

Draft environmental management plan
Chemical and fuel management plan

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Santos GLNG Upstream

Chemical and Fuel Management Plan

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Abbreviations

Acronym	Description
ADG Code 7 th Ed	Australian Code for the Transport of Dangerous Goods by Road and Rail (2011)
AS	Australian Standard
CSG	Coal Seam Gas
CFMP	Chemical and Fuel Management Plan
EA	Environmental Authority
EHS	Environment, Health and Safety
EHSMS	Environment, Health and Safety Management System
EP Act	<i>Environmental Protection Act 1994 (QLD)</i>
EP Regulation	<i>Environmental Protection Regulation 2008 (QLD)</i>
ERA	Environmentally Relevant Activity
GED	General Environmental Duty
GLNG	Gladstone Liquefied Natural Gas
IMS	Incident Management System
ISO	International Organisation for Standardisation
NZS	Standards New Zealand
QLD	Queensland
SDS	Safety Data Sheets
SHRR	Significant Hazard Risk Register
UST	Underground Storage Tank
WHS Act	<i>Workplace Health and Safety Act 2011 (QLD)</i>
WHS Regulation	<i>Workplace Health and Safety Regulation 2011 (QLD)</i>

1.0 Introduction

Santos GLNG activities in the gas fields of Queensland involve the storage and handling of chemicals and fuels, which can be classified as 'hazardous substances' and/or 'dangerous goods' under relevant national codes and guidelines. A number of environmental risks are associated with the handling and storage of chemicals and fuels such as:

- Contamination and/or adverse impacts to the environment caused by chemical and fuel spills;
- An increased risk of fire and/or explosions caused by chemicals and fuels; and
- The generation of regulated / contaminated wastes that have the potential to adversely affect the environment if inappropriately handled or disposed of.

Santos GLNG utilises a number of tools to minimise the environmental risks presented by the storage and handling of chemicals and fuels as part of Santos GLNG Project activities. This Chemical and Fuel Management Plan (CFMP) provides an overview of the management framework in place for the handling and storage of chemicals and fuels within the Santos GLNG Upstream Project Area.

1.1 Purpose and Scope

1.1.1 Purpose

Santos GLNG has both a legal and social responsibility to appropriately handle and store chemicals and fuels for Santos GLNG activities. This CFMP has been prepared to satisfy these obligations, and is designed to complement the overarching Santos Environment, Health and Safety Management System (EHSMS).

The objectives of the CFMP are to:

- Facilitate compliance with relevant legislation, regulations and approvals;
- Support the Santos *Health and Safety Standard 08 - Chemical Management and Dangerous Goods* (HSHS08) and *Environmental Hazard Standard 02 – Underground Storage Tanks and Bunds* (EHS02); and
- Provide a framework for Santos GLNG to:
 - Ensure that bulk chemicals and fuels are:
 - stored in, or serviced by, an effective containment system that is impervious to the materials stored therein;
 - stored and handled in accordance with the relevant Australian Standard where such standard is available; and
 - managed to minimise the risk of release of substances to waters or land.
 - Assessing the potential risk of a chemical or fuel prior to approval for its use on-site; and
 - Identifying and implementing appropriate risk and/or impact mitigation measures.

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1.1.2 Scope

This CFMP provides an overview of the strategy, methods and controls implemented by Santos GLNG to responsibly manage the storage and handling of chemicals and fuels. Specifically, this CFMP:

- Identifies the types of chemicals and fuels stored and handled within the Santos GLNG Upstream Project Area; and
- Describes Santos GLNG's approach to the management of chemical and fuel handling and storage.

This CFMP does not address:

- Management of process safety risks associated with the production, processing and storage of oil and gas by Santos GLNG;
- Management relating to transportation of chemicals and fuels;
- Emergency response relating to uncontrolled releases of chemicals and fuels; and
- Disposal of waste associated with chemicals and fuels.

This CFMP is to be implemented by all Santos GLNG Project personnel responsible for the handling and storage of chemicals and fuels during the exploration, construction, production, decommissioning and rehabilitation phases of the Project.

This CFMP applies to activities carried out within the Santos GLNG Upstream Project Area. The Santos GLNG Upstream Project Area consists of Santos GLNG petroleum tenements comprising the Arcadia, Fairview, Roma and Scotia gas fields and as illustrated in Figure 1.

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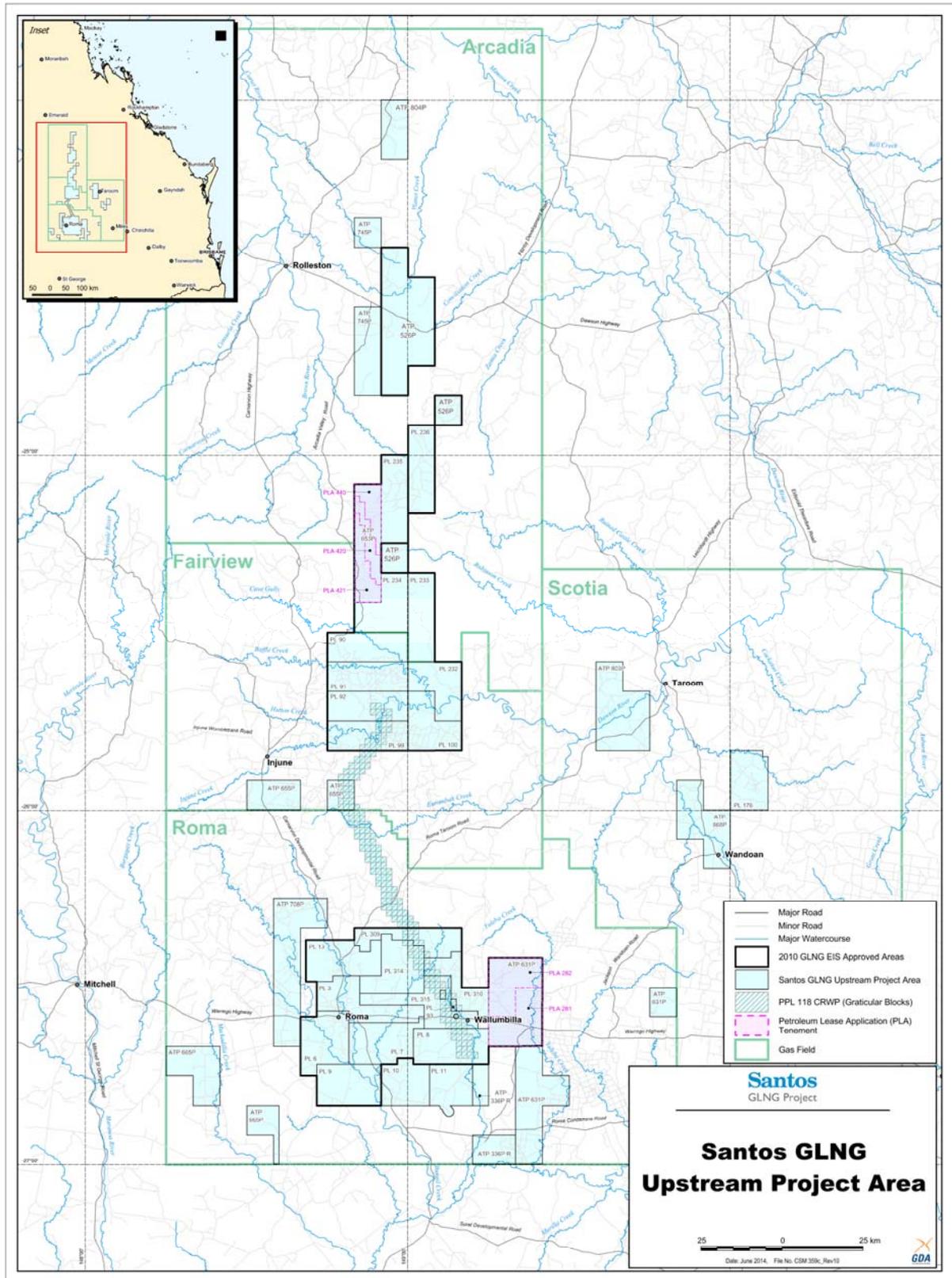


Figure 1: The Santos GLNG Upstream Project Area

2.0 Roles and Responsibilities

Santos GLNG Project personnel are responsible for the environmental performance of their activities, for complying with relevant approval / permit requirements and for ensuring that all environmental objectives associated with the work are achieved. Santos GLNG Project personnel must also be mindful of the General Environmental Duty (GED) as outlined in the *Environmental Protection Act 1994* (Qld) (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.”

Roles, responsibilities and accountability under the CFMP will be assigned in accordance with the *Santos EHSMS05 – Responsibility and Accountability*.

3.0 Legal and Other Requirements

Applicable legislation, regulations, guidance and strategies enacted by the Commonwealth, State of Queensland and regional councils for the handling and storage of chemicals and fuels in the Santos GLNG Upstream Project Area are described in the following sections.

3.1 Commonwealth Legislation and Strategies

An overview of Commonwealth legislation, strategies and national standards considered in the development of the CFMP is presented in Table 1.

Table 1: Summary of Key Applicable Commonwealth Legislation, Strategies and National Standards

Act / Regulation / Standards	Summary
<i>NOHSC:1015(2001) – National Standard for the Storage and Handling of Workplace Dangerous Goods</i>	NOHSC:1015(2001) sets out requirements to ensure the effective control of the storage and handling of dangerous goods in order to protect the safety and health of workers and the public as well as the protection of property and the environment. It requires a storage and handling system which covers the risks associated with the premises where any dangerous goods are stored and handled.
<i>Australian Code for the Transport of Dangerous Goods by Road and Rail (2011) (ADG Code 7th Ed)</i>	The ADG Code 7th Ed is the national code from the National Road Transport Commission that provides consistent technical requirements for the land transport of dangerous goods across Australia. The ADG Code 7th Ed should be read in conjunction with the national occupational health and safety legislations. The ADG Code 7th Ed adopts the structure, format, definitions and concepts of the <i>United Nations Recommendations on the Transport of Dangerous Goods Model Regulations</i> while retaining some Australian specific provisions. It also incorporates additional provisions for the transport of infectious substances.
<i>AS 1216:2006 – Class labels for dangerous goods</i>	In addition, <i>AS1216-2006 Class Labels for Dangerous Goods</i> sets out details of design and selection of labels appropriate to the classes, divisions and subsidiary risks of dangerous goods as designated in the ADG Code 7 th Ed.
<i>AS 1940:2004 – The storage and handling of flammable and combustible liquids</i>	This standard sets out requirements and recommendations for safe storage and handling of flammable and combustible liquids. It provides minimum acceptable safety requirements for storage facilities, operating procedures, emergency planning and fire protection.
<i>AS 4332:2004 – The storage and handling of gases in cylinders</i>	This standard sets out requirements and recommendations for the safe storage and handling, in cylinders, of gases that are classified as Class 2 substances in the ADG Code 7 th Ed. Although the standard applies to all locations, the context is generally industrial, commercial or rural in nature.
<i>AS 4326:2008 – The storage and handling of oxidizing agents</i>	This standard sets out requirements and recommendations for the safe storage and handling of oxidizing agents that meet the classification criteria of the ADG Code 7 th Ed. It provides safety requirements for storage areas, operating procedures, emergency planning and fire protection for stores in which oxidizing agents are kept. It provides technical guidance to assist in the storage and handling of oxidizing agents in accordance with the risk management requirements of NOHSC:1015(2001) and regulations drawing on that document.

Act / Regulation / Standards	Summary
AS 3780:2008 – The storage and handling of corrosive substances	This standard sets out requirements and recommendations for the safe storage and handling of corrosive substances, i.e. substances that meet the Class 8 classification criteria of the ADG Code 7 th Ed. It provides minimum acceptable safety requirements for storage facilities, operating procedures, emergency planning and fire protection. It also provides technical guidance that may assist in the storage and handling of corrosive substances in accordance with the risk management requirements of NOHSC:1015(2001) and legislation that draws on that document.
AS 2714:2008 – The storage and handling of organic peroxides	This standard provides requirements and recommendations for the storage, handling, dispensing and disposal of dangerous goods of Division 5.2, listed in the ADG Code. It provides requirements for organic peroxides of Types B, C, D, E, and F. It also provides minimum safety requirements for storage facilities, operating procedures, emergency planning and fire protection. It provides technical guidance that may assist in the storage and handling of organic peroxides in accordance with the risk management principles of NOHSC:1015(2001) and legislation that draws upon that document.
AS 4452:1997 – The storage and handling of toxic substances	This standard sets out requirements and recommendations for the safe storage and handling of toxic substances that are classified as Class 6.1 in the ADG Code 7 th Ed. Although the standard applies to all locations, the context is generally industrial, commercial or rural in nature.
AS/NZS 3833:2007 – The storage and handling of mixed classes of dangerous goods, in packages and intermediate bulk containers	This standard sets out requirements and recommendations for the safe storage and handling of dangerous goods, in packages and intermediate bulk containers of up to 1.6 m ³ capacity, where dangerous goods of more than one class are kept within the same store, without the need for segregating walls. It provides minimum acceptable safety requirements for storage areas, operating procedures, emergency planning and fire protection. It provides technical guidance that may assist in the storage and handling of dangerous goods in accordance with regulatory requirements.

3.2 State Legislation and Strategies

An overview of Queensland legislation and strategies considered in the development of the CFMP is presented in Table 2. In relation to environment, the EP Act is the principal State legislation governing Santos GLNG's chemical and fuel management activities.

Table 2: Summary of Key Applicable State Legislation and Strategies

Act / Regulation	Summary of Act
Environmental Protection Act 1994 (EP Act)	<p>The EP Act provides for environmental management practices and environmental safeguards. The EP Act requires the appropriate storage and handling of chemicals and fuels.</p> <p>Santos GLNG holds a series of EAs issued under the EP Act authorising the development of the Santos GLNG Upstream Project Area. These EAs include provisions concerning the management of chemical and fuel storage.</p> <p>The EP Act also requires Santos GLNG to take all reasonable and practicable measures to prevent or minimise environmental harm.</p> <p>Schedule 3 of the EP Act lists notifiable activities. Notifiable activities 7 and 29 involve the storage of chemicals and petroleum products respectively. Where chemical and fuel storage activities meet the conditions and thresholds of these listed notifiable activities, additional reporting to the administering authority may be required for entry of the land onto the Environmental Management Register.</p>

Act / Regulation	Summary of Act
Environmental Protection Regulation 2008 (EP Regulation)	The EP Regulation establishes the Environmental Objectives and Performance Outcomes relevant to defined activities and receiving environment values. Under the EP Regulation, chemical storage is an environmentally relevant activity (ERA). ERAs are considered to pose a risk to the environment, requiring greater controls to minimise the potential for environmental harm.
Workplace Health and Safety Act 2011 (QLD) (WHS Act)	The WHS Act aims to secure the health and safety of workers and workplaces by the elimination or minimisation of risks and by providing the highest level of protection from hazards and risks as is reasonably practicable. Under the WHS Act, employers are required to ensure that the work health and safety of each of their workers and other persons (including members of the public) is not affected by the conduct of the employer's business or undertaking.
Workplace Health and Safety Regulation 2011 (QLD) (WHS Regulation)	The WHS Regulation specifies the way in which a duty under the WHS Act must be performed and prescribes procedural or administrative matters to support the WHS Act (e.g. requiring licences for specific activities and the keeping of records).

3.3 Santos Environment, Health and Safety Management System

The Santos EHSMS provides a framework for environmental and safety practices across Santos operations worldwide. The framework is consistent with *AS 4801:2000 Occupational Health and Safety Management Systems*, and *AS/NZS ISO 14001:2004 Environmental Management Systems*.

The CFMP complements the requirements of the EHSMS, in particular the health and safety hazard standards and the environmental hazard standards listed in Table 3. These standards provide guidance for the management of the storage, handling and use of chemicals and fuels associated with Santos activities. Where applicable, these standards refer to relevant national standards, to ensure legislative compliance.

Table 3: Summary of Applicable Santos EHSMS Standards

Standard	Summary of Standards
HSHS08 Chemical Management and Dangerous Goods (HSHS08)	This standard details the requirements for the management of EHS hazards associated with the storage, handling, use and disposal of chemicals to comply with legislative requirements. This standard does not address the transport of dangerous goods.
EHS02 Underground Storage Tanks and Bunds (EHS02)	This standard defines the requirements for managing underground storage tanks (USTs) and secondary containment (bunds). The purpose is to minimise potential for spills or leaks of environmentally hazardous substances. It refers to the AS1940:2004 for secondary containment engineering design requirements.
EHS08 Contaminated Sites	This standard defines the minimum acceptable requirements for the protection of human health and the environment where site contamination has occurred as a result of Santos activities.
EHSMS09 Managing EHS Risks (EHSMS09)	This standard details the framework and processes necessary to systematically identify hazards, assess their risk and adopt control strategies to reduce risk to as low as reasonably practicable.

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Standard	Summary of Standards
<i>EHSMS10 Contractor and Supplier EHS Management</i>	This standard details the EHS components required for selecting and managing contractors and suppliers. This standard is designed to ensure work performed by contractors, and the procurement of equipment, materials or goods is controlled to prevent harm to personnel, the public, the environment and Santos's business interests where reasonably practicable.
<i>EHSMS12 Management of Change (EHSMS12)</i>	This standard details the necessary framework to ensure that changes made to processes which impact on environment, health and safety risks are identified and appropriately managed.

This CFMP specifically addresses unique features and requirements relating to the Santos GLNG Project. Santos GLNG specific documentation is based on identified environmental and reputational risks and account for Santos GLNG's legal and other obligations, commitments made by the Santos GLNG Project and Santos GLNG's Social Licence to Operate. In this context, the CFMP provides additional guidance for the management of environmental issues and supports the development of asset / activity / department based guidelines and work instructions, in order to secure compliance with legal requirements as well as deliver on company environmental standards.

The Santos approach to environmental management is illustrated in Figure 2.



Figure 2: The Santos Approach to Environmental Management

4.0 Chemicals and Fuels in the Santos GLNG Upstream Project Area

Santos GLNG utilises a range of chemical and fuel types across its activities in the Santos GLNG Upstream Project Area. The chemicals and fuels used for upstream activities are recorded and maintained in registers. Table 4 provides an indicative list of the chemical and fuel types stored and/or associated with Santos GLNG activities.

Table 4: Indicative Chemicals and Fuel Stored / Associated with Various Santos GLNG Activities

Petroleum Activity	Substances Stored
Associated Water Amendment Facilities	<ul style="list-style-type: none"> • Sulphuric Acid • Calcium Sulfate • Agent Buffer Solutions • Lubrication Oils • Diesel
Reverse Osmosis Plants	<ul style="list-style-type: none"> • Biocides • Anti-scalants • Sodium Hydroxide • Sodium Hypochlorite • Citric Acid • Calcium Chloride • Lubrication Oils • Diesel
Gas Processing Facilities	<ul style="list-style-type: none"> • Aluminium sulfate • Engine Coolants • Triethylene glycol • Nitrogen • Carbon Dioxide • Oxygen • Acetylene • LPG • Oils • Petrol, Unleaded • Lubrication Oil • Diesel
Drilling Activities	<ul style="list-style-type: none"> • Bentonite • Cement • Cellulose • Barite (Barium Sulfate) • Potassium Chloride or Potassium Sulfate (Stabiliser) • Citric Acid • Cross Linked Polyacrylamide • Sodium Carboxymethyl Cellulose • Polyacrylic Polymer • Sodium Bicarbonate • Sodium Sulfide • Sodium Glycolate

Permanent chemical and fuel storages are associated with fixed assets that utilise chemicals and fuels as part of their general operation, such as the water treatment facilities and gas processing facilities. The types and quantities of chemicals and fuels kept within these permanent storages are asset and activity specific and are also dependent on the capacity of the individual facilities.

Temporary and mobile chemical and fuel storages are also located throughout the Santos GLNG Upstream Project Area. These are associated with short-term activities such as drilling and completions (including stimulation activities) with the most significant volumes associated with construction activities. Temporary chemical storages for construction purposes usually comprise an assortment of classes of dangerous goods in various quantities. These may be considered as 'minor' storages as defined under the relevant Australian Standards.

The number of temporary storages at any one time across the Santos GLNG Upstream Project Area will vary and be based on demand. Similarly, the types and quantities of the substances stored will vary on the cross section of activities being conducted.

5.0 Chemical and Fuel Management

5.1 Chemical and Fuel Management Framework

The framework for managing chemicals and fuels in the Santos GLNG Upstream Project Area is drawn from HSHS08 and is outlined in Figure 3.



Figure 3: Overview of Santos GLNG Chemical and Fuel Management Framework (HSHS08)

Based on the above framework, an overview of the measures used to manage, store and handle chemicals and fuels within the Santos GLNG Upstream Project Area is provided in Table 5.

Table 5: General Measures to Manage, Store and Handle Chemicals and Fuels

Management Topic	Management Measures
Chemical and Fuel Hazard Identification	<ul style="list-style-type: none"> Santos GLNG site representatives must be aware of any hazards and control measures associated with chemicals and fuels, including those activities conducted by contractors (refer EHSMS10). Consideration is to be given to any hazardous by-products of work activities (e.g. fumes, dust, fugitive emissions) which are to be included in the chemical register or manifest as appropriate. Site chemical registers are to be maintained and made readily available to site-based personnel for all chemicals and fuels stored and used on-site, including the identification of Hazardous Substances and Dangerous Goods. Current Safety Data Sheets (SDS) for all chemicals and fuels utilised in the Santos GLNG Upstream Project Area are stored in an electronic database and are available for viewing as required. The SDS for each chemical or fuel stored on-site shall be readily accessible to personnel at that site.
Chemical Risk Assessment	<ul style="list-style-type: none"> No hazardous substance or dangerous good is authorised to be purchased or used within the Santos GLNG Upstream Project Area unless: <ul style="list-style-type: none"> The proposed use(s) and storage of each substance has been risk assessed and approved in accordance with HSHS08 and EHSMS09; and The risk assessment is documented and its recommendations for management are implemented through incorporation into standard operating procedures and other internal documents, where appropriate.

Management Topic	Management Measures
	<ul style="list-style-type: none"> Consumer products do not require a risk assessment unless they are being used in large quantities or used for a purpose other than that intended. Completed risk assessments are stored on the Chemical Risk Assessment Register and Significant Hazard Risk Register (SHRR) where appropriate. Chemicals and fuels are reassessed based on certain conditions and/or changes in conditions as outlined in HSHS08 and EHSMS12. This can include changes in legislative requirements and other arising environmental concerns.
Chemical Risk Control Measures	<ul style="list-style-type: none"> Control measures identified by the risk assessments are to be implemented. Where a significant risk is identified, the control measures must be implemented prior to use of the chemical or fuel. Labelling and placarding is an important control measure for the storage and handling of chemicals and fuels. All containers of chemicals, products and waste materials are to be labelled correctly in compliance with <i>AS 1216:2006</i>. Furthermore, dangerous goods cabinets are to be kept in good condition and appropriately signed in accordance with <i>AS 1216:2006</i>. Containment systems of chemicals and fuels act as preventative measures for potential environmental harm. Chemicals and fuels shall be stored and transferred in appropriately engineered containment systems in accordance with relevant Australian Standards. As per EHS02, 'minor' storages¹ and temporary storages² do not require engineered bunds. However the following requirements must be met or exceeded: <ul style="list-style-type: none"> Storage base is impermeable; Storage is located away from stormwater drains, pits and surface waters; Storage is undercover, wherever practicable; and Equipment is in place to allow immediate recovery of spilt materials. Bunds for storages other than minor or temporary is to be located and engineered, where applicable, in accordance with the following considerations: <ul style="list-style-type: none"> Regulatory requirements (including site or activity specific requirements in the relevant EAs); Relevant international and Australian Standards; Volume and nature of the environmentally hazardous substance; and Environmental values and risks posed by the location such as significant nearby environmental values, drainage, rainfall potential and infiltration capacities. Bunds are to be recorded in the Santos Bund Register, and are to be managed and operated in accordance with site procedures that may consider issues such as: <ul style="list-style-type: none"> The collection / clean-up of releases, stormwater, or fire fighting water within

¹ The definition of 'minor' storages vary depending on the type of dangerous good which can be found in the relevant Australian Standards such as those listed in Section 0. 'Minor' storages of the different classes of dangerous goods as defined under the relevant Australian Standards have provisions for specific requirements and constraints such as threshold quantities and other limiting criteria. These Australian Standards outline information and guidelines pertaining to 'minor' storages which include the following:

- storage and bunding;
- threshold quantities;
- compatibility of substance with other classes of dangerous goods;
- segregation distance within same storage; and
- spill management.

² storage in one location for less than 3 weeks

Management Topic	Management Measures
	<ul style="list-style-type: none"> bunds; and ○ The inspection, testing and maintenance of bund integrity. ● Spill kits are to be regularly checked to ensure they are restocked in a timely manner. The type of spill kits prescribed is to be appropriate for the chemicals, fuels and classes of dangerous goods stored at the location.
Chemical Approval	<ul style="list-style-type: none"> ● Internal approval of the risks associated with the use, storage and handling of chemicals and fuels is to be completed prior to the commencement of the proposed activities.
Emergency Preparedness	<ul style="list-style-type: none"> ● For emergency environmental incidents, the Santos standard <i>EHSMS13 - Emergency Preparedness</i> is to be followed. ● Spills, leaks or inadvertent releases of solid or liquid chemicals, fuels and dangerous goods shall be reported and managed in accordance with <i>EHSMS 15 – Incident Investigation and Response</i> and any other relevant legislative requirement. ● Spills, leaks or inadvertent resulting in soil, surface or groundwater contamination shall be reported, managed and/or remediated in accordance with EHS08 and any other relevant legislative requirement.

5.2 Monitoring

In accordance with the Santos standard *EHSMS16 - Audit and Inspection*, inspection and audit plans will be developed and implemented to ensure that risk control measures remain effective. Inspections and audits will ensure that chemical and fuel storage facilities are maintained and operated in accordance with Santos standards and continue to meet relevant Australian Standards and legislative requirements.

As per EHSMS09, health monitoring is to be provided to workers carrying out ongoing work using, handling, generating or storing hazardous chemicals and where there is a significant risk to the worker's health due to exposure outlined in the Queensland WHS Regulation 2011.

5.3 Reporting, Incident Investigation and Corrective Action

All incidents relating to chemical and fuel activities (including the outcomes of audits where an adverse finding is made requiring corrective action) are to be reported in the Santos GLNG Incident Management System (IMS) and investigated according to Santos standard *EHSMS14 - Monitoring, Measurement and Reporting* and *EHSMS15 - Incident Investigation and Response*. Corrective actions are to be carried out based on the findings from incident investigations.

5.4 Training

All Santos GLNG Project personnel working in the Santos GLNG Upstream Project Area undergo a basic site-specific induction which includes an outline of the chemical and fuel management requirements and controls on-site. Applicable training suited to the different roles and responsibilities (Section 2.0) is also to be undertaken in accordance with the appropriate Santos standards including *EHSMS06 - Training and Competency*, HSHS08 and EHS02.

Regular toolbox meetings and awareness sessions are also conducted. Topics addressed by these sessions may include key chemical and fuel management principles to maintain compliance with regulatory requirements and to reinforce solutions or increase awareness of any chemical fuel related issues that arise during the course of exploration, construction, operations, decommissioning and rehabilitation.

6.0 Evaluation and Review

6.1 Evaluation

The implementation and effectiveness of this management plan and any associated procedures will be regularly assessed to ensure:

- Santos GLNG is demonstrating compliance with legal and landholder obligations;
- The overall management strategy remains relevant and up-to-date; and
- The plan and procedures adequately manage the environmental issue.

Effectiveness can be assessed by a number of methods as shown in Table 6.

Table 6: Methods to Assess Legal and Procedural Effectiveness

Assessment Tool	Description
Checklists – Santos GLNG Compliance Management System	<ul style="list-style-type: none"> • Checklists, developed to reflect legal and procedural requirements / outcomes will be used by individual Santos GLNG Departments to assess and manage compliance. The results of the checklists will be evaluated for trending non-compliances that may be resolved through procedural change or by implementing another measure or process.
Audits	<ul style="list-style-type: none"> • Conduct internal and third party audits to formally assess the level of compliance with both regulatory requirements and with Santos GLNG procedures. • Audit outcomes are used to develop corrective actions which may include changes to this plan and/or procedures.
Review of Incidents	<ul style="list-style-type: none"> • A review of internal incidents, near misses or hazards will be undertaken to identify recurrences of similar incident types. This may highlight a requirement for a change in the existing plan and/or procedures, require the development of a new procedure or by implementation of another measure or process to address the recurring issue.
Review of Data	<ul style="list-style-type: none"> • Analyse all relevant data collected for negative and/or undesirable trends that may be prevented by procedural changes or by implementing another measure or process.

6.2 Review

The CFMP is a living document and shall be reviewed at least every three years or sooner if any of the following occur:

- The plan is not adequately managing the issue (refer Section 6.1);
- Legislative requirements change; and/or
- The area of activity changes.

Reviews and changes to the CFMP are to be communicated to relevant Santos GLNG Project personnel.

7.0 Definitions

Term	Definition
Bund or banded	A bund is an embankment or wall of brick, stone, concrete or other impervious material which may form part or all of the perimeter of a compound which encloses fabricated and manufactured tanks or containers and provides a barrier to retain liquid. The bund is designed to contain spillages and leaks from liquids used, stored or processed above ground and to facilitate clean-up operations. As well as being used to prevent pollution of the receiving environment, bunds are also used for fire protection, product recovery and process isolation. Since the bund wall is the final and major part of a spill containment system, the whole system (or banded area) is sometimes colloquially referred to within industry as the bund.
Checklist	Checklists assist in assessing the implementation of a Procedure. Checklists contain a list of key items required, things to be done, or points to be considered and are a tool to assess compliance with a Procedure.
Dangerous Goods	Dangerous goods are substances, mixtures or articles that, because of their physical, chemical or acute toxicity properties, present an immediate hazard to people, property or the environment. Types of substances classified as dangerous goods include explosives, flammable liquids and gases, corrosives, chemically reactive or acutely (highly) toxic substances. The criteria used to determine whether substances are classified as dangerous goods are contained in the ADG Code 7th Ed, which contains a list of substances classified as dangerous goods. State and territory workplace dangerous goods storage and handling laws also govern the use of combustible liquids. The criteria for classifying combustible liquids are contained in AS1940:2004. Many dangerous goods are also classed as hazardous substances.
Hazard	A hazard is a source of potential harm to the environment or to health and safety of personnel.
Hazardous Substances	Hazardous substances are those that, following worker exposure, can have an adverse effect on health. A substance is deemed to be a hazardous substance if it meets the classification criteria specified in the <i>NOHSC:1008(2004) Approved Criteria for Classifying Hazardous Substances</i> .
Management Plan	Management Plans are specific to an issue and/or topic. They primarily serve to provide a high level overview of the legislative and approval requirements and the Santos GLNG management strategy in place for the relevant issue. Management Plans that relate to the environment are suitable for providing the environmental regulatory authority an overview of Santos GLNG environmental management, and in many cases, may be a direct requirement of an environmental approval.
Procedure	Procedures are designed to assist in the implementation of the Management Plan, by prescribing a series of processes and actions for a specific topic.
Santos GLNG Upstream Project Area	Comprises all Santos GLNG exploration and production tenements of the Arcadia, Fairview, Roma and Scotia gas fields.

8.0 References

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Standards Association of Australia (2007) *AS/NZS 3833:2007 - The storage and handling of mixed classes of dangerous goods, in packages and intermediate bulk containers*

Standards Association of Australia (2008) *AS 4326:2008 - The storage and handling of oxidizing agents*

Standards Association of Australia (2008) *AS 3780:2008 - The storage and handling of corrosive substances*

Standards Association of Australia (2008) *AS 2714:2008 - The storage and handling of organic peroxides*