

Appendix D: Santos Risk Assessment Process

The environmental risk assessment contained in Section 5.0 was undertaken in accordance with the Santos Management System (SMS) Risk Management Standard. The risk assessment process involves:

- identifying the potential hazards or threats posed by the activities;
- categorising the potential consequences and their likelihood of occurring; and
- using a risk matrix to characterise the level of risk (Figure D1).

Control Measure Identification

Based on identified potential impacts, and the ranking of their unmitigated risk, 'Management Practices' ('Control Strategies') were identified to eliminate, prevent, reduce or mitigate consequences associated with each of the identified potential impacts. Appropriate control strategies were identified from previous activities, current Santos management practices, and through review of best practice techniques across the industry.

Determination of Severity of Consequence

The potential level of impact (consequence) was assessed and assigned in line with potential hazards and receptors, using the 'Santos Environmental Consequence Classification' (see Figure D1) from the Santos Risk Matrix. The consequence level for each risk source is documented in the risk assessment tables in Section 5.0. To describe the severity, scale and duration of potential impacts, six categories of consequence are used (as displayed in Figure D1).

Determination of Likelihood

Likelihood relates to the potential for a consequence to occur. This includes the likelihood of an event occurring and the subsequent potential consequence. This is defined using the Santos Risk Matrix (See Figure D1). To describe the likelihood of a potential environmental consequence occurring, six categories of likelihood are used. The Santos Risk Matrix is then used to characterise the resultant risk into one of five levels.

Determination of Residual Risk

Risk is expressed in terms of a combination of the consequence of an impact and the likelihood of the impact occurring. Santos uses a risk matrix (see Figure D1) to plot the consequence and likelihood to determine the level of risk.

Santos

Figure D1: Santos Risk Matrix

Santos Risk Matrix

Safety		Negligible Harm + No bodily damage or minimal harm or impairment (hours to days)	Minor Farm + Shortterm impairment (days to weeks)	Moderate Harm + Temporary disablement or medium term impairment (weeks to months)	Severe Harm + Long term/life altering disablement or impairment	Single Fatality OR Critical Life Threatening Injuries	Multiple Fatalities
Environment	nment	+ No impact to Environmental Value (EV).	+ Small-scale impact to EV(s) of conservation significance + Potertial surface or groundwater impact.	Moderate-scale impact to EV(s) of conservation significance Localised surface or groundwater impact.	Large-scale impact to EV(s) of conservation significance Anderstare-scale surface water impact; Localised impact to ground water with potential or known beneficial use.	Extensive population or community scale impact to EV(s) of conservation significance Extensive impact to other EV(s).	+ Irreversible impact to EV(s).
OO	Community & Reputation	No actual or potential community criticism Potelais remain within Santos sites and/or offices	+ Minor level local community criticism (< week) + No resutation impact	Local community criticism (> week) or one-day community protest Local company reputation impacted	+ State-level community criticism or protest over multiple days/locations + State-based company reputation impacted + Very short term share price impact (< week)	National community criticism or large scale protest Company reputation and approvals impacted Shareholder intervention or short-term share price impact (< month)	+ Sustained national community criticism or widespread protest industry reputation and approvals impacted + Changes at executive/board level or long- term share price impact (>month)
Financial (As)	ial (As)	< \$30k	\$30k to \$300k	sgook to sgm	s3m to s3om	\$30m to \$300m	> \$300m
Workforce	отсе	Will require some staff attention over several days. No actual or potential impact to culture	Will require several days local management time. Hindrimpact to employee engagement. and limited staff furnover.	Will require head office staff and take several works of site management time. Moderate impact to employee engagement and staff turnover above industry average with some key roles	Will require several weeks of senior management time Impact to employee engagement (< 6 months), moderate turnover of key roles and no succession	Will require several months of senior management time Impact to employee engagement (< 36 months), high staff turnover and attraction issues	+ Will require more than a year of senior management involvement and operations severely disrupted to make the impact to employee engagement (> 18 months), sgridinar key role turnover and attraction issues
Compliance	lance	Non-conformance with legislation, instruments (e.g. tenure licence) or contract No regulatory or punitive action	Mino breach of legislation, instruments or control Hoofication/report to; request for information by addition daministrative! warming notes from the regulator HOOFICE as on non-florozation releases nortifiable to the regulator.	+ Limited number of minor breaches of legislation, instruments or contract + Startoury notice from the regulator + LOCT Ter 2 or moshlytrocarbon releases immediately reportable to the regulator	+ Systemic minor breaches for one moderate breach of legiskiton, instruments or contact + Company charged with an offence with minor penallydine + LOCI Trez or comulative regulator nordification of non-hydrocarbon releass	Systemic moderate breaches (OR single material breach) of legislation, material breach) of legislation, extruments or contract contract Company charged with an offence with moderate penalty/fine	ngle + Material breaches of legislation, stronwers or contract + Company or offices charged with an offerce with material penalty/fine, or loss of tenural operatorship
		_	=	=	≥I	>	>
ALMO! Occurs could or	ALMOST CERTAIN (< 4 monthly) Occurs in almost all circumstances OR could occur within days to weeks	Low	Medium	High	Very High	Very High	Very High
UIKELY Occurs could or	LIKELY (4 monthly - 1 yearly) Occurs in most circumstances OR could occur within weeks to months	Low	Medium	High	High	Very High	Very High
10	OCCASIONAL (1 - 3 yearly) Has occurred before in Santos OR d could occur within months to years	Low	Low	Medium	High	High	Very High
POSSIE THAS OCC	POSSIBLE (3 - 10 yearly) Has occurred before in the industry OR could occur within the next few years	Very Low	Low	Low	Medium	High	Very High
UNLIK Has occ could or	UNLIKELY (10 - 30 yearly) Has occurred elsewhere OR could occur within decades	Very Low	Very Low	Low	Low	Medium	High
Require the long	REMOTE (go - 100 yearly) Requires exceptional circumstances and is unlikely even in the long term OR only occurs as a "one in 100 year event"	Very Low	Very Low	Very Low	Low	Medium	Medium
Operationa Risk Level	Operational Risk Assessment Requirements Risk Level Action		Governance Mechanism	Authority for Continued Tolerance of Risk	Risk Control Development and Timeframe		Control Ownership
Very High	+ Following werification of the risk at Very High activity must stop + Activity cannot excommence until controls an informented to reduce risk to High' or lower + For incidents, a dedicated multi-disciplinary incident investigation team will be formed + Feel 3 Manager or Excom member will be influded in the investigation team	t stop d to reduce risk to 'High' or lower igation team will be formed nvestigation team	Controls will be governed at the Operations Committee meeting or equivalent from Forenorship of incident investigation by EVP or Level 2 Manager	ee + CEO	Intolerable Risk Level Deveba and implement controls urgen to High' or lower as soon as practicable	tly to reduce risk	+ Level 2 Manager (e.g. Executive Vice President)
High	Assess risk to determine if it is reduced So Far As is Reasonably Practicable (SFAIRP) # If SFAIRP, activities related to maintenance of controls will be prioritised and managed # fin of SFAIRP, improve existing controls and/or implement react control(s) * for inclemes, a dedicated multi-disciplinery incloent investigation ream will be formed * for inclemes, a dedicated multi-disciplinery incloent investigation ream will be formed	abbly Practicable (SFAIRP) be prioritised and managed new control(s) igation team will be formed	Controls will be governed at Divisional level meeting or equivalent forum Sponsorship of incident investigation by Level 3 Manage	or + EVP or Level 2 Manager	Action to reduce risk level to 'Medium' or below		+ Level 3 Manager (e.g. General Manager)
Medium	+ Assess risk to determine I SFAIRP # IF SFAIRP, activities related to maintenance of controls will be prioritised and managed # If M SFAIRP, activities related to maintenance of controls will be prioritised and managed # If not SFAIRP, improve existing controls and/air implement new control(s) # Indicens are assessed using Mining the Diamond and investigated relative to the incident potential	be prioritised and managed new control(s) rigated relative to the incident potential	Controls will be governed at Area level meeting or equivalent forum Sponsorship of incident investigation at Level 4, Manager	+ General Manager or Level 3 Manager	Manage and monitor risk efficients management plans	ciently in accordance with	+ Level 4, Manager (e.g. Asset or Functional Manager)
	4 Accese rich to determine if SEAIDD		A Controle will be poverned at cite level meeting or	recently level 4	in action of the second	disciplination accordance with	and I med Transmet Area Manager Taylor

+ Level 5 Manager (e.g. Area Manager, Team Leader, Superintendent or equivalent)

+ Manage and monitor risk efficiently in accordance with business management plans

+ Level 4 Manager

Controls will be governed at site level meeting or equivalent forum
 Spensosship for incident investigation at Level 5
 Manager
 Governed if required

+ Assess risk to determine if SFAIRP
 + If SARP suchties related to maintenance of controls will be prioritised and managed
 + If SARP surporse existing controls andier indement new control(s)
 + Incidents are assessed using Mining the Diamond and investigated relative to the incident;
 + Risk to be managed as situlated by the related work processes

Low Very Low

+ Level 5 Manager

+ Any individual contributor

 Manage and monitor risk efficiently in accordance with business management plans