

Part 3: Scope of Work

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C3.1	<i>Employer's Service Information</i>	
C3.2	<i>Contractor's Service Information</i>	

C3.1: Employer's Service Information

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1 Description of the service

1.1 Executive overview

The scope is for the provision of different types of cranes at Majuba Power Station, for a period of 3 years, starting 01 September 2023 to 31 August 2026

The Contractor provides all labour, equipment, supervision, administration, management and safety requirements to perform the services as specified herein.

1.2 Scope of work

Supply and delivery of different size cranes on 24 hr basis as an when required at Majuba Power Station, for maintenance and plant operations.

1.2.1 30 Ton Mobile Crane

Vehicle Job Description	<u>30 Ton mobile rough terrain crane required for the lifting of goods, equipment. With a hydraulic horizontal reach of 29 metres and hydraulic vertical reach of 30 metres and 36.9 metres with jib.</u>
The lifting capacity correspond to EN 13000:2004	The lifting capacities likewise fulfil the requirements of ISO 4305 and DIN 15019, Part 2, with regard to stability, and DIN 15018, Part 3, and FEM 5004 with regard to strength. 85%: Capacities are in accordance with SAE J1063 and do not exceed 85% of the tipping load (SAE J1289 for outriggers 50% and 0% extended) as determined by SAE J765.
Boom	8.8 m to 29 metre four-section full power boom. Maximum tip height 29 metres
Boom Nose	Three nylatron sheaves mounted on heavy duty tapered roller bearings Removable auxiliary boom nose with removable pin type rope guard.
Boom Elevation	One double acting hydraulic cylinder with integral holding valve provides elevation from -3° to +76°.
Anti-Tow block device	It must provide an audible and visual warning to the crane operator when activated and it must disengage all crane functions whose movement can cause two-blocking.
Load Indicator	A simple effective and easy to use load indicating system. This system must be used in conjunction with the anti-two block system to assist the operator in efficient operation of the unit within the limits of the load chart.
Rated Capacity Limiter (RCL)	The display panel displays the hook load and warns the operator when a pre-set load capacity is exceeded. The warning is by a flashing light on the display panel and must be in conjunction with the load display panel (receiver). There must be a wireless transmitter and load sensing pin attached to the boom head that transmits the hook load to the display panel.
Load Moment Indicator (LMI)	It must be similar to the load indicator but must stop the telescope out and boom lift down function when a load limit is exceeded. Uses a similar display panel with the addition of displaying boom angle and boom length read outs on the panel. Digital display of boom angle, boom length, boom radius, capacity. System to allow for operator input to set the limits based on load chart. Displays colour coded light bar and audible alarm with function cut-out if load exceeds entered parameters.

Swing	Planetary swing drive with foot applied multi-disc wet brake
	Spring applied, hydraulically released swing brake.
	Single position mechanical house lock, operated from cab
	Maximum speed 2 rpm.
Hydraulic System	Two main pumps ([1] piston and [1] gear) with a combined capacity of 316,5 LPM.
	Combined flow rating: 316,5 LPM.
	Maximum operating pressure: 275,7 bar.
	Three section pressure compensated valve bank. Return line type filter with full flow by-pass protection and service indicator
	Return line filter with full flow by-pass protection and service indicator.
	500 Litre hydraulic reservoirs with sight level gauge and steel side plating to guard against side impact damage.
	Carrier mounted oil cooler with thermostatically controlled hydraulic motor driven fan and air to oil.
	System pressure test ports.
Hoist Specifications	Planetary reduction with automatic spring applied multi-disc wet brake.
	Electronic hoist drum rotation indicators, and hoist drum cable followers.
	Maximum single line-pull 1 st layer: 5 280 kg.
	Maximum single line-pull 3rd layer: 4 323 kg.
	Maximum single line-pull 5th layer: 3 656 kg.
	Maximum Single Line Speed: 136 m/min.
Rope length and construction	Maximum Permissible Line Pull: 5 280 kg. with 34x37 class rope.
	Main hoist: 137 m
	Auxiliary hoist: 137 m
Carrier	Maximum rope stowage: 181 m.
	High strength alloy steel constructed with integral outrigger housings. Front and rear tie-down lugs suitable to hold the load of 13600 kg in motion.
Frame	Maximum width 2,387metres.
	Maximum height 3,550 metres.
Outriggers	Four hydraulic telescoping Single-stage double box beam outriggers with vertical jack at the four corners provides extend and down and retracted and down lifting capacities.
	Integral holding valves on both beam and jack.
	Three position settings: 100%, 50% and fully retracted
	All steel fabricated, quik-release type round outrigger floats, 362mm diameter with maximum outrigger pad load of 24 857 kg.
Outrigger Controls	Three switch operations mounted on dash panel.
	One 3-position rocker switch to select all beams / jacks, left beam jacks only or right beam jacks only.
	Separate 4-way toggle switch to activate beams out or in and jacks down and up.
	Level bubble indicator located inside operator's compartment.
	Independent outrigger controls must be available to work in confined spaces.
	Outrigger motion alarm

Engine	Preferable: Cummins Engine with 119 kW at 2500 rpm and 732 Nm at 1500 rpm
	Engine must be service and maintained through local dealer network in SA
Counterweight	3,8 t pinned to superstructure.
Operators Enclosed control station	Enclosed control station full-vision, all-steel fabricated with acoustical lining and tinted safety glass front and rear and sliding glass on the right side as well as overhead safety glass.
	Tilt/telescoping steering wheel with various controls incorporated into the steering Colum.
	Hinged full door with a safety sliding glass.
	Front windshield wiper.
	Cab to be fitted with defroster and a heater.
	All crane functions and driving controls to be inside cab.
	Durable weather resistant seat with 3-point seat belt.
	Hour metre, sight level bubble and fire extinguisher as a standard fitment in cab.
	All instruments must be neatly mounted on dash panel, Engine oil pressure gauge, Engine water temperature gauge, Fuel gauge, Transmission low oil and high temperature warning light, Low battery warning light, Brake system low pressure warning light.
	The LSI (Load indicator) must be mounted on top of the dash board for clear visibility.
Dual rear-view mirrors.	
Back-up alarm.	
Fuel Tank and capacity	Minimum of 219 litre fuel tank closed up with steel side plate to guard against side impact.
Electrical system	12 volt system with two 12V maintenance free battery.
	12 volt starting and lighting, battery disconnect and can bus diagnostic system
	CanBus Diagnostic system.
Lights	Recessed mounted lights, head lights, rear working lights and turn signals lights.
4-wheel drive	4x4 drive: Front and rear axle drive with planetary hubs and limited slip differential.
Steering system	Fully independent power steering.
	Front: full hydraulic steering wheel controlled.
	Rear: full hydraulic switch controlled.
	Provides infinite variations of 4 main steering modes: front only. Rear only, crab and coordinated.
	Front 2-wheel, 4-wheel coordinated and crab steer w/electronic self-alignment.
	Rear steer indicator.
Turning radius: 5,80 metre.	
Transmission	Range-shift 6 speed (3 speeds x 2 range, both forward & reverse).
	Front axle disconnect for 4x2 travel
Suspension	Front: Rigid mounted to frame.
	Rear: Provides 3.5 ° oscillations for use on semi-rough terrain.
	Axle lock-out switch on dash board to engage or disengage the axles.
	Warning light on dash board to indicates when the axle is lock-out or are engaged.
Brakes	Full Hydraulic split circuit brakes operating on all wheels, Spring-applied, hydraulically released axle-mounted parking brake.
Tyres	20,5 x 25 - 24 bias ply. Option: 16,0 x 25-28 bias ply.
Safety features	Maximum speed 40 km/h at 2500 r.p.m.
	Grade-ability: 75% based on 52607kg GVM.
National service Agents	Original Equipment Manufacturer (OEM) and or registered dealer (Service supplier)
Dealer network	Specify
Warranty on structure	12 Month
Warranty on hydraulics	12 Month
Unit to be register to drive onroad	Service rovider must register crane on road to comply to Trafic Act and Regulations

1.2.2 35 Ton Mobile Crane

Vehicle Job Description	<u>35 Ton mobile rough terrain crane required for the lifting of goods, equipment. With a hydraulic horizontal reach of 29 metres and hydraulic vertical reach of 30 metres and 36.9 metres with jib.</u>
The lifting capacity correspond to EN 13000:2004	The lifting capacities likewise fulfil the requirements of ISO 4305 and DIN 15019, Part 2, with regard to stability, and DIN 15018, Part 3, and FEM 5004 with regard to strength. 85%: Capacities are in accordance with SAE J1063 and do not exceed 85% of the tipping load (SAE J1289 for outriggers 50% and 0% extended) as determined by SAE J765.
Boom	8.8 m to 29 metre four-section full power boom. Maximum tip height 29 metres
Boom Nose	Three nylatron sheaves mounted on heavy duty tapered roller bearings Removable auxiliary boom nose with removable pin type rope guard.
Boom Elevation	One double acting hydraulic cylinder with integral holding valve provides elevation from -3° to +76°.
Anti-Tow block device	It must provide an audible and visual warning to the crane operator when activated and it must disengage all crane functions whose movement can cause two-blocking.
Load Indicator	A simple effective and easy to use load indicating system. This system must be used in conjunction with the anti-two block system to assist the operator in efficient operation of the unit within the limits of the load chart.
Rated Capacity Limiter (RCL)	The display panel displays the hook load and warns the operator when a pre-set load capacity is exceeded. The warning is by a flashing light on the display panel and must be in conjunction with the load display panel (receiver). There must be a wireless transmitter and load sensing pin attached to the boom head that transmits the hook load to the display panel.
Load Moment Indicator (LMI)	It must be similar to the load indicator but must stop the telescope out and boom lift down function when a load limit is exceeded. Uses a similar display panel with the addition of displaying boom angle and boom length read outs on the panel. Digital display of boom angle, boom length, boom radius, capacity. System to allow for operator input to set the limits based on load chart. Displays colour coded light bar and audible alarm with function cut-out if load exceeds entered parameters.
Swing	Planetary swing drive with foot applied multi-disc wet brake Spring applied, hydraulically released swing brake. Single position mechanical house lock, operated from cab Maximum speed 2 rpm.
Hydraulic System	Two main pumps ([1] piston and [1] gear) with a combined capacity of 316,5 LPM. Combined flow rating: 316,5 LPM. Maximum operating pressure: 275,7 bar. Three section pressure compensated valve bank. Return line type filter with full flow by-pass protection and service indicator Return line filter with full flow by-pass protection and service indicator. 500 Litre hydraulic reservoirs with sight level gauge and steel side plating to guard against side impact damage. Carrier mounted oil cooler with thermostatically controlled hydraulic motor driven fan and air to oil. System pressure test ports.

Hoist Specifications	Planetary reduction with automatic spring applied multi-disc wet brake.
	Electronic hoist drum rotation indicators, and hoist drum cable followers.
	Maximum single line-pull 1 st layer: 5 280 kg.
	Maximum single line-pull 3rd layer: 4 323 kg.
	Maximum single line-pull 5th layer: 3 656 kg.
	Maximum Single Line Speed: 136 m/min.
	Maximum Permissible Line Pull: 5 280 kg. with 34x37 class rope.
Rope length and construction	Main hoist: 137 m
	Auxiliary hoist: 137 m
	Maximum rope stowage: 181 m.
Carrier	High strength alloy steel constructed with integral outrigger housings.
	Front and rear tie-down lugs suitable to hold the load of 13600 kg in motion.
Frame	Maximum width 2,387metres.
	Maximum height 3,550 metres.
Outriggers	Four hydraulic telescoping Single-stage double box beam outriggers with vertical jack at the four corners provides extend and down and retracted and down lifting capacities.
	Integral holding valves on both beam and jack.
	Three position settings: 100%, 50% and fully retracted
	All steel fabricated, quik-release type round outrigger floats, 362mm diameter with maximum outrigger pad load of 24 857 kg.
Outrigger Controls	Three switch operations mounted on dash panel.
	One 3-position rocker switch to select all beams / jacks, left beam jacks only or right beam jacks only.
	Separate 4-way toggle switch to activate beams out or in and jacks down and up.
	Level bubble indicator located inside operator's compartment.
	Independent outrigger controls must be available to work in confined spaces.
	Outrigger motion alarm
Engine	Preferable: Cummins Engine with 119 kW at 2500 rpm and 732 Nm at 1500 rpm
	Engine must be service and maintained through local dealer network in SA
Counterweight	3,8 t pinned to superstructure.
Operators Enclosed control station	Enclosed control station full-vision, all-steel fabricated with acoustical lining and tinted safety glass front and rear and sliding glass on the right side as well as overhead safety glass.
	Tilt/telescoping steering wheel with various controls incorporated into the steering Colum.
	Hinged full door with a safety sliding glass.
	Front windshield wiper.
	Cab to be fitted with defroster and a heater.
	All crane functions and driving controls to be inside cab.
	Durable weather resistant seat with 3-point seat belt.
	Hour metre, sight level bubble and fire extinguisher as a standard fitment in cab.
	All instruments must be neatly mounted on dash panel, Engine oil pressure gauge, Engine water temperature gauge, Fuel gauge, Transmission low oil and high temperature warning light, Low battery warning light, Brake system low pressure warning light.
	The LSI (Load indicator) must be mounted on top of the dash board for clear visibility.
	Dual rear-view mirrors.
	Back-up alarm.

Fuel Tank and capacity	Minimum of 219 litre fuel tank closed up with steel side plate to guard against side impact.
Electrical system	12 volt system with two 12V maintenance free battery. 12 volt starting and lighting, battery disconnect and can bus diagnostic system CanBus Diagnostic system.
Lights	Recessed mounted lights, head lights, rear working lights and turn signals lights.
4-wheel drive	4x4 drive: Front and rear axle drive with planetary hubs and limited slip differential.
Steering system	Fully independent power steering. Front: full hydraulic steering wheel controlled. Rear: full hydraulic switch controlled. Provides infinite variations of 4 main steering modes: front only. Rear only, crab and coordinated. Front 2-wheel, 4-wheel coordinated and crab steer w/electronic self-alignment. Rear steer indicator. Turning radius: 5,80 metre.
Transmission	Range-shift 6 speed (3 speeds x 2 range, both forward & reverse). Front axle disconnect for 4x2 travel
Suspension	Front: Rigid mounted to frame. Rear: Provides 3.5 ° oscillations for use on semi-rough terrain. Axle lock-out switch on dash board to engage or disengage the axles. Warning light on dash board to indicates when the axle is lock-out or are engaged.
Brakes	Full Hydraulic split circuit brakes operating on all wheels, Spring-applied, hydraulically released axle-mounted parking brake.
Tyres	20,5 x 25 - 24 bias ply. Option: 16,0 x 25-28 bias ply.
Safety features	Maximum speed 40 km/h at 2500 r.p.m. Grade-ability: 75% based on 52607kg GVM.
National service Agents	Original Equipment Manufacturer (OEM) and or registered dealer (Service supplier)
Dealer network	Specify
Warranty on structure	12 Month
Warranty on hydraulics	12 Month
Unit to be register to drive onroad	Service rovider must register crane on road to comply to Trafic Act and Regulations

1.2.3 40 Ton Mobile Crane

Vehicle Job Description	40 Ton mobile rough terrain crane required for the lifting of goods, equipment in all work applications
The lifting capacity correspond to EN 13000:2004	The lifting capacities fulfil the requirements of ISO 4305 and DIN 15019, part 2 with regard to stability and DIN15018, part 3 and FEM 5004 with regard to strength.
Boom	10.5 m to 35 metre four-section sequenced synchronized full power boom.
Fully extended length	Maximum tip height 34.7 metres
Fully retracted length	11.031metre
Extension speed	10.45 metres to 35.20 metres in 80 S
Elevation speed	0.5° to +79° in 36 S
Boom Nose	Four sheave, 4-position (0.8°, + 30°, + 60°, + 80°) pivoting boom nose for minimizing head space requirements. Lowers head height 0.60m when nose is pivoted fully forward. Removable auxiliary boom nose with removable pin type rope guard.
Boom Elevation	One double-acting hydraulic cylinder with integral holding valve. Boom angle from -3° to +/- 78°.
Anti-Tow block device	It must provide an audible and visual warning to the crane operator when activated and it must disengage all crane functions whose movement can cause two-blocking.
Load Indicator	A simple effective and easy to use load indicating system. This system must be used in conjunction with the anti-two block system to assist the operator in efficient operation of the unit within the limits of the load chart.
Rated Capacity Limiter (RCL)	The display panel displays the hook load and warns the operator when a pre-set load capacity is exceeded. The warning is by a flashing light on the display panel and must be in conjunction with the load display panel (receiver). There must be a wireless transmitter and load sensing pin attached to the boom head that transmits the hook load to the display panel.
Load Moment Indicator (LMI)	It must be similar to the load indicator but must stop the telescope out and boom lift down function when a load limit is exceeded. Uses a similar display panel with the addition of displaying boom angle and boom length read outs on the panel. Digital display of boom angle, boom length, boom radius, capacity. System to allow for operator input to set the limits based on load chart. Displays colour coded light bar and audible alarm with function cut-out if load exceeds entered parameters.
Functions that are displayed	Moment as percentage. Number of parts of line of rope, Boom angle, Boom length, Load radius, Outriggers position, On-tire indicator, Actual hook load, Permissible load, Boom position indicator, Potential hook height, Swing angle, Main hydraulic oil pressure, Jib length and jib offset angle (only when jib operation)
Swing	Ball bearing swing circle with 360° continuous rotation. Planetary swing drive with foot applied multi-disc wet brake Equipped with locked/released swing brake. Single position mechanical house lock, operated from cab Maximum speed 2.7 rpm.
Hydraulic System	Three main pumps Two section pressure compensated valve bank, chassis mounted, operated via dash mounted, pilot pressure hydraulic joysticks. Return line filter with full flow by-pass protection and service indicator. 560 Litre hydraulic reservoirs with sight level gauge and steel side plating to guard against side impact damage. Carrier mounted oil cooler with thermostatically controlled hydraulic motor driven fan and air to oil. System pressure test ports.
Hoist Specifications	Variable speed type with grooved drum driven by hydraulic axial piston motor through winch speed reducer. Power load lowering and hoisting Equipped with automatic brake and counter balance valve Maximum single line-pull 1 st layer: 5600 kg. Single line speed: 118 m/min Wire rope; Spin-resistant type Diameter x length: 19mm x 110m

Rope length and construction	Main hoist: 152 metre.
	Auxiliary hoist: 152 metre.
	Maximum rope stowage: 256 metre.
Carrier	High strength alloy steel constructed with integral outrigger housings.
	Front and rear tie-down lugs suitable to hold the load of 13600 kg in motion.
Frame	Maximum width 2550 mm
	Maximum height 3277mm
Outriggers	Hydraulically operated H-type outriggers
	Each outrigger controlled simultaneously or independently from the cab
	Equipped with sight level gauge
	Floats mounted intergrally with the jacks retract to within vehicle width
	All cylinders fitted with pilot check valves
	Crane operation with different extended length of each outrigger
	Equipped with extension width detector for each outrigger
	Fully extended width: 7000mm
	Middle extended width: 6500mm
	Middle extended width: 5000mm
	Minimum extended width: 2480mm
	Float size in diameter: 500mm
Outrigger motion alarm	
Engine	Engine with 200 kW at 2600 rpm and 785 Nm at 1400 rpm
	Engine must be service and maintained through local dealer network in SA
Counterweight	Intergral with swing frame
	Mass; 2900 kg
Operators Enclosed control station	Enclosed control station 20° tilt, full-vision, all-steel fabricated with acoustical lining and tinted safety glass front and rear and sliding glass on the right side as well as overhead safety glass.
	Tilt/telescoping steering wheel with various controls incorporated into the steering Colum.
	Hinged full door with a safety sliding glass.
	Front windshield wiper.
	Cab to be fitted with defroster and a heater.
	All crane functions and driving controls to be inside cab.
	Durable weather resistant seat with 3-point seat belt.
	Hour metre, sight level bubble and fire extinguisher as a standard fitment in cab.
	All instruments must be neatly mounted on dash panel, Engine oil pressure gauge, Engine water temperature gauge, Fuel gauge, Transmission low oil and high temperature warning light, Low battery warning light, Brake system low pressure warning light.
	The LSI (Load indicator) must be mounted on top of the dash board for clear visibility.
Dual rear-view mirrors.	
Back-up alarm.	
Fuel Tank and capacity	Minimum of 280 litre fuel tank closed up with steel side plate to guard against side impact.
Electrical system	12 volt system with two 12V maintenance free battery.
	12 volt starting and lighting, battery disconnect and can bus diagnostic system
	63 amp alternator.
Lights	Recessed mounted lights, head lights, rear working lights and turn signals lights.
4-wheel drive	4x4 drive: Front and rear axle drive with planetary hubs and limited slip differential.
Steering system	Fully independent power steering.
	Front: full hydraulic steering wheel controlled.
	Rear: full hydraulic switch controlled.
	Provides infinite variations of 4 main steering modes: front only. Rear only, crab and coordinated.
	Front 2-wheel, 4-wheel coordinated and crab steer w/electronic self-alignment.
	Rear steer indicator.
Turning radius: 7.3 metre.	

Transmission	Full range-shift with 6 forward and 6 reverse speeds.
	Front axle disconnect for 4x2 travel
Suspension	Front: Rigid mounted to frame.
	Rear: Provides 3.5 ° oscillations for use on semi-rough terrain.
	Axle lock-out switch on dash board to engage or disengage the axles.
	Warning light on dash board to indicates when the axle is lock-out or are engaged.
Brakes	Full Hydraulic split circuit brakes operating on all wheels, Spring-applied, hydraulically released axle-mounted parking brake.
Tyres	Standard 23.5x25 earthmover type
Safety features	Maximum speed 35km/h.
	Grade-ability: 75% based on 52607kg GVM.
National service Agents	Original Equipment Manufacturer (OEM) and or registered dealer (Service supplier)
Dealer network	Specify
OEM Service Level Agreement	Specify
Warranty on structure	12 Month
Warranty on hydraulics	12 Month
Unit to be register to drive abroad	Must comply to Traffic Act and Regulations
Service Level Agreement	Supplier to provide a propose SLA to service and repair the mobile crane for a period of 5 years (OEM and or registered OEM service provider)

1.2.4 80 Ton Mobile Crane

Vehicle Job Description	80 Ton mobile rough terrain crane required for the lifting of goods, equipment of up to 20 000 kg. With a hydraulic horizontal reach of 11.4 metres and hydraulic vertical reach of 45.7 metres.
Boom	Five-section sequenced synchronized full power boom with A and B mode Quick reeve boom head and hook block.
Boom Nose	Five sheave, 4-position (0°, + 30°, + 60°, + 80°) pivoting boom nose for minimizing head space requirements. Lowers head height 0.60m when nose is pivoted fully forward. Removable auxiliary boom nose with removable pin type rope guard.
Boom Elevation	One double acting hydraulic cylinder with integral holding valve. Elevation: -3° to 80°.
Anti-Tow block device	It must provide an audible and visual warning to the crane operator when activated and it must disengage all crane functions whose movement can cause two-blocking.
Load Indicator	A simple effective and easy to use load indicating system. This system must be used in conjunction with the anti-two block system to assist the operator in efficient operation of the unit within the limits of the load chart.
Rated Capacity Limiter (RCL)	The display panel displays the hook load and warns the operator when a pre-set load capacity is exceeded. The warning is by a flashing light on the display panel and must be in conjunction with the load display panel (receiver). There must be a wireless transmitter and load sensing pin attached to the boom head that transmits the hook load to the display panel.
Load Moment Indicator (LMI)	It must be similar to the load indicator but must stop the telescope out and boom lift down function when a load limit is exceeded. Uses a similar display panel with the addition of displaying boom angle and boom length read outs on the panel. Digital display of boom angle, boom length, boom radius, capacity. System to allow for operator input to set the limits based on load chart. Displays colour coded light bar and audible alarm with function cut-out if load exceeds entered parameters.
Swing	Ball bearing swing circle with 360° continuous rotation. Planetary swing drive with foot applied multi-disc wet brake Spring applied, hydraulically released swing brake. Single position mechanical house lock, operated from cab Maximum speed 2.5 rpm.
Hydraulic System	Variable displacement piston pump and piggyback gear pump. Combined flow rating: 503 Lpm. Maximum system operating pressure: 4000 psi or 277.7 bar. Three section pressure compensated valve bank, chassis mounted, operated via dash mounted, pilot pressure hydraulic joysticks. Return line filter with full flow by-pass protection and service indicator. 959 Litre hydraulic reservoirs with sight level gauge and steel side plating to guard against side impact damage. Carrier mounted oil cooler with thermostatically controlled hydraulic motor driven fan and air to oil. System pressure test ports.
Hoist Specifications	Piston motor drive with spring applied hydraulic released brake. Two speed power up and down. Maximum single line-pull 1 st layer: 9185 kg. Maximum single line-pull 3rd layer: 7715 kg. Maximum single line-pull 5th layer: 6650 kg. Maximum single line speed 156 m/min. Maximum permissible single line-pull 7620 kg with 6x37 class rope. Maximum permissible single line-pull 7620 kg with 35x7 class rope.

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Rope length and construction	Main hoist: 182 metre. Auxiliary hoist: 182 metre. Maximum rope stowage: 256 metre.
Carrier	High strength alloy steel constructed with integral outrigger housings. Front and rear tie-down lugs suitable to hold the load of 13600 kg in motion.
Frame	Maximum width 2.44 metres. Maximum height 3 metres.
Outriggers	2-stage hydraulic telescoping beam with vertical jack at the four corners provides extend and down and retracted and down lifting capacities. Integral holding valves on both beam and jack.
Outrigger Controls	Three switch operations mounted on dash panel. One 3-position rocker switch to select all beams / jacks, left beam jacks only or right beam jacks only. Separate 4-way toggle switch to activate beams out or in and jacks down and up. Level bubble indicator located inside operator's compartment. Outrigger foot pad size 2.92mm x 2.92mm. Independent outrigger controls must be available to work in confined spaces. Outrigger motion alarm
Engine	Preferable: Cummins Engine with 205 kW at 2500 rpm and 879 Nm at 1500 rpm Engine must be service and maintained through local dealer network.
Counterweight	9979 kg hydraulically installed and removed.
Operators Enclosed control station	Enclosed control station 20° tilt, full-vision, all-steel fabricated with acoustical lining and tinted safety glass front and rear and sliding glass on the right side as well as overhead safety glass. Tilt/telescoping steering wheel with various controls incorporated into the steering Column. Hinged full door with a safety sliding glass. Front windshield wiper. Cab to be fitted with defroster and a heater. All crane functions and driving controls to be inside cab. Durable weather resistant seat with 3-point seat belt. Hour metre, sight level bubble and fire extinguisher as a standard fitment in cab. All instruments must be neatly mounted on dash panel, Engine oil pressure gauge, Engine water temperature gauge, Fuel gauge, Transmission low oil and high temperature warning light, Low battery warning light, Brake system low pressure warning light. The LSI (Load indicator) must be mounted on top of the dash board for clear visibility. Dual rear-view mirrors. Back-up alarm.
Fuel Tank and capacity	Minimum of 280 litre fuel tank closed up with steel side plate to guard against side impact.
Electrical system	12 volt system with two 12V maintenance free battery. 12 volt starting and lighting, battery disconnect and can bus diagnostic system 63 amp alternator.
Lights	Recessed mounted lights, head lights, rear working lights and turn signals lights.
4-wheel drive	4x4 drive: Front and rear axle drive with planetary hubs and limited slip differential.
Steering system	Fully independent power steering. Front: full hydraulic steering wheel controlled. Rear: full hydraulic switch controlled. Provides infinite variations of 4 main steering modes: front only. Rear only, crab and coordinated. Front 2-wheel, 4-wheel coordinated and crab steer w/electronic self-alignment. Rear steer indicator. Turning radius: 7.3 metre.
Transmission	Full range-shift with 6 forward and 6 reverse speeds. Front axle disconnect for 4x2 travel
Suspension	Front: Rigid mounted to frame. Rear: Provides 3.5° oscillations for use on semi-rough terrain. Axle lock-out switch on dash board to engage or disengage the axles. Warning light on dash board to indicates when the axle is lock-out or are engaged.
Brakes	Hydraulic actuated internal wet-disc service brakes acting on all four wheels. A dash mounted toggle switch activates the dry disc parking brake on the transmission output with a dash warning light.
Tyres	Standard 29.5x25-34 bias ply, Titan
Safety features	Maximum speed 35km/h. Grade-ability: 75% based on 52607kg GVM.
National service Agents	To be specified
Warranty on structure months	12 Month
Warranty on hydraulic parts	12 Month
National service Agents	Original Equipment Manufacturer (OEM) and or registered dealer (Service supplier)
Dealer network	Specify
OEM Service Level Agreement	Specify
Warranty on structure	12 Month
Warranty on hydraulics	12 Month
Unit to be register to drive onroad	Must comply to Traffic Act and Regulations

C2.1 Pricing assumptions: Option A

2 The conditions of contract:

2.1 How work is priced and assessed for payment:

Clause 11 in NEC3 Term Service Contract, June 2005 (TSC3) core clauses and Option A states:

Identified and

defined terms

- 11.2 (12) The Price List is the *price list* unless later changed in accordance with this contract.
- (17) The Price for Services Provided to Date is the total of the Price for each lump sum item in the Price List which the *Contractor* has completed and where a quantity is stated for an item in the Price List, an amount calculated by multiplying the quantity which the *Contractor* has completed by the rate.
- (19) The Prices are the amounts stated in the Price column of the Price List. Where a quantity is stated for an item in the Price List, the Price is calculated by multiplying the quantity by the rate.

This confirms that Option A is a priced contract where the Prices are derived from a list of items of service which can be priced as lump sums or as expected quantities of service multiplied by a rate or a mix of both.

2.2 Price List

Function of the Price List

Clause 54.1 in Option A states: "Information in the Price List is not Service Information". This confirms that instructions to do work or how it is to be done are not included in the Price List but in the Service Information. This is further confirmed by Clause 20.1 which states, "The Contractor Provides the Service in accordance with the Service Information". Hence the Contractor does not provide the Service in accordance with the Price List. The Price List is only a pricing document.

Link to the Contractor's plan

Clause 21.4 states "The Contractor provides information which shows how each item description on the Price List relates to the operations on each plan which he submits for acceptance". Hence when compiling the price list, the tendering contractor needs to develop his first clause 21.2 plan in such a way that operations shown on it can be priced in the price list and result in a satisfactory cash flow in terms of clause 11.2(17).

2.3 Preparing the price list

It will be assumed that the tendering contractor has read Pages 14, 15 and 73 of the TSC3 Guidance Notes before preparing the price list. Items in the price list may have been inserted by the Employer and the tendering contractor should insert any additional items which he considers necessary. Whichever party provides the

items in the price list the total of the Prices is assumed to be fully inclusive of everything necessary to Provide the Service as described at the time of entering into this contract.

- As the Contractor has an obligation to correct Defects (core clause 42.1) and there is no compensation event for this unless the Defect was due to an Employer's risk, the lump sum Prices and rates must also include for the correction of Defects.
- If the Contractor has decided not to identify a particular item in the price list at the time of tender the cost to the Contractor of doing the work must be included in, or spread across, the other Prices and rates in the price list in order to fulfil the obligation to complete the service for the tendered total of the Prices.
- There is no adjustment to lump sum prices in the price list if the amount, or quantity, of work within that lump sum item of service later turns out to be different to that which the Contractor estimated at time of tender. The only basis for a change to the Prices is as a result of a compensation event. See Clause 60.1.
- Hence the Prices and rates tendered by the Contractor in the price list are inclusive of everything necessary and incidental to Providing the Service in accordance with the Service Information, as it was at the time of tender, as well as correct any Defects not caused by an Employer's risk.
- The Contractor does not have to allow in his Prices and rates for matters that may arise as a result of a compensation event. It should be noted that the list of compensation events includes those arising as a result of an Employer's risk event listed in core clause 80.1.

2.4 Format of the price list

(From page 73 of the TSC3 Guidance Notes)

Entries in the first four columns in the price list in section C2.2 are made either by the Employer or the tendering contractor.

If the Contractor is to be paid an amount for the item which is not adjusted if the quantity of work in the item changes, the tendering contractor enters the amount in the Price column only, the Unit, Expected Quantity and Rate columns being left blank.

If the Contractor is to be paid an amount for an item of work which is the rate for the work multiplied by the quantity completed, the tendering contractor enters the rate which is then multiplied by the Expected Quantity to produce the Price, which is also entered.

If the Contractor is to be paid a Price for an item proportional to the length of time for which a service is provided, a unit of time is stated in the Unit column and the expected length of time (as a quantity of the stated units of time) is stated in the Expected Quantity column.

Item No.	Description	Unit	Quantity	Rate	Amount
1	P's & G's (Site Establishment)	Once off	1		
	Supply Crane & Driver				
2	30 Ton Mobile Crane & Driver	Monthly	36		
3	35Ton Mobile Crane & Driver	Monthly	36		
4	40 Ton Mobile Crane & Driver	Monthly	36		
5	80 Ton Mobile Crane & Driver	Monthly			
6	Safety (PPE, Medicals and Safety File) Medicals are valid yearly, therefore they will be done five times in a duration of this contract. PPE will be issued once a year	Yearly	3		
7	Safety officer/Supervisor	Monthly	36		
8	Site De-establishment	Once off	1		
9	Exit Medicals	Once off	1		
	Total Excluding Vat				

Important Notes:

1. The supplier is liable in providing the service at all times according to the stipulated working times and duration.
2. Contract Price Adjustment will not be payable within the first year of the contract.

3 Management strategy and start up.

3.1 The Contractor's plan for the service

Supply Crane to be on site 24hrs daily as shown in the table below:

Service rendered	Turnaround time	Performance Measure
Supply mobile crane and a driver	Monday to Monday, 7 days a week, around the clock	Availability of Crane and driver Annexure B

Employees must sign daily and submit monthly attendance register signed by the supervisor.

3.2 Management meetings

Site meetings of a general or special nature, arranged by the Employer's Service Manager, may be convened as and when required.

Title and purpose	Approximate time & interval	Location	Attendance by:
Site Meeting	As and When Required (24hrs a day)	Majuba P.S	Driver Safety Officer Site Manager

Records of these meetings shall be filed in the contracts manager file for reference purposes.

All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the conditions of contract to carry out such actions or instructions.

3.3 Contractor’s management, supervision and key people

SKILL	GRADE AND RELATED EXPERIENCE
Safety Officer / Supervisor	Grade 12 + 3yrs Three years related experience
Crane Driver	Driver’s License + Crane Certification

The Contractor recruits from the local community. Technical criteria will be based on Eskom Job Profile and required skill. All Contractors’ employees shall be trustworthy with no criminal records. Eskom will require the submission of police clearance prior to the signing of employment contract.

3.4 Documentation control

All communication will be in writing.

3.4.1 Procedures, Acts, Standards, Records and Reports

The *Contractor* implements the following procedures or paperwork over the first month of this Contract:

- Vehicle and Driver Safety Management Procedure
- National Road Traffic Act
- Business Organisation Chart
- Rigging and Crane Driver Procedure
- OHS Safety procedures
- Quality Procedures

The following policies, procedures and specifications will be complied by at all times

- Site Regulations – Majuba site Regulations
- BIA/RM/STD/01 – Safety, health and environmental requirements to be met by Contractors (available on request)
- Eskom Majuba Site transport requirements
- Occupational, health and Safety Act
- Eskom Cardinal Rules
- All Relevant Majuba Power Station standards, policies and procedures

3.5 Invoicing and payment

The *Supplier together with contracts manager* assesses the amount due in relation to work done on the 25th of every month. The supplier receives the assessment from the contracts manager on the 26th of every month and submits an invoice thereafter. The invoice includes the details stated in the Scope to show how the amount due has been assessed.

There is an *assessment day* in each month from the *starting date* until one month after the *defects date* for the whole of the *services*.

The Employer pays the Supplier within 30 days after receipt of an invoice from the Supplier. The first payment is the amount due. Other payments are the change in the amount due since the last payment.

The supplier will submit the invoice to invoiceseskomlocal@eskom.co.za on the 26th of every month after receiving a service entry number.

4 Working on the Affected Property

4.1 Employers site entry and security control, permits and site regulations

The supplier will obtain access control from protective services, once their safety file it's approved and induction was done by the contractor employees thereafter permits will be issued.

Protective services on site will take finger prints of all employees before they resume duty and verify that they have no criminal record. Where criminal record exists, that individual will not be allowed to access the premises of Majuba Power Station. They will also conduct alcohol screening daily at security gate and an employee that test positive, they won't be allowed access to Majuba premises for the remaining duration of the contract.

Suppliers to comply with site regulations attached in this agreement.

4.2 Hours of work

The Contractor provides the service at Majuba Power Station premises during working hours:

The service will be done from Monday to Monday from 7:30 to 16:45. After work activities will be arranged with the supervisor and he must manage crane drivers resting period.

The attendance register must be signed daily and reflect the correct times of starting work in the morning and finishing work in the afternoon. Overtime will be managed according to Eskom overtime procedure.

4.3 Site services and facilities

The Employer arranges the following services and facilities to the Contractor:

- Induction training
- Access to the station
- Office space

The contractor provides everything else (labour, supervision, administration, management, & safety requirements) to perform the services.

4.4 Records of Contractors Equipment

If the contractor decides to bring any tool or equipment on Majuba site it must be declared at the security gate and records must be kept in both contractor and employee file.

5 Special Conditions

5.1 Termination


The Employer may terminate if the Employer has notified the Supplier that he has substantially failed to comply with his obligations, substantially hindered the Employer, and/or substantially broken a health or safety regulation.

5.2 Penalty

Non-conformance will be issued to a contractor where service is not rendered as stipulated in the SOW. The employer will expect action to be taken within the agreed dates, and ensures professional behaviour at all times. Where service is not rendered the daily rate will be deducted from the monthly assessment.

6 List of Attachments

6.1 Annexure A – Customer Survey

Annexure B						
						
Majuba Power Station			Customer/Client satisfaction survey			
Company			Name of Evaluator:			
Group	R&A		Date of Evaluation:			
Department:	Services					
Overview Period:						
As the service provider we have an ongoing commitment to all our customers or clients to ensure that we provide a pleasant working environment and a service of highest quality.						
This survey is an opportunity for you to express your opinions about your service provider. The results of this survey will be compared with future surveys so that we can monitor our progress and continually improve on it and also highlight any problem areas. This survey will take approximately 5 minutes to complete.						
Rating Scale						
Evaluation Dimensions or Areas	Poor	Acceptable	Good	Excellent	Outstanding	Customer Rating
	1	2	3	4	5	5
DIMENSION 1 QUALITY OF WORK						0
The ability of the service provider to supply crane around the clock 24hr Service						
DIMENSION 2 KNOWLEDGE AND/OR SKILLS						0
The service provider's level of knowledge and competency with regards to crane operation and service delivery						
DIMENSION 3 CLIENT FOCUS RESULT						0
Ability to determine priorities and maximize efficiency. This also reflects the accuracy of the work produced by the service provider and/or the service rendered to the client.						
DIMENSION 4 COMMUNICATION						0
Willingness to assist with any other request, and communicate effectively with the customers or clients.						
DIMENSION 5 CUSTOMER FOCUS						0
The commitment to putting customers or clients first and ability to deliver a consistently high quality service.						
Total rated score						0
Comments and Concerns						
We value your comments and views and hope that through them we can make changes and improvements throughout the organization.						
Thank you for completing the survey. Your views and comments are highly appreciated.						

6.2 Annexure B – Performance Contract

KPA		Key Performance Indicators					Target Setting w/rt Expectation					Results				
No	KPIs for KPA 4	Weight	No	Performance Measure/Indicator	Metric	Source of Evidence	Weight	Floor	Kick	Target	Stretch	Ceiling	Review 1	Review 2		
								1	2	3	4	5	Actual	Score		
1	Operating Management	40%	1.1	Crane Availability	Number	Survey	50%	1	2	3	4	5	0	1.00	0	
			1.2	Driver Availability	Number	Survey	50%	1	2	3	4	5	0	1.00	0	
			1.3					0%	1	2	3	4	5	0	1.00	0
			1.4					0%	1	2	3	4	5	0	1.00	0
			1.5					0%	1	2	3	4	5	0	1.00	0
2	Providing a Customer Focused Service	30%	2.1	Zero Crane incident	Number	Incident Report	30%	1	2	3	4	5	0	1.00	0	
			2.2	Crane Inspectors	Number	Weekly Inspection Report	40%	1	2	3	4	5	0	1.00	0	
			2.3	Driver Hospitality	Number	Survey	30%	1	2	3	4	5	0	1.00	0	
			2.4					0%	1	2	3	4	5	0	1.00	0
			2.5					0%	1	2	3	4	5	0	1.00	0
3	Safety	30%	3.1	Zero Harm	Number	Safety Stats	100%	1	2	3	4	5	0	1.00	0	
			3.2					0%	1	2	3	4	5	0	1.00	0
			3.3					0%	1	2	3	4	5	0	1.00	0
			3.4					0%	1	2	3	4	5	0	1.00	0
			3.5					0%	1	2	3	4	5	0	1.00	0
4		0%	4.1				0%	1	2	3	4	5	0	1.00	0	
			4.2					0%	1	2	3	4	5	0	1.00	0
			4.3					0%	1	2	3	4	5	0	1.00	0
			4.4					0%	1	2	3	4	5	0	1.00	0
			4.5					0%	1	2	3	4	5	0	1.00	0
5		0%	5.1				0%	1	2	3	4	5	0	1.00	0	
			5.2					0%	1	2	3	4	5	0	1.00	0
			5.3					0%	1	2	3	4	5	0	1.00	0
			5.4					0%	1	2	3	4	5	0	1.00	0
			5.5					0%	1	2	3	4	5	0	1.00	0
Total Weight		100%														

Notes:
 1) Complete only the required information.
 (DO NOT DELETE OR ADD ANY ROWS OR COLUMNS. DO NOT ALTER FORMULAE)
 2) The weights of the KPAs must add up to 100% and that the weights for the KPIs within each KPA must add up to 100%.
 3) Format cells in the "Target setting area" by "right" clicking on the cell and choosing the appropriate option.
 4) For non-managerial staff, KPA 4 has a 100% weighting
 5) There is a limit of 5 KPIs for KPA 4
 6) Provision on this manual template has been made so that each of the 5 KPIs under KPA 4 can be unpacked i.e. detail for the 5 KPIs under KPA 4 is accommodated