

Title: **SOW – Repair, Maintenance of  
Plant Components-**

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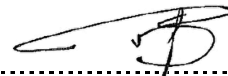
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### 1. Purpose

The purpose of this document is to outline the scope requirements for repairs/replacement and the maintenance of BMS yellow mobile plant/truck Engines, Transmissions, Cooling, Hydraulic, Drivetrain, Electrical and ancillary components (i.e. structure, seats, windows) for Eskom Rotek Industries (ERI) Bulk Material Services (BMS) Mobile plant on an “as and when required basis”.

### 2. Context of Repair, Maintenance of BMS Mobile Plant Components

Eskom Rotek Industries (ERI) Bulk Material Services (BMS) division provides, amongst other services, yellow mobile plant equipment for bulk materials handling (ash and coal) to/in various power stations across the country mainly fossil power station, with the fossil power stations located in the Mpumalanga, Limpopo and Free State provinces/regions.

Amongst its fleet (+- 300 in total), the BMS Mobile plant makes use of the following brands; Bell, Caterpillar, Komatsu, Hitachi, MAN, Volvo, Doosan, and John Deer; through which the following machines are housed – Bulldozers, Front end loaders, Excavators, Smooth Drum rollers, Backhoe loaders and trucks.

In order for BMS to provide a high standard of service, a well maintained and reliable mobile fleet is essential – hence the need to further ensure reliable maintenance and repairs/replacement of its Engines, Transmissions, Cooling, Hydraulic, Drivetrain, Electrical and Ancillary components such as structure, seats, and windows, that enable the efficient and cost-effective operation of its machines.

### 3. Scope of Work

The objectives are to:

- Conduct maintenance and repairs (planned and unplanned) or replacement of/on Engines, Transmissions, Cooling, Hydraulic, and Powertrain components for the BMS mobile plant on an “as and when required basis”.
- The components are to be maintained and repaired to their original state
- The repairs and maintenance to the system are to include:
  - Engines, Turbocharger, engine oil pumps, cylinder heads, injectors
  - Transmissions, Torque convertors, Axles (front/rear), Clutch
  - Drive train, Axles, Brake, Final drive, Steering,
  - Radiators, Intercoolers, Air-conditioning compressor and condenser, radiator header tanks
  - Main Hydraulic pumps, main hydraulic valves, tip and tilt cylinders & valves
  - Electrical starter motors, alternators
  - Ancillary components such as cabin seats, windows and structural repairs

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## 3.1. The Suppliers is required to:

- Possess an accredited heavy equipment repair work workshop
- Maintain and repair/replace BMS yellow plant's Engines, Transmissions, Cooling, Hydraulic, Drivetrain, Electrical and Ancillary components, according to the machines' OEM standards
- Provide a warranty service for maintenance and repairs conducted
- Be in a position to repair and maintain and commission (i.e. Dyno testing) components in-house within an agreed period, with a capacity of 230 to 600kW
- Be in a position to provide a 24/7 total breakdown and/or technical support as and when required
- Be in a position to provide Onsite or Off-site repair services, as and when required
- Be able to provide failure reports and recommendations of preventative practices to avoid future failures.
- Be in a position to provide in/off-house skills transfer and/or training for client's employees, as and when required.
- Ensure compliance to ISO 9001, 14001 and 18001 standards

## 3.2. The maintenance and repairs are to be conducted for the following machine brands and types, as and when required:

Bulldozers		
No.	Brand/Make	Model
1	Caterpillar	D10, D8R and D7R
2	Komatsu	D155-1 ; D155-5; D155-6 and D85 EX

Articulated Dump Trucks		
No.	Brand/Make	Model
3	Bell	B25D; B30D;B18E; B25E
4	Caterpillar	730 ; 730C
5	Komatsu	HM300-1

Excavators		
No.	Brand/Make	Model
6	Bell	HD 820E ; HD2045; HD 1430

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7	Caterpillar	325 C; 325 D; 320D2L
8	Komatsu	PC 200-7; PC 300; PC 450
9	Volvo	EX 210
10	Doosan	DX 200A

Front End Loader		
No.	Brand/Make	Model
11	Bell	L 2606D
12	Caterpillar	966 H
13	Komatsu	WA 470; WA 320
14	Hitachi	ZW310
15	Doosan	DX 200A

Motor Grader		
No.	Brand/Make	Model
16	Bell	670 G; 770 D
17	Caterpillar	140 H

Smooth Drum Roller		
No.	Brand/Make	Model
18	Bell	BW 213 DH
19	Caterpillar	CP 533 E ; CS 533 E; CS 76 XT
20	Hamm	3414

Service Trucks and Low Beds		
No.	Brand/Make	Model
21	MAN	TGL10.180C; 33.480BBS

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<b>Backhoe Loaders</b>		
No.	Brand/Make	Model
22	JCB	3CX
23	Caterpillar	422 E

<b>Tipper Trucks</b>		
No.	Brand/Make	Model
24	MAN	33 -360; 26 -280K; 33 -360
25	IVECO	279

3.3. Below are descriptions and depictions of the expected types of components to undergo maintenance and repairs:

3.3.1. Engine and engine components:

<b>Components</b>	<b>Description</b>	<b>Possible repair/maintenance SOW</b>
Engine	SAE/ISO rated engines – 230 to 565 kW 	Service Repair Parts replacement Rebuild Dyno test Warranty
Turbo charger		Repair Rebuild Balance test Warranty

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3.3.2. Transmission and transmission components:

Components	Description	Possible repair/maintenance SOW
Transmission	SAE/ISO rated engines – 230 to 565 kW -3Foward/3Rear; 4Foward/4Rear, including newer models 	Service Repair Parts replacement Rebuild Dyno test Warranty

3.3.3. Drive-train and drivetrain components:

Components	Description	Possible repair/maintenance SOW
Final drive	SAE/ISO rated engines – 230 to 565 kW 10 to 50 litre fluid capacities (each) 	Service Repair Parts replacement Rebuild Warranty
Axles (Front and rear)		Repair Parts replacement (main bearings, gears, gear bearings, upper and lower shafts and seals) Rebuild Dyno test Warranty

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3.3.4. Hydraulic system and hydraulic components, various types – Heavy duty:

Components	Description	Possible repair/maintenance SOW
Hydraulic pump	Variable displacement piston pump types -270 to 450 l/min pump outputs 	Service Repair Parts replacement Rebuild Testing Warranty
Hydraulic cylinders	120 l/min to 450 l/min flow cylinder type 	Repairs Resealing Parts replacement Rebuild Testing Warranty
Hydraulic valves	20 to 30 MPa valve pressure 	Repairs Resealing Parts replacement Rebuild Testing Warranty
Water pump/PTO	3000 to 6000 litres/min pump 	Repairs Parts replacement Rebuild Testing Warranty

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3.3.5. Radiator and intercooling components:

Components	Description	Possible repair/maintenance SOW
Radiators/ Intercooler	6.5 to 10 fins/inch high debris package 	Service Clean/De-scale Repair Rebuild Warranty

3.3.6. Electrical system and components:


Components	Description	Possible repair/maintenance SOW
Starter/Alternator	-12V & 24V – Brush-type starter - Provides reliable cranking ability in tough conditions running at 2 to 3,5kw 	Service Repair Parts replacement Rebuild Test Warranty

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<p>Harness (heat resistant)</p>	<p>Used for transmitting signals and electrical power from electronic control module to injectors and sensors in engines</p> 	<p>Repair Rebuild Test Warranty</p>
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3.3.7. Ancillary components:

Components	Description	Possible repair/maintenance SOW
<p>Seats/windows</p>	<p>-Suitable for various plant machinery</p> 	<p>Repair Parts replacement Rebuild Warranty</p>
<p>Structural</p>	<p>-Suitable for various plant machinery types</p> 	<p>Repair Rebuild Warranty</p>

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3.4. The BMS Mobile Plant department representative(s) will be visiting supplier workshop facilities to verify compliance pre-contract and to continuously evaluate service progress inter-contract.

**NB:** An external audit may be conducted by the BMS SHEQ department panel on the contractor before any contract or work is awarded. The audit will determine if the capacity and capabilities of the awarded contractor as compared to the scope of work and execution period.

#### **4. Supporting Documents**

**NB: Adherence to the following documentation must be proven accordingly during the evaluation process:**

- ISO 9001 Quality Management Systems
- OSHAS 1800 Safety Management Systems
- ISO 14001 Environmental Management Systems
- Occupational Health and Safety Act and Regulations (85 of 1993)
- 240-62196227\_Eskom Life Saving Rules - compliance
- Criminal Procedures Act 51 of 1977
- National Road Traffic Act 93 of 1996
- Labour Relations Act 66 of 1995
- Basic Conditions of Employment Act 75 of 1997

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