

 Eskom	Scope Of Work	Generation
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Title: **Supply and delivery of Low Voltage motors, as stock items on an “as and when” required basis for a period of five years for Kriel Power Station, Main Stores.**

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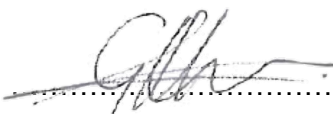
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System Engineer

Date: 13/01/2025

Functional Responsibility



Electrical Engineering Manager

Date: 13/01/2025

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Engineering Manager

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1. INTRODUCTION

Kriel Power Station is faced with unnecessary UCLF (Unavailability Capability Loss Factor) due to unavailability of spares, therefore, to mitigate this, a decision was made by the business to set up a supply and delivery of spares contract as to ensure better control on the procurement of spares. The is currently no supply and delivery contract, hence the development of this SOW (scope of Work) to that effect.

2. SUPPORTING CLAUSES

2.1 SCOPE

The RF motors spares listed in section 3.2.3 of this document, as stock items on an “as and when” required basis for a period of five years to Kriel Power Station, Main Stores.

2.1.1 PURPOSE

The purpose of the document is to provide a scope of work for the replacement and delivery of low voltage motors, as stock items on an “as and when” required basis for a period of five years to Kriel Power Station, Main Stores and intended to be the input to the NEC Part 3: Scope of Work.

2.1.2 APPLICABILITY

This document is applicable to Kriel Power Station, Maintenance, Electrical Engineering and Materials Management Department.

2.2 NORMATIVE/INFORMATIVE REFERENCES

2.2.1 NORMATIVE

- [1] ISO 9000: Quality Management Systems
- [2] 240-55944466 Supplier Contract Quality Requirement’s Specification
- [3] QM 58 Supplier Contract Quality Requirements.
- [4] 240-56361435 Transport of Power Station Electric Motors Standard (Rev 3)
- [5] 240-57617975 New Low Voltage Motors Procurement Standard

2.2.2 INFORMATIVE

Not applicable.

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2.3 DEFINITIONS

Definitions	Description
Spare	is the item required by Eskom and intended to be retained by Kriel power station at their main store as a backup component to the one in use at the plant
Specification	Is the technical description given by Eskom to describe the stock item required by the business

2.3.1 DISCLOSURE CLASSIFICATION

Controlled Disclosure: Controlled Disclosure to external parties (either enforced by law, or discretionary).

2.4 ABBREVIATIONS

Abbreviations	Description
DD	Double Dip
DE	Drive End
EMD	Electrical Maintenance Department
LV	Low Voltage
NDE	Non-Drive End
NEC	New Engineering Contract
OEM	Original Equipment Manufacture
QC	Quality Control
SWO	Scope Of Work
VPI	Vacuum Pressure Impregnation

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2.5 ROLES AND RESPONSIBILITIES

Roles and responsibilities are as follows:

End User

- Responsible in ensuring that the quality checking of the supplied spare is correct and useable prior to the item being binned.

Materials Manager

- Must ensure that the supplier is managed in line with this scope and the subsequent NEC document to be developed.

Maintenance Manager

- Must ensure plant availability and reliability through his/her oversight duties over the EMD Manager, End-user, and Materials Management Manager

2.6 PROCESS FOR MONITORING

Quality control on incoming product will be done and all material is to be signed off by the appointed QC personnel and Engineer/End user to ensure the quality of the supplied goods is according to standard.

3. THE WORKS

3.1 BACKGROUND

3.2 DESCRIPTION OF THE WORKS

The works entails to the supply and delivery of existing LV Motors as stock items on an “as-and-when required” basis Kriel Power Station for the period of five years. All work performed should be in line with 240-57617975: New Low Voltage Motors Procurement Standard. The motors are to be transported in line with 240-56361435: Transport of Power Station Electric Motors Standard. A high-level process flowchart is shown in section 3.5.

3.2.1 BATTERY LIMITS

N/A

3.2.2 GENERAL REQUIREMENTS OF THE WORKS:

The stock items will be supplied as per description/specification given by Eskom Kriel power station and the acceptance of the spare it will be against the set specification. Any ambiguity on the supplied specification will be clarified before the procurement of the spare by the supplier.

Failure to clarify will lead to the items not being accepted and not paid for by Eskom.

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3.2.3 SCOPE OF WORK DESCRIPTION

- Supply and delivery of new LV motors as per spares list 3.2.4.

3.2.3.1 ASSESSMENT

Quality control on incoming product will be done and all material is to be signed off by the appointed QC personnel and Engineer/End user to ensure the quality of the supplied goods is according to standard.

3.2.3.2 TESTING

- All motors are to be tested by the contractor prior to delivery, and test results are approved by the employer, based on meeting requirements. Eskom Quality Personnel and/or Engineer to witness the testing. All tests should be conducted in line with SANS 10242-1.
- Test certificates are required for all tests performed.
- Special tests are performed when specified by the employer.

3.2.3.3 MATERIALS

Bearings	Only SKF, FAG, RHP or NSK bearings are to be used.
Lubrication	Shell Alvania, R2 and R3 ENGEN Premium 3
Fans	OEM unless otherwise specified.
Cowls	OEM unless otherwise specified.
Terminal boxes/blocks/connections	OEM unless otherwise specified

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3.2.4 SPARES LIST (FOR WHICH SCOPE OF WORK IS APPLICABLE)

Motor Details				Replacement rate quantity		Stock Number
Item No.	Kilowatts	Poles	Frame Size	Foot Mount	Flange Mount	
1.1	0.18	2	63	15	10	140197
1.2		4	63	15	10	141245
1.3		4	63	15	10	141277
1.4		4	63	15	10	141220
1.5		4	63	15	10	141249
1.6		4	63	15	10	141248
2.1	0.25/0.27	2	63	15	10	186208
2.2		2	63	15	10	141297
2.3		2	63	15	10	140627
2.5		4	71	15	10	215853
2.6		4	71	15	10	141206
3.1	0.37	4	71	15	10	140625
3.2		4	71	15	10	141228
3.3		4	71	15	10	140622
3.4		4	71	15	10	140628
3.5		4	71	15	10	141287
3.6		4	71	15	10	141223
3.7		4	71	15	10	141213
3.8		6	80	15	10	141296
3.9		6	80	15	10	141286
4.1	0.55	2	71	15	10	140017
4.2		2	71	15	10	182996
4.3		4	80	15	10	141247
4.4		4	80	15	10	141336
5.1	0.75	2	80	15	10	140623
5.2		2	80	15	10	141227
5.3		4	80	15	10	183954
5.4		4	80	15	10	140603
5.5		4	80	15	10	140624
5.6		4	80	15	10	141289
5.7		4	80	15	10	141215
5.8		4	80	15	10	140565
5.9		6	90S	15	10	141251
5.10		6	90S	15	10	141243
6.1	1.1	4	90S	15	10	141222
6.2		4	90S	15	10	140626
6.3		4	90S	15	10	141226
6.4		6	90L	15	10	140085
6.5		6	90L	15	10	141197
7.1	1.5	2	90S	15	10	140687
7.2		4	90L	15	10	141252
7.3		4	90L	15	10	140620

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7.4		6	100L	15	10	141246
8.1	2/2.2	2	90L	15	10	727777
8.2		4	100L	15	10	141244
8.3		4	100L	15	10	141216
8.4		4	100L	15	10	141335
8.5		4	100L	15	10	141253
8.6		6	112M	15	10	141285
8.7		6	112M	15	10	140621
8.8		6	112M	15	10	141225
8.9		8	132S	15	10	140618
8.10		8	132S	15	10	141214
9.1	3	2	100L	15	10	140594
9.2		2	100L	15	10	665883
9.3		2	100L	15	10	141241
9.4		4	100L	15	10	141283
9.5		4	100L	15	10	141250
9.6		4	100L	15	10	250249
9.7		4	100L	15	10	252789
9.8		6	132S	15	10	237293
10.1	4	2	112M	15	10	141284
10.2		4	112M	15	10	141299
10.3		4	112M	15	10	140566
10.4		4	112M	15	10	140249
10.5		4	112M	15	10	139555
10.6		4	112M	15	10	141219
10.7		6	132M	15	10	727785
10.8		8	160M	15	10	141545
11.1	5/5.5	2	132S	15	10	140552
11.2		2	132S	15	10	141256
11.3		4	132S	15	10	141339
11.4		4	132S	15	10	140619
11.5		4	132S	15	10	141217
11.6		4	132S	15	10	140250
11.7		6	132M	15	10	141255
11.8		6	132M	15	10	141292
11.9		6	132M	15	10	141237
12.1	7.5	2	132S	15	10	141334
12.2		2	132S	15	10	141257
12.3		2	132S	15	10	141293
12.4		2	132S	15	10	665885
12.5		4	132M	15	10	186207
12.6		4	132M	15	10	141274
12.7		4	132M	15	10	140580
12.8		4	132M	15	10	140551
12.9		4	132M	15	10	648505
12.10		6	160M	15	10	641581
12.11		8	160L	15	10	727776
13.1	11	2	160M	15	10	141294
13.2		4	160M	15	10	140550
13.3		6	160L	15	10	727784

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13.4	15	8	180L	15	10	141259
13.5		12	160M	15	10	141282
14.1		2	160M	15	10	224550
14.2		2	160M	15	10	139939
14.3		4	160L	15	10	140466
14.4		4	160L	15	10	140200
14.5		4	160L	15	10	140521
14.6		4	160L	15	10	140198
14.7		6	180L	15	10	141263
14.8		8	200L	15	10	141264
15.1	18/18.5	2	160L	15	10	141300
15.2		4	180M	15	10	141210
15.3		4	180M	15	10	141275
15.4		6	200L	15	10	141290
16.1	22	2	180M	15	10	140156
16.2		2	180M	15	10	141302
16.3		2	180M	15	10	141231
16.4		2	180M	15	10	141291
16.5		4	180L	15	10	139610
16.6		4	180L	15	10	141281
17.1	30	2	200L	15	10	221278
17.2		2	200L	15	10	141236
17.3		2	200L	15	10	141295
17.4		2	200L	15	10	141209
17.5		2	200L	15	10	140614
17.6		2	200L	15	10	139723
17.7		4	200L	15	10	140615
17.8		4	200L	15	10	139608
17.9		6	225S/M	15	10	141260
18.1	37	2	200L	15	10	140567
18.2		2	200L	15	10	140406
18.3		4	225S/M	15	10	141211
18.4		6	250S/M	15	10	141238
19.1	45	2	225S/M	15	10	140613
19.2		2	225S/M	15	10	658483
19.3		2	225S/M	15	10	140617
19.4		2	225S/M	15	10	141269
19.5		4	225S/M	15	10	141265
20.1	55	2	250S/M	15	10	141266
20.2		2	250S/M	15	10	141270
20.3		2	250S/M	15	10	141203
20.4		4	250S/M	15	10	140616
20.5		4	250S/M	15	10	141195
21.1	75	2	250S/M	15	10	141258
21.2		4	250S/M	15	10	141268
21.3		4	250S/M	15	10	140288
21.4		4	250S/M	15	10	141200
22.1	90	2	280S/M	15	10	727765
22.2		4	280S/M	15	10	141240
22.3		4	280S/M	15	10	648434

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23.1	110	2	280S/M	15	10	141338
23.2		4	280S/M	15	10	141201
24.1	132	2	DPC280	15	10	141273
24.2		4	315S/M	15	10	141202
24.3		6	315M	15	10	141235
25.1	160	2	C2 315M	15	10	141267
26.1	200	2	315L	15	10	662529
27.1	220	4	315LX	15	10	141204
						525V LV Motors
28.1	220	4	315LX	15	10	0751469
28.2	225	4	315LX	15	10	0751468
						690V LV Motors
29.1	355	4	355M/L	15	10	666774

DC Motors

Item No.	Motor description	Estimated quantity	Stock number
30.1	Voltage: 220 V; Power: 9.5 kW Current: 61 A; Speed: 2700 rpm	15	140196
30.2	Voltage: 220 V DC; Power: 5kW Current: 31A; Speed: 3000 rpm	15	592505
30.3	Voltage: 220 V DC; Power: 2 kW Current: 14 A; Speed: 2400 rpm	15	141301

Replacement of Shafts on Selected motors

Motor details: Ash crusher motor					Estimated quantity	Stock Number
Item No.	kilowatts	Poles	Frame size	Shaft material		
31	11	12	225M	Carbon steel EN19	20	141282
Replacement of Impellers on selected Blowers						
Blower details						
BFPT GSC VENT FAN MOTOR						
32.1	3	2	500&25	Aluminuim	20	140594
MT GSC VENT FAN MOTOR						
32.2	7.5	2	450&40	Aluminium	20	141257

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Fan Units

	Kilowatts	Poles	Frame size	Fan Material	Estimated Quantity	Stock Number
33.	BFPT Vent Fan motor fan unit					
	0.37	2	71	Aluminium	5	0751470
34.	Pyro purge motor fan unit					
	0.55	2	71	Aluminium	5	0751472
35.	Main oil tank vent fan motor fan unit					
	0.55	2	71	Aluminium	5	0751471
36.	Turbine cooling fan unit					
	75	2	280S	Aluminium	5	0751467
37.	Boiler reheat fan unit					
	15	2	160M	Aluminium	5	0751466
38	Stator coolant pump motor					
	26	2	200L	Aluminium	5	141295

Variable Speed Drives and Soft Starters

Description	kilowatts	Stock number	Quantity
1. Slurry Plant VSD	355kW/690V	0747810	10
2. Tripper car soft starter	7.5kW/400V	0749826	15

3.2.5 DOCUMENTATION SUBMISSION AND RECORDING

Equipment and Calibration or test certificates, user manuals and software associated with and are part of the item/spare purchase package will be provided as part of the supply of the spare in question.

3.3 PERFORMANCE GUARANTEES

All guarantees and warranties that come as part of the sale will be passed on to Eskom even if the items or spares are not bought by Eskom directly from the OEM.

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3.4 STANDARDS, SPECIFICATIONS AND PROCEDURES

All material and equipment shall be new and of the standard and quality specified.

The design and manufacture of equipment shall be carried out and tested in accordance with the latest issue or amendments of the following Standards and Regulations, as applicable:

Relevant Standards and Codes

Document Number	Title
Eskom Standards	
240-55944466	Supplier Contract Quality Requirement's Specification
QM 58	Supplier Contract Quality Requirements
240-57617975	New Low Voltage Motors Procurement Standard.
240-56361435	Transport of Power Station Electric Motors Standard
General Standards	
ISO 9001	Quality Management Systems.
SANS 10242-1	The Rewinding and Refurbishing of Rotating Electrical Machines

4. AUTHORISATION

This document has been seen and accepted by:

Name	Designation
[REDACTED]	EMD Supervisor
[REDACTED]	EMD Manager
[REDACTED]	Materials Management Manager
[REDACTED]	Maintenance Manager
[REDACTED]	Electrical Engineer
[REDACTED]	Chief Engineer: Corp specialist

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5. REVISIONS

Date	Rev.	Compiler	Remarks
March 2024	1	[REDACTED]	

6. DEVELOPMENT TEAM

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

- 1. [REDACTED]
- 2. [REDACTED]
- 3. [REDACTED]
- 4. [REDACTED]

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