 Flora and Fauna Management

Element/Issue	Flora and Fauna Management
Operational Policy or Management Objective	To minimise and manage impacts to the ecological values of the project and to rehabilitate disturbed areas to as close as practical to the pre-constructed condition.
Performance Criteria	• Minimal disturbance to native vegetation. • No outbreak of new pest species/diseases. • No spread of existing weed species into previously clean areas as a result of pipeline operational activities. • Successful rehabilitation of vegetation enabling fauna movement to continue unimpeded.
Implementation Strategy	Regular inspections will be carried out along the pipeline ROW by vehicle and foot patrols to check on the condition of the ROW and identify any activities that may have the potential to impact on the integrity of the pipeline. The inspection will include, but not be limited to, a review of: • Activity on the pipeline corridor and in the vicinity. • Use of access tracks and pipeline corridor and any unauthorised traffic. • Access track condition and maintenance requirements. • Evidence of erosion, washouts or land subsidence. • Evidence of pipeline exposure. • Vegetation cover. • Excess vegetation on the pipeline corridor. • Weed and pest infestation. • Condition of pipeline crossings. • Disturbance to protected heritage sites. • Indications of leaks. • The presence of refuse or litter. • Damages to fences, gates, signs, markers etc. • Security of sites and evidence of unauthorised entry. Ground patrols will be undertaken monthly. Special patrols will be undertaken after heavy storms or significant events to check for damage to the pipeline. Aerial patrols along the pipeline ROW will be undertaken on a regular basis. The frequency of aerial patrols will be determined during the FEED process and will reflect operational requirements, local conditions and regulatory requirements. Aerial surveillance will check for: • Bare patches or damaged vegetation (indicating possible leaks or erosion). • Pipeline exposure. • Scouring, sink holes, areas of active or potential erosion. • Condition of water crossings. • Noxious weed areas. • Ploughed areas and/or evidence of third party activity. • Areas of limited revegetation success. • Vegetation regrowth that will require control. Implement and maintain weed and pest management strategies. Restrict clearing of vegetation to large vegetation regrowth occurring within 3 m of the pipeline. Re-establish grasses, where soil is exposed during pipeline maintenance works, using varieties native to the area. Maintain records of properties where pest control infrastructure is maintained.

Element/Issue	Flora and Fauna Management
	Ensure all fencing is left undisturbed and gates are closed. Use biodegradable chemicals/herbicides, where practicable, for the treatment of weed species. Re-establish the ROW with native grass species to minimise fragmentation and prevent impacts on natural ecosystem functioning and fauna movement. Limit vehicle speed along ROW (reduce dust, reduce fauna fatalities).
Monitoring and Auditing	Monitoring and auditing will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). Ongoing pipeline monitoring will be undertaken to assess the success and integrity of revegetation and to ensure appropriate follow-up measures are implemented. Regular audits and reviews will be undertaken and recommendations and corrective actions will be implemented.
Reporting and Corrective Action	• Reporting of environmental performance data will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). • Reporting, investigation and management of corrective actions associated with environmental events (including incidents, hazards, near misses, non-compliance vents and third party complaints) will be conducted in accordance with EHSMS15 (*Incident and non-Conformance Investigation, Corrective and Preventative Action*). • Non-compliance and incident reports will be closed out by senior management. • Any landholder complaints will be recorded in the Santos complaints register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager.

12.17.2 Soil and Erosion Management

Element/Issue	Soil and Erosion Management
Operational Policy or Management Objective	To appropriately minimise and manage adverse impacts to soils.
Performance Criteria	• No evidence of uncontrolled erosion following high rainfall. • No evidence of sedimentation in watercourses. • No evidence of collapsed or eroded watercourse banks or beds at crossing locations. • Erosion controlled and limited to that consistent with “natural processes” such that pipeline cover is maintained and land capacity is not reduced. • No evidence of subsidence or exposure of pipeline. • Prompt reinstatement of disturbed areas.
Implementation Strategy	• Install, maintain and monitor erosion and sediment control devices (e.g. berms, silt fences, jute matting) so that ground is stable and vegetation cover is maintained. • Ensure that runoff control devices are maintained to prevent erosion. • Install sediment fencing around active erosion adjacent to watercourses as needed to keep areas stable. • Empty sediment control devices after heavy rain. • Repair leaks as soon as practicable.
Monitoring and Reporting	ROW surveys to be undertaken as described in the flora and fauna component of this EMP. Monitoring and auditing will be conducted in accordance with EHSMS14 (Monitoring, Measuring and Reporting). Report internally all incidents that deviate from normal operating conditions. Review non-compliance and incident reporting and close out by senior management to ensure prompt rectification and change management as required.
Reporting and Correction Action	• Reporting of environmental performance data will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*).

Element/Issue	Soil and Erosion Management
	• Reporting, investigation and management of corrective actions associated with environmental events (including incidents, hazards, near misses, non-compliance vents and third party complaints) will be conducted in accordance with EHSMS15 (*Incident and Non-Conformance Investigation, Corrective and Preventative Action*). • Non-compliance and incident reports will be closed out by senior management. • Any landholder complaints will be recorded in the Santos complaints register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager.

12.17.3 Access and Security

Element/Issue	Access and Security
Operational Policy or Management Objective	Maintain and provide safe access to the ROW and pipeline facilities for maintenance, inspection and operations with minimal disturbance to landholders and the environment.
Performance Criteria	• Minimise the number of access tracks and diversions. • Minimise disruption to landholders and third parties. • Manage road and track usage, and achieve satisfactory road and site rehabilitation. • Minimise damage to existing road networks.
Implementation Strategy	• Access ROW only for activities essential to ensuring continued safe pipeline operation and protection of the local environment (the pipeline ROW will not be used as a general thoroughfare). • Access the pipeline ROW, as far as is practicable, by existing roads/tracks. • Arrange private property access to the pipeline ROW with individual landholders, managers and/or lessees. • Minimise the width of any access track to the minimum practical to enable safe vehicle movement. • Restrict public access along the pipeline ROW unless that right already exists. • Restrict public access to the pipeline ROW by minimising visibility (e.g. dogleg service track entrances or revegetation plantings), or by physical barriers (e.g. gates, fences, log and rock barriers, trenches) and signs. • Control vegetation and soil erosion to ensure continued access and safe navigation by vehicles. • Notify landholder, if possible, at least 24 hours before access is required. Where this is not possible, reach alternative agreements regarding ongoing access. • Limit speed along the ROW.
Monitoring and Reporting	Regular audits and reviews will be undertaken, and recommendations and corrective actions will be implemented.
Corrective Actions	• Reporting of environmental performance data will be conducted in accordance with EHSMS14 (*Monitoring, Measuring and Reporting*). • Reporting, investigation and management of corrective actions associated with environmental events (including incidents, hazards, near misses, non-compliance vents and third party complaints) will be conducted in accordance with EHSMS15 (*Incident and non-Conformance Investigation, Corrective and Preventative Action*). • Non-compliance and incident reports will be closed out by senior management. • Any landholder complaints will be recorded in the Santos Complaints Register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager.

12.17.4 Emergency Response

Element/Issue	Emergency Response
Operational Policy or Management Objective	To ensure that project personnel can respond effectively and efficiently in the event of an emergency associated with the operation of the pipeline.
Performance Criteria	• Emergency plans for pipeline operations developed and in place prior to operations. • Operational personnel familiar with emergency procedures and roles in the event of an emergency and emergency drills have been undertaken.
Implementation Strategy	Emergency response preparedness will be undertaken in accordance with EHSMS 13 (*Emergency Preparedness*). Santos will prepare a detailed emergency response plan prior to the end of the construction phase. The plan will include consideration of the following: • Response procedures in the event of a fire, spill, leak, explosion, equipment failure, bomb threat, natural disaster (including severe storm and flood events) or any other likely emergency. • Communication arrangements and contact details. • Roles and responsibilities of responsible personnel. • Emergency controls and alarms. • Evacuation procedures. • Emergency response equipment. • Leak detection and control points. • Training requirements. • Site access and security. The key principles for the response to a pipeline related incident, in particular a breach of the pipeline include: • Continual monitoring of pipeline flow/pressure. • Immediate shut down of the pipeline where an incident is detected. • Mobilisation of crews and equipment to identify nature and severity of the incident, minimise impacts to the surrounding areas and implement actions to manage immediate threats. • Notification to relevant regulatory agencies and emergency services as required. • Notification to relevant landholders. • Detailed investigation of the incident and development and implementation of corrective actions. • Development and implementation of comprehensive restoration plan. To minimise the risk to pipeline integrity the following procedures will be implemented: • Internal pipeline inspections to monitor the integrity of the pipe will be carried out by intelligent pigs at the start of operations and on an as-required basis. The frequency of intelligent pigging will be determined during the front end engineering design (FEED) process to reflect operational requirements, local conditions and regulatory requirements. • A cathodic protection system will be installed along the gas transmission pipeline and will be checked on a regular basis. The frequency of checking the cathodic protection system will be determined during the FEED process to reflect operational requirements, local conditions and regulatory requirements. • The location and numbers of cathodic protection system test points will be determined during the FEED process to reflect design and operational requirements, local conditions and regulatory requirements.
Monitoring and Auditing	The effectiveness of the emergency response plan will be regularly tested and audited. Internal pipeline inspections and cathodic protection system checking will be undertaken in accordance with the schedule to be determined during the FEED.

Element/Issue	Emergency Response
Reporting and Corrective Action	Reporting, investigation and management of corrective actions associated with emergency response events (including incidents, hazards, near misses, non-compliance vents and third party complaints) will be conducted in accordance with EHSMS 13 (*Emergency Preparedness*) and EHSMS15 (*Incident and Non-Conformance Investigation, Corrective and Preventative Action*). Non-compliance and incident reports will be closed out by senior management. Any landholder complaints will be recorded in the Santos complaints register (part of the EHSMS) and appropriate corrective actions will be implemented and closed out by the Pipeline Environmental Manager. The Pipeline Health and Safety Manager will be responsible for compiling the results of testing and auditing programs. The following constitute incidents or failure to comply: • Emergency response plan is not prepared or implemented. • Emergency response equipment is not provided or training is not undertaken. • Emergency response procedures not followed in the event of an incident. In the event of an incident or failure to comply, a selection of the following actions will be undertaken as appropriate: • Prepare or implement the emergency response plan. • Provide the necessary equipment or training. • Investigate why the emergency response procedures were not followed and implement mitigation measures.

12.17.5 Decommissioning

Element/Issue	Decommissioning
Operational Policy or Management Objective	To ensure that the gas transmission pipeline is effectively decommissioned in an environmentally sustainable manner.
Performance Criteria	• The pipeline corridor contains no long term environmental hazards. • Risks to the public are mitigated to acceptable levels. • The pipeline corridor is returned to a state suitable for other uses in the future.
Implementation Strategy	Prior to the decommissioning of the pipeline, a detailed decommissioning plan will be developed that will establish procedures and methods for decommissioning. The plan will be prepared in consultation with the appropriate regulatory authorities and landholders. When the pipeline is no longer required, it will be decommissioned in accordance with the legislative requirements of the day and the Australian Pipeline Industry Association (APIA) Code of Environmental Practice. The most likely options are: • Moth-balling – this involves depressurising the pipelines, capping and filling with an inert gas such as nitrogen and maintaining the cathodic protection system to prevent corrosion as applicable. • Abandonment – this could involve disconnecting the pipelines from all above-ground structures including the cathodic protection systems, purging the pipes of process materials, placing plugs at predetermined intervals to inhibit groundwater flow and removing all above ground facilities. The pipelines will then be abandoned to corrode in-situ. The pipe may be filled with a stable material (e.g. concrete grout) at critical locations such as where it passes under a thoroughfare.
Monitoring and Auditing	A monitoring program that will assess the effectiveness of rehabilitation and decontamination efforts will be developed as part of the preparation of the decommissioning plans. On-going environmental monitoring may be required for a period of time to ensure decontamination and rehabilitation procedures have been successful and there is no likelihood of any further contamination resulting from the site's previous activities.
Reporting and Corrective Action	The results of rehabilitation and any monitoring programs will be kept and presented in a

Element/Issue	Decommissioning
	decommissioning report which will be submitted to the EPA. The following constitute an incident or failure to comply: • Aspects of the decommissioning, remediation or rehabilitation do not satisfy the relevant regulatory authorities or other stakeholders in the project. • There is evidence of ongoing environmental harm following the completion of decommissioning activities. In the event of a non-compliance, the appropriate corrective action will be undertaken to rectify the non-compliance.