



DTL-HSE-SWMS-0001

McElroy Tracstar Operations

DTL Health & Safety Management System

Doc No: DTL-HSE-SWMS-0001 **Version:** 1.0 — Dec 2025 **Review:** Jul 2026 **Owner:** Annelize Van Tonder (Cost Controller)

Safe Work Method Statement for **HDPE pipe welding using the McElroy Tracstar** — work-area setup, loading pipe into the machine, butt-fusion welding, unloading and relocating the machine. High-risk construction work: brief every worker and have them sign on before work starts.

• **High-risk work.** Do not start until the controls below are in place and all workers are briefed and signed on. Stop work if a control cannot be maintained.

High-Risk Construction Work — tick all that apply

☐ Scaffolding	☒ Dogging	☐ Rigging
☒ Craneage / Lifting operations	☐ Elevating Work Platform operation	☐ Forklift operation
☐ Work at Height	☐ Confined Space Work	☐ Working over or near water
☒ Working near Mobile Plant / Equipment	☐ Hot Work	☐ Working in a contaminated or flammable atmosphere
☒ Operating Mobile Plant / Equipment	☒ Dropped objects	☐ Tilt-up or Precast concrete work
☐ Operating Light Vehicle(s)	☐ Hazardous substance uses and/or storage	☐ Working near road, rail or sea traffic
☐ Work in artificial extremes of temperature	☐ Work likely to involve disturbance of asbestos	☐ Work on or near energised electrical services or equipment
☐ Other (please detail):	☐ Other (please detail):	☐ Other (please detail):

Material Risks — tick all that apply

☐ Arc Flash/Blast Incident	☐ ARD Facility Failure	☐ Automated Equipment Interaction	☐ Confined Space Incident
☐ Dam Flood Event	☐ Electrocution	☐ Engulfed by Product	☒ Entanglement and / or crushed
☐ Exposure to Hazardous Materials/Dusts/Fibres	☐ Extreme Weather	☐ Facility Infrastructure Fire / Explosion Incident	☐ Fatal Bite
☐ Ground / Pit Wall / OSA / Stockpile Failure	☐ Heat Exposure	☐ Integrity Failure of Critical Equipment	☐ Lifting Incident

☒ Material Impact During Movement of Goods	☐ Noise Induced Hearing Loss	☐ Person Falling into Water	☐ Power Disruption
☐ Processing Plant / Equipment Fire	☒ Surface Mobile Equipment Incident	☐ Tyre Handling Incident	☒ Uncontrolled Dropped or Falling Objects
☐ Uncontrolled Release of Diesel	☐ Uncontrolled Release of Stored Energy	☐ Unplanned Initiation and or Impact	☐ Vehicle Interaction Incident
☐ Vehicle Recovery	☐ Working at Height Incident	☐ Fatigue	☐ Mental Wellness

Required-Controls Checklist — tick all that apply

☐ Safety Harness / Fall Arrest	☐ Platform Ladder / Scaffold	☒ Barricading / Signage	☐ Rescue Plan
☒ Spotter / Sentry	☒ 2-Way Radio / Telephone	☒ Fire Extinguisher / Blanket	☒ Spill Kit

PPE, Licences, Permits & Tools

PPE	Licences / Qualifications	Permits / Procedures	Tools & Equipment
- Safety footwear (always) - Safety glasses (always) - Hearing protection when operating the Tracstar welding machine - Gloves for manual handling - Hard hat outside - Close-fitting / protective clothing - No rings / jewellery	- Polywelding qualifications — butt weld polyethylene plastic pipe - Verification of Competency (VOC)	- Take 5 Procedure (Site) - JHA Procedure (Site) - SDS available for Diesel Fuel	- Tracstar welder - Welding accessories - Pipe chocks - Shade tent - Task-specific PPE - Isopropanol wipes - Diesel fuel - Personal locks

1 · Job Setup & Pre-Operational Checks

#	Job step	Hazards	Initial	Controls	Residual
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1.1	Set up and demarcate the work area	• Unauthorised access to work area • Injury to personnel • Equipment damage • Vehicle collision • Adverse weather	H13	• Ensure correct barricading and traffic control and call-up signage in place to control access to the work area • Positive communication between all team members and any other work groups • Assess all loads being carried and use correct manual handling techniques including team lifts where required • Set up shade tent in hot / rainy weather conditions • Maintain hydration levels — regular intake of cool water • Take shade breaks, utilising light vehicle as cool station if accessible on client site • PPE — shade brim on hard hat, sunscreen, minimum of gloves to be worn for manual handling activities	M8
1.2	General manual handling tasks	• Manual handling / musculoskeletal injuries • Crush / pinch points around tailgate	M8	• Assess load and use mechanical aid or team lift if required • Correct manual handling technique — bend the knees, keep back straight, lift with the legs, keep load close to body, avoid overreaching or twisting • PPE — gloves to be worn for all manual handling tasks	L4

2 · Pre-Operational Checks

#	Job step	Hazards	Initial	Controls	Residual
2.1	Complete pre-start	• Damaged or faulty equipment • Uncontrolled movement • Pinch points • Leaks / spill • Uneven ground and/or trip hazard	H13	• Regular, scheduled maintenance and servicing • Complete pre-start using the relevant Pre-Start Inspection form • Isolate machine by applying personal lock and danger tag • Ensure poly welding machine is on level ground when performing the pre-start inspection • Identify uneven ground and any trip hazards, removing if possible • If faults are identified, tag out of service, report to Supervisor and do not use	L4
2.2	Check any permit requirements	• Permit required and not issued • Incorrect or unauthorised permit	H13	• Speak to supervisor / management if unsure of the type of permit that may be required • Ensure the correct permit(s) are in place (e.g. Permit to Work, Vicinity Permit etc.) • Ensure permit is valid, authorised and in date	M8

3 · Loading Pipe / Fittings into the Tracstar Machine

#	Job step	Hazards	Initial	Controls	Residual
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3.1	Use IT / Telehandler / Excavator to string pipe	- Personnel & equipment interaction - Uncontrolled movement of pipe while towing resulting in impact on person - Crush injuries - Inadequate chains	H13	- Work area demarcation and segregation - Rated drag chains - Inspect chains prior to use - Towing equipment must be clearly marked as 'for towing only' - Use of spotter and positive communication - Pipe bolsters on extendable pipe delivery trailers	M9
3.2	Elevate pipe / fittings into Tracstar	- HV / HV interaction - Stored energy - Manual handling - Damage to pipe - Equipment failure	E18	- Inspect all towing chains / slings / shackles - Competent operator - Work area set up as per Traffic Management Plan - Dogman or rigger to cut a crescent shape or slot 400mm from end of pipe and chain attached in a manner preventing chains from contacting the ground - Positive communications established with all traffic along the planned towing route - Speed to remain under 30 km/h during towing operations - Stored energy released from pipe prior to disconnection from tow vehicle	H10
3.3	Placement of pipe onto pipe stands / PUPS	- Uneven ground - Pinch points / crush injuries - Hand injuries - Uncontrolled movement of pipe - Mobile equipment / pipe impact on person - Manual handling injuries — sprains / strains	H13	- Correct manual handling techniques — assess load, use mechanical aids or team lifts, bend the knees, keep back straight and load close to the body, lift with the legs, avoid twisting or overreaching - If using slings / chains to lift the pipe / fitting into the Tracstar, a JHA must be completed — include lifting operations risks and controls and be verified by a qualified person / Supervisor - Keep all body parts clear of line of fire - Awareness of hand placement — at no point should your hand be between the pipe stand / PUP and the elevated pipe - Welder to maintain positive communication with operator at all times - PPE — gloves	M9
3.4	Pipe clamps released into upright position; rear and front pipe lifts raised to take the weight of the incoming pipe	- Pinch points / crush injuries - Uncontrolled movement of pipe - Pipe impact on person	E18	- Align pipe lifts with pipe as per the Tracstar operation manual - Welder acts as spotter with positive communication to equipment operator - Welder positioned out of line of fire - Awareness of hand placement	H10

3.5	Load pipe / fittings into welder so approx. 25mm protrudes past the edge of the clamp; clear pipe ends of debris (sand, rocks etc.); lock pipe onto carriage clamps; close carriage to bring pipe ends into contact with the facer	• Welds affected by debris on the pipe or insufficient material removed • Pinch points • Non-compliant welds • Hand injuries	H13	• Ensure end of pipe is clean and protrudes 25mm past edge of clamp • Awareness of hand placement — keep hands out of line of fire • Visual awareness of welder to remain out of the line of fire	M6
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4 · Welding the Poly Pipe / Fittings

#	Job step	Hazards	Initial	Controls	Residual
4.1	When operating the Tracstar you MUST ensure: no tractor movements off the Tracstar at all times; the Tracstar contains stands (1 spare), 1 fittings chuck & a full set of clamp inserts; the Tracstar is not operated on an incline with a gradient > 30%; the engine is operating at high speed to provide power to the heater plate	• Poor operating skills • Insufficient equipment • Uneven ground • Hot surfaces — burns • Stored energy • Unable to complete task • Mechanical failure • Damage to machinery / gears	M8	• Trained, competent and VOC'd welder to operate as per the Tracstar manual • Ensure only McElroy attachments and accessories are used with the Tracstar welder • All attachments to be securely fitted as per the Tracstar manual • Lint-free cotton cloths used for cleaning the heater plate and to form a barrier between heater plate and hand	L5
4.2	Commence the weld — program weld parameters according to machine cylinder type, material to be welded & required interface pressure; select and load clamp inserts to suit pipe & fittings to be welded	• Incorrect measurements / fittings • Manual handling — sprains / strains • Non-compliant welds • Cuts / abrasions	M8	• Trained, competent and VOC'd welder • Refer to operator's manual for detailed programming instructions • Correct manual handling techniques — assess load, use mechanical aids or team lifts, bend the knees, keep back straight and load close to the body, lift with the legs, avoid twisting or overreaching • PPE — minimum Cut 3 gloves	L3

4.3	Open carriage until pipe is not touching the facer, select facing pressure & open facer valve; close the carriage — if facer stalls, adjust facing pressure (when drag pressure exceeds 300 psi); turn facer off, open carriage & remove facer; move hydraulic guarding gate into upright position and remove swarf	- Hydraulic pressure - Entanglement - Pinch points / crush injuries - Sharp cutting blades on facer plate — cuts / abrasions - Non-compliant welds	H13	- Hydraulic guarding gate acts as a hydraulic E-Stop, shutting off all hydraulics to the Tracstar - Keep hands / body clear of moving carriage - Only use designated handles for lifting the facer plate - Keep all body parts clear of line of fire - PPE — minimum Cut 3 gloves	M9
4.4	Clean pipe ends with lint-free cloth (remove gloves to avoid contamination when using the lint-free cloth); confirm pipe ends are suitably faced, put gloves back on; close carriage & confirm alignment is within tolerance	- Hydraulic pressure - Entanglement - Pinch points / crush injuries - Sharp cutting blades — cuts / abrasions - Weld contamination / non-compliant welds	H13	- Only use designated handles for lifting the facer plate - Keep facer plate upright when not in use - Verify the hydraulic guarding gate is in place (acts as a hydraulic E-Stop) - Use a digital calliper to verify alignment is within tolerance — max allowable misalignment = 10% of pipe wall thickness - PPE — minimum Cut 3 gloves	M6
4.5	Apply fusion jointing pressure & confirm pipe is not slipping through clamps; confirm heater plate temperature is within tolerance with a pyrometer	- Hot surfaces — burns - Entanglement - Pinch points / crush injuries - Non-compliant welds	H13	- Trained, competent and VOC'd welder - Hands out of the line of fire - Awareness of hand placement — do not touch heater plate face or molten HDPE material	M9
4.6	Using a pyrometer, check several points on both sides of the heater plate (max allowable variance ± 10); logger to be within the 200°C–230°C range as stated in ISO 21307 and PIPA POP003; clean heater plate with lint-free cloth	- Hot surfaces — burns - Hydraulic pressure - Entanglement - Pinch points / crush injuries - Non-compliant welds	H13	- Trained, competent and VOC'd welder - Hydraulic guarding gate acts as a hydraulic E-Stop - Quarterly electrical test tag - Ensure hands kept clear of heater plate face and HDPE melt - PPE — minimum Cut 3 gloves	M9

4.7	Lower cleaned heater plate into position; bring pipe ends together using recommended calculated pressures for weld-up; once recommended bead size is reached, lower to calculated heat-soak pressures	- Hot surfaces — burns - Hydraulic pressure - Entanglement - Pinch points / crush injuries - Non-compliant welds	M8	- Trained, competent and VOC'd welder - Hydraulic guarding gate acts as a hydraulic E-Stop - Quarterly electrical test tag - Ensure hands kept clear of heater plate face and pipe ends - PPE — minimum Cut 3 gloves	M6
4.8	Move the carriage to the right just enough to remove the heater, inspect for appropriate melt — if correct, bring the pipe ends together using recommended calculated pressure	- Hot surfaces — burns - Entanglement - Pinch points / crush injuries - Non-compliant welds	M9	- Trained, competent and VOC'd welder - Hydraulic guarding gate acts as a hydraulic E-Stop - Quarterly electrical test tag - PPE — minimum Cut 3 gloves	M6

5 · Unloading Pipe / Fittings from the Tracstar Welding Machine

#	Job step	Hazards	Initial	Controls	Residual
5.1	Pipe clamps released into upright position; rear and front pipe lifts raised to take the weight of the pipe	- Pinch points / crush zones - Crush / pinch injuries	M9	- Trained, competent and VOC'd welder - Align pipe lifts with pipe - Awareness of hand placement, stay out of line of fire	M6
5.2	Track the Tracstar forward with existing pipe in place to allow pipe to travel through the carriage	- Crush injuries - Uneven ground - Machine / pipe impact on person	H13	- Use low speed when tracking - Stay out of line of fire - Trained, competent and VOC'd welder - Work area set up as per Traffic Management Plan	M6

6 · Moving the Tracstar Welding Machine to a New Work Area

#	Job step	Hazards	Initial	Controls	Residual
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6.1	Tracstar must be tracked or lifted onto trailer; use forks on pallet or lifting chains on nominated lift points; if the Tracstar is to be lifted onto a trailer, a lift study and Take 5 must be completed (Tracstar with accessories = 1.3T)	• Uneven ground • Pinch points / crush injuries • Mobile equipment impact on person • Manual handling injuries — sprains / strains	H13	• Demarcation of work area with cones / signage • Use of spotter with positive communication to equipment operator • Stay out of line of fire • If used, lifting equipment must have a current test tag fitted and be inspected prior to use • Correct manual handling techniques — assess load, use mechanical aids or team lifts, bend the knees, keep back straight and load close to the body, lift with the legs, avoid twisting or overreaching	M8
6.2	Work area is cleared and materials disposed of, reused or recycled as per the Waste Management Procedure	• Poor housekeeping • Environmental impact	L5	• Maintain a high standard of housekeeping in the work area • Remove all pipe shavings / waste and dispose of appropriately	L2

Worker Sign-On (briefed & understood)

By signing this SWMS I, the undersigned, acknowledge, understand and accept that I have read and understand the SWMS and will comply with its requirements.

Full name	Signature	Date
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Prepared By

Sean Heron — Projects

Signature

Date

dd/mm/yyyy

Reviewed By

Rhys Scholz

Signature

Date

dd/mm/yyyy

Approved By

Tyson Knight — Director

Signature



Date

27/05/2026