



Callaghan Boom pump KCP31XT



PLANT SUMMARY

Item	Detail
Plant No(s)	Plant No.7
Type	Concrete Placing Boom
Description	31XT Callaghan Boom
Design Standard(s) Applicable	
Design Registration	
Plant Registration	XO84GF
Key Comment	

PREVIOUS RISK ASSESSMENTS

By Whom	Risk Assessment Supplied (Y/N)	Hazard Warnings Supplied (Y/N)
Designer	N	Y
Manufacturer	N	Y
Modifier	N	N/A



Key Comment	No modifications have taken place, however, should such take place then a new Risk Assessment would be carried out at the time to ensure that the Risk Assessment is current and relevant.
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TRAINING and COMPETENCY REQUIREMENTS

Operator Licensing	Required	
Competency Training	Required	
Training References	Manufactures Operating Manual	Jun Jin Heavy Ind
	Danger and Out of Service Tags and Isolation Procedures	Isolations Policy
	Manual Handling	Manual Handling Training
	Noise Control	Noise Policy and Procedure
	Provision and Use of Personal Protective Equipment	Personal Protective Equipment Policy
	Electrical safety General	Electrical Code of Practice
	Safe Working at Heights	Safe Working at Heights Training
Key Comment		

RISK ASSESSMENT REFERENCE DOCUMENTS

No	Document Title	Document Description	Location
1	Manufacturer's Operating Manual	Operator Training Manual including Hazard Warnings and Safe Work Procedures for Operation and Maintenance of Plant.	With plant and copied in OHS Section - Equipment file
2	Hazard Identification Policy	Policy determining how to identify a hazard and what to do next.	OHS Manual



Plant Hazard Checklist

Plant Type: 31XT Callaghan Boom

Plant No(s). 7

Hazards	Y/N	Comments
Entanglement		
Can anyone's hair, clothing, gloves, rags or other material become entangled with moving parts of the plant, or materials in motion?	N	
Crushing		
Can anyone be crushed due to:-		
Material falling off the plant?	N	
Uncontrolled or unexpected movement of the plant or its load?	Y	Slewing or luffing of concrete placing boom. Placing of stabilisers. Steering machine while travelling or stationary. Reversing or forwarding machine. Under tyres when moving.
Lack of capacity for the plant to be slowed, stopped or immobilised?	N	
The plant tipping or rolling over?	Y	Stabilisers not located when using boom.
Parts of the plant collapsing?	Y	Placing boom.
Coming into contact with moving parts of the plant during testing, inspection, operation, maintenance, cleaning or repair?	Y	Stabilisers. Swing rams. Boom extension/retraction. Inserting hands or feet in swing tube area (hopper).
Being thrown off or under the plant?	Y	Driver or passenger while travelling.
Being trapped between the plant and materials or fixed structures?	Y	During travel or manoeuvring. Manipulating booms.
Other factors not mentioned?	N	
Cutting, Stabbing and Puncturing		
Can anyone be cut, stabbed or punctured due to:-		
Coming into contact with sharp or flying objects?	N	
Coming into contact with moving parts of the plant during testing, inspection, operation, maintenance, cleaning or repair of the plant?	N	
The plant, parts of the plant or work pieces disintegrating?	N	
Work pieces being ejected?	N	
The mobility of the plant?	N	
Uncontrolled or unexpected movement of the plant?	N	
Other factors not mentioned?	N	
Shearing		
Can anyone's body parts be sheared between two parts of the plant and a work piece or structure?	Y	Fingers or hand between swing tube and cylinder.



Hazards	Y/N	Comments
Friction		
Can anyone be burnt due to contact with moving parts or surfaces of the plant or material handled by the plant?	Y	Chaffing / burn type injuries to inside of legs particularly inside the boots. Caused by concrete coming in to contact with the skin and causing friction burn.
Striking		
Can anyone be struck by moving objects due to:-		
Uncontrolled or unexpected movement of the plant or material handled by the plant?	Y	Slewing/luffing/rotating/extending placing boom.
The plant, parts of the plant or work pieces disintegrating?	Y	Boom collapse.
Work pieces being ejected?	Y	Air pockets in the concrete causing unpredictable spray.
Mobility of the plant?	Y	If care is not taken as to position of colleagues in relation to the plant then there is a remote possibility of collision of person and machine.
Other factors not mentioned?	N	
High Pressure Fluid or Air		
Can anyone come into contact with fluids or air under high pressure due to plant failure or misuse of the plant?	Y	Burst hydraulic, water, air hose or broken fitting. Blockage in feed tube.
Electrical		
Can anyone be injured by electrical shock or burnt due to:-		
The plant contacting live electrical conductors?	N	
The plant working in close proximity to electrical conductors?	Y	Operation of plant in close proximity to High Voltage equipment or lines. Can cause the equipment / operator to be caught up 'Voltage Funnel' types.
Overload of electrical circuits?	N	
Damaged or poorly maintained electrical leads or cables?	N	
Damaged electrical switches?	Y	If the power board switches were damaged and making contact then the operator could potentially receive an electric shock.
Water near electrical equipment?	Y	If there was already damage to an electrical board which was exposed to water the water could and would conduct the electricity.
Lack of isolation procedures?	N	
Other factors not mentioned?	N	
Explosion		
Can anyone be injured by explosion of gases, vapours, liquids, dusts or other substances, triggered by operation of the plant or by material handled by the plant?	Y	Air pockets – concrete spray, accumulator explosion – rapid release of hydraulic fluid, potentially hot.,
Slipping, Tripping or Falling		
Can anyone using the plant, or in the vicinity of the plant, slip, trip or fall due to:-		
Uneven or slippery surfaces?	Y	Climbing on or off plant, walking on the uneven surface to gain access to the plant



Hazards	Y/N	Comments
Poor housekeeping eg swarf in vicinity, spillage not cleaned up?	Y	Spillage from the hopper of concrete could result in a slip / trip type injury.
Obstacles being placed in the vicinity of the plant?	Y	Timber / steel sheeting etc usually on the surface / ground.
Other factors not mentioned?	N	
Can anyone fall from a height due to:-		
Lack of proper work platform?	N	
Lack of proper stairs or ladders?	N	
Lack of guardrails or other suitable edge protection?	N	
Unprotected holes, penetrations or gaps?	N	
Poor floor walking surfaces, such as the lack of a slip resistant surface?	N	
Steep walking surface?	N	
Collapse of the supporting structure?	N	
Other factors not mentioned?	N	
Ergonomic		
Can anyone be injured due to:-		
Poorly designed seating?	N	
Repetitive body movement?	Y	Twisting and bending movements
Constrained body posture or the need for excessive effort?	Y	Pushing, pulling of the hose
Design deficiency causing mental or psychological stress?	N	
Inadequate or poorly placed lighting?	N	
Lack of consideration given to human error or human behaviour?	N	
Mismatch of the plant with human traits and natural limitations?	N	
Other factors not mentioned?	Y	Remote control carried by operator on harness.
Suffocation		
Can anyone be suffocated due to lack of oxygen, or atmospheric contamination?	Y	Exhaust fumes if the wind was blowing towards the cab.
High Temperature or Fire		
Can anyone come into contact with objects at high temperatures?	Y	Contact with engine exhaust at catalytic converter.
Can anyone be injured by fire?	Y	Engine/diesel or hydraulics fire.
Temperature (Thermal Comfort)		
Can anyone suffer ill-health due to exposure to high or low temperatures?	Y	Heat stroke or hypothermia in extremes of weathers.
Other Hazards		
Can anyone be injured or suffer ill-health from exposure to:-		
Chemicals?	Y	Can cause irritation to the skin.
Toxic gases or vapours?	N	
Fumes?	Y	Engine exhaust.
Dust?	Y	Dust particles are always present on site and can get into the eyes and other crevices.
Noise?	Y	Characteristic operation of plant creates noise.
Vibration?	Y	Cab vibration and when working with vibrator.



Hazards	Y/N	Comments
Radiation?	N	
Other factors not mentioned?	Y	Sun – cancer causing if PPE not used

Plant Risk Assessment

Risk Assessment

Risk Assessment - Plant Type	31XT Callaghan Boom		Plant No(s):.	7	
Person Conducting the Risk Assessment	Paul Sterling	Position	Director/Operations Manager	Date	2025
Supervisor of the Area	Paul Sterling	Position	Plant Manager	Date	2025

This Risk assessment is Supplementary to the information available in Owners Operating Manual.(OOM)

Risk Assessment Form to be used after completing Plant Hazard Checklist.

Assessment to be carried out in the context of the Designed Plant and its intended use as designed.

Risk rank to be as per company standard.

To be reviewed by:	Plant Manager
Next Review due:	2026

Task/Activity	Hazard		Risk Rank	Current Controls	Additional Action	By Whom	When
	Type	Description					
During slewing/luffing Placing boom, placing stabilisers, steering while travelling or stationary, reversing or forward motion.	Crushing	Operator or bystander crushed by parts of plant shifting unexpectedly. Operator vision is restricted by shape of Plant. Hydraulic responses can be sudden.	8	Refer OOM manual for operator and service person training.	Operation of Plant to be subject of quarantine area or barricading Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
Operation of Plant without setting stabiliser jacks prior to operation of Placing boom.	Crushing	Operator, serviceperson or other crushed by plant tipping over.	4	Refer OOM manual for operator and service person training.	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
Collapse of boom due to failure of mechanical structure.	Crushing	Crushing of operators or bystanders under Placing boom.	16	Refer OOM manual for servicing and maintenance inspections	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned

Plant Risk Assessment

Pumping or placing Plant for operation. Rotation, extension, retraction of Placing boom, Operation of swing ram, Placement of outriggers or stabiliser jacks, Lowering of Placing boom	Crushing	Insertion of hands or feet in swing tube area(hopper) crushing fingers, hands, arms, legs, feet or other body parts against floor, wall, other part of plant or within plant piece.	12	Refer OOM manual for operator and service person training.	Operation of Plant to be subject of quarantine area or barricading Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
During travelling or manipulation of boom.	Crushing	Crushing of bystanders between plant and tunnel walls or other plant.	12	Refer OOM manual for operator and service person training.	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
During clean out procedure of the concrete pump.	Shearing	Body parts could be sheared e.g. fingers, hands	8	Refer OOM manual for operator and service person training.	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
During the placement of concrete process.	Friction	Burns to the body by material used. Concrete in between boot and skin can cause friction burns.	15	Refer OOM manual for operator and service person training.	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
During slewing, luffing, rotating, extending Placing boom.	Striking	Persons, bystanders struck by movement of boom slewing, luffing, rotating or extending.	18	Refer OOM manual for operator and service person training.	Operation of Plant to be subject of quarantine area or barricading Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
During collapse of boom on failure of rams, structure or connection points.	Striking	Persons struck by boom portions.	12	Refer OOM manual for servicing and maintenance inspections	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
During the pumping process.	Striking	Persons can be struck by concrete if air pocket occurs.	15	Refer OOM manual for operator and service person training.	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
During mobility of the plant.	Striking	Persons could come in to collision with the plant causing serious injury	19	Refer OOM manual for operator and service person training.	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
Failure of hydraulic hose or fitting.	High Pressure Fluid or Air	Operator or other struck by sudden release of hydraulic fluid, water or air causing skin damage or ingress to eyes.	22	Refer OOM manual for servicing and maintenance inspections	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned

Plant Risk Assessment

During blockage and eruption of feed pipe.	High Pressure Fluid or Air	Operator or other struck by concrete under pressure.	8	Refer OOM manual for operator and service person training. Provision and Use of Personal Protective Equipment Policy	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
Manoeuvring, operating or travelling near High Voltage Plant or lines.	Electrical	Electrocution from contact with live parts exposed by collision damage.	7	Electrical Code of Practice and training	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
During set up procedure.	Electrical	Electrocution from contact with exposed parts on a damaged power board	25	Electrical Code of Practice and training	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
During close down procedure.	Electrical	Water conducting electricity leaking from a damaged switch could cause electrocution.	25	Electrical Code of Practice and training	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
During normal operation of the plant	Explosion	Air pockets in the concrete, accumulator and/or hydraulic fluid supply line – all have potential to explode and send out harmful substances.	13	Safe working practice and training	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
Climbing on or off plant at cab.	Slipping, Tripping or Falling	Operator slips on uneven or slippery ground.	13	Safe working practice and training	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
During the placement of concrete.	Slipping, Tripping or Falling	Spillage from the hopper of concrete would make surface very slippery	18	Safe working practice and training	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
Anytime at the work site.	Slipping, Tripping or Falling	Timber, steel sheeting etc on the ground can cause trip.	14	Safe working practice and training	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
During placement of the concrete.	Ergonomic	Twisting and bending movements could lead to Manual Handling injury	9	Manual Handling Training.	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned

Plant Risk Assessment

During placement of the concrete.	Ergonomic	Constant pushing, pulling of the hose could lead to Manual Handling injury	9	Manual Handling Training.	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
Prolonged use of remote control unit cable linked. Remote unit is hitched by harness to operator.	Ergonomic	Operator strains from repetitive use of remote control.	17	Manual Handling Training	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
Whilst plant is in operation.	Suffocation	Exhaust fumes in certain wind situations	21	Safe working practice and training	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
Touching manifold during operation or immediately after shutdown.	High Temperature or Fire	Operator or serviceperson burnt on engine exhaust at catalytic converter.	18	Refer OOM manual for operator and service person training. Personal Protective Equipment Policy	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
During eruption of fire or attempts to control.	High Temperature or Fire	Operator or other burnt by fire in hydraulic system or engine/diesel fuel system.	13	Refer OOM manual for operator and service person training. Fire extinguisher system fitted to Plant	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
Any time when at the work site	Temperature (Thermal Comfort)	Persons could be overcome with heat stroke or hyperthermia in extreme conditions	21	Personal Protection Equipment Policy	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
During the Placement Procedure.	Other Hazards (Chemical)	Concrete on the skin can cause irritation.	19	Personal Protection Equipment Policy, Safe Working Procedure and training.	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
During extended operation in areas with low ventilation. Scrubber is optional extra to plant.	Other Hazards (Fumes)	Operator or others overcome by effects of engine exhaust.	22	Refer OOM manual for operator and service person training. Personal Protective Equipment Policy	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
Any time at the work place.	Other hazard (Dust)	Eyes, skin and breathing can be irritated by dust invasion.	15	Personal Protective Equipment, Safe Working Procedure and training	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned

Plant Risk Assessment

Prolonged use of Plant by operator	Other Hazard (Noise)	Operator or other receives hearing damage.	13	Refer OOM manual for operator and service person training. Personal Protective Equipment Policy	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
Moving of the plant and during the placement of concrete procedure.	Other Hazard (Vibration)	Cab vibration and when working with concrete vibrator can cause muscular / nerve disorder	21	Manual Handling Training, Safe Working Procedure and training.	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned
Whenever it is daylight, as sun can penetrate through clouds.	Other Hazards (Sun)	Excessive or prolonged exposure to the Sun's rays can cause sunburn or in extreme cases cancer.	10	Personal Protective Equipment Policy, Safe Working Procedure and training.	Advice of hazard to be provided for SWP development	Plant Manager	As Assigned

Plant Risk Assessment

I have read and agree to carry out the above procedures as detailed.

NAME	SIGNATURE	DATE	NAME	SIGNATURE	DATE