



Procedure No: CS-OHS-76
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CS ENERGY PROCEDURE

HEALTH AND SAFETY RISK MANAGEMENT CS-OHS-76

Responsible Officer: Principal Health and Safety Specialist
Responsible Manager: Head of Health and Safety
Responsible Executive: EGM People and Safety

DOCUMENT HISTORY

Key Changes	Prepared By	Checked By	Approved By	Date
New document – including health and safety risk management requirements	N Seibel/Brad Pike/A. Cashin	D Clarke	S Faulkner	



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1 PURPOSE

To outline the requirements for managing, identifying, assessing, controlling, monitoring and reviewing health and safety risks to ensure all activities are managed with risk either eliminated or controlled so far as reasonably practicable.

2 SCOPE

This Procedure is applicable to all employees, contractors and visitors of CS Energy.

3 RESPONSIBILITIES AND ACCOUNTABILITIES

3.1 Management

- All activities are conducted at an acceptable level of risk to minimise potential for injury and illness.
- Ensuring areas within their control are compliant with the requirements of this procedure.
- The site operational risk register is reviewed regularly and kept up to date.
- Significant changes are subject to risk assessment and acceptable level of risk.
- Reasonable due diligence is undertaken by all leaders to ensure work and activities are conducted to an acceptable level of risk.
- Ensuring systems are in place to maintain adequate record of risk assessment.
- Ensuring a reasonable cross section of affected workers is involved in risk assessment.
- Ensuring all workers have adequate knowledge and training to participate and facilitate the relevant level of risk assessment.

3.2 Frontline Supervision

- Workers in their team have appropriate skills and competency to perform their tasks.
- Reinforcing the need to conduct work to an acceptable level of risk.
- Communicating outcomes of risk assessment to affected workers prior to any work commencing.
- Where required, facilitation of task-based risk assessment.
- Regular inspection of workplace to check risk is being managed, risk assessment quality, and engagement of workers to support them to achieve an acceptable level of risk.
- Support and encourage workers to control and report hazards, incidents.

3.3 Worker

- Activities they are involved in are subject to the relevant risk assessment and controls are in place.
- Participate in risk management activities as requested.
- Hazards and unsafe conditions are made safe where possible, and reported.
- Complying with any identified control from risk assessment.

4 ACTIONS

4.1 Legislative Requirements

The Queensland Work Health and Safety Act (WHS Act 2011) (QLD) and Queensland Work Health and Safety Regulation (WHS Reg 2011) (QLD), require persons who have a duty to ensure health and safety to 'manage risks' by eliminating health and safety risks so far as is reasonably practicable, if it is not reasonably practicable to do so, to minimise those risks so far as is reasonably practicable.

Guidance for managing risks is provided in the Queensland Code of Practice – How to Manage Work Health and Safety Risks, 2011. This document reflects these requirements and provides further clarification.

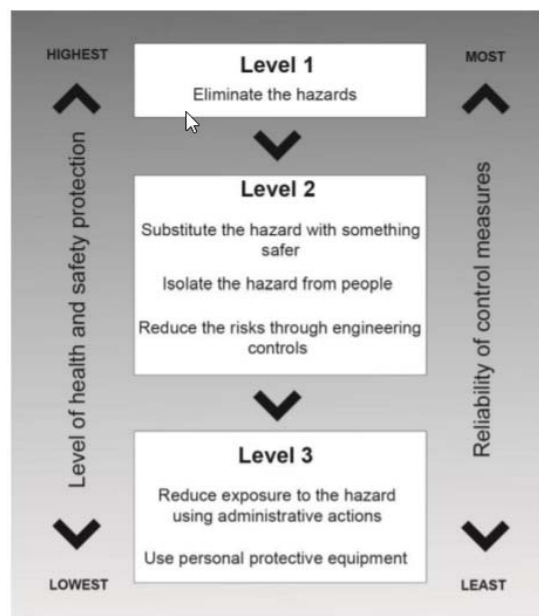
The Risk Management process that CS Energy uses to manage risks is also adopted from AS/NZS ISO 31000:2009 Risk Management – Principles and Guidelines. Refer to **CS-RISK-01 Risk and Compliance Management Framework Procedure**.

4.2 Risk Management Approach

The risk management approach defined by the QLD Code of Practice for Managing Risks in the Workplace highlights the principles for good risk management. Irrespective of the type of risk assessment used these principles apply.

There are 4 stages to risk assessment

1. **Identify hazards** – find out what could cause harm
2. **Assess risks**– understand the nature of the harm that could be caused by the hazard, how serious the harm could be and the likelihood of it happening
3. **Control risks** – implement the most effective control measure that is reasonably practicable in the circumstances
 - a. The standard approach to developing controls is to apply the hierarchy of controls

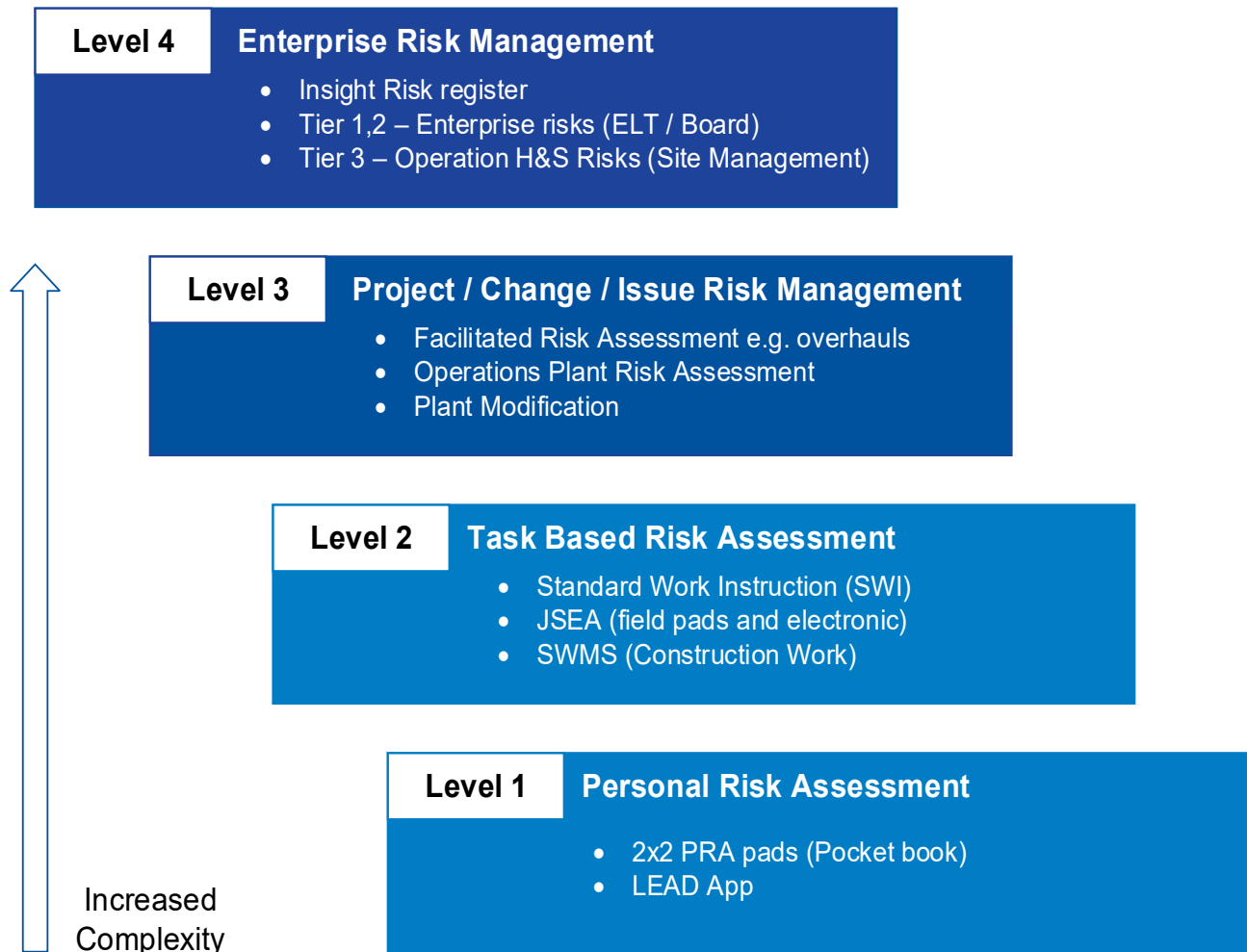


4. **Review** control measures to ensure they are working as planned. This includes inspections,

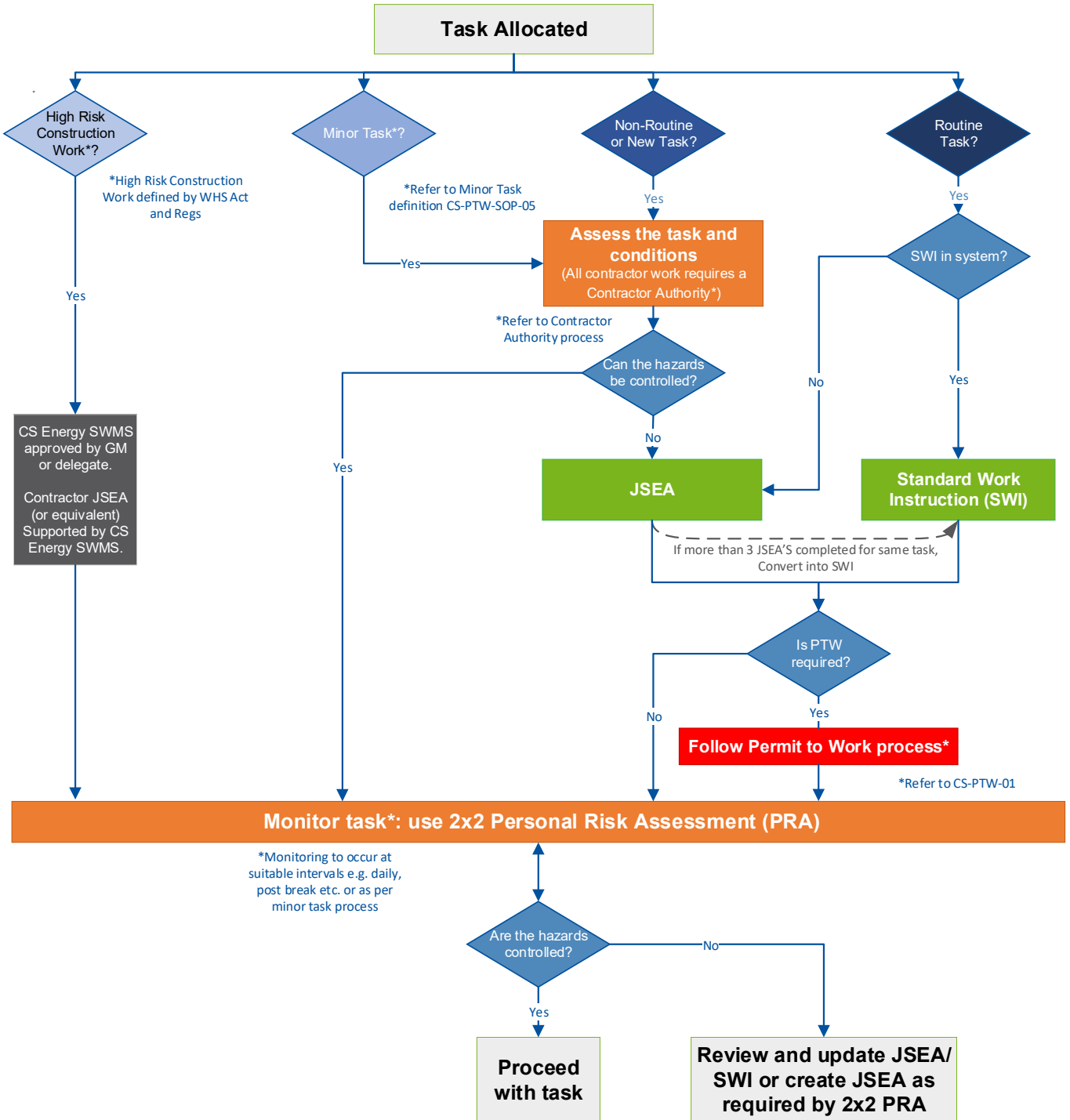
verifications, audit, investigation analysis, trend analysis.

4.3 Overview of CS Energy Health and Safety Risk Management approach

CS Energy adopts four levels of health and safety risk evaluation to ensure risks are managed **so far as reasonably practicable**:



4.4 Business process for Level 1 and 2 Risk Management



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4.5 Levels of Risk Management

Tool	Application	Owner	Competencies	Guiding Principles
Level 1 – Pre-Task Risk Assessment				
Apply for low risk (inherent) tasks or when monitoring a task under a higher level of risk assessment i.e. level 2 or 3				
Personal Risk Assessment (PRA)	The PRA is based on a self-maintained checklist that contains a basic set of hazard prompts. The checklist is provided in: <ul style="list-style-type: none"> • Pocket book form; or • The CS Energy Lead app. 	Worker / Everyone	CS Energy Induction	<ul style="list-style-type: none"> • Personal risk assessment prior to commencing a task. • Monitoring a task e.g. ongoing more than one day. • There is a change to the working environment which require additional controls to be implemented (e.g. wet conditions, poor visibility, other work is being conducted that might impact on your task.) • Identification of new hazards with potential to impact outcome of activity e.g. Where there are interacting work parties. • It is designed to remove complacency and increase awareness ensuring the everyone consciously thinks through their jobs or tasks prior to initiating the work.
				<p>Template: B/D/18/19661</p>
Level 2 – Task Based Risk Assessment				
Apply for all tasks deemed to be moderate risk (inherent) or greater				
Job Safety and Environmental Analysis (JSEA)	A4 field Pad, electronic template A JSEA is a task-based analysis that is used to manage complicated/high risk tasks or variations from procedure that	Supervisor	JSEA familiarisation or RIIRIS301D Apply risk management processes	<ul style="list-style-type: none"> • Prior to tasks deemed to have uncontrolled hazards e.g. PRA determines additional assessment. • Where there is no standard work instruction (SWI). • The first time a task is ever performed or for ad-hoc tasks (this can then form the basis for a new SWI). • Where directed by Supervision or individual identifies the need e.g. for any task deemed to be higher risk. • It is preferred JSEAs are handwritten, with the team preferably at the task location. All pre-populated JSEAs are to be task specific with a mechanism for site leadership to

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Tool	Application	Owner	Competencies	Guiding Principles
	don't have adequate instruction.			<p>assure themselves that they have been read and understood.</p> <ul style="list-style-type: none"> Used to manage variations from procedure that don't have adequate instruction. Attached to PTW and stored with paperwork <p>Template: B/D/18/13020</p>
Standard work instruction (SWI)	Routine Task	Supervisor	RIIRIS301D Apply risk management processes	<ul style="list-style-type: none"> SWI is an approved document to manage a routine task. SWI is developed using existing documentation e.g. JSEA, maintenance task lists, OEM manuals, procedures. Workers involvement required during development. The use of an approved SWI does not require the use of a JSEA. PRA is used to manage environment assessment. If task is completed 3 times under a JSEA, then it should be considered a routine task and a SWI is to be created. Controlled document in TRIM not registered. No requirement for worker sign on. No risk rating for each step. An SWI is the safest way to complete the routine task. SWI will specify the list of approved tools. Prohibited tools to be specified in the 'special precautions' section. Associated "plans" e.g. lift plans to be stored and referenced in TRIM. Attached to PTW and stored with paperwork SWI provides the following: <ul style="list-style-type: none"> Applicable functional locations; Timing frequency; Isolations/specific authorisations; Hazards; Related HSE procedures;

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Tool	Application	Owner	Competencies	Guiding Principles
				<ul style="list-style-type: none"> ○ Resourcing; ○ Tools/equipment; ○ Materials/consumables; ○ Task steps or procedure steps, risk ranking, controls and mitigated risk ranking; ○ Applicable photos/drawings; ○ Additional controls (field assessment); and ○ Change request. <ul style="list-style-type: none"> ● Familiarisation of the SWI is required once during first use. Training attendance form completed to document familiarisation. <p>Template: B/D/18/12450</p>
<p>Safe Work Method Statement (SWMS)</p>	<p>High risk construction work Electrical work on energised electrical equipment.</p>	<p>Principal Contractor, Supervisor, Contracting company</p>	<p>RIIRIS301D Apply risk management processes</p>	<ul style="list-style-type: none"> ● Document required for high risk construction work (WHS Regulations) ● The SWMS will generally be a CS Energy authored document. ● Person responsible for carrying out high risk construction work in consultation with workers must prepare the SWMS. ● SWMS can be generic but must reflect the specific circumstances of the workplace in which it will operate i.e. high-risk construction work. ● One SWMS can be prepared to cover a variety of tasks if it takes into account the changing nature of the work environment. ● Task JSEAs or SWIs are to be attached to CS Energy approved SWMS. ● SWMS should be kept at the workplace where the high-risk construction work will be carried out. ● Consulting workers is important, so they understand the detail of the SWMS and what they are required to do to implement and maintain risk controls.

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Tool	Application	Owner	Competencies	Guiding Principles
				<ul style="list-style-type: none"> Contractors may prepare a SWMS but it must be reviewed by the PCBU and workers undertaking the task.
<p>Level 3 – Project/Change/Issue Based Risk Assessment Apply to assist with the management of a complex issue, change state or project</p>				
Facilitated risk assessment Operations Plant Risk Assessment.	Overhaul Management Plant outage Capital Projects Change to operating conditions	Department Manager	Facilitator with appropriate qualifications (RIIRIS402A or equivalent or higher competency)	<ul style="list-style-type: none"> To develop a business, department and section's health and safety risk profile To develop and implement a procedure Where identified by Management of Change Stakeholder issues/concerns. (e.g. complaints or adverse symptoms) Prior to overhauls If uncertainty remains as to the effectiveness of controls after a JSEA has been completed
				<p>Ops Risk Assessment Template: B/D/13/15225</p>
Hazard and Operability Studies (HAZOP). Failure Modes and Effects Analysis (FMEA).	Plant/project design documents	Department Manager	Qualified Facilitator – HAZOP, FMEA method	<ul style="list-style-type: none"> At the feasibility stage of projects to identify all potential hazards and risks associated with construction process To identify and assess risks during design of equipment and plant
				<p>CS-AM-024 HAZOP Guide: B/D/12/85976</p>

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Level 4 – Enterprise Level Risk Management				
Enterprise risk management. Bowtie analysis. Formal identification of critical controls and control verifications.	Risk register Critical control verification Risk knowledge base	General Manager, Executive Leadership Team	Qualified Facilitator – Bowtie method, ERM	<ul style="list-style-type: none"> • Tier 1,2 – Enterprise Risks (ELT/BOARD) • Tier 3 – Operational H&S risks (SLT) • Potential for serious injuries or fatalities. • High and Critical Incidents - post incident review of Risk Register and controls from incident investigation
				<ul style="list-style-type: none"> • CS-RISK-08 Process Safety Risk Management Framework: B/D/16/20702 • CS-RISK-03 CS Energy Enterprise Risk Management Guideline: B/D/13/11406 • CS-OHS-77 - Serious Injury and Fatality Prevention Procedure: B/D/18/13556

Table 1 CS Energy Risk Management – Applications and Triggers

5 CONTRACTOR MANAGEMENT

Contractors are permitted to use their own company specific task risk assessment process provided that:

1. Equal to or equivalent to CS Energy's process and approved for use by a CS Energy Representative or delegate; and
2. The process includes a field check by team / individual and evidence of this check.

Contractors may prepare a SWMS but it must be reviewed by the PCBU and workers undertaking the task. A SWMS is to be kept at the workplace where the high-risk construction work will be carried out.

6 PROJECT/CHANGE/ISSUE BASED RISK ASSESSMENT (LEVEL 3)

This level of evaluation applies qualitative risk assessment techniques, which provide an efficient and effective method of identifying and analysing risk issues (hazards/aspects or opportunities) and identifying and evaluating controls. This method should be used when developing risk assessment documentation for:

- Projects;
- Change management; and
- Issue management.

The qualitative risk assessment comprises the following steps:

1. Risk Assessment initiation;
2. Hazard Identification;
3. Risk Analysis;
4. Risk evaluation; and
5. Risk treatment.

Qualitative Risk Assessments can also include other team-based hazard identification and assessment approaches that may be required for formal engineering-based assessment of hardware, design or control systems.

The key benefit of applying a team-based approach is that it expands the degree of knowledge and experience which can be drawn upon, increasing the ability to make the most appropriate risk management decision. Team based approaches also build commitment and understanding within the site, operation, project or management team.

Any risk ranking should address the following;

- a) Likelihood Factors,
- b) Severity/Consequence Factors,
- c) Risk Ranking Matrix,
- d) Control Effectiveness

Risks must not be re-ranked until any additional controls or other risk treatments have been implemented and shown to be effective. Risks must not be re-ranked on the basis of the identification of additional controls.

The method to be used will depend on the issue to be risk assessed and the outcome required. These processes must be facilitated by experienced risk facilitators.

7 ENTERPRISE RISK MANAGEMENT (LEVEL 4)

For facilitated Risk Assessments, it may be more appropriate to complete independent assessments involving technical experts and specialists.

Risks classified by CS Energy as serious injury and fatality risks must be escalated to this form of qualitative assessment. Additional information and understanding of Serious Injury and Fatality (SIF) Risks may be derived using the bowtie methodology. Refer to **Serious Injury and Fatality Procedure**.

The CS Energy health and safety risk register sits in the CS Energy enterprise risk system.

The Risk Register is derived from all risk identified as severe or high risks (as per the CS Energy risk matrix). The CS Energy Risk Register includes the capacity to display risk events as a risk entry linked to a Bow Tie diagram if the bowtie analysis has been completed.

8 RISK REGISTER MONITOR, REVIEW AND AUDIT

Risk registers must be monitored, reviewed and updated by the accountable Technical Owner and include members with appropriate knowledge/technical expertise related to the risk issue and appropriate decision-making authority.

The risk register must be reviewed following significant incidents and all incidents with the potential of being rated as a category 3 or 4 incident.

The risk register is reviewed at frequencies determined by the residual risk rating in the Risk Management system. Refer to **CS-RISK-03 Enterprise Risk Management Guideline**.

9 COMMUNICATION AND CONSULTATION

Communication and consultation are integral to the risk management process and should always be a key consideration. Appropriate communication and consultation must be undertaken to:

- a) Ensure clarity and understanding of hazards and risks specific to the workplace exists
- b) Improve general understanding of risk and the risk management process
- c) Ensure the varied views of the stakeholders are considered
- d) Ensure all participants are aware of their roles and responsibilities
- e) Ensure legislative compliance can be demonstrated.

In addition to communication with the participants of a risk assessment, the results of a risk assessment must be communicated to the relevant and appropriate level of management.

10 GUIDELINE - MANAGING RISK SO FAR AS IS REASONABLY PRACTICABLE (SFARP)

Deciding whether a risk is managed SFARP can be challenging because it requires management and workers to exercise judgement. To assist with this some principles can be applied to clarify this concept. The following guidance should be used when trying to determine if risk is so far as reasonably practicable.

1. In all cases, where cited you shall follow an applicable Regulation;
2. Refer to existing industry practice e.g. Code of Practice, Australian Standards, Manufacturer's

Advice, Industry Bodies;

3. When in doubt – consult – with supervision, health and safety representatives, and other workers;
4. The cost of controlling a risk may be considered in determining what is reasonably practicable, but cannot be used as a reason for doing nothing to control that risk;
5. The greater the likelihood of a hazard occurring and/or the greater the harm that would result if the hazard or risk did occur, the less weight should be given to the cost of controlling the hazard or risk; and
6. Cost cannot be used as a reason for adopting controls that rely exclusively on changing people's behaviour or actions when there are more effective controls available that can change the risk through substitution, engineering or isolation.

11 DEFINITIONS

Term	Definition
Control	The means used to manage risk. In particular, a policy, standard, procedure, device, system, communication, or other action that acts to limit uncertainty in the achievement of business objectives and/or to ensure compliance with the law. Controls are the result of control actions.
Critical Controls	<p>Controls that if they were otherwise not in place the risk event would be inevitable ('show stoppers').</p> <p>A control or set of controls that have a primary role in the management of risks</p>
Job Safety Environment Analysis (JSEA)	The aim of a Job Safety and Environmental Analysis is to evaluate, select, record and specify safe systems of work to eliminate or minimise the risk of injury, illness, hazard exposure, near miss, property damage, environmental impact and process loss in the performance of work and enable the work to be completed with a reduced risk level so far as reasonably practicable.

Term	Definition
High risk construction work	<p>Construction work that</p> <ul style="list-style-type: none"> a) Involves a risk of a person falling more than 2m or b) Is carried out on a tele communication tower or c) Involves demolition of an element of a structure that is load-bearing or otherwise related to physical integrity of the structure or d) Involves, or is likely to involve. The disturbance of asbestos or e) Involves structural alterations or repairs that require temporary support to prevent collapse or f) Is carried out in or near a confined space or g) Is carried out in or near water – <ul style="list-style-type: none"> i) A shaft or trench with an excavated depth greater than 1.5m or ii) A tunnel or h) Involves the use of explosives or i) Is carried out on or near pressurised gas distribution mains or piping or j) Is carried out on or near chemical, fuel or refrigerant lines or k) Is carried out on or near energised electrical installations or services or l) Is carried out in a area that may have contaminated or flammable atmosphere or m) Involves tilt up or precast concrete or n) Is carried out on, in or adjacent to a road, railway, shipping lane or other traffic corridor that is in use by traffic other than pedestrians or o) Is carried out in an area at a workplace in which there is any movement of powered mobile plant or p) Is carried out in an area in which there are artificial extremes of temperature or q) Is carried out in or near water or other liquid that involves a risk of drowning or r) Involves diving work.
Personal Risk Assessment (PRA)	A situational process designed to prompt questions related to hazards in the area and controls in place to reduce the risk of those hazards. The tool assists in activating the reticular activating system (RAS) of the human brain which draws attention and awareness of the hazards when doing a task.
Risk	The effect of uncertainty on objectives. It is the possibility that something might go wrong and have a negative impact on health and safety
Risk Assessment	The overall process of risk identification, risk analysis and risk evaluation.
Risk Assessment Facilitators	All Risk Assessments must be facilitated by Risk Assessment Facilitators with the skills to effectively facilitate the type of Risk Assessment being completed.
Risk Evaluation	Process of comparing the results of risk analysis with risk criteria to determine whether the risk and /or its magnitude is acceptable or tolerable.
Risk Identification	Process of finding, recognising and describing risks

Term	Definition
Risk Management	Systematic application of management processes and practice to the risk activities including identifying, analysing, evaluation, treating, monitoring and reviewing risk. Risk management also includes the activities of communicating, consulting and establishing the context of the risk.
Risk Profile	Description of any set of risks
Risk Register	Record of risks including risk evaluation and control processes
Standard work instruction (SWI)	SWI's are a set of written instructions that identify the health and safety issues that may arise from use of the equipment or be based on a task or process.
Safe Work Method Statement (SWMS)	SWMS is an analysis of hazards and risks associated with high risk construction work which is prescribed by the Regulator. SWMS shall also be completed for energised electrical equipment.
SIF (Serious Injury or Fatality)	<p>A hazard with a residual risk rating as high or significant. These are documented in the operational H&S risk registers.</p> <p>A serious injury or fatality risk identified by the business, including;</p> <ul style="list-style-type: none"> • Confined Spaces • Cranes and Lifting • Dropped Objects • Working with Electricity • Working with Energy • Hazardous Chemicals • Work at Heights • Hot Work • Vehicle Interaction <p>A loss of control of identified hazards due to ineffective or absent critical control/s.</p>
Treatment Actions	Work undertaken to implement, improve or modify a control. Treatment actions are designed to improve controls and reduce the Residual Risk Level.

12 REFERENCES

Reference No	Reference Title	Author
AS/NZ ISO 31000:2009	Risk management – Principles and guidelines	International Standard
QLD WHSA	Queensland Work Health and Safety Act 2011	Aust Govt
QLD WHSR	Queensland Work Health and Safety Regulation 2011	Aust Govt
	Critical Control Verifications – various Lead App	CS Energy
B/D/12/16045	CS Energy Legal Health and Safety Compliance Manual	CS Energy
B/D/12/63934	CS Energy Risk and Compliance Framework	CS Energy
B/D/13/17881	CS Energy Risk Matrix	CS Energy

Reference No	Reference Title	Author
B/D/13/11406	CS Energy Enterprise Risk Management Guideline	CS Energy
B/D/12/85976	CS Energy HAZOP Guide	CS Energy
B/D/16/20702	CS-RISK-08 Process Safety Risk Management Framework:	CS Energy
B/D/18/13020	JSEA – Job Safety and Environmental Analysis Template	CS Energy
B/D/19/8312	SWMS – Safe Work Method Statement Template	CS Energy
B/D/11/30939	Job Safety and Environmental Analysis (JSEA) Training	CS Energy
B/D/18/12450	Standard work instruction (SWI) Template	CS Energy
B/D/18/19661	Personal Risk Assessment (PRA) Template	CS Energy
B/D/18/13556	CS-OHS-77 Serious and Injury Fatality (SIF) Procedure	CS Energy
B/D/13/15225	Operations Plant Risk Assessment Template	CS Energy

13 RECORDS MANAGEMENT

In order to maintain continual improvement, suitability, safety and effectiveness of the organisation, CS Energy's registered documents will be reviewed on a two-yearly basis or at intervals specified by legislative or regulatory requirements. Review of controlled documents should occur where it has been identified that there are changes in technology, legislation, standards, regulation or where experience identifies the need for alteration to the content. Registered documents should also be reviewed following an incident, change management process, modification or where directed as part of a risk assessment process. A 'review' can simply mean that it has been identified, confirmed and appropriately recorded that no changes are required and that the existing process remains the same.

CS Energy must ensure that records are retained according to accountability, legal, administrative, financial, commercial and operational requirements and expectations. In compliance with records retention and disposal, all documentation created in relation to CS Energy business must be retained in line with minimum retention periods as detailed in legal retention and disposal schedules.