Job Safety Environment Analysis (JSEA)

Date	
Activity/Task	
JSEA Team	
Supervisor	

Use original equipment manufacturer's drawings and manuals, Material Safety Data Sheets (MSDS) or chemical hazard information, job observation and experience as the basis for identifying hazards and the controls to be used.

1. **STEP:** Number in sequence – e.g. 1,2,3 etc.
2. **ACTIVITY**: Briefly describe the activity carried out in each step including tools, equipment and chemicals.
3. **HAZARDS**: Identify what could cause harm to a person, the job, materials, or the environment. Include generated waste, emissions to land, water & air and controls and/or disposal methods (Use Appendix 1 to help identify hazards).
4. **RISK**: The degree of severity of the risk posed by the hazard (i.e. E=extreme risk, H=high risk, M=medium, L=low risk).
5. **RISK CONTROLS**: What precautions or actions needed to be taken to control the risk (i.e. MSDS to be available for chemicals and consulted prior to use).
6. **RESPONSIBILITY**: The name or the person who will ensure that the risk controls are implemented.
7. **Include any waste generated, emissions to land, water or air and controls for these or disposal method.**

Required Permits to Work
- ☐ Hot Work
- ☐ Confined Space
- ☐ Excavation
- ☐ Work at Height
- ☐ High Voltage
- ☐ Bunkering
- ☐ Crane & Heavy Load
- ☐ Commercial Diving

Other documentation required to Work
- ☐ Manual Handling Risk Assessment
- ☐ Hazardous Materials Risk Assessment
- ☐ Height Work Assessment Plan
- ☐ Safety Data Sheets
- ☐ Isolation Required
- ☐ Other (specify) _____

CONSEQUENCE				
Rating	**Score**	**Example description – choose the most relevant**		
		People	**Environment**	**Assets**
Catastrophic	5	Multiple fatalities	long term environmental damage, toxic release off site with detrimental effect	huge financial loss >$5m
High	4	Single fatality	off site release with no detrimental effects, loss of production capacity,	major financial loss <$5m
Moderate	3	Serious harm injury	short term environmental damage, on site release contained with outside assistance	high financial loss $1m - $3m
Low	2	First aid or Medical treatment	onsite release immediately contained, environmental damage readily repaired	medium financial loss $250K - $1m
Minor	1	No injuries	failure of internal control, minor environmental impact	low financial loss <$250K

LIKELIHOOD		
Rating	**Score**	**Description**
Expected	5	The event is expected to occur one or more times per year
Highly Likely	4	The event will probably occur every 1 - 3 years
Likely	3	The event should occur every 4 - 6 years
Not Likely	2	The event could occur every 7 - 9 years
Rare	1	The event may occur once every 10 years and beyond

RISK SCORE

Likelihood	**Consequence**				
	1- Minor	2 – Low	3 - Moderate	4 - High	5 – Catastrophic
5 - Expected	Moderate	High	High	Extreme	Extreme
4 - Highly Likely	Moderate	Moderate	High	Extreme	Extreme
3 - Likely	Low	Moderate	Moderate	High	Extreme
2 - Not Likely	Low	Low	Moderate	Moderate	High
1 - Rare	Low	Low	Low	Moderate	High

Source: Based on Australian Standard 4360:2004, AS/NZS ISO 31000:2009 and POPL corporate risk model 2009.

Hierarchy of Control. In order of priority you should:
1. Eliminate the hazard
2. Substitute for a less hazardous process, equipment or substance
3. Isolation (i.e. distance or enclosure)
4. Use engineering to control the hazard (i.e. guards, interlocks, earth leakage, lifting equipment)
5. Implement administrative controls (i.e. procedures, training, permits, supervision, rotating etc)
6. Use Personal Protective Equipment

Extreme	Task not to be undertaken until further controls reduce the risk
High	Implement controls to reduce risk. Senior management responsible to further reduce risk
Medium	Review of controls. Consider risk reduction options.
Low	No action required. Controls properly designed and operating as intended

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Step No:	Job Instruction/ Task Step *In the sequence they are carried out*	Equipment, Tools, Chemicals Required	Potential Hazards *Arising through each step or equipment use that could cause injury or impact*	Consequence	Likeli-hood	Risk Rating	Hazard Control Measure *Requirements to protect people from the identified hazard MSDS to be available for chemicals and consulted prior to use.*

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SIGN-OFF PAGE FOR JOB SAFETY ENVIRONMENT ANALYSIS (JSEA)

☐ Sign this Job Assessment ☐ Employee to sign Job Assessment register

By signing this record, I acknowledge I have been provided the opportunity to contribute to the identification of safety hazards associated with this work and to the formulation of work methods that will enable the work activity to be undertaken safely. I also acknowledge I have been instructed into the safe work methods, and understand it.

	NAME - PRINT	SIGNATURE	DATE	NAME - PRINT	SIGNATURE	DATE
JSEA Leader						
Supervisor Approval						
Participant						
Participant						
Participant						
Participant						
Participant						
Participant						
Participant						
Participant						
Participant						
Participant						

- It is the Supervisor's responsibility to ensure the Job Safety Environment Analysis is understood and communicated to all those who will be undertaking the task and that the identified work method is followed.
- It is the Manager's responsibility to ensure information, instruction, training and supervision is appropriate for the task.
- **If new hazards are identified, the work environment changes or equipment is not available or is damaged:**

STOP - REGROUP - RETHINK THE PROCESS

APPENDIX 1

Job Safety Environment Analysis (JSEA)

X	Code	PLANT
	CA	Compressed air
	CR	Crushing by falling or moving object
	EN	Entanglement in moving parts
	FR	Friction from rotating parts
	GU	Guarding / shields / barricades (inadequate/damaged?)
	HP	High pressure (air, water, oil, steam, product)
	HS	High speed
	ISO	Equipment isolation required – electrical or mechanical.
	INSP	Inspection process (plant & equip. checks)
	MS	Maintenance or service work hazards
	Plant	Mobile plant & equipment
	SC	Sharp cutting edges
	SE	Stored energy – spring loads, release of material, material under pressure
	ST	Striking by moving /stationary objects
	TM	Traffic management
X	**Code**	**MANUAL HANDLING / ERGONOMICS**
	MH	Task may involve high forces, repetitive actions, awkward posture or movements, or fatigue or soreness due to long duration
	MHRA	Ergonomics / biomechanics - manual handling risk assessment required.
	LAC	Lacerations, sheared, struck or punctured
	SH	Slip, trip or fall hazards
	VB	Vibration hazards involved

X	Code	SYSTEMS OF WORK – plans & controls must be documented
	Crane	Overhead hazards, ground stability, ground weight load (i.e. berths), plant & equipment logs up to date, lifting gear inspected, licensed operators.
	CS	Confined space - confined space hazard assessment will be required.
	Falls	Work at heights above 2 meters requires a detailed fall prevention plan. (i.e. rescue plan & equipment, ground clearance, signage, training of staff, use of guard rails, fall arrest or restraint, screens, nets, anchorage points appropriate for shock loading, safe access/ egress, scaffolds, work platforms). For high risk, a separate plan is required. Hierarchy of Control must be used.
	HW	Hot Work - Heat, flame or spark producing work. No work within 25 meters of hazardous cargo, Fire watch, 30 min inspection, Fire fighting equipment available. Controls required.
	CM	Communication methods
	OW	Overhead work– equipment fall from height
X	**Code**	**ENVIRONMENTAL ASPECTS / IMPACTS**
	Waste	Identify type of impact (environmental or injury) waste type and method of disposal
	Air	Emissions to air – dust, fume generation etc
	FF	Flora / fauna injury or impact
	Spills	Spills or discharge to drains/waterways/land
	Soil	Soil contamination, removal or erosion
	Water	Increased water use
	LIC	Any impact on licence commitments or conditions
	OD	Odour

X	Code	CHEMICAL OR ELEMENT EXPOSURE
	AS	Asbestos exposure / disturbance
	Burn	Burn potential
	CHS	Chemical splash – skin & eye contact
	CP	Cleaning procedure required
	Dust	Exposure to dust particles
	ELEC	Electrical voltage or current
	EMER	Emergency procedures – power, lights, exits, emergency showers, communication etc.
	FLAM	Flammable or combustible liquids, gases, solids, materials or explosive dusts
	Fume	Fumes
	CH	Use of chemicals – identify chemical used and risk (i.e. toxic, corrosive, dangerous good, hazard material) and consult MSDS which must be obtained – assess and apply safety precautions.
	MatH	Material handling & storage
	SUFF	Suffocation / engulfment
	Noise	Noise production / excessive / intermittent peaks
	TEMP	Exposure to extreme in temperature
	TH	Thermal – cold / heat stress
	Vent	Ventilation inadequate
	RAD	Radiation / laser exposure / other
	Wave	Wave / swell
	UV	Ultraviolet radiation exposure (sun protection required
	Water	Working at the waters edge
	WTR	Weather conditions
	Other	Identify impact