

SAFETY MANAGEMENT SYSTEM

Plant and Equipment Risk Assessment

Equipment Location:		Equipment:	Hitachi Excavator	Assessed By:	Steven Jose
				Signature:	
		Manufacturer Details	Model: ZX75US-5B	Date:	
				Review Date:	

Hazard	Action Required Yes/No	Risk Level (Refer to risk matrix)	Hierarchy of Control	Hazard and Risk Treatment (Complete Hazard Report Form)	Risk Level after Risk Treatment (Refer to risk matrix)
Entanglement					
Can anyone's hair, clothing, gloves, necktie, jewellery, cleaning brushes, rags or other materials become entangled with moving parts of the plant, or materials in motion?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Medium	<input type="checkbox"/> Elimination <input type="checkbox"/> Substitution <input type="checkbox"/> Isolation <input checked="" type="checkbox"/> Engineering <input checked="" type="checkbox"/> Administration <input checked="" type="checkbox"/> PPE	Do not remove guards Follow Instructions in Operator Manual Maintain Operating Exclusion Zone while machine is in use	Low
Crushing					
Can anyone be crushed due to: <ul style="list-style-type: none"> ▪ Material falling off the plant? ▪ Uncontrolled or unexpected movement of the plant or its load? ▪ Lack of capacity for the plant to be slowed, stopped or immobilized? ▪ The plant tipping or rolling over? ▪ Parts of the plant collapsing? ▪ Coming in contact with moving parts of the plant during testing, inspection, use, maintenance, cleaning or repair? ▪ Being thrown off or under the plant? ▪ Being trapped between the plant and materials or fixed structures? • Other factors? 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Acute	<input checked="" type="checkbox"/> Elimination <input type="checkbox"/> Substitution <input checked="" type="checkbox"/> Isolation <input checked="" type="checkbox"/> Engineering <input checked="" type="checkbox"/> Administration <input checked="" type="checkbox"/> PPE	Follow Instructions in Operator Manual Specific site Hazard Assessment must be conducted before operation Maintain Operating Exclusion Zone while machine is in use Only competent persons to operate plant SOP must be followed when checks and services are conducted Appropriate PPE must be worn	High
Cutting, Stabbing and Puncturing					
Can anyone be cut, stabbed or punctured due to: <ul style="list-style-type: none"> ▪ Coming in contact with sharp or flying objects? ▪ Coming in contact with moving parts of the plant during testing, inspection, operation, maintenance, cleaning or repair of the plant? ▪ Plant, parts of the plant or work pieces disintegrating? ▪ Work pieces being ejected? ▪ The mobility of the plant? 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Medium	<input type="checkbox"/> Elimination <input type="checkbox"/> Substitution <input checked="" type="checkbox"/> Isolation <input checked="" type="checkbox"/> Engineering <input checked="" type="checkbox"/> Administration <input checked="" type="checkbox"/> PPE	Follow Instructions in Operator Manual Specific site Hazard Assessment must be conducted before operation Maintain Operating Exclusion Zone while machine is in use Only competent persons to operate plant SOP must be followed when checks	Low

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<ul style="list-style-type: none"> ▪ Uncontrolled or unexpected movement of the plant? ▪ Other factors? 				<i>and services are conducted Appropriate PPE must be worn</i>	
Shearing					
Can anyone's body parts be: <ul style="list-style-type: none"> ▪ Sheared between two or more parts of the plant, or between a part of the plant and a work piece or structure? 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Acute	<input type="checkbox"/> Elimination <input type="checkbox"/> Substitution <input checked="" type="checkbox"/> Isolation <input type="checkbox"/> Engineering <input checked="" type="checkbox"/> Administration <input checked="" type="checkbox"/> PPE	<i>Follow Instructions in Operator Manual Specific site Hazard Assessment must be conducted before operation Maintain Operating Exclusion Zone while machine is in use Only competent persons to operate plant SOP must be followed when checks and services are conducted Appropriate PPE must be worn</i>	High
Friction					
Can anyone be burnt, gain abrasions etc due to: <ul style="list-style-type: none"> ▪ Contact with moving parts or surfaces of the plant, or material handled by the plant? 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Elimination <input type="checkbox"/> Substitution <input type="checkbox"/> Isolation <input type="checkbox"/> Engineering <input type="checkbox"/> Administration <input type="checkbox"/> PPE		
Striking					
Can anyone be struck by moving objects due to: <ul style="list-style-type: none"> ▪ Uncontrolled or unexpected movement of the plant or material handled by the plant? ▪ Plant, parts of the plant or work pieces disintegrating? ▪ Work pieces being ejected? ▪ Mobility of the plant? ▪ Other factors? 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Acute	<input type="checkbox"/> Elimination <input type="checkbox"/> Substitution <input checked="" type="checkbox"/> Isolation <input type="checkbox"/> Engineering <input checked="" type="checkbox"/> Administration <input checked="" type="checkbox"/> PPE	<i>Follow Instructions in Operator Manual Specific site Hazard Assessment must be conducted before operation Maintain Operating Exclusion Zone while machine is in use Only competent persons to operate plant SOP must be followed when checks and services are conducted Appropriate PPE must be worn</i>	High
High Pressure Fluid					
Can anyone come into contact with: <ul style="list-style-type: none"> ▪ Fluids under high pressure in normal use, in the instance of plant failure? 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	High	<input type="checkbox"/> Elimination <input type="checkbox"/> Substitution <input type="checkbox"/> Isolation <input type="checkbox"/> Engineering <input checked="" type="checkbox"/> Administration <input checked="" type="checkbox"/> PPE	<i>Follow Instructions in Operator Manual Specific site Hazard Assessment must be conducted before operation Only competent persons to operate plant SOP must be followed when checks</i>	High

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				<i>and services are conducted Appropriate PPE must be worn</i>	
Electrical					
<p>Can anyone be injured by electrical shock or burnt due to:</p> <ul style="list-style-type: none"> ▪ The plant contacting live electrical conductors? ▪ Plant working close to electrical conductors? ▪ Overload of electrical circuits? ▪ Damaged or poorly maintenance electrical leads or cables? ▪ Damaged electrical switches? ▪ Water near electrical equipment? ▪ Lack of isolation procedures? ▪ Other factors 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Acute	<input checked="" type="checkbox"/> Elimination <input type="checkbox"/> Substitution <input checked="" type="checkbox"/> Isolation <input type="checkbox"/> Engineering <input checked="" type="checkbox"/> Administration <input checked="" type="checkbox"/> PPE	<i>Follow Instructions in Operator Manual Specific site Hazard Assessment must be conducted before operation e.g. Dial Before you Dig; Disconnect/isolate overhead power cables Maintain Operating Exclusion Zone while machine is in use Only competent persons to operate plant SOP must be followed when checks and services are conducted Appropriate PPE must be worn</i>	High
Explosion					
<p>Gases, vapors, liquids, dusts or other substances triggered by the operation of the plant or by materials handled by the plant?</p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Acute	<input checked="" type="checkbox"/> Elimination <input type="checkbox"/> Substitution <input checked="" type="checkbox"/> Isolation <input type="checkbox"/> Engineering <input checked="" type="checkbox"/> Administration <input checked="" type="checkbox"/> PPE	<i>Follow Instructions in Operator Manual Specific site Hazard Assessment must be conducted before operation e.g. Dial Before you Dig; Disconnect/isolate overhead power cables Maintain Operating Exclusion Zone while machine is in use Only competent persons to operate plant SOP must be followed when checks and services are conducted Appropriate PPE must be worn</i>	High
Slipping, tripping and Falling					
<p>Can anyone using the plant, or in the vicinity of the plant, slip, trip or fall due to:</p> <ul style="list-style-type: none"> ▪ Uneven or slippery work surfaces? ▪ Poor housekeeping, such as shavings in the vicinity of the 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Medium	<input type="checkbox"/> Elimination <input type="checkbox"/> Substitution <input type="checkbox"/> Isolation <input type="checkbox"/> Engineering <input checked="" type="checkbox"/> Administration <input checked="" type="checkbox"/> PPE	<i>Follow Instructions in Operator Manual Specific site Hazard Assessment must be conducted before operation Only competent persons to operate</i>	Low

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<ul style="list-style-type: none"> plant, spillage not cleaned up? ▪ Obstacles being placed in the vicinity of the plant? ▪ Other factors? 				<i>plant SOP must be followed when getting on/off equipment e.g. clear path, three points of contact Appropriate PPE must be worn</i>	
High Temperature					
Can anyone: <ul style="list-style-type: none"> ▪ Come into contact with objects at high temperature? ▪ Be injured by fire? 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Medium	<input checked="" type="checkbox"/> Elimination <input type="checkbox"/> Substitution <input type="checkbox"/> Isolation <input type="checkbox"/> Engineering <input checked="" type="checkbox"/> Administration <input checked="" type="checkbox"/> PPE	<i>Do not remove guards Follow Instructions in Operator Manual Specific site Hazard Assessment must be conducted before operation Maintain Operating Exclusion Zone while machine is in use Only competent persons to operate plant SOP must be followed when checks and services are conducted Appropriate PPE must be worn</i>	Low
Temperature and Thermal Comfort					
Can anyone suffer ill-health due to: <ul style="list-style-type: none"> ▪ Exposure to high or low temperatures? ▪ Failure of air conditioning equipment? 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Low	<input checked="" type="checkbox"/> Elimination <input type="checkbox"/> Substitution <input type="checkbox"/> Isolation <input checked="" type="checkbox"/> Engineering <input type="checkbox"/> Administration <input checked="" type="checkbox"/> PPE	<i>Follow Instructions in Operator Manual Specific site Hazard Assessment must be conducted before Appropriate PPE must be worn</i>	Low
Suffocation					
<ul style="list-style-type: none"> ▪ Can anyone be suffocated due to: ▪ Lack of oxygen, or atmospheric contamination? 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		<input type="checkbox"/> Elimination <input type="checkbox"/> Substitution <input type="checkbox"/> Isolation <input type="checkbox"/> Engineering <input type="checkbox"/> Administration <input type="checkbox"/> PPE		
Ergonomics					
Can anyone be injured due to: <ul style="list-style-type: none"> ▪ Poorly designed seating? ▪ Repetitive body movements? ▪ Constrained body posture or the need for excessive effort? ▪ Design deficiency causing physical or personal stress? ▪ Inadequate or poorly placed lighting? 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Low	<input type="checkbox"/> Elimination <input type="checkbox"/> Substitution <input type="checkbox"/> Isolation <input type="checkbox"/> Engineering <input checked="" type="checkbox"/> Administration <input checked="" type="checkbox"/> PPE	<i>Follow Instructions in Operator Manual Specific site Hazard Assessment must be conducted before operation Only competent persons to operate plant SOP must be followed when checks and services are conducted Appropriate PPE must be worn</i>	Low

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<ul style="list-style-type: none"> ▪ Lack of consideration given to human error or human behavior? ▪ Mismatch of the plant with human traits and natural limitations? ▪ Other factors? 				<i>Use appropriate manual handling aids and techniques when doing manual tasks e.g. changing buckets, cleaning, removing obstructions, maintenance</i>	
Other Hazards					
Can anyone be injured or suffer ill-health from exposure to: <ul style="list-style-type: none"> • Chemicals? • Toxic gases or vapors? • Fumes? • Dust? • Noise? • Vibration? • Radiation? • Other Factors? 	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Medium	<input type="checkbox"/> Elimination <input type="checkbox"/> Substitution <input type="checkbox"/> Isolation <input type="checkbox"/> Engineering <input checked="" type="checkbox"/> Administration <input checked="" type="checkbox"/> PPE	<i>Follow Instructions in Operator Manual Specific site Hazard Assessment must be conducted before operation Only competent persons to operate plant SOP must be followed when checks and services are conducted Appropriate PPE must be worn</i>	Low
Further Comments:	A Specific Risk Assessment on site must be undertaken prior to plant operation?				
Checklist:	<input type="checkbox"/> Hazard Report form for discrepancies reported <input checked="" type="checkbox"/> Copy kept on Risk Management File		<input type="checkbox"/> Copy given to Committee if there is further review <input type="checkbox"/> Appropriate Risk Assessment for "Other Hazards"		

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Hazard / Risk Matrix

Reference: Workplace Health and Safety Queensland - Risk assessment - Supplement 2
Risk Management Code of Practice 2007

Step 1 Determine Likelihood – What is the possibility of the event happening?

	Criteria	Description
Almost certain	Expected in most circumstances.	Event is a common problem
Likely	Will probably occur in most circumstances.	Event is known to have occurred at this site or it has happened
Possible	Might occur at some time	Event could occur at the site or I've heard of it happening
Unlikely	Could occur at some time	Event is not likely to occur at the site or I have not heard of it happening
Rare	May occur only in exceptional circumstances	Event is practically impossible.

Step 2 Determine Consequence - What will be the result if it happens?

Classification	Example detail description
Insignificant	No injuries
Minor	First aid treatment only; spillage contained at site.
Moderate	Medical treatment; spillage contained but with outside help.
Major	Extensive injuries; loss of production
Catastrophic	Death; toxic release of chemicals

Step 3 Determine the risk score

LIKELIHOOD	CONSEQUENCE				
	Insignificant	Minor	Moderate	Major	Catastrophic
Almost certain	3 High	3 High	4 Acute	4 Acute	4 Acute
Likely	2 Medium	3 High	3 High	4 Acute	4 Acute
Possible	1 Low	2 Medium	3 High	4 Acute	4 Acute
Unlikely	1 Low	1 Low	2 Medium	3 High	4 Acute
Rare	1 Low	1 Low	2 Medium	3 High	3 High

Step 4 Record risk score against the job sequence steps

(Note – Risk scores have no absolute value and should only be used for comparison and to engender discussion.)

Score	Action
4 A: Acute	ACT NOW – Urgent – do something about the risks immediately. Requires immediate attention.
3 H: High	Highest management decision is required urgently.
2 M: Medium	Follow management instructions.
1 L: Low	OK for now. Record and review if any equipment/ people/ materials/ work processes or procedures change.