

 Eskom	Scope of Work	Kusile Power Station
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Title: **Kusile Power Station Supply and Delivery of Centrifugal Pumps Scope of Work**

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1. Introduction

Kusile Power Station management decided to establish a long-term agreement for the supply of some of the power Station's strategic, critical, and operational plant spares. For the plant to operate effectively and efficiently, maintenance must be performed at intervals specified as per plant maintenance strategies. Correct plant spares are required to ensure maintenance is executed as per the maintenance strategy requirements and thus must be always available. The identification of which specific components to be kept as spares as well as the quantities has been done according to the information available at the time of the compilation of this document.

The required information for spares holding has not been adequately detailed enough to enable the full cataloguing of the identified spares into the SAP computer data base. This creates challenges to the current and future procurement processes and may lead to costly delivery of wrongly specified equipment. The works information processes outlined in this document are intended to eliminate or minimize the risk of such occurrences.

2. Supporting Clauses

2.1 Scope

The scope of work (SOW) specifies the required spares to be supplied by the *Supplier* on an as and when required basis and conditions for acceptance. The scope included here does not substitute procurement procedures that will be followed during the procurement process.

2.1.1 Purpose

The purpose of this document is to provide scope of work and technical information for the purchase of Variable Speed drive Hydraulic coupling and their associated auxiliary equipment Spares and ensure that all maintenance spares, which Kusile Power Station is procuring, are correct.

2.1.2 Applicability

This document is applicable to Kusile Power Station.

2.1.3 Effective date

This document will be effective from the date of its authorisation.

2.2 Normative/Informative References

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

2.2.1 Normative

- [1] ISO 9001 Quality Management Systems
- [2] 36-681 Generation Plant Safety Regulations

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- [3] 32-727 SHEQ Policy
- [4] 240-83797737 In- Service monitoring of Lubricating oils and Hydraulic fluids
- [5] 240-84513751: Material Specification and Certification Guideline for Power Generation Plant
- [6] 240-86546783: Procurement Standard for Material Certification Requirements Applicable to Metallic Products Used on Low and Medium Pressure Applications
- [7] 240-54820279: Receive Materials
- [8] BS EN 10204 (2004) - Metallic products -Types of Inspection Documents
- [9] 240-106024999_Kusile Power Station Feedwater and HP Heating Maintenance Spares Strategy
- [10] Table 1 –Variable Speed drive Hydraulic coupling spares
- [11] Table 2 – List of Standards applicable for use

2.2.2 Informative

N/A

2.3 Definitions

Definition	Explanation
Contractor	Service provider contracted to provide a specific spares & documentation to Kusile Power Station. Referred to as the Supplier on this document.
Employer	Kusile Power Station

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Definition	Explanation
Disclosure Classification	Controlled Disclosure to external parties (either enforced by law, or discretionary).

2.4 Abbreviations

Abbreviation	Description
ISO	International Organisation for Standardisation
KPI	Key Performance Indicator
OEM	Original Equipment Manufacturer
OHS	Occupational Health & Safety
PSR	Plant Safety Regulations
SHEQ	Safety, Health, Environmental & Quality
SOW	Scope Of Work

2.5 Roles and Responsibilities

2.5.1 Contractor

- To Supply and Deliver Centrifugal Pumps for Kusile Power Station. , according to the specifications and technical requirements on this document.
- Contractor shall submit all documentation as requested by the Employer.

2.5.2 Employer

- Compiles and submit scope of work with technical specifications.
- Performs Quality Control of all spares on delivery at the Employer premises.

2.6 Process for Monitoring

This document will be a once-off document to state the scope of work to supply and deliver Gear Pumps contract.

2.7 Related/Supporting Documents

N/A

3. Scope

To supply and deliver Centrifugal Pumps Scope of Work

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4. Description of the works

The works is to Supply and Deliver Centrifugal Pumps for Kusile Power Station with technical specification in a spares list. The spares are listed in Table 1.

Table 1: Centrifugal Pumps

Item no	Material Number	Detailed Description	Unit
1	0044207	GLAND, PACKING: DIMENSIONS: ID 78 X OD 110 X WD 46 MM; TYPE: PUMP; MATERIAL: CI; MODEL NO: 150/5, UNK; REFERENCE NO: 150/2705/76, UNK; SUPPL P/N: 452; FOR KSB	EA
2	0576757	PUMP, CENTRIFUGAL: NPSH: 0.24 BAR; CAPACITY: 5-60 LPS; TOTAL HEAD: 130 KPA; SIZE: 160 MM; SPEED: 460 RPS; STAGE: 1; DRIVER: INDUCTION MOTOR - 3.8KW; 400V; 4 POLE; 1435RPM; W21 112M; TYPE: TRANSFORMER OIL CIRCULATION PUMP; SPECIFICATION: IEC34-1; MOUNT: FLANGE; REFERENCE NO: 107839-1; SUPPL P/N: VMOA 100 218-C A C 3 F	EA
3	0620314	PUMP, CENTRIFUGAL: NPSH: 3.6 M; CAPACITY: 169 M3/HR; TOTAL HEAD: 39 M; SIZE: 150 MM; SPEED: 1457 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: SUBMERSIBLE, SLURRY; MOUNT: VERTICAL; MODEL NO: HS-5150.350MT	EA
4	0620322	PUMP, CENTRIFUGAL: NPSH: 3.5 M; CAPACITY: 169 M3/HR; TOTAL HEAD: 28 M; SIZE: 100 MM; SPEED: 1475 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: SUBMERSIBLE, SLURRY; MOUNT: VERTICAL; MODEL NO: HS-5150.300MT	EA
5	0620323	PUMP, CENTRIFUGAL: NPSH: 3.5 M; CAPACITY: 169 M3/HR; TOTAL HEAD: 34 M; SIZE: 100 MM; SPEED: 1480 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: SUBMERSIBLE, SLURRY; MOUNT: VERTICAL	EA
6	0620351	PUMP, CENTRIFUGAL: NPSH: 0 M; CAPACITY: 147 GPM; TOTAL HEAD: 98.5 FT; SIZE: 6 X 3 IN; SPEED: 1450 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: SINGLE SPLIT CASING; MOUNT: BOLTED; DRAWING NO: 5142P-1 REV 0; FOR USE ON STEAM FEED PUMP CONDENSATE EXTRACTION PUMP AT UNIT 1-4	EA
7	0620430	PUMP, CENTRIFUGAL: NPSH: 1.62 M; CAPACITY: 32 LPS; TOTAL HEAD: 12.2 M; SIZE: 152 X 152 MM; SPEED: 1020 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: RAW SEWAGE; MOUNT: HORIZONTAL; SHAFT DIAMETER: 38.1 MM; REFERENCE NO: 0212091425-259N; TO BE SUPPLIED WITH OEM MANUAL; DATA SHEET; GENERAL ARRANGEMENT DRAWINGS AND SPARE PARTS LIST	EA

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8	0620431	PUMP, CENTRIFUGAL: NPSH: 2.4 M; CAPACITY: 130 M3/HR; TOTAL HEAD: 12 M; SIZE: 125 X 100 MM; SPEED: 1450 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: FILTER SUPPLY; MOUNT: HORIZONTAL; SHAFT DIAMETER: 38.1 MM; REFERENCE NO: 9372521-547; TO BE SUPPLIED WITH OEM MANUAL; DATA SHEET; GENERAL ARRANGEMENT DRAWINGS AND SPARE PARTS LIST	EA
9	0620967	PUMP, CENTRIFUGAL: NPSH: 4.3 M; CAPACITY: 492 M3/HR; TOTAL HEAD: 67 M; SIZE: 200 X 150 MM; SPEED: 1489 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: MAKE UP; SPECIFICATION: ISO 5199/EN 25199; MOUNT: HORIZONTAL; SHAFT DIAMETER: 55 MM; DRAWING NO: 0.90/37280 REV 0; MODEL NO: LS-150-500S1VL1-16004; APPLICATION: FLUE GAS DESULPHURIZATION RECYCLE WATER; SUPPLY DATA SHEET ON DELIVERY; GENERAL ARRANGEMENT DRAWING; OPERATING AND MAINTENANCE MANUAL	EA
10	0620969	PUMP, CENTRIFUGAL: NPSH: 6.1 M; CAPACITY: 280 M3/HR; TOTAL HEAD: 84 M; SIZE: 150 X 125 MM; SPEED: 2950 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: SUPPLY; SPECIFICATION: ISO 5199/EN 25199; MOUNT: HORIZONTAL; SHAFT DIAMETER: 55 MM; DRAWING NO: 0.90/37330 REV 0; MODEL NO: LSN-125-330-S1VL1-13202; APPLICATION: MILL REJECT AND SUBMERGED SCRAPER CONVEYOR MAKE UP WATER SUPPLY; SUPPLY DATA SHEET ON DELIVERY; GENERAL ARRANGEMENT DRAWING; OPERATING AND MAINTENANCE MANUAL; DESIGN AND DRAWINGS REFER TO ESKOM DOCUMENT NUMBER: 203-9624	EA
11	0623392	PUMP, CENTRIFUGAL: NPSH: 2 M; CAPACITY: 25 M3/HR; TOTAL HEAD: 30 M; SIZE: 50 X 32 MM; SPEED: 2880 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: 32-160; MOUNT: HORIZONTAL; REFERENCE NO: 396.096/7; 396.098/9; SUPPL P/N: 2125900X0X	EA
12	0623393	PUMP, CENTRIFUGAL: NPSH: 3.8 M; CAPACITY: 1100 M3/HR; TOTAL HEAD: 64.4 M; SIZE: 300 X 250 MM; SPEED: 1473 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: CPK250-500; MOUNT: HORIZONTAL; REFERENCE NO: 506367/9; ON EVERY DELIVERY THE ITEM SHOULD HAVE THE FOLLOWING SUPPORTING DOCUMENTS: DRAWINGS; DATASHEET AND MANUAL	EA

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13	0623394	PUMP, CENTRIFUGAL: NPSH: 1.5 M; CAPACITY: 40 M3/HR; TOTAL HEAD: 30 M; SIZE: 65 X 40 MM; SPEED: 2890 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: MEGA-CHEM 40-160; MOUNT: HORIZONTAL; REFERENCE NO: 396.094/5; ON EVERY DELIVERY THE ITEM SHOULD HAVE THE FOLLOWING SUPPORTING DOCUMENTS: DRAWINGS; DATASHEET AND MANUAL	EA
14	0623396	PUMP, CENTRIFUGAL: NPSH: 1.9 M; CAPACITY: 171 M3/HR; TOTAL HEAD: 40.87 M; SIZE: 125 X 100 MM; SPEED: 1475 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: 100-400; MOUNT: HORIZONTAL; REFERENCE NO: 396.100/2	EA
15	0623397	PUMP, CENTRIFUGAL: NPSH: 1.2 M; CAPACITY: 35 M3/HR; TOTAL HEAD: 41.3 M; SIZE: 65 X 40 MM; SPEED: 2930 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: MEGA-CHEM 40-160; MOUNT: HORIZONTAL; REFERENCE NO: 396.060/1; ON EVERY DELIVERY THE ITEM SHOULD HAVE THE FOLLOWING SUPPORTING DOCUMENTS: DRAWINGS; DATASHEET AND MANUAL	EA
16	0623400	PUMP, CENTRIFUGAL: NPSH: 2 M; CAPACITY: 300 M3/HR; TOTAL HEAD: 20.4 M; SIZE: 200 X 150 MM; SPEED: 1465 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: 150-315; MOUNT: HORIZONTAL; REFERENCE NO: 396.111/2	EA
17	0623401	PUMP, CENTRIFUGAL: NPSH: 4.8 M; CAPACITY: 120 M3/HR; TOTAL HEAD: 40.8 M; SIZE: 100 X 125 MM; SPEED: 2940 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: 80-160; MOUNT: HORIZONTAL; REFERENCE NO: 396.109/10	EA
18	0623402	PUMP, CENTRIFUGAL: NPSH: 3.8 M; CAPACITY: 560.5 M3/HR; TOTAL HEAD: 83.7 M; SIZE: 200 X 250 MM; SPEED: 1485 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: CPK200-500; MOUNT: HORIZONTAL; REFERENCE NO: 506385/7; ON EVERY DELIVERY THE ITEM SHOULD HAVE THE FOLLOWING SUPPORTING DOCUMENTS: DRAWINGS; DATASHEET AND MANUAL	EA
19	0623406	PUMP, CENTRIFUGAL: NPSH: 4.3 M; CAPACITY: 180 M3/HR; TOTAL HEAD: 67 M; SIZE: 125 X 80 MM; SPEED: 2965 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: LSN125-80 250 S1VL1; MOUNT: HORIZONTAL; DRAWING NO: 203-9661 REV 0; SUPPL P/N: 61220402; ON EVERY DELIVERY THE ITEM SHOULD HAVE THE FOLLOWING SUPPORTING DOCUMENTS: DRAWINGS; DATASHEET AND MANUAL	EA

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20	0623407	PUMP, CENTRIFUGAL: NPSH: 4.6 M; CAPACITY: 450 M3/HR; TOTAL HEAD: 32 M; SIZE: 200 X 150 MM; SPEED: 1580 RPM; STAGE: 1; DRIVER: DIESEL ENGINE; SPECIFICATION: ETA 150-315(J); MOUNT: HORIZONTAL; REFERENCE NO: 9972286854/100; SUPPL P/N: 203-30156	EA
21	0623408	PUMP, CENTRIFUGAL: NPSH: 1.2 M; CAPACITY: 171 M3/HR; TOTAL HEAD: 75.6 M; SIZE: 200 X 150 MM; SPEED: 1480 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: CPK150-500; MOUNT: HORIZONTAL; REFERENCE NO: 506388/90	EA
22	0623409	PUMP, CENTRIFUGAL: NPSH: 7 M; CAPACITY: 160 M3/HR; TOTAL HEAD: 10.2 M; SIZE: 125 X 100 MM; SPEED: 1440 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: 100-200; MOUNT: HORIZONTAL; REFERENCE NO: 369.092/3	EA
23	0623426	PUMP, CENTRIFUGAL: NPSH: 5.3 M; CAPACITY: 1120 M3/HR; TOTAL HEAD: 18.4 M; SIZE: 350 MM; SPEED: 985 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: MEGA-NORM 350-400; MOUNT: HORIZONTAL; REFERENCE NO: C03764/5; ON EVERY DELIVERY THE ITEM SHOULD HAVE THE FOLLOWING SUPPORTING DOCUMENTS: DRAWINGS; DATASHEET AND MANUAL	EA
24	0623974	PUMP, CENTRIFUGAL: NPSH: 0; CAPACITY: 360 M3/HR; TOTAL HEAD: 42 M; SIZE: 200 X 150 MM; SPEED: 1024 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: SLURRY; MOUNT: HORIZONTAL; SHAFT DIAMETER: 70 MM; DRAWING NO: B114109-03-02-GM03-00060-00 REV 0; SUPPL P/N: LCC-M150-500.3ETDI; AGITATION PUMP EFFICIENCY: 77PCT; SHAFT SEAL: EXPELLER; BEARING LUBRICATION: ROLL/OIL; CASING SUPPORT: PEDESTAL	EA
25	0633904	PUMP, CENTRIFUGAL: NPSH: 6 M; CAPACITY: 17 M3/HR; TOTAL HEAD: 98.5 M; SIZE: 100 MM; SPEED: 2919 RPM; STAGE: 7; TYPE: MULTI STG; MOUNT: VERTICAL; SUPPL P/N: CR-15-7-A-F-A-E-HQQE; OPERATING PRESSURE: 10 BAR; SUCTION AND DISCHARGE PORTS ON SAME LEVEL AND IN ONE LINE ENABLING INSTALLATION IN A HORIZONTAL ONE-PIPE SYSTEM	EA
26	0633905	PUMP, CENTRIFUGAL: NPSH: 100 FT; CAPACITY: 200 M3/HR; TOTAL HEAD: 98.5 M; SIZE: 230 X 110.5 MM; SPEED: 2950 RPM; STAGE: 5; TYPE: MULTI STG SPLIT CASE; MOUNT: HORIZONTAL; SUPPL P/N: MPA100.2/2A-SA311A-9002; OPERATING PRESSURE: 40 BAR; ENSURE THE TEST REPORTS AND DATASHEETS ARE ATTACHED WITH THE PUMP ON DELIVERY	EA

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27	0634750	PUMP, CENTRIFUGAL: NPSH: 9.2-3.2 M; CAPACITY: 300.7/100 M3/HR; TOTAL HEAD: 30 M; SIZE: 200 X 150 MM; SPEED: 1475 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR 400 V 37 KW IP65; 1500 RPM; TYPE: END SUCTION; SPECIFICATION: ETA-CX-150-315; MOUNT: HORIZONTAL; SHAFT DIAMETER: 42 MM; SUPPL P/N: ST.250408; ITEM DATA SHEET IS REQUIRED ON EVERY DELIVERY	EA
28	0635546	PUMP, CENTRIFUGAL: NPSH: 7.8 M; CAPACITY: 780 M3/HR; TOTAL HEAD: 48 M; SIZE: 200 X 250 MM; SPEED: 916 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: SLURRY FILTER SUPPLY; SPECIFICATION: LCC-R 200-601.4	EA
29	0635552	PUMP, CENTRIFUGAL: NPSH: 3.8 M; CAPACITY: 206 M3/HR; TOTAL HEAD: 34 M; SIZE: 150 X 100 MM; SPEED: 1393 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: SLURRY; SPECIFICATION: LCC-R 100-400.2	EA
30	0635553	PUMP, CENTRIFUGAL: NPSH: 2.5 M; CAPACITY: 150 M3/HR; TOTAL HEAD: 27 M; SIZE: 150 X 100 MM; SPEED: 1136 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: SLURRY TRANSFER; SPECIFICATION: LCC-R 100-400.4	EA
32	0635555	PUMP, CENTRIFUGAL: NPSH: 5 M; CAPACITY: 110 M3/HR; TOTAL HEAD: 29 M; SIZE: 100 X 80 MM; SPEED: 1460 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR 22 KW; 1460 RPM; TYPE: SLURRY; SPECIFICATION: ROWA-UV80.32-TMU 160L4-250	EA
33	0635556	PUMP, CENTRIFUGAL: NPSH: 4.9 M; CAPACITY: 110 M3/HR; TOTAL HEAD: 31 M; SIZE: 100 X 80 MM; SPEED: 1460 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR 22 KW; 1460 RPM; TYPE: SLURRY; SPECIFICATION: ROWA-UV80.32-TMU 160L4-250	EA
34	0635557	PUMP, CENTRIFUGAL: NPSH: 4.9 M; CAPACITY: 110 M3/HR; TOTAL HEAD: 30 M; SIZE: 100 X 80 MM; SPEED: 1460 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR 22 KW; 1460 RPM; TYPE: SLURRY; SPECIFICATION: ROWA-UV80.32-TMU 160L4-250	EA
35	0636387	PUMP, CENTRIFUGAL: NPSH: 8.24 M; CAPACITY: 750 M3/HR; TOTAL HEAD: 120 M; SIZE: 300 X 250 MM; SPEED: 1482 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: SPLIT CASE; MOUNT: HORIZONTAL; MODEL NO: OMEGA 250-600B	EA
36	0637610	PUMP, CENTRIFUGAL: NPSH: 4.28 M; CAPACITY: 98.59 M3/HR; TOTAL HEAD: 58.32 M; SIZE: 100 MM; SPEED: 2948 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: SUBMERSIBLE; SPECIFICATION: KRTD 80-315/372 UG1-S; MODEL NO: UGI449273	EA
37	0646956	PUMP, CENTRIFUGAL: NPSH: 1.8 M; CAPACITY: 55 M3/HR; TOTAL HEAD: 83 M; SIZE: 80 X 50 MM; SPEED: 2960 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: SUCTION END; SPECIFICATION: DIN 24256; DIN EN 22858; MOUNT: FLANGE B1; SHAFT DIAMETER: 55 MM; REFERENCE NO: 1293781/01-	EA

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		1293786/01; SUPPL P/N: KRC-50/250-308/GN; IMPELLER SIZE: 253MM; TOP-DISCHARGE; DATASHEET INCLUDE PUMP CURVE AND TEST CERTIFICATE TO BE INCLUDED IN EVERY DELIVERY; EVERY ITEM SHOULD BE DELIVERED WITH THE LATEST DOCUMENT REVISIONS	
38	0647316	PUMP, CENTRIFUGAL: NPSH: 1.6 M; CAPACITY: 24000 LPH; TOTAL HEAD: 40 M; SIZE: 200 X 40 MM; SPEED: 2900 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR 7.5 KW 2P; TYPE: SLURRY; FIG NO: I00009-01726244750205-MEDES-3004; REFERENCE NO: SR11010021-1NP185; IMPELLER DIA: 185MM	EA
39	0647317	PUMP, CENTRIFUGAL: NPSH: 0 M; CAPACITY: 25200 LPH; TOTAL HEAD: 25 M; SIZE: 165 X 25 MM; SPEED: 2684 RPM; STAGE: 1; DRIVER: MOTOR; TYPE: SLURRY; FIG NO: I00009-01726244750202-MEDES-3008; REFERENCE NO: AH400227	EA
40	0647318	PUMP, CENTRIFUGAL: NPSH: 2 M; CAPACITY: 120 M3/HR; TOTAL HEAD: 16 M; SIZE: 100 X 25 MM; SPEED: 1950 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR 18.5 KW 180L; TYPE: SLURRY; FIG NO: I00009-01726244750201-MEDES-3007; REFERENCE NO: 14-10195	EA
41	0647319	PUMP, CENTRIFUGAL: NPSH: 3 M; CAPACITY: 385 M3/HR; TOTAL HEAD: 46 M; SIZE: 203 X 152 MM; SPEED: 983 RPM; STAGE: 1; DRIVER: MOTOR; TYPE: SLURRY; REFERENCE NO: WP51825; SUPPL P/N: KWP-K125-500	EA
42	0647320	PUMP, CENTRIFUGAL: NPSH: 4 M; CAPACITY: 200 M3/HR; TOTAL HEAD: 72 M; SIZE: 200 MM; SPEED: 1480 RPM; STAGE: 1; DRIVER: MOTOR; TYPE: SLURRY; REFERENCE NO: 9971896263/100/11	EA
43	0654358	PUMP, CENTRIFUGAL: NPSH: 5.62 M; CAPACITY: 171.7 M3/HR; TOTAL HEAD: 78.5 M; SIZE: 125 X 100 MM; SPEED: 2960 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: 125-100-250; MOUNT: HORIZONTAL	EA
44	0659390	PUMP, CENTRIFUGAL: NPSH: 2.6 M; CAPACITY: 30 M3/HR; TOTAL HEAD: 9.9 M; SIZE: 3 X 2 IN; SPEED: 1450 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: HORIZONTAL; SPECIFICATION: NEPO-80-50-200; DRAWING NO: 68249 REV 0; ON EVERY DELIVERY PLEASE PROVIDE DRAWINGS; DATA SHEET AND MANUAL; ONLY PUMP REQUIRED	EA
45	0659397	PUMP, CENTRIFUGAL: NPSH: 2.6 M; CAPACITY: 30 M3/HR; TOTAL HEAD: 7.3 M; SIZE: 3 X 2 IN; SPEED: 1450 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: HORIZONTAL; SPECIFICATION: NEPO-80-50-200; DRAWING NO: 68250 REV 0; ON EVERY DELIVERY PLEASE PROVIDE DRAWINGS; DATA SHEET AND MANUAL; ONLY PUMP REQUIRED	EA

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46	0659398	PUMP, CENTRIFUGAL: NPSH: 2.5 M; CAPACITY: 21 M3/HR; TOTAL HEAD: 8.8 M; SIZE: 3 X 2 IN; SPEED: 1450 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: HORIZONTAL; SPECIFICATION: NEPO-80-50-200; DRAWING NO: 68248 REV 0; ON EVERY DELIVERY PLEASE PROVIDE DRAWINGS; DATA SHEET AND MANUAL; ONLY PUMP REQUIRED	EA
47	0659840	PUMP, CENTRIFUGAL: NPSH: 0; CAPACITY: 45 M3/HR; TOTAL HEAD: 9 M; SIZE: 80 X 65 MM; SPEED: 1468 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: HORIZONTAL; SPECIFICATION: NKG80-65-160/177; REFERENCE NO: B99071359-P116130002; DRAWINGS; DATASHEET AND MANUAL REQUIRED ON EVERY DELIVERY; PUMP ONLY REQUIRED	EA
48	0659841	PUMP, CENTRIFUGAL: NPSH: 0.24 M; CAPACITY: 40 M3/HR; TOTAL HEAD: 1 M; SIZE: 2 X 2 IN; SPEED: 2900 RPM; STAGE: 1; TYPE: HORIZONTAL; SPECIFICATION: DB22; MODEL NO: DB22P-E-FF-5-25; REFERENCE NO: 131741-I14; DRAWINGS; DATASHEET AND MANUAL REQUIRED ON EVERY DELIVERY; PUMP ONLY REQUIRED	EA
49	0661447	PUMP, CENTRIFUGAL: NPSH: 5.4 M; CAPACITY: 60M3/H AT 50M; TOTAL HEAD: 50 M; SIZE: 80 X 50 MM; SPEED: 985 RPM; STAGE: 1; DRIVER: MOTOR; TYPE: SLURRY; MOUNT: BASE; SHAFT DIAMETER: 48 MM; SUPPL P/N: HM75-EHC-S	EA
50	0662122	PUMP, CENTRIFUGAL: NPSH: 5.79 M; CAPACITY: 165.2 CM/HR; TOTAL HEAD: 58.3 M; SIZE: 125 X 100 MM; SPEED: 2960 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: 125-100-250; MOUNT: HORIZONTAL; SHAFT DIAMETER: 32 MM	EA
51	0667139	PUMP, CENTRIFUGAL: NPSH: 0; CAPACITY: 100 M3/HR; TOTAL HEAD: 45 M; SIZE: 125 X 100 MM; SPEED: 2850 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR 48.2 KW; TYPE: SUBMERSIBLE; SPECIFICATION: ISO 9906 CL 2; MOUNT: PEDESTAL; REFERENCE NO: 1020105809	EA
52	0669936	PUMP, CENTRIFUGAL: NPSH: 5.62/8.2 M; CAPACITY: 237.7 M3/HR; TOTAL HEAD: 170 M; SIZE: 200 X 150 MM; SPEED: 1475 RPM; STAGE: 4; DRIVER: ELECTRIC MOTOR 6600 V 185 KW; 1475 RPM; TYPE: MULTI STG; MOUNT: HORIZONTAL; SHAFT DIAMETER: DIA 60 MM; SUPPL P/N: MTCD150/4-12.1 22.29SP; 1LA1 305-4, LP2 HEATER DRAIN RECOVERY PUMP; ITEM DATA SHEET IS REQUIRED ON EVERY DELIVERY	EA
53	0673825	PUMP, CENTRIFUGAL: NPSH: 2 M; CAPACITY: 300 M3/HR; TOTAL HEAD: 20.4 M; SIZE: 200 X 150 MM; SPEED: 1465 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: 150-315; MOUNT: HORIZONTAL; REFERENCE NO: 396.111/2	EA

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54	0673826	PUMP, CENTRIFUGAL: NPSH: 4.8 M; CAPACITY: 120 M3/HR; TOTAL HEAD: 40.8 M; SIZE: 100 X 125 MM; SPEED: 2940 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: 80-160; MOUNT: HORIZONTAL; REFERENCE NO: 396.109/10	EA
55	0676398	PUMP, CENTRIFUGAL: NPSH: 5.22 M; CAPACITY: 0.5 M3/HR; TOTAL HEAD: 15.75 M; SIZE: 1 IN; SPEED: 2840 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; TYPE: HIGH PRESSURE; SPECIFICATION: V F002/02 B2D13ES00325AW; MOUNT: VERTICAL; SUPPL P/N: 796008; PUMP AND MOTOR MUST BE SUPPLIED AS AN ASSEMBLY; DRAWINGS; DATASHEET; CERTIFICATE AND ALL MANUALS IS REQUIRED ON EVERY DELIVERY	EA
56	0679658	PUMP, CENTRIFUGAL: NPSH: 5.52 M; CAPACITY: 125 M3/HR; TOTAL HEAD: 98 M; SIZE: 80 X 50 MM; SPEED: 2622 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: ANSI B73.1; MOUNT: HORIZONTAL; REFERENCE NO: 3196 LTI; SUPPL P/N: ETN84-85; DENSITY RANGE 1000–1200 KG/M3; PH: 5–8; SITE ALTITUDE: 1504 MASL	EA
57	0687431	PUMP, CENTRIFUGAL: NPSH: 1.2 M; CAPACITY: 171 M3/HR; TOTAL HEAD: 75.6 M; SIZE: 200 X 150 MM; SPEED: 1480 RPM; STAGE: 1; DRIVER: ELECTRIC MOTOR; SPECIFICATION: CPK150-500; MOUNT: HORIZONTAL; REFERENCE NO: 506388/90	EA
58	0690213	PUMP, CENTRIFUGAL: NPSH: 0.5 M; CAPACITY: 6000 IPH; TOTAL HEAD: 5 M; SIZE: 25 MM; SPEED: 2720 RPM; STAGE: 1; DRIVER: MOTOR; SPECIFICATION: CTM 25-8 P; REFERENCE NO: 1310-4290	EA

4.1 Documentation

The following are the *Supplier's* requirements:

- The *Supplier* will ensure proper handling of the spares (from procurement of equipment, storage and transportation).
- The spare must be to the exact same specification as installed in the plant and specified on this scope of work document. *Notwithstanding the stipulated condition that the Supplier is responsible for verifying the correctness of the spares information provided by the Employer in relation to the existing installed spare. This may include the Supplier consulting the original supplier of the spare to ensure correctness of information provided by the Employer.*
- The *Supplier* will supply any additional information such as brochure, general arrangement drawing, certificates, detailed specification, data sheet, Settings Document for programmable electronic cards etc. Check sheets or drawings for quality inspections.
- The *Supplier* provides the *Employer* with additional spares information and verifies information required in the attached data capturing forms (DCF).

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- e) The *Supplier* shall supply preservation and storage procedure/s, where applicable.
- f) The Employer may make clarification sessions available to either prospective *Supplier/s* in order to further assist the prospective *Supplier's* to meet the requirements of the work to be performed by the *Supplier*.
- g) The *Supplier* must ensure that all components supplied must be individually packed in such a way as to protect the parts during transport and storage. The packaging must also include the necessary labels to identify the items.

4.2 Acceptance of Spares

4.2.1 Spares Identification

Lists all the spares to be procured under this SOW. This list corresponds to the provided electronic copy of the DCF's that contain more information about the required spares.

Each spare is identifiable by means of an Eskom SAP Material number (as is used in the Power Station), part description, OEM and/or OEM part number.

4.2.2 Obsolescence

The Supplier shall inform the Employer immediately where spares are found to be obsolete before the alternative spares is supplied, the Supplier shall indicate this to the Employer and indicate viable alternatives thereof.

4.2.3 Packaging

- I. All supplied spares shall be packaged in such a manner that they will be transported and stored without damage. This includes preventing damage due to moisture ingress, dust and foreign objects. The contractor's procedure shall be used Transportation and Storage.
- II. Different spare types shall be packaged separately such that each spare type can be stored separately. Packaging shall be such that the spare can be identified without opening the packaging. Packaging shall be of material that will not be damaged, to an extent possible, by harsh weather conditions during transportation. If that is not possible, then the packaging shall be protected against such conditions.
- III. Where possible, packaging to be such that procured spares can be positively identified through the packaging. Where this is not possible, the packaging to be such that it allows opening and closing of packaging and still maintain the packaging integrity thereafter.
- IV. Delivery packaging shall include as a minimum the following details:
 - a) Purchase Order Number
 - b) Part Description
 - c) Part number
 - d) Eskom SAP Material number
 - e) Drawing number, where applicable

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- f) Physical address of Kusile Power Station and the *Supplier*
- g) Contact details of the *Supplier*
- h) Delivery note number

4.2.4 Acceptance of spares

- a) No incorrect, damaged or faulty spares will be accepted.
- b) All the spares will be inspected and accepted by Engineering and/or OEM Technician before payment could be processed.
- c) Data capturing forms information must be supplied and must meet an acceptable level.
- d) The Supplier must ensure that the supply and preservation of spares is done in compliance with preservation specifications and good engineering practice.
- e) The Supplier to advise the Purchasers warehouse/stores on effective storage of spares and preservation.
- f) Upon delivery of the goods at the Eskom stores, an inspection of goods and the receipt must be conducted by the End-user and the Supplier with 48 hours of delivery. There must be an approved list of appointed quality inspectors available with specimen signatures and this must be updated annually. As per Work Instruction, Receive Materials – 240-54820279.
- g) The Supplier must supply the Purchaser with warrantee certificates, test certificates and the complete data book of spares at the time of delivery which shall be uploaded into the SAP system Goods Receipt document as per Work Instruction, Receive Materials - 240-54820279.
- h) The Supplier must deliver the goods as per the agreed to delivery times.
- i) The Supplier to provide 3.1 Material certificates as a minimum, where applicable.

4.2.5 Information to be provided to the Supplier

The *Supplier* is provided with electronic Data Capture Form (DCF) for each spare required. The *Supplier* is required to ensure that the correct information is captured on the DCF's. The DCF's are required by the *Purchaser's* Material Management System to be able to book the item in the store and the information should also be sufficient to procure the correct spares in future. Most of the DCF's have been populated by the *Purchaser* where information was available. This information may not be correct and needs to be reviewed and verified/corrected as part of the *Services*.

The DCF's are provided in Microsoft Word format. The *Supplier* needs to ensure the 'Track Changes' function is selected 'on' so that any changes to the existing information as well as inserted information can easily be identified and tracked. The following information needs to be provided as detailed as possible on the DCF's.

- a) Verify the existing information that is already populated on the DCF's and make changes where required. Ensure the 'track changes' function is on.
- b) Populate/verify all fields highlighted in 'yellow' on the DCF's, in the electronic format provided.
- c) Supply additional information in the field "Free Format Text" or "Purchase order text" on the DCF's. This includes:

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- The standards or specification that the product has to conform to.
 - Add any spares information which has been omitted, which is deemed relevant for spares identification, packaging and protection requirements during transportation and storage.
 - The Quality Control requirements for manufacturing and testing of the product to ensure that the spares conform to the correct specifications or standards, including certificates and test results, that is required with delivery of the goods.
- d) Supply any other additional information that has not been specified on the DCF's but necessary for storage, preservation, installation and utilisation of spares where applicable. Such information includes brochures, technical data, etc. These DCF's with the added information needs to be made available electronically to the employer.
- e) Supply any other additional information that has not been specified on the DCF's but necessary for storage, preservation, installation and utilisation of spares where applicable. Such information includes brochures, technical data, etc.

4.3 Spares Management

The Purchaser may request the Supplier to provide accurate description of all spare parts included in the spares list.

4.4 Equipment Required

The Supplier and his sub-suppliers must possess the tools and equipment to satisfy the requirements for the scope.

4.5 Consumables Required

The Supplier must supply his own consumables to satisfy the requirements for scope.

4.6 Workshop

The Supplier and his sub-suppliers are required to have suitable premises with the required tools and equipment to be able to conduct the scope of work. Eskom reserves the right to inspect the workshop premises to make sure that it is kept up to standard.

4.7 Planned KEY PERFORMANCE INDICATORS (KPI)

- a) The KPI's will be used to determine the successful performance of the scope. The Supplier is required to perform in order to meet these targets. The KPI's are to be agreed to between parties and are subject to change on an annual basis, based on the need.
- First committed delivery date
 - Quality
 - Non-compliance to the agreed Scope of Work, hold points and Quality Control Plans

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5. Acceptance

This document has been seen and accepted by:

6. Revisions

Date	Rev.	Compiler	Remarks
March-2027	1		First Issue

7. Development Team

The following people were involved in the development of this document:

8. Acknowledgements

N/A

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