

	<p style="text-align: center;">Scope of Work</p>	<p style="text-align: center;">Generation/Kriel PS</p>
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Title: Supply and Delivery of Electrostatic Precipitator (ESP) Plant Mechanical Spares “as and when required” for a period of five years at Kriel Power Station

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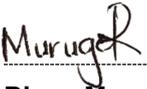
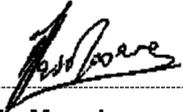
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CONTROLLED DISCLOSURE

1. Introduction

The current Atmospheric Emission License (AEL 17/4/AEL/MP312/11/9) for Kriel Power Station requires that the station should comply with a limit of 100 mg/Nm³ on a daily basis. It is requirement for the licence holder to ensure that these conditions are always adhered to through a continuous focus on the operating, optimization, and maintenance of the plant.

Electrostatic precipitator (ESP) is the latest dust emission abatement technology use to remove dust particles out of flue gases before going through smokestack chimney to meet AEL limits requirements of 100 mg/Nm³. For this to happen effectively, maintenance work must be done at both all moving and damaged non-rotatable components found inside and outside ESP casing.

2. Supporting Clauses

2.1 Scope

The scope of the document defines the scope of work for the supply and delivery of ESP Plant Mechanical spares listed in section 3.1 of this document at Kriel Power Station for a period of five years.

2.1.1 Purpose

The purpose of this document is to provide technical governance in terms of a scope of work for the supply and delivery of ESP Plant Mechanical Spares listed in section 3.1 of this document at Kriel Power Station.

2.1.2 Applicability

This document is applicable to Kriel Power Station.

2.1.3 Effective date

This document will be effective on the date the document is authorised.

2.2 Normative/Informative References

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

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2.2.1 Normative

[1] ISO 9001 Quality Management Systems

2.2.2 Informative

[2] 240 -105658000: Supplier Quality Management Specification

2.3 Definitions

Electrostatic Precipitator	A device that removes suspended dust particles from a gas or exhaust by applying a high-voltage electrostatic charge and collecting the particles on charged plates.
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2.4 Abbreviations

Abbreviation	Explanation
ESP	Electrostatic Precipitator
QC	Quality Control
SOW	Scope of Work

2.5 Roles and Responsibilities

2.5.1 System Engineer

- Responsible for compilation of the scope of work for the contract and ensuring all items are defined clearly and all technical information is correct.

2.5.2 Maintenance

- Responsible for ensuring that the quality of the supplied spares is correct and useable prior to the item being accepted by the store.

2.5.3 Material Management

- Responsible for ensuring that relevant people inspect that the supplied material(s) is correct before acceptance by the stores and the material is stored correctly.

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2.6 Process for Monitoring

Quality Control of incoming material shall be done in accordance with Eskom Standard and all material shall be signed off by the appointed personal (as per stores register) to ensure that the quality of the supplied material is according to standard with relevant paperwork in order.

2.7 Related/Supporting Documents

None

3. Scope of work

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3.1 Electrostatic Precipitator (ESP) Mechanical Spares List

ITEM NO	STOCK NUMBER	UNIT OF MEASURE	LONG DESCRIPTION	QUANTITY REQUIRED
1	53211	EA	HAMMER: TYPE: COLLECTOR; HEAD WEIGHT: 4; HEAD MATERIAL: STL; HANDLE: STL; COMPLETE WITH LEVER, FULLCRUM BOLT, HARDENED BUSHES, FOR BRANDT PRECIPITATORS; 270MM	15 600
2	53414	EA	INSULATOR: TYPE: TORQUE; DIMENSIONS: DIA 70 X LG 380 MM; MATERIAL: PORCELAIN; POTENTIAL: 660 V; WITHOUT UNIVERSALS, FOR PRECIPITATOR	2500
3	222892	EA	ANVIL: TYPE: DISCHARGE ELECTRODE; DRAWING NO: 28-45-54005 REV 1; PRECIPITATOR; ALL BOLT CONNECTIONS TO BE WELDED; FOR COMPLETE UNIT; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	10 000
4	226361	EA	HAMMER: TYPE: PRECIPITATOR; HEAD WEIGHT: 5.8 KG; HEAD MATERIAL: MS; HANDLE: STL; SUPPL P/N: 583-6-4-01; DRAWING NO: 28.45-54319 REV 1; NEW PRECIP'S; FOR DISCHARGE RAPPING SYSTEM; TYPE: ROTHEMUHLE, FOR DISCHARGE FRAMES, FOR UNIT 1,2,3 AND 6.	12 000
5	53416	EA	HOOD: SIZE: WD 280 X LG 265 X THK 4 MM; MATERIAL: PTFE; REFERENCE NO: H00D; TEFLON; FOR ELECTROSTATIC PRECIPITATORS; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	3000

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6	719708	EA	COUPLING: TYPE: NEUPEX A; SIZE: 160 MM; MATERIAL: CAST IRON; CONNECTION 1 SIZE: 108 MM; CONNECTION 2 SIZE: 160 MM; PART1:	600
7	621330	EA	ROLLER, BEARING: OUTSIDE DIAMETER: 60 MM; LENGTH: 230 MM; MATERIAL: EN9; ALIGNMENT TYPE: AXIAL/LINEAR; INSIDE DIAMETER: 20 MM; TYPE: CE RAPPER SHAFT PEDESTAL; DRAWING NO: 045.57218 REV 0; MANUFACTURE ACCORDING TO ESKOM STANDARDS; MATERIAL CERTIFICATE REQUIRED FOR THE ROLLERS AND BUSHES; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	2000
8	90551	EA	WASHER: TYPE: ELECTROSTATIC PRECIPITATOR; THICKNESS: 5 MM; MATERIAL:TEFLON;SHIELD; 688X688X5MM SQUARE; TEMPERATURE RESISTANT TO 180 DEGREE CELSIUS; FOR PRECIPITATORS.	4000
9	53452	EA	SCREEN: TYPE: PRECIPITATOR INLET; DIMENSIONS: WD 698 MM X LG 2.295 M X THK 3 MM; MESH SIZE: 35 MM; MATERIAL: MS; DRAWING NO: ROTEK B920/75C REV 1; B920/75C REV 1; EDGE 30MM HIGH X 90 DEG; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	2000
10	53121	EA	PAD, BEARING: SUPPL P/N: KVB3/123/D; REFERENCE NO: KVB/123/D; SLIDING V; LOCATING; FOR BRANDT PRECIPITATORS V TYPE DISCHARGE BEARING; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	680
11	53442	EA	PAD, BEARING: DIMENSIONS: WD 50 X LG 100 X THK 20 MM; MATERIAL: STL; SUPPL P/N: KVB-123-D; KVB2-123-D; SLIDING V; FOR BRANDT PRECIPITATORS V; TYPE DISCHARGE BEARING; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	1600

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12	667266	EA	COUPLING, SHAFT FLEXIBLE: TYPE: DRIVE UNIT; BORE DIAMETER: 160 MM; TORQUE: 560 NM; MATERIAL: STL; SPEED: 4250 RPM; REFERENCE NO: N-UEPEX/B160; CE SHAFT TO CE GEAR DRIVE COUPLING UNIT; AMBIENT TEMP: -30 TO 80 DEG C; FATIGUE TORQUE: 84NM; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	300
13	162244	KG	BAR, ROUND: NOMINAL DIAMETER: 60 MM; LENGTH: 6 M; MATERIAL: MS BRIGHT; PROCESS: MACHINED; GRADE: EN3A; WEIGHT: 22 KG/M; SPECIFICATION: BS 970 (070M20); DRAWING NO: 0.45/23544 REV 0; FABRICATE SLOTTED KEYWAYS ACCORDING TO ESKOM DRAWING NUMBER; SHAFT TO BE CUT AND TRIMMED ON SITE DURING INSTALLATION.	79 200
14	29942	EA	BEARING, BALL: TYPE: CONRAD; STYLE: DOUBLE SEAL; INSIDE DIAMETER: 40 MM; OUTSIDE DIAMETER: 90 MM; WIDTH: 23 MM; ROW: SINGLE; SUPPL P/N: 6308-2RS; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	1200
15	226357	EA	SPROCKET: TEETH: 32; OUTSIDE DIAMETER: 200 MM; BORE: 60 MM; PITCH: 20 MM; ROOT DIAMETER: 170 MM; MATERIAL: STL; SUPPL P/N: 583-6-0-07 3/4"; FOR THE NEW PRECIPITORS DRIVES, FOR UNIT 1, 2, 3 AND 6 OF THE DRIVE MOTOR.	240
16	161921	KG	ROPE: MATERIAL: COTTON FIBER BRAIDED; DIMENSIONS: DIA 20 MM X LG 30 M; STRUCTURE: 125 STRAND; NON-ASBESTOS, SOFT WHITE.	200
17	621331	EA	COLLAR: DIMENSIONS: ID 61 X OD 85 X THK 20 MM; MATERIAL: ST52; TYPE: LOCATING; APPLICATION: COLLECTING ELECTRODE SHAFT ALIGNMENT INSIDE PRECIPS.	800

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18	85146	EA	BOLT, U: NOMINAL SIZE: 60 MM; DIAMETER: M10; INSIDE LENGTH: 110 MM; THREAD LENGTH: 45 MM; THREAD: 1.5 MM; MATERIAL: GMS; INSIDE WIDTH: 62 MM; WITH WASHER INSIDE LENGTH: 110MM; INSIDE WIDTH: 62MM; NOMINAL SIZE: 60MM	14 600
19	30582	EA	BEARING, ROLLER: TYPE: SELF ALIGNING; INSIDE DIAMETER: 65 MM; OUTSIDE DIAMETER: 120 MM; WIDTH: 31 MM; ROW: DOUBLE; SUPPL P/N: 22213 AKE 4C3; NOTE: THE REFERENCE NUMBER MUST BE CAST AND NOT ENGRAVED ON BEARING AND ORIGINAL PACKED	700
20	621329	EA	DOOR, HATCH: TYPE: PRECIP INSPECTION; MATERIAL: AL GR LM4 ALLOY; DIMENSIONS: DIA 570 X THK 17 MM; APPLICATION: PRECIPS; DRAWING NO: 0.45/57035 REV 0; ITEM TO BE MANUFACTURED AS PER ESKOM REQUIREMENT STANDARD; HANDLES INCLUDED; MATERIAL CERTIFICATE REQUIRED WITH EACH ITEM ON DELIVERY; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	260
21	124020	EA	COUPLING, SHAFT: TYPE: UNIVERSAL; BORE: 60 MM; OUTSIDE DIAMETER: 92 MM; LENGTH: 65 MM; MATERIAL: STL; SUPPL P/N: KTQ2-456D; KTQ2-123D; PRECIPITATOR TORQUE INSULATOR	1460
22	226358	EA	SPROCKET: TEETH: 32; OUTSIDE DIAMETER: 200 MM; BORE: 40 MM; PITCH: 20 MM; ROOT DIAMETER: 170 MM; MATERIAL: STL; SUPPL P/N: 583-6-0-06 3/4"; FOR THE NEW PRECIPITORS DRIVES, FOR UNIT 1, 2, 3 AND 6 OF THE DRIVE SHAFTS	1200
23	34581	EA	HOUSING, BEARING UNIT: TYPE: PILLOW; BORE: ID 67 MM; MATERIAL: CI; SUPPL P/N: SNL511-609; SUPPLIER NOTE: THE ITEM MUST BE COMPLETE WITH A GREASE NIPPLE INSTALLED AND SHAFT SEALS.; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	800

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24	84578	KG	BOLT, ASSEMBLY: TYPE: GENERAL PURPOSE; NOMINAL DIAMETER: M12; LENGTH: 100 MM; HEAD: HEX; GRADE: 4.6; MATERIAL: MS; THREAD LENGTH: 35 MM; THREAD: 1.75 MM; NUT QUANTITY: 1; NUT MATERIAL: MS; NUT GRADE: 4.6; BOLT PROTECTIVE COATING: BLACK; SPECIFICATION: SABS 135	80 000
25	55254	EA	PIPE, METALLIC: NOMINAL PIPE SIZE DESIGNATION: NB 100 MM; MATERIAL: B ASTM A106; LENGTH: 6 M; WALL THICKNESS: 6.02 MM; CONSTRUCTION: SEAMLESS; MAXIMUM OPERATING PRESSURE: 2 MPA; SCHEDULE: 40; MAXIMUM OPERATING TEMP: 150 DEG C; GRADE: B; PIPE TO BE SUPPLIED WITH 3.1 CEDRTIFICATION AS EN 10204	4 500
26	56085	KG M	PIPE, METALLIC: NOMINAL PIPE SIZE DESIGNATION: 88.9 MM; MATERIAL: STL GR B ASTM A106; LENGTH: 6 M; WALL THICKNESS: 5.49 MM; CONSTRUCTION: SEAMLESS; END TYPE: PLAIN; SCHEDULE: 40; GRADE: B; SAME AS 55583	25 000
27	620414	EA	BUSH: TYPE: CONICAL RAPPER BAR; INSIDE DIAMETER: 17 MM; OUTSIDE DIAMETER: 80 MM; LENGTH: 28 MM; MATERIAL: MS; APPLICATION: PRECIPS; SPECIFICATION: SABS 3184 GR 300WA; DRAWING NO: 0.45/58907 REV 1; MATERIAL / TECHNICAL DATA SETS TO BE PROVIDED WITH THE ORDER SUPPLIERS TO USE DRAWING NUMBER OR THE LATEST VERSION	73 600
28	771840	EA	BEARING, SLEEVE: TYPE: CIRCULAR SPLIT; INSIDE DIAMETER: 40 MM; OUTSIDE DIAMETER: 80 MM; LENGTH: 116 MM; MATERIAL: A48 GREY CAST IRON; BEARING WITH FOUR HOLES: 4 X M8 X 1.25 MM – 6H. TRANSVERSE PCD X 60 MM.	6000
29	53415	EA	SUPPORT: TYPE: INSULATOR; DIMENSIONS: DIA 188 X LG 485 MM; MATERIAL: PORCELAIN; REFERENCE NO: MPM 02-2575	800
30	34045	EA	BUSH: TYPE: COUPLING; INSIDE DIAMETER: 40 MM; OUTSIDE DIAMETER: 62 MM; LENGTH: 93.5 MM; MATERIAL: STL; REFERENCE NO: E1/974	5 000

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31	84553	KG	BOLT, ASSEMBLY: TYPE: GENERAL PURPOSE; NOMINAL DIAMETER: M8; LENGTH: 25 MM; HEAD: HEX; GRADE: 4.6; MATERIAL: MS; THREAD LENGTH: 25 MM; THREAD: 1.25 MM; NUT QUANTITY: 1; NUT MATERIAL: MS; NUT GRADE: 4.6; BOLT PROTECTIVE COATING: BLACK; DIN555; SPECIFICATION: SABS 135	250 000
32	17101	KG	BAR, ROUND: NOMINAL DIAMETER: 12 MM; LENGTH: 6 M; MATERIAL: MS BS 4360; PROCESS: HOT ROLLED; GRADE: EN43A; WEIGHT: 0.88 KG/M	5000
33	773439	EA	BEAM: TYPE: STRUCTURAL STEEL; LENGTH: 850 MM; MATERIAL: CARBON STEEL; WIDTH: 140 MM; STRUCTURAL STEEL GRADE S355JR.TAPERED FLANGE CHANNEL: WD X 60 MM X HT X 140 MM X WT X 16KG/M.	240
34	773335	EA	BAR, SQUARE: WIDTH: 45 MM; LENGTH: 160 MM; MATERIAL: MILD STEEL; GRADE: S355JR; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	8832
35	773326	EA	ELBOW: TYPE: FITTING; SIZE: 1 IN; CONNECTION: THREADED; MATERIAL: GALVANISED MILD STEEL; DEGREE: 90 DEG; RADIUS: SHORT.	768
36	773333	EA	ELBOW: TYPE: FITTING; SIZE: 1 IN; CONNECTION: THREADED; MATERIAL: GALVANISED MILD STEEL; DEGREE: 45 DEG	768
37	773131	EA	TEE, PIPE TO TUBE: MATERIAL: GALVANISED MILD STEEL; CONNECTION TYPE: THREADED; NOMINAL PIPE SIZE: 25 MM; NOMINAL THREAD SIZE: 1/4 IN; TUBE OUTSIDE DIAMETER: 33.4 MM; MAXIMUM OPERATING PRESSURE: 2 MPA.	768
38	772733	EA	NOZZLE: TYPE: FITTING; SIZE: 1/4 IN; CONNECTION SIZE: OD X 20.4 MM; CONNECTION: THREADED; MATERIAL: 316 STAINLESS STEEL; APPLICATION: ATOMISER	768

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39	771896	EA	REDUCER: TYPE: CONCENTRIC; NOMINAL SIZE: 25 MM; CONNECTION: THREADED; MATERIAL: GALVANIZED MILD STEEL.	768
40	771794	EA	FLANGE: TYPE: WELD NECK; DIMENSIONS: ID 116 X OD 220 X THK 12 MM; MATERIAL: MILD STEEL; ID X 18 MM HOLES ON THE FLAT SECTION OF FLANGE, 175 MM PCD.	768
41	771742	EA	GATE, VALVE: TYPE: KNIFE; VALVE SIZE: 4 IN; MATERIAL: 316 STAINLESS STEEL; HANDWHEEL OPERATED VALVE, UNIVERSAL DRILLED AND TAPERED ACCORDING TO SABS 1123; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	768
42	771894	EA	REDUCER: TYPE: CONCENTRIC; NOMINAL SIZE: 125 MM; CONNECTION: BUTT WELD; MATERIAL: MILD STEEL; LG X 127 MM, SCHEDULE 40 – NOMINAL SIZE: OD X 125 MM REDUCED TO OD X 100 MM.; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING REVISION NUMBER (IF APPLICABLE).	500
43	771793	EA	PIPE, METALLIC: NOMINAL PIPE SIZE DESIGNATION: 100 MM; MATERIAL: MILD STEEL; LENGTH: 6 M; WALL THICKNESS: 6.02 MM; SCHEDULE 40.	150
44	732128	EA	BAR: TYPE: FLAT; DIMENSIONS: WD 90 X LG 6035 X HT 80 X THK 10 MM; MATERIAL: CARBON STEEL; GRADE: 1215; RAPPER BAR CONSIST OF 8 ITEMS; 2 OFF 6M FLAT BAR BY 10 THK, 1 OFF DETAILED HEAD, 2 OFFSIDE STIFFENERS, 2 OFFSIDE BRACKETS.	1000
45	773013	EA	BAR, ROUND: NOMINAL DIAMETER: 40 MM; GRADE: EN10025; MATERIAL: MILD STEEL; LENGTH: 6 M; FLAT SPOT ARE EQUAL SPACED AT 300 M AND SPIRAL AT 22.5 DEGREES BETWEEN FLAT SPOTS	200

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4. Acceptance

This document has been seen and accepted by:

Name	Designation
Mthoko Dlamini	Chief Engineer (Gx Engineering Specialist)
Thapelo Masokoane	Boiler Engineering Manager
Rofhiwa Nelwamondo	Engineering Manager
Bhekinkosi Mkhabela	Senior Supervisor Mechanical Maintenance

5. Revisions

Date	Rev.	Compiler	Remarks
July 2025	01	R Muruge	New document
November 2025	02	R Muruge	Addition of stock numbers.
November 2025	03	R Muruge	Removal of duplicate items.

6. Development Team

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

- Rinae Muruge
- Bhekinkosi Mkhabela

7. Acknowledgements

N/A

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