

STEP 1 – ENTER INFORMATION ABOUT THE ACTIVITY/TASK, ITS LOCATION AND THE PEOPLE COMPLETING THE RISK ASSESSMENT

RA NO. (IF USED):

Location name:	Building No.:	Date:	Assessed by:	Health & Safety Rep.:
Users of the plant:	Plant (Manufacturer's name & model no):			
Purpose of plant:				
Description of how plant is used:				
Does the operator require a License or Competency	<input type="checkbox"/> External license	Specify:		
	<input type="checkbox"/> Internal Competency	Specify:		
	<input type="checkbox"/> No specific competency			

Workplace conditions (Describe layout and physical conditions - including access and egress)

Consider operation outside of normal conditions	
<ul style="list-style-type: none"> • Cleaning • Maintenance • Emergency situations • Non-standard use • Commissioning • Breakdown & Repair • Decommissioning 	
List systems of work for using the plant:	
<ul style="list-style-type: none"> • Training procedure • Manufacturer's information and instructions • SOPs • Inspections 	
Is there past experience or background material regarding the plant operation that may assist in the assessment	
<ul style="list-style-type: none"> • Existing controls • Industry standards • Training • SOPs • Incidents & near-hits • Incident Investigation • Standards • Legislation & Codes • Uni guidance material 	

STEP 2: SELECT A RISK RATING METHOD

METHOD A: TWO VARIABLE RISK MATRIX

(1) Definitions of Likelihood Labels			
Level	Likelihood (Probability)		
	Descriptor	Description	Expected to occur
A	Almost certain	The event will occur on an annual basis	Once a year or more
B	Likely	The event has occurred several times or more in your career	Once every three years
C	Possible	The event might occur once in your career	Once every ten years
D	Unlikely	The event does occur somewhere from time to time	Once every thirty years
E	Rare	Heard of something like the event occurring elsewhere	Once every 100 years

(2) Definitions of Consequence Labels		
Severity Level	Consequences Types	
	Health and safety	Natural Environment
V Catastrophe	Multiple fatalities, or significant irreversible effects to >50 persons	Very serious, long-term environmental impairment of ecosystem functions.
IV Major	Single fatality and/or severe irreversible disability (>30%) to one or more persons	
III Moderate	Moderate irreversible disability or impairment (<30%) to one or more persons	Serious medium term environment effects
II Insignificant	Objective but reversible disability requiring hospitalization	Moderate, short-term effects but not affecting ecosystem functions
I Negligible	No medical treatment required	Minor effects on biological of physical Environment

(3) Risk Rating Calculator					
Likelihood Label	Consequences Label				
	I	II	III	IV	V
A	Medium	High	High	Very high	Very high
B	Medium	Medium	High	High	Very high
C	Low	Medium	High	High	High
D	Low	Low	Medium	Medium	High
E	Low	Low	Medium	Medium	High

METHOD B: THREE VARIABLE RISK CALCULATOR

(1) Definition of Exposure Variable	
Exposure	E
Continuously or many times daily.	10
Frequently: Approximately once daily.	6
Occasionally: Once a week to once a month.	3
Infrequent: Once a month to once a year.	2
Rare: Has been known to occur.	1
Very rare: Not known to have occurred.	0.5

(2) Definition of Likelihood Variable	
Likelihood	L
Almost certain: The most likely outcome if the event occurs.	10
Likely: Not unusual, perhaps 50-50 chance.	6
Unusual but possible: (e.g. 1 in 10).	3
Remotely possible: A possible coincidence (e.g. 1 in 100).	1
Conceivable: Has never happened in years of exposure, but possible (eg 1 in 1,000).	0.5
Practically impossible: Not to knowledge ever happened anywhere (e.g. 1 in 10,000).	0.1

(3) Definition of Consequences Variable	
Consequences	C
Catastrophe: Multiple fatalities, permanent extensive environmental damage.	100
Disaster: Fatality, permanent local, damage to environment	50
Very serious: Permanent disability/ill health, non-permanent environmental damage.	25
Serious: Non-permanent injury or ill health. Adverse effect on environment	15
Important: Medical attention needed, off-site emission but no damage.	5
Noticeable: Minor cuts and bruises or sickness, small loss of containment, no off-site consequences.	1

(4) Risk Score Calculator	
Risk Score = E x L x C	
Risk Score	Risk Rating
> 600	Very High
300 - 599	High
90 - 299	Medium
< 90	Low

STEP 3 – IDENTIFY HAZARDS AND ASSOCIATED RISK SCORES AND CONTROLS

For each of the following prompts:

- **Check the box** for each hazard that may potentially exist for the plant;
- Either:
 - if using the **Two Variable Risk Matrix**, determine and record the Likelihood, Consequences and the **risk rating**, OR
 - if using the **Three Variable Risk Calculator**, determine and record the Exposure, Likelihood, Consequences and the **risk score**.
- In the **comments** box, describe when and where the hazard is present;
- Specify the risk **control type** from the Hierarchy of Control at right, for each current or proposed risk control;
- Provide a **control description** for each current or proposed risk control.

Hierarchy of Control (Control Type)

- El - Elimination
- S – Substitution
- En – Engineering Is- Isolation G- Guarding
- A – Administrative T- Training In- Inspection
- P – PPE

Can the following items become ENTANGLED with moving parts of the plant, or materials in motion:	Risk Score	Comments (when and where hazard is present)	Control Type	Control Description (Current & Proposed)
<input type="checkbox"/> Hair <input type="checkbox"/> Jewellery <input type="checkbox"/> Rags <input type="checkbox"/> Gloves <input type="checkbox"/> Clothing <input type="checkbox"/> Other materials – specify: _____				
EMERGENCY STOP BUTTONS - can injury from interaction with the plant be caused by:	Risk Score	Comments (when and where hazard is present)	Control Type	Control Description (Current & Proposed)
<input type="checkbox"/> Lack of prominence of emergency stop <input type="checkbox"/> Emergency stop not being fail safe <input type="checkbox"/> Emergency stop not red in colour <input type="checkbox"/> Stored energy being released slowly or at a sequent time <input type="checkbox"/> Lack of clarity of emergency stop markings <input type="checkbox"/> Restarting plant by resetting the emergency stop button <input type="checkbox"/> Other factors – specify: _____				
Can anyone be CRUSHED due to:	Risk Score	Comments (when and where hazard is present)	Control Type	Control Description (Current & Proposed)
<input type="checkbox"/> Falling, uncontrolled or unexpected movement of plant <input type="checkbox"/> Lack of capacity to slow, stop or immobilise the plant <input type="checkbox"/> Falling, uncontrolled or unexpected movement of plant’s load <input type="checkbox"/> Under or trapped between plant and materials or fixed structure <input type="checkbox"/> Contact with moving parts during testing, inspection, maintenance, cleaning or repair <input type="checkbox"/> Tipping or rolling over <input type="checkbox"/> Parts of plant collapsing <input type="checkbox"/> Being thrown off <input type="checkbox"/> Other factors – specify: _____				
Can anyone be CUT, STABBED or PUNCTURED by coming in contact with:	Risk Score	Comments (when and where hazard is present)	Control Type	Control Description (Current & Proposed)
<input type="checkbox"/> Moving plant or parts <input type="checkbox"/> Work pieces disintegrated <input type="checkbox"/> Sharp or flying objects <input type="checkbox"/> Work pieces ejected <input type="checkbox"/> Other factors – specify: _____				

SHEARING – Can anyone’s body parts be cut off between:	Risk Score	Comments (when and where hazard is present)	Control Type	Control Description (Current & Proposed)
<input type="checkbox"/> Two parts of the plant <input type="checkbox"/> A part of the plan and a work piece or structure <input type="checkbox"/> Other factors – specify: _____				
Can anyone be injured by ELECTRICAL shock or burnt due to:	Risk Score	Comments (when and where hazard is present)	Control Type	Control Description (Current & Proposed)
<input type="checkbox"/> Damaged/poorly maintained leads or switch <input type="checkbox"/> Working near or contact with live electrical conductors <input type="checkbox"/> Water near electrical equipment <input type="checkbox"/> Lack of isolation procedures <input type="checkbox"/> Other factors – specify: _____				
Can anyone be injured by an EXPLOSION of the following items triggered by plant operation	Risk Score	Comments (when and where hazard is present)	Control Type	Control Description (Current & Proposed)
<input type="checkbox"/> Gas <input type="checkbox"/> Dust <input type="checkbox"/> Vapours <input type="checkbox"/> Liquids <input type="checkbox"/> Other factors – specify: _____				
FRICTION - Can anyone be burnt due to:	Risk Score	Comments (when and where hazard is present)	Control Type	Control Description (Current & Proposed)
<input type="checkbox"/> Contact with moving parts or surfaces of the plant <input type="checkbox"/> Material handled by the plant <input type="checkbox"/> Other factors – specify: _____				
Can anyone be STRUCK by moving objects due to:	Risk Score	Comments (when and where hazard is present)	Control Type	Control Description (Current & Proposed)
<input type="checkbox"/> Plant or work pieces being ejected or disintegrated <input type="checkbox"/> Mobility <input type="checkbox"/> Uncontrolled or unexpected plant movement <input type="checkbox"/> Other factors – specify: _____				

Can anyone using the plant or in the vicinity of the plant, SLIP, TRIP or FALL due to:	Risk Score	Comments (when and where hazard is present)	Control Type	Control Description (Current & Proposed)
<input type="checkbox"/> The working environment <input type="checkbox"/> Uneven work surfaces <input type="checkbox"/> Lack of guardrails <input type="checkbox"/> Poor housekeeping <input type="checkbox"/> Slippery work surfaces <input type="checkbox"/> Other factors – specify: _____				
Can anyone be SUFFOCATED due to:	Risk Score	Comments (when and where hazard is present)	Control Type	Control Description (Current & Proposed)
<input type="checkbox"/> Lack of oxygen <input type="checkbox"/> Atmospheric contamination <input type="checkbox"/> Other factors – specify: _____				
HIGH TEMPERATURE OR FIRE – Can anyone:	Risk Score	Comments (when and where hazard is present)	Control Type	Control Description (Current & Proposed)
<input type="checkbox"/> Come into contact with objects at high temperature <input type="checkbox"/> Be injured by fire <input type="checkbox"/> Other factors – specify: _____				
TEMPERATURE (Thermal Comfort) – Can anyone suffer ill health due to:	Risk Score	Comments (when and where hazard is present)	Control Type	Control Description (Current & Proposed)
<input type="checkbox"/> Exposure to high temperatures <input type="checkbox"/> Exposure to low temperatures <input type="checkbox"/> Other factors – specify: _____				
Can anyone come into contact with FLUIDS or GASES under HIGH PRESSURE due to:	Risk Score	Comments (when and where hazard is present)	Control Type	Control Description (Current & Proposed)
<input type="checkbox"/> Failure of the plant? <input type="checkbox"/> Misuse of the plant? <input type="checkbox"/> Other factors – specify: _____				

ERGONOMIC (incl Manual Handling) - Can anyone be injured due to:	Risk Score	Comments (when and where hazard is present)	Control Type	Control Description (Current & Proposed)
<input type="checkbox"/> Seating design <input type="checkbox"/> Repetitive body movement or posture <input type="checkbox"/> Poor workplace or plant design <input type="checkbox"/> Lack of consideration for human behaviour causing mental or physical stress <input type="checkbox"/> Other factors – specify: _____ <input type="checkbox"/> Excessive effort <input type="checkbox"/> Poor lighting <input type="checkbox"/> Controls layout and design				
Can anyone be injured or suffer ill health from exposure to OTHER HAZARDS:	Risk Score	Comments (when and where hazard is present)	Control Type	Control Description (Current & Proposed)
<input type="checkbox"/> Chemicals <input type="checkbox"/> Vibration <input type="checkbox"/> Toxic gases or vapours <input type="checkbox"/> Other factors – specify: _____ <input type="checkbox"/> Fumes <input type="checkbox"/> Noise <input type="checkbox"/> Ionising Radiation <input type="checkbox"/> Dusts <input type="checkbox"/> Biologicals <input type="checkbox"/> Non-Ionising Radiation				
Does the plant generate significant environmental aspects due to:	Risk Score	Comments (when and where hazard is present)	Control Type	Control Description (Current & Proposed)
<input type="checkbox"/> Energy consumption <input type="checkbox"/> Nuisance noise <input type="checkbox"/> Other factors – specify: _____ <input type="checkbox"/> Hazardous emissions <input type="checkbox"/> Hazardous waste <input type="checkbox"/> Water consumption <input type="checkbox"/> Dust				

STEP 4 – COMPLETE THE IMPLEMENTATION OR ESCALATION PLAN

Determine the person responsible for deciding upon and implementing the proposed controls. Obtain the authorisation of the Management Representative.
 Ensure the HSR (if applicable) has been consulted. Ensure the user(s) of the plant have been consulted.

Person Responsible or Escalated to		Controls due date	
Signature of Management Representative		Date	
Signature of HSR		Date	
Signature of Plant User		Date	

For use in conjunction with *Environment, Health & Safety Manual 3.1.New. Risk Management* and *11.14.New. Regulated Plant*.
 For further information, refer to <http://www.pb.unimelb.edu.au/ehs/riskmanagement/> or contact your EHS Adviser/Manager in the EHS Unit.

Extra writing room - use this page to enter extended comments or descriptions