

Draft environmental management plan
Contingency plan for emergency
environmental incidents

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Go back to contents ▶

Santos GLNG Upstream

Contingency Plan for Emergency Environmental Incidents

Table of Contents

1.0	Introduction.....	1
1.1	Purpose and Scope.....	1
1.1.1	Purpose	1
1.1.2	Scope	1
2.0	Roles and Responsibilities.....	4
3.0	Legal and Other Requirements	5
3.1	State Legislation and Strategies	5
3.2	Local Government Plans.....	5
3.3	Santos Environment, Health and Safety Management System.....	6
4.0	Emergency Environmental Incidents in the Santos GLNG Upstream Project Area.....	7
5.0	Emergency Preparedness Framework.....	8
5.1	Emergency Incident Organisation Structure	8
5.2	Emergency Response Plans and Procedures	10
5.2.1	Emergency Response Procedures	11
6.0	Emergency Response Actions.....	12
6.1	General Response to an Emergency Environmental Incident.....	12
6.1.1	General Response Measures	12
6.2	Resources for Response Actions.....	12
6.2.1	Key Contact Lists	12
6.2.2	Response and Management Teams	13
6.2.3	Emergency Preparedness Plans.....	13
6.2.4	Emergency Equipment.....	13
6.2.5	Training	13
6.3	Environmental Monitoring	14
6.4	Communication	14
6.4.1	Internal Notifications.....	14
6.4.2	Regulatory Notifications and Reporting.....	14
6.4.3	Stakeholder Notifications	15
6.5	Environmental Recovery	15
6.5.1	Site Assessments.....	15
6.5.2	Remediation and Rehabilitation of Contaminated Land.....	15
6.6	Incident Investigation	15
7.0	Evaluation and Review	17
7.1	Evaluation.....	17
7.2	Review.....	17

Santos

GLNG Project

8.0 Definitions 18

9.0 References 20

Tables

Table 1: Summary of Key Applicable State Legislation..... 5

Table 2: Incident Assessment Matrix (EHSMS 13) 7

Table 3: Methods to Assess Legal and Procedural Effectiveness 17

Figures

Figure 1: The Santos GLNG Upstream Project Area 3

Figure 2: The Santos Approach to Environmental Management 6

Figure 3: Emergency Preparedness Management Organisation Structure 8

Figure 4: Santos Incident Escalation Process (EHSMS 13)..... 9

Figure 5: Structure of Santos GLNG Emergency Preparedness Management System 10

Abbreviations and Units

Acronym	Description
AS	Australian Standard
CMP	Crisis Management Plan
CMT	Crisis Management Team
DEHP	Department of Environment and Heritage Protection
EA	Environmental Authority
ECP	Contingency Plan for Emergency Environmental Incidents
EHS	Environment, Health and Safety
EHSMS	Environment, Health and Safety Management System
EOC	Emergency Operations Centre
EP Act	<i>Environmental Protection Act 1994</i>
EP Regulation	<i>Environmental Protection Regulation 2008</i>
ERP	Emergency Response Plan
ERT	Emergency Response Team
FRT	Field Response Team
GED	General Environmental Duty
GLNG	Gladstone Liquefied Natural Gas
IMP	Incident Management Plan
IMS	Incident Management System
IMT	Incident Management Team
IOC	Incident Operations Centre
NZS	Standards New Zealand
QIMP	Queensland Incident Management Plan
SCMP	Santos Crisis Management Plan
SDPWO Act	<i>State Development and Public Works Organisation Act 1971</i>
SDS	Safety Data Sheet

1.0 Introduction

Unauthorised and unforeseen releases of hazardous and/or polluting substances can present an immediate and unacceptable short-term or long-term threat to the environment and persons. Similarly, a natural event that arises external to construction or operational activities can present immediate and unacceptable short-term or long-term threats to assets (including environmental assets) and persons. Dependent on the risks to environmental values or proximity to sensitive receptors, such releases require timely or immediate action – emergency action – for coordinating and implementing countermeasures to protect the environment, persons and assets from adverse effects and for notifying appropriate stakeholders and authorities.

This Contingency Plan for Emergency Environmental Incidents (herein referred to as the ECP) aims to provide an overview of management practices in place within Santos GLNG to minimise environmental harm during emergency environmental incidents. This ECP identifies potential emergency environmental incidents and details of a response to an emergency environmental incident, including escalation, communication, reporting and monitoring.

1.1 Purpose and Scope

1.1.1 Purpose

This ECP has been prepared to satisfy the requirements of the relevant Santos GLNG Upstream Project Area Environmental Authorities (EAs) and Co-ordinator General's Evaluation Report. This plan complements the overarching Santos Environment, Health and Safety Management System (EHSMS).

The objectives of this ECP are to:

- Facilitate compliance with relevant State and local Government legislation, regulations and approvals;
- Support the Santos Environmental, Health and Safety Management Standard – *EHSMS 13 - Emergency Preparedness* and *EHSMS 15 - Incident Investigation and Response*;
- Provide a framework for Santos GLNG to:
 - Prepare for and respond to emergency environmental incidents;
 - Communicate with the appropriate parties in the event of emergency environmental incidents;
 - Investigate the cause of emergency environmental incidents that have occurred;
 - Implement remedial actions to reduce the likelihood of recurrence of similar emergency environmental incidents; and
 - Develop procedures and plans for the management of emergency environmental incidents as required during the Project lifetime.

1.1.2 Scope

The ECP provides an overview of Santos GLNG emergency preparedness management and response strategy, methods and controls for emergency environmental incidents. Specifically, this ECP:

- Identifies potential emergency environmental incidents within the Santos GLNG Upstream Project Area; and
- Describes the emergency preparedness framework including general measures to manage and mitigate possible scenarios involving emergency environmental incidents.

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The ECP does not address Santos GLNG's response framework to incidents that are not deemed to be an emergency or to hazards that may present an emergency if not appropriately managed. Refer to the Santos *EHSMS 15 – Incident Investigation and Response* and supporting documentation for the management and response to incidents not deemed an emergency.

The ECP is to be implemented by all Santos GLNG personnel throughout the exploration, construction, production, decommissioning and rehabilitation phases of the Project.

The ECP 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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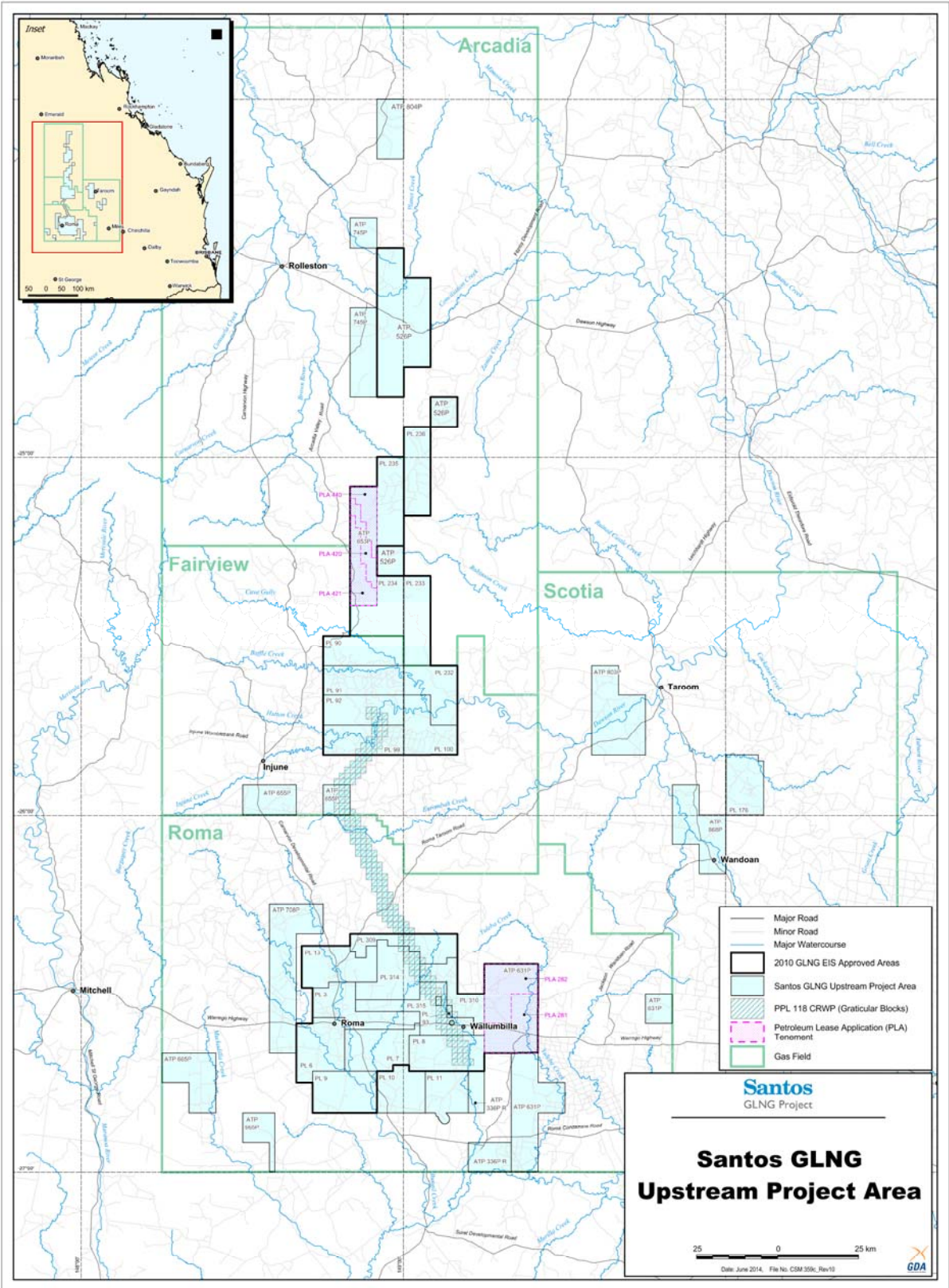


Figure 1: The Santos GLNG Upstream Project Area

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 ECP 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 State of Queensland and local governments regarding emergency environmental incidents in the Santos GLNG Upstream Project Area are described in the following sections.

3.1 State Legislation and Strategies

An overview of Queensland legislation and strategies considered in the development of the ECP are presented in Table 1 below.

Table 1: Summary of Key Applicable State Legislation

Act / Regulation / Policy	Summary of Act / Regulation / Policy
<i>State Development and Public Works Organisation Act 1971 (SDPWO Act)</i>	<p>The SDPWO Act draws together a range of powers and functions used by the State Government to facilitate the approval of large projects. It provides a formal environmental impact statement (EIS) process for significant projects.</p> <p>Determined as a “significant project” under the SDPWO Act, the Coordinator-General’s evaluation report for the Santos GLNG Project’s EIS imposes various conditions on the project, including conditions for the development of contingency plans and emergency procedures.</p>
<i>Environmental Protection Act 1994 (EP Act)</i> <i>Environmental Protection Regulation 2008 (EP Reg)</i>	<p>The objective of the EP Act is to protect Queensland’s environment by promoting ecologically sustainable development.</p> <p>Santos GLNG holds a series of EAs issued under the EP Act which authorises the development of the Santos GLNG Upstream Project Area. These EAs include requirements for an emergency environmental incidents contingency plan.</p> <p>The EP Act also requires Santos GLNG to take all reasonable and practicable measures to prevent or minimise environmental harm.</p>
<i>Disaster Management Act 2003</i>	<p>Under the <i>Disaster Management Act 2003</i>, each regional council is required to develop a Disaster Management Plan which facilitates the implementation of effective and efficient disaster management strategies and arrangements specific to each region (e.g. flooding, bushfire etc.).</p>

3.2 Local Government Plans

Each of the Local Government Areas in which the Santos GLNG Upstream Project Area lies, maintains a Disaster Management Plan. Each of the plans listed below has been considered in the development of this ECP and in the management of emergency environmental incidents within the respective council boundaries:

- Maranoa Regional Council Local Disaster Management Plan, 2012;
- Central Highlands Regional Council Local Disaster Management Plan, 2012;
- Banana Shire Local Disaster Management Plan, 2012;
- Western Downs Local Disaster Management Plan, 2012.

Santos GLNG will maintain effective communications with the Local Government when coordinating any emergency response activities.

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 has been developed to be consistent with *AS 4801:2000 Occupational Health and Safety Management Systems* and *AS/NZS ISO 14001:2004 Environmental Management Systems*.

The ECP has been developed to meet the requirements of the EHSMS by utilising the Santos Standard *EHSMS 13 Emergency Preparedness* and *EHSMS 15 Incident Investigation and Response*. These standards define the minimum acceptable standards for emergency preparedness and incident investigation and response for Santos operations and activities.

This ECP 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 ECP 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 Emergency Environmental Incidents in the Santos GLNG Upstream Project Area

An ‘emergency environmental incident’ is a *sudden and immediate* threat to the well-being of the environment that calls for immediate measures to minimise its adverse consequences. Within Santos GLNG, emergency environmental incidents are those that have an incident severity of Category 4 or Category 5 on the Santos Incident Assessment Matrix (refer Table 2).

Table 2: Incident Assessment Matrix (EHSMS 13)

Santos Response		Category	Health and Safety	Natural Environment	Reputation (Govt, media, community)
CMT INCIDENT MANAGEMENT TEAM (IMT) EMERGENCY RESPONSE TEAM FIELD RESPONSE TEAM	Category 5	Fatality	Destruction of sensitive environmental features. Regulatory & high-level Government intervention/action	Critical impact on business reputation National level media exposure	
	Category 4	Permanent disabling injury and/or long term off work with high potential to become life threatening	Long-term impact of regional significance on sensitive environmental features. Regulatory intervention/action.	Significant impact on business reputation State level media exposure	
	Category 3	Multiple Injuries requiring medical treatment, time off work rehabilitation with the potential to escalate	Short-term impact on sensitive environmental features. Triggers regulatory investigation	Moderate to small impact on business reputation State level media exposure	
	Category 2	Injury requiring medical treatment, time off work and rehabilitation	Impact on fauna, flora and/or habitat but no negative effects on ecosystem. Requires immediate regulator notification	Some impact on business reputation Adverse news in local media	
	Category 1	Minor injury – first aid treatment	Negligible impact on flora/fauna, habitat, aquatic ecosystem or water resources. Crisis reporting according to routine protocols	Minor impact to reputation	

Whilst every incident will require an assessment against the Incident Assessment Matrix to determine if the event is an ‘emergency’, the following are examples of potential environmental emergencies relevant to activities undertaken in the Santos GLNG Upstream Project Area:

- Natural disasters
 - Flooding;
 - Bushfire;
- Santos GLNG activities
 - Non-routine well stimulation activities;
 - Non-routine injection activities;
 - Loss of well integrity;
 - Loss of pipeline integrity;
 - Loss of hazardous dam integrity (i.e. overtopping or structural failure);
 - Major facility faults;
 - Significant or uncontrolled release of hazardous chemicals and fuels.

5.0 Emergency Preparedness Framework

5.1 Emergency Incident Organisation Structure

Santos GLNG has a four-tiered response structure for managing incidents (including environmental incidents) – the Field Response Team (FRT), the Emergency Response Team (ERT), the Incident Management Team (IMT) and the Crisis Management Team (CMT) as depicted in Figure 3.

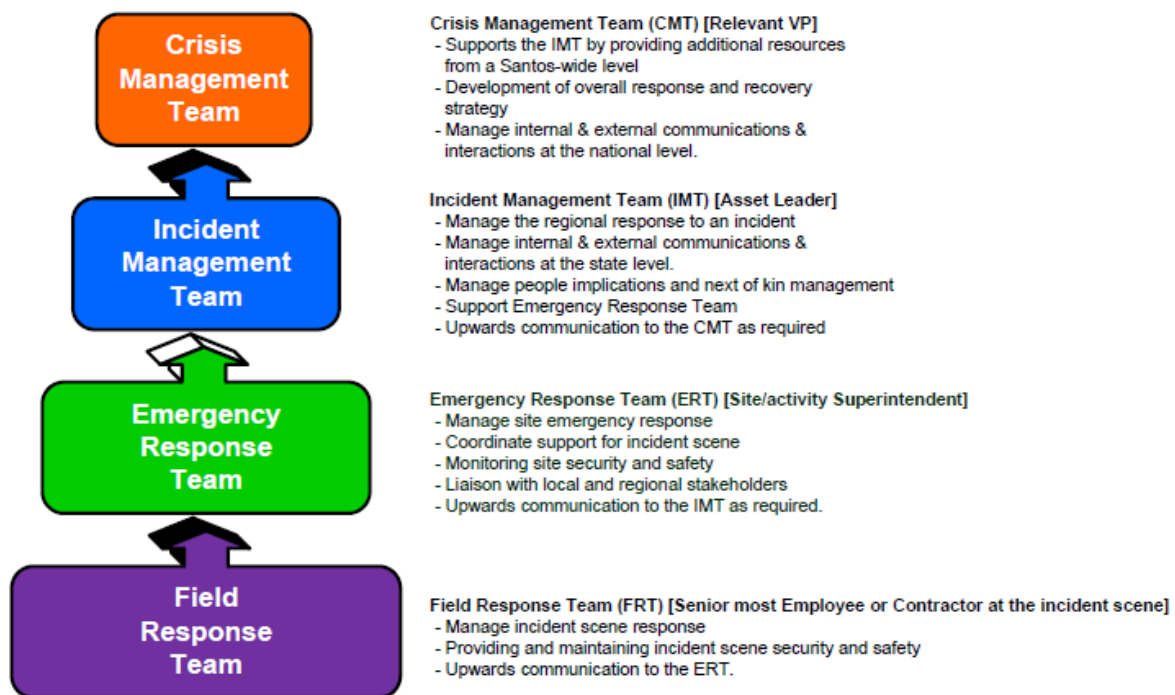


Figure 3: Emergency Preparedness Management Organisation Structure

Escalation of emergency incidents through the different response teams is to occur in accordance with the process shown in Figure 4. Due to the perceived severity of an emergency environmental incident (i.e. in accordance with Incident Assessment Matrix shown in Table 2), as a minimum, the FRT, ERT and IMT will always be involved in the response effort. The CMT is required in response to a Level 5 incident.

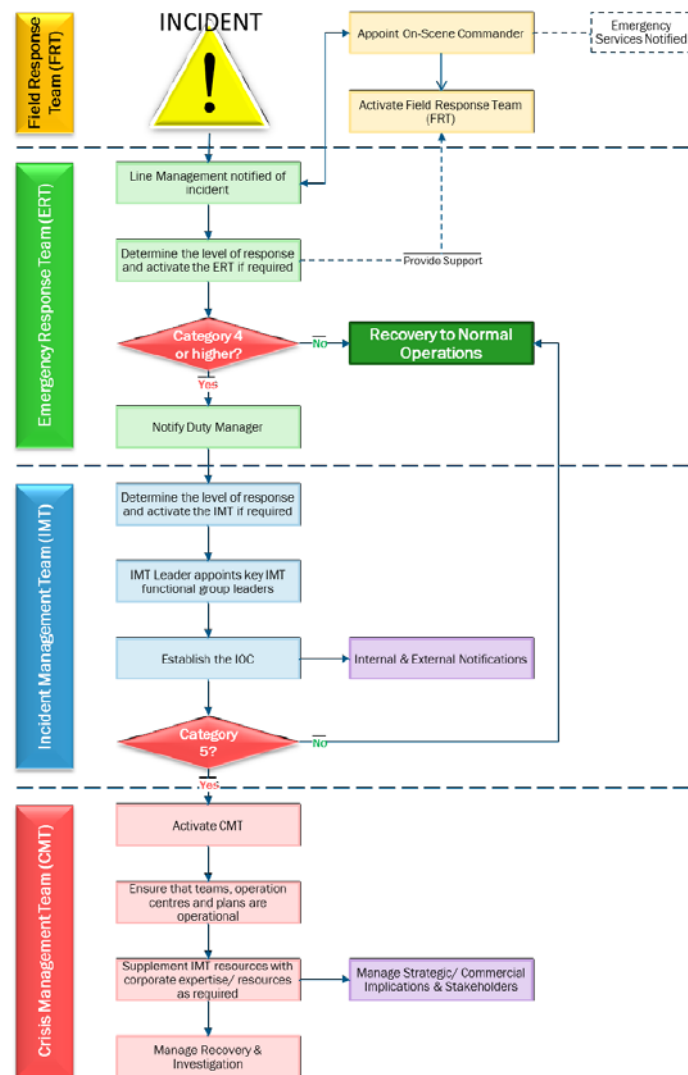


Figure 4: Santos Incident Escalation Process (EHSMS 13)

Each of the teams shown in Figure 3 is responsible for the implementation of a relevant set of emergency preparedness plans, dependent on the incident type and severity and the asset involved (refer Figure 5). The implementation of the emergency preparedness plans will aid in minimising the potential or actual environmental harm, in the event of an emergency environmental incident.

Santos GLNG has developed a series of emergency preparedness plans as part of the Santos GLNG emergency preparedness management and response system. These plans are developed and maintained at three levels:

- **Emergency Response Plan (ERP):** a procedural document maintained by site management outlining specific site / activity response expectations for emergency scenarios.
- **Incident Management Plan (IMP):** a tactical document maintained by Regional / Business / National level management outlining Department / National response for incidents, including management and operational support for site / field based Emergency Response arrangements.

- Crisis Management Plan (CMP): A strategic document managed by Corporate Security outlining corporate response to key scenarios with strategic implications for Santos.

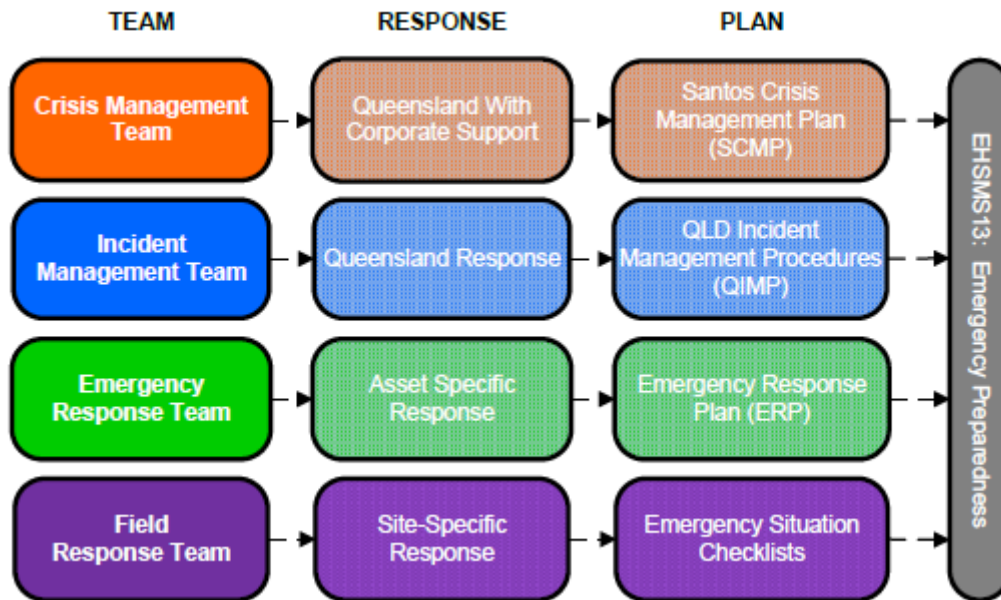


Figure 5: Structure of Santos GLNG Emergency Preparedness Management System

The emergency management and response plans must include the elements described in Section 5.2 in order to meet the relevant requirements of this ECP and its associated legislative requirements.

The Santos GLNG *Queensland Incident Management Plan* is to be consulted for further information regarding the function and operation of the emergency incident management teams.

5.2 Emergency Response Plans and Procedures

Santos GLNG emergency preparedness plans for potential emergency environmental incidents will be implemented. All plans include the following minimum content:

- Clearly defined roles and responsibilities of relevant emergency response personnel through Duty Cards;
- Emergency specific triggers based on the Santos Incident Escalation Process (Figure 4);
- Emergency response procedures;
- Resources to be used in response to an emergency environmental incident;
 - Availability of emergency response documentation and procedures;
 - Relevant training;
 - Emergency response and management teams;
 - Emergency equipment;
- Monitoring (including procedures for accessing monitoring locations during emergency environmental incident);
- Communication procedures and coordination with stakeholders (e.g. emergency services, local government and state government);
- Notifications and reporting; and

- Incident investigation.

5.2.1 Emergency Response Procedures

Emergency response procedures are provided in the relevant emergency preparedness plans in the form of Emergency Situation Checklists. These Emergency Situation Checklists are scenario based and act as a guide to assist the relevant emergency response personnel when responding to a specific emergency. Variations to the checklists will be based upon sound emergency response management, engineering judgement and operational experience, and are at the discretion of the response leaders (e.g. the Duty Manager and On-Scene Commander).

The emergency response and management teams will serve a critical role in controlling an incident. The emergency response and management teams may meet regularly to review the emergency response procedures and to update the procedures as site conditions warrant. Additionally, if improvements in the response procedures are identified, the ECP and other relevant emergency preparedness plans will be updated accordingly.

6.0 Emergency Response Actions

6.1 General Response to an Emergency Environmental Incident

The general measures provided in the sections below apply to all environmental incident scenarios. These measures will be executed in response to an environmental emergency to:

- Reduce the threat to human life or injury;
- Protect against environmental damage; and
- Preserve infrastructure, product, and equipment.

More specific response actions will be dependent on the type and location of the emergency environmental incident and detailed in the relevant emergency preparedness and response plan.

6.1.1 General Response Measures

1. **Evacuate** (all non-essential personnel).
2. **Eliminate** (sources of ignition, sparks, etc.).
3. **Stop and Coordinate** (stop source of the incident (e.g. spill) and coordinate shut down of relevant equipment, if possible).
4. **Notify** (internal and external notifications);
 - (a) All emergency environmental incidents must be reported to the DM immediately upon discovery; and
 - (b) Conduct regulatory or emergency services report, as required.
5. **Identify** (material (if unknown) and identify PPE, hazards, and response procedures using SDSs).
6. **Contain / Isolate** (contain released material / incident using emergency response equipment and/or set up perimeter to isolate area).
7. **Stabilise and Neutralise** (neutralise / stabilise spilt material (where relevant), use absorbents to stabilise other released materials etc).
8. **Clean up** (remove released materials, spill response materials, any affected media etc.)
9. **Evaluate**
10. **Document**
11. **Investigate and Remediate** (if necessary)

Once the situation has stabilised, refer to the following sections for additional information:

- Section 6.3 – Environmental Monitoring: coordinate and implement the appropriate monitoring regimen, determined on a case-by-case basis;
- Section 6.4 – Communication: ensure that the proper notifications are made.

6.2 Resources for Response Actions

6.2.1 Key Contact Lists

The QIMP provides a current *Santos GLNG Duty Manager Roster* and a contact list of all the relevant emergency response personnel in the Santos GLNG Project. Frequently updated, this contact list and the *Santos GLNG Duty Manager Roster* are made readily available to all Santos GLNG Project personnel on the Santos Intranet.

6.2.2 Response and Management Teams

Emergency response and management teams (as illustrated in Figure 3) are resourced to respond to the various categories of emergency incidents and are activated through the Santos Incident Escalation Process (Figure 4). The roles and responsibilities of these teams are outlined in Section 2.0 and more specifically, are provided in relevant emergency preparedness plans.

6.2.3 Emergency Preparedness Plans

Emergency preparedness plans are readily available to Santos GLNG Project personnel attending emergency environmental incidents.

6.2.4 Emergency Equipment

As specified in the *EHSMS 13 Emergency Preparedness*, a risk management process will be used to determine the type, quantity and location of emergency equipment required for an operational site. The asset *Significant Hazard Risk Register* will be used to assist with the determination of emergency equipment. Necessary emergency response equipment as determined from the risk assessment of individual sites will be available to respond to emergency environmental incidents.

All emergency equipment located at the Emergency and/or Incident Operations Centre (EOC and IOC) and at individual assets (permanent equipment for immediate response to emergencies (e.g. fire extinguishers)) shall, as applicable:

- Be installed in accordance with manufacturer's instructions and/or relevant Australian Standards or equivalent;
- Be readily accessible and within a reasonable distance from the source of the hazards; and
- Have appropriate signage and lighting.

The emergency equipment inventory shall be regularly inspected, tested and maintained in accordance with relevant legislative requirements, standards and/or manufacturer's instructions. Relevant personnel will be trained and competent to use emergency equipment. Inspections shall be carried out by competent personnel in accordance with controlled inspection checklists.

6.2.5 Training

Personnel shall be trained in accordance with the Santos Competency Based Training Program to effectively fulfil their roles and responsibilities in the Santos GLNG emergency preparedness management and response system. Training personnel and exercising the IMP and other emergency preparedness plans may be in the form of simulated emergencies, practical drills, desktop exercises, resources and equipment checks or other exercises designed to systematically include all personnel likely to be involved. Emergency exercises shall be conducted to:

- Test the effectiveness of the IMP and other emergency preparedness plans;
- Validate the competency of key emergency response personnel;
- Assess the capability to respond to an emergency;
- Reinforce prior training; and
- Identify opportunities for improvement.

6.3 Environmental Monitoring

Environmental monitoring will be conducted in response to an emergency environmental incident. The specific aspects of the environmental monitoring activities, including suitable monitoring locations, will vary depending on the nature of the incident and will be determined at the time of the incident. Typical monitoring that will be required may include:

- Visual and olfactory inspections to determine the nature and extent of impacts and ongoing response actions;
- Vapour monitoring associated with the release of gases and petroleum hydrocarbon and/or chemical vapours to atmosphere;
- Field measurements of pH and conductivity in released waters, waters contained within temporary containment structures or tanks and receiving waters; and/or
- Laboratory measurements to identify constituents of concern in affected media where required (e.g., waters, soils).

More robust sampling and analysis will be conducted in the post incident investigation, assessment and, if required, remediation activities. This will include the implementation of receiving environment monitoring programs where contaminants have been released to land or water, so as to determine the extent of any environmental impact. Programs will include upstream, downstream and impact site monitoring for releases to waters and a detailed soil monitoring program for releases to land.

6.4 Communication

6.4.1 Internal Notifications

Emergency incidents are notified internally via the escalation process illustrated in Figure 4.

All emergency environmental incidents that are classified or has the potential to be classified as “Crisis” (i.e. Category 5), the relevant General Manager and Vice President shall be notified immediately. They shall then liaise as necessary with the Safety and Environment Manager, Santos GLNG Legal Department, Senior Management and the Board.

Further, all emergency environmental incidents shall be recorded in the Incident Management System (IMS) as soon as possible and in accordance with requirements in *EHSMS 15 Incident Investigation and Response*.

6.4.2 Regulatory Notifications and Reporting

Notifications to regulatory bodies will be made in accordance with the *Santos GLNG Procedure for Statutory Notifications to DEHP, Landholder, CG and DoTE*. This procedure provides guidance regarding the regulatory notification process to the administering authorities of the applicable federal and state legislation.

The notification conditions of the relevant EAs also apply to emergency environmental incidents. Santos GLNG must notify the DEHP Pollution Hotline as soon as reasonably practicable, but within the period prescribed, after becoming aware of an emergency environmental incident that is in contravention of EA conditions. The notification of emergency environmental incidents as required by the EAs notification conditions must be submitted to the administering authority using an *Incident Notice*.

Follow up reporting regarding incident details and impacts will also be required to be submitted to the administering authority, in accordance with EA conditions.

6.4.3 Stakeholder Notifications

Under the duty to notify requirements of the EP Act, it is necessary to provide written notice to any occupier of the affected land or any registered owner of the affected land regarding the event, its nature and the circumstances in which it happened within the prescribed time frame after becoming aware of the event. Public notification of the event, its nature and the circumstances in which it happened to persons on the affected land may also be required.

It may be necessary to communicate the state / type of the emergency, the possible cause, its effects / consequences, likely duration and impact to all other potential stakeholders. The emergency response and management teams may be required to liaise with regulatory authorities and other stakeholder groups such as local councils, landowners and emergency services.

All other external stakeholder communication shall be managed through the Incident Operations Centre (IOC) and may include local landholders and community representatives, Santos employees and family members, customers and producers, media and insurers and lawyers.

6.5 Environmental Recovery

6.5.1 Site Assessments

If initial monitoring conducted in response to an environmental release indicates the potential for environmental impact, a Contaminated Site Assessment is to be conducted to assess whether the site contamination poses a potential risk to human health and/or the environment (either on or off the site), and if the release is of sufficient magnitude to warrant remediation or a management control appropriate to the current or proposed land use.

On the basis of the release and potential area of impact, an investigation work plan will be developed. This work plan will consider the fluids / chemical released, the media impacts (land and/or water), and the environmental setting. Further details on Contaminated Site Assessments can be found within *EHS 08 - Contaminated Sites*.

6.5.2 Remediation and Rehabilitation of Contaminated Land

If site assessments identify unacceptable risk associated with impacts, Santos GLNG will implement management controls or conduct remediation and rehabilitation of the affected media until the remaining risk is acceptable. The remediation and rehabilitation will be site specific and conducted in accordance with *EHS 08- Contaminated Sites* and the *Santos GLNG Upstream Rehabilitation Management Plan*.

6.6 Incident Investigation

Following the annual training, and/or following an actual incident, non-conformance and improvements of the procedures outlined in the ECP shall be identified and action taken to remedy. Additionally, all incidents will be investigated to determine the casual factors and associated underlying systematic weaknesses (root causes).

The scope and depth of an investigation, including the composition of the investigation team, shall be relative to the potential severity of the consequences and/or risk level of the incident. The investigation process is detailed in *EHSMS 15 Incident Investigation and Response* and an abbreviated summary is presented below:

1. Secure the investigation sites and evidence;

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2. Assign an investigation team (varies based on type of investigation);
3. Gather factual information;
4. Prepare a chart of events based on fact gathering;
5. Identify the casual factors involved;
6. For each casual factor, identify the root cause (why the casual factor occurred);
7. Recommend corrective actions for each root cause;
8. Document the investigation.

7.0 Evaluation and Review

7.1 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 regulatory 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 3.

Table 3: 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 procedure, 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.

7.2 Review

The ECP 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 7.1);
- Legislative requirements change; and/or
- The area of activity changes.

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

8.0 Definitions

Term	Definition
Absorbent	A material that picks up and retains a liquid distributed throughout its molecular structure causing the liquid to swell (50% or more). The absorbent is at least 70% insoluble in excess fluid (ASTM F726-99).
Checklists	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.
Coal Seam Gas water	Groundwater brought to the surface of the earth, or otherwise interfered with, in connection with exploring for or producing coal seam gas. Coal seam gas water is a waste, as defined under s13 of the EP Act.
Contamination	The condition of land or water where any chemical substance or waste has been added at above background level and represents, or potentially represents, an adverse health or environmental impact.
Contaminated Site Assessment	A formal investigation of a site to assess the potential for contamination of soil and / or a water body (surface and groundwater) resulting in identification of contamination levels.
Crisis Management Team (CMT)	A team of nominated Santos senior management based in Adelaide who will, where required, augment the capability and skills of the Brisbane-based IMT. The Crisis Management Team Leader is responsible for coordinating the necessary resources to support the IMT response and recovery efforts
Dam	A land-based structure or a void that is designed to contain, divert or control flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works. A dam does not mean a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container.
EHSMS	Santos Environment, Health and Safety Management System (EHSMS) forms the overall framework under which all Santos activities are undertaken.
Emergency	A site/field/area based unplanned event, accidentally or deliberately caused, which requires a response and which may result in: <ul style="list-style-type: none"> • Injury to people; • Loss of control of any aspect; • Damage to the environment • Loss of business; • Loss or damage to product or assets; • Loss of production; • Disruption to customers; or • The potential for any of the above.
Emergency Environmental Incident	An emergency environmental incident is a sudden, immediate threat to the public health, or the well-being of the environment, arising from the release or potential release of oil, or hazardous chemicals into the air, land or water.

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Term	Definition
Emergency Operations Centre (EOC)	A safe, site or field facility, local to the incident from which the ERT operates in an emergency. It is set up as a communication hub to the IOC and where the coordination of the response effort and support for the incident response is provided.
Emergency Response Team (ERT)	A team of nominated Santos personnel who perform asset specific incident management / support functions and assist the FRT. The ERT is determined by the Emergency Response Team Coordinator upon activation of the Emergency Operations Centre.
Environmental Near-miss	A near-miss incident typically does not result in the same level of alarm as an emergency environmental incident. A near-miss is an event which, under slightly different conditions, could have resulted in injury, damage, environmental harm or business loss. A near-miss is an opportunity to improve management strategies based on a condition or an incident that had potential for a more serious consequence.
Incident	An event which requires immediate and coordinated action to prevent or minimise injury, loss or damage. Incidents are classified according to the Incident Assessment Matrix from Category 1 (lowest impact) to Category 5 (highest impact)
Incident Management Team (IMT)	A team of nominated Santos GLNG senior management and other support personnel based in Brisbane who provide support to the ERT.
Incident Operations Centre (IOC)	The location where the IMT Leader and IMT members provide overall direction of strategic response activities.
Management Plan	Management Plans are specific to an environmental 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 environmental issue. Management Plans are also suitable for providing environmental regulators an overview of Santos GLNG environmental management, and in many cases, may be a direct requirements 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.
Queensland Incident Management Plan (QIMP)	A clearly defined and documented procedure that articulates the framework that should be applied in response to an incident.
Santos Crisis Management Plan (SCMP)	The SCMP documents the procedures, facilities and organisational roles / responsibilities required to ensure that Santos is capable of effectively and efficiently managing a crisis (Category 5 on the Incident Assessment Matrix).
Santos GLNG Upstream Project Area	Comprises all Santos GLNG exploration and production tenements of the Arcadia, Fairview, Roma and Scotia gas fields.

9.0 References

Santos GLNG (2014) *Upstream Management Plans Library* <http://teams-bne.santos.com/sites/USSUS/ENV/PlansProcedures/Forms/AllItems.aspx>

Santos Ltd (2011) *Queensland Incident Management Plan*, Doc No: 3301-GLNG-4-1.2-0003

Santos Ltd (2012) *CSG Drilling and Completions Emergency Response Plan*, Doc No: HS-DC864-PRO-0003-3

Santos Ltd (2012) *GLNG Upstream Operations Bushfire Management Plan*, Doc No: 0020-GLNG-4-1.3-0166

Santos Ltd (2012) *GLNG Upstream Operations Emergency Response Plan*, Doc No: 6300-220-PLA-0001

Santos Ltd (2012) *Santos Crisis Management Plan*

Santos Ltd (2013) *Environment, Health and Safety Management System Library* <http://teams.santos.com/sites/ehsmsadministration-00401-c/sitepages/home.aspx>

Santos GLNG (2013) *Procedure for Statutory Notifications to DEHP, Landholder, CG and DoTE* <http://intranet-bne.santos.com/intranet/sustainability/Pages/Notifications.aspx>

Santos Ltd (2013) *Santos GLNG Upstream Waste Management Plan*, Doc No: 3301-GLNG-4-1.3-0053