

	<p align="center">Scope Of Work</p>	<p align="center">Generation</p>
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Title: **Refurbishment and Rewind of Medium Voltage motors, as stock items on an “as and when” required basis for a period of five years for Kriel Power Station, Main Stores.**

Unique Identifier: **555-EEP2149**

Alternative Reference Number: **N/A**

Area of Applicability: **Maintenance and Outages**

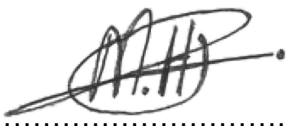


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1. INTRODUCTION

Kriel Power Station intends to establish a contract for the refurbishment and rewind of MV motors on an ‘as and when’ required basis for the duration of 5 years. This contract will be utilised for the refurbishment and rewind of RF motors from the Main Stores as well as the Electrical Maintenance Department and Outage Department.

The Station experiences the need to refurbish medium voltage motors on a regular basis. This includes planned refurbishments as well as unplanned repairs which arise during breakdowns. The intent is to have a contract in place which will allow for these repairs to be done on an ‘as and when’ required basis.

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2. SUPPORTING CLAUSES

2.1 SCOPE

The RF motors spares listed in annexure 1 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 refurbishment and rewind of medium 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, Electrical Maintenance, Outages, 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] SANS 10242-1 The Rewinding and Refurbishing of Rotating Electrical Machines
- [5] 240-56361435 Transport of Power Station Electric Motors Standard (Rev 3)

2.2.2 INFORMATIVE

Not applicable.

2.3 DEFINITIONS

Definitions	Description
Spare	is the item required by Eskom and intended to be retained by Kriel 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

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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
MV	Medium Voltage
NDE	Non-Drive End
NEC	New Engineering Contract
OEM	Original Equipment Manufacture
QC	Quality Control
RF	Refurbish-able items
SOW	Scope Of Work
VPI	Vacuum Pressure Impregnation

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2.5 ROLES AND RESPONSIBILITIES

Roles and responsibilities are as follows:

EMD Manager/End User

- Responsible in ensuring the quality check(s) of the RF item 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/Engineer/End user to ensure the quality of the supplied goods is according to standard.

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3. THE WORKS

3.1 BACKGROUND

3.2 DESCRIPTION OF THE WORKS

The works entails to collect, dismantle, assess, repair, rewind, overhaul, assemble, paint, test, refurbishment, and supply of spare bearings as well as delivery of MV Motors on an “as-and-when required” basis for Kriel Power Station for the period of five years. The supplier must also provide technical support (including coming to site) on any issues related to MV motor bearings on an “as-and-when required basis”. All work performed should be in line with SANS 10242-1: The rewinding and refurbishing of rotating electrical machines Part 2: Medium-voltage three-phase induction motors. 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.

Kriel Power Station is situated approximately halfway between Bethal and Ogies on the R545, being just over 30 km from each town and 10 km north-west of Kriel Town.

The contractor is to notify Eskom when it becomes no longer viable to Repair, Rewind or Overhaul a motor, i.e., the cost of repair exceeds 70% of the cost of a new motor. The motors are to be replaced in line with 240-97049386 New Medium Voltage Motors Procurement Standard.

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.

3.2.3 SCOPE OF WORK DESCRIPTION

- All the motors are to be cleaned properly. Shot blasting is preferred (no sandblasting or chemical cleaning).
- Removal of the windings is to be carried out strictly in accordance with SABS 0242-1 specifications.
- Method of varnishing to be DD and baked or VPI, unless otherwise called for Actuator Duty Cycles; to be approximately 1500 starts per hour and recommended class H.
- Paint work to be done as per SABS064 for the type of paint and the method of application.
- After painting of the motors is completed, the shafts should be treated for rust prevention. (Shaft journals are to be micro welded or new shafts are to be provided, according to SABS 0242) Metal spraying of shafts is not accepted.
- Two sets of Thermistors (i.e. 2 per phase = 6) are to be installed on all motors where Thermistors were originally provided, and one set of Thermistors are to be installed on all actuator motors.

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- Terminal leads must be clearly marked and of a reasonable length to enable joints to be carried out.

3.2.3.1 ASSESSMENT

Collect from Kriel Power station, strip, and clean, electrical test (stator and rotor), assess mechanical components, investigate, and make proposals to prevent future re-occurrence as well as determining the scope of work. Provide failure report and QCP in 5 working days after collection. For emergency failures, a failure report shall be provided within 48 hours. A Quality control plan (QCP) shall be submitted and approved prior to commencement of any repair work.

3.2.3.2 TESTING

- Eskom reserves the right to inspect the motors or associated parts at any stage of maintenance, and to witness routine and performance tests. All tests should be conducted in line with SANS 10242-1.
- 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, System Engineer, maintenance and vibration’s analyst to witness the testing.
- Test certificates are required for all tests performed.
- Routine tests are performed on all repaired motors.
- Special tests are performed when specified by the employer.

3.2.3.3 MATERIALS

Bearings	Only GB bearings, Glacier, Renk and Michell bearings are to be used.
Lubrication	Shell Alvania, R2 and R3 ENGEN Premium 3
Fans	OEM unless otherwise specified.
Heat exchanger	OEM unless otherwise specified.
Terminal boxes/blocks/connections	OEM unless otherwise specified

3.2.4 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.

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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.

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

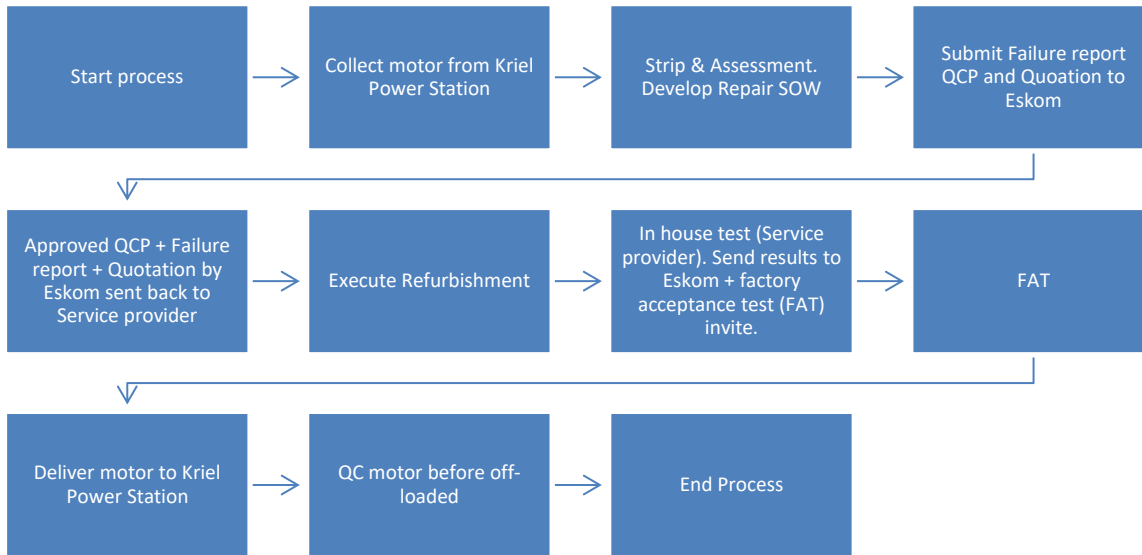
Document Number	Title
Eskom Standards	
240-55944466	Supplier Contract Quality Requirement's Specification
QM 58	Supplier Contract Quality Requirements
240-97049386	New Medium Voltage Motors Procurement Standard.
240-56361435	Transport of Power Station Electric Motors Standard
General Standards	
ISO 9001	Quality Management Systems.
SANS 10242-1	The Rewinding and Refurbishing of Rotating Electrical Machines

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3.5 PROCESS FLOWCHART

The Contractor follows the following high-level process and the details in the Service Information.



4. AUTHORISATION

This document has been seen and accepted by:

Name	Designation
Alex Nkadameng	EMD Supervisor
Kgosi Ntsheroa	EMD Manager
Reshoketswe Kgobe	Materials Management Manager
Zakhele Nkosi	Maintenance Manager
Mhlengi Manqele	Electrical Engineer
Marubini Manyage	Chief Engineer: Corp specialist

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5. REVISIONS

Date	Rev.	Compiler	Remarks
March 2024	1	M.H Manqele	Developed the SOW
March 2026	2	M.H Manqele	Revised SOW

6. DEVELOPMENT TEAM

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

1. Mhlengi Manqele
2. Alex Nkadimeng
3. Evah Malofha
4. Marubini Manyage

7. Annexure 1:

- 1.

Motor Description: Electric feed pump (EFP) motor: 141271	Output Power (kW) 10 000	Voltage (V) 11kV	Current (A) 601 A	Speed (rpm) 1492	Weight 35 Ton
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No.	Description	Estimated Quantity	Rate	Breakdown	Rate
	Basic overhaul				
1	Collect motor from Kriel Power Station	50		5	
2	Dismantle, clean, test & assess all parts. Perform Non-Destructive Testing on the rotor shaft. Provide Kriel with a failure report and QCP. Tests should include, as a minimum: IR, PI, EI-Cid, Bar to bar continuity, core flux test, Tan delta testing	50		5	
3	Overhaul stator & spray with insulating varnish	50		5	
4	Overhaul rotor & spray with insulating varnish.	50		5	
5	Polish DE&NDE bearings	50		5	

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6	Re-metal bearing (price per bearing) 250mm GB bearing	80		10	
7	Replacement of bearing seals (Labyrinth seals on GB bearings)	106		20	
8	Replace oil ring (Price per ring)	20		5	
9	Re-metal bearing (price per bearing) 250mm Michelle bearing	50		10	
10	Replacement of bearing seals (felt seals on Michelle bearings)	106		20	
11	Clean and paint bearing housing, include all motor parts	50		5	
12	Replace bearing insulation - Price per bearing	100		10	
13	Replacement of oil sight glasses to OEM standard (glass)	6		2	
14	Polish journals (price per journal)	50		5	
15	Polish Seal landing (price per seal landing)	50		5	
16	Overhaul & clean heat exchangers	50		5	
17	Repair heat exchanger	10		2	
18	Supply and fit new ZORC (11kVA)	30		5	
19	Supply and fit new terminal box and cover	5		2	
20	Supply and fit 1xheater box	5		5	
21	Supply and fit 2xforce feed pipes NDE	5		2	
22	Supply and fit 2xforce feed pipes DE	5		2	
23	Supply and fit 2x flow meters	10		2	
24	Micro-weld and machine DE &NDE bearing journals	50		5	
25	Supply new coupling	5		2	
26	Dynamically balance/trim balance the rotor at operating speed according to ISO 1940/1 balancing grade G6.3 (Balancing certificate to be included in test report).	50		5	
27	Replacement of line side leads (price per lead)	5		2	
28	Replacement of star side leads (price per lead)	5		2	
29	Replace all the rubber seals and gaskets, including refurbishment of terminal boxes	50		5	
30	Polish stator feet	50		5	
31	Reassemble motor complete	50		5	
32	Test run the motors in the presence of an Eskom representative and submit a report. Motor to be at full Voltage (11kV) for the duration of the test	50		5	
33	Paint the motors light grey (gloss enamel G29)	50		5	
34	Fit the shaft locking device	50		5	
35	Return the motor back to site (Kriel Power Station)	50		5	
Rewind					
36	Rewind stator	8		2	
37	Re-bar rotor	3		2	
38	New stator core	2		1	

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Total				
Lead time to execute abovementioned Scope of Work (Weeks)				

2.

Motor Description: Forced Draught Fan(FD) motor: 141233	Output Power (kW) 3050	Voltage (V) 3.3 kV	Current (A) 636 A	Speed (rpm) 741	Weight 20 Ton
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No.	Description	Estimated Quantity	Rate	Breakdown	Rate
	Basic overhaul				
1	Collect motor from Kriel Power Station	30		2	
2	Dismantle, clean, test & assess all parts. Perform Non-Destructive Testing on the rotor shaft. Provide Kriel with a failure report and QCP. Tests should include, as a minimum: IR, PI, EI-Cid, Bar to bar continuity, core flux test, Tan delta testing	30		2	
3	Overhaul stator & spray with insulating varnish	30		2	
4	Overhaul rotor & spray with insulating varnish.	30		2	
5	Polish DE&NDE bearings	30		2	
6	Re-metal bearing (price per bearing) 225mm Renk bearing	36		6	
7	Replacement of bearing seals (Labyrinth seals on Renk bearings)	60		20	
8	Clean and paint motor parts	30		2	
9	Replace bearing insulation (Price per bearing)	20		2	
10	Replacement of oil sight glasses to OEM standard (glass)	6		2	
11	Polish journals (Price per journal)	30		4	
12	Polish seal landings (Price per seal landing)	30		4	
13	Overhaul & clean heat exchangers	30		2	
14	Repair heat exchanger	2		1	
15	Supply and fit new terminal box and cover	1		0	
16	Supply and fit 1xheater box	2		0	
17	Micro-weld and machine DE &NDE bearing journals	30		2	

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18	Dynamically balance/trim balance the rotor at operating speed according to ISO 1940/1 balancing grade G6.3 (Balancing certificate to be included in test report).	30		2	
19	Replacement of line side leads (price per lead)	2		0	
20	Replacement of star side leads (price per lead)	2		0	
21	Replace all the rubber seals and gaskets, including refurbishment of terminal boxes	30		2	
22	Reassemble motor	30		2	
23	Test run the motors in the presence of an Eskom representative and submit a report. Motor to be at full Voltage (3.3kV) for the duration of the test	30		2	
24	Paint the motors light grey (gloss enamel G29)	30		2	
25	Fit the shaft locking device	30		2	
26	Return the motor back to site (Kriel Power Station)	30		2	
Rewind					
27	Rewind stator	2		0	
28	Re-bar rotor	1		1	
29	New stator core	1		1	
Total					
Lead time to execute abovementioned Scope of Work (Weeks)					

3.

Motor Description: Induced Draught Fan(ID) Motor: 141234	Output Power (kW) 2500	Voltage (V) 3.3 kV	Current (A) 538 A	Speed (rpm) 597	Weight 20 Ton
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No.	Description	Estimated Quantity	Rate	Breakdown	Rate
Basic overhaul					
1	Collect motor from Kriel Power Station	30		2	
2	Dismantle, clean, test & assess all parts. Perform Non-Destructive Testing on the rotor shaft. Provide Kriel with a failure report and QCP. Tests should include, as a minimum: IR, PI, EI-Cid, Bar to bar continuity, core flux test, Tan delta testing	30		2	

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3	Perform Non-Destructive Testing on the rotor shaft and provide feedback on the condition of the motor.	30		2	
4	Overhaul stator & spray with insulating varnish	30		2	
5	Overhaul rotor & spray with insulating varnish.	30		2	
6	Polish DE&NDE bearings	30		4	
7	Re-metal bearing (price per bearing) 200mm Renk bearing	60		12	
8	Replacement of bearing seals (Labyrinth seals on Renk bearings)	60		12	
9	Clean and paint bearing housings	40		4	
10	Replace bearing insulation	40		6	
11	Replacement of oil sight glasses to OEM standard (glass)	3		2	
12	Polish journals (Price per journal)	30		4	
13	Polish seal landings (Price per seal landing)	30		4	
14	Overhaul and clean heat exchanger	30		4	
15	Repair heat exchanger	4		2	
16	Supply and fit new terminal box and cover	4		1	
17	Supply and fit 1xheater box	2		3	
18	Micro-weld and machine DE &NDE bearing journals	30		4	
19	Dynamically balance/trim balance the rotor at operating speed according to ISO 1940/1 balancing grade G6.3 (Balancing certificate to be included in test report).	30		4	
20	Replacement of line side leads (price per lead)	6		2	
21	Replacement of star side leads (price per lead)	6		2	
22	Replace all the rubber seals and gaskets, including refurbishment of terminal boxes	30		2	
23	Reassemble motor	30		2	
24	Test run the motors in the presence of an Eskom representative and submit a report. Motor to be at full Voltage (3.3kV) for the duration of the test	30		2	
25	Paint the motors light grey (gloss enamel G29)	30		2	
26	Fit the shaft locking device	30		2	
27	Return the motor back to site (Kriel Power Station)	30		2	
Rewind					
28	Rewind stator	2		1	
29	Re-bar rotor	1		1	
30	New stator core	1		1	
Total					
Lead time to execute abovementioned Scope of Work (Weeks)					

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4.

Motor Description: PA fan (U1-3) Motor: 179099	Output Power (kW) 465	Voltage (V) 3.3 kV	Current (A) 98 A	Speed (rpm) 1492	Weight 4.5 Ton
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No.	Description	Estimated Quantity	Rate	Breakdown	Rate
	Basic overhaul				
1	Collect motor from Kriel Power Station	70		8	
2	Dismantle, clean, test & assess all parts. Perform Non-Destructive Testing on the rotor shaft. Provide Kriel with a failure report and QCP. Tests should include, as a minimum: IR, PI, EI-Cid, Bar to bar continuity, core flux test, Tan delta testing	70		8	
3	Perform Non-Destructive Testing on the rotor shaft and provide feedback on the condition of the motor.	70		8	
4	Overhaul stator & spray with insulating varnish	70		8	
5	Overhaul rotor & spray with insulating varnish.	70		8	
6	Polish DE&NDE bearings	70		8	
7	Re-metal bearing (price per bearing) 110mm GB bearing	140		16	
8	Replacement of bearing seals (Labyrinth seals on GB bearings)	140		16	
9	Clean and paint motor parts	70		8	
10	Replace bearing insulation	40		6	
11	Replacement of damaged oil sight glasses to OEM standard (glass)	4		2	
12	Polish journals (Price per journal)	70		24	
13	Polish seal landings (Price per seal landing)	70		24	
14	Overhaul & clean heat exchangers	70		12	
15	Repair heat exchanger	5		2	
16	Replacement of cooling fans	3		1	
17	Supply and fit new terminal box and cover	4		2	
18	Micro-weld and machine DE &NDE bearing journals	70		8	
19	Dynamically balance the rotor at operating speed according to ISO 1940/1 balancing grade G6.3 (Balancing certificate to be included in test report).	70		8	
20	Replacement of line side leads (price per lead)	5		2	
21	Replacement of star side leads (price per lead)	5		2	

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22	Replace all the rubber seals and gaskets, including refurbishment of terminal boxes	70		8	
23	Polish stator feet	70		8	
24	Reassemble motor	70		8	
25	Test run the motors in the presence of an Eskom representative and submit a report. Motor to be at full Voltage (3.3kV) for the duration of the test	70		8	
26	Paint the motors light grey (gloss enamel G29)	70		8	
27	Fit the shaft locking device	70		8	
28	Return the motor back to site (Kriel Power Station)	70		8	
Rewind					
29	Rewind stator	6		3	
30	Re-bar rotor	3		2	
31	New stator core	2		1	
Total					
Lead time to execute abovementioned Scope of Work (Weeks)					

5.

Motor Description: PA fan (U4-6) Motor: 179096	Output Power (kW) 650	Voltage (V) 3.3 kV	Current (A) 113 A	Speed (rpm) 1488	Weight 5 Ton
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No.	Description	Estimated Quantity	Rate	Breakdown	Rate
Basic overhaul					
1	Collect motor from Kriel Power Station	50		5	
2	Dismantle, clean, test & assess all parts. Perform Non-Destructive Testing on the rotor shaft. Provide Kriel with a failure report and QCP. Tests should include, as a minimum: IR, PI, EI-Cid, Bar to bar continuity, core flux test, Tan delta testing	50		5	
3	Perform Non-Destructive Testing on the rotor shaft and provide feedback on the condition of the motor.	50		5	
4	Overhaul stator & spray with insulating varnish	50		5	
5	Overhaul rotor & spray with insulating varnish.	50		5	
6	Polish DE&NDE bearings	100		10	
7	Re-metal bearing (price per bearing) 100mm GB bearing	100		10	
8	Replacement of bearing seals (Labyrinth seals)	100		10	

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9	Install new oil scoop kits	20		5	
10	Clean and paint motor parts	100		5	
11	Replace bearing insulation	100		10	
12	Replacement of oil sight glasses to OEM standard (glass)	6		2	
13	Polish journals and seal landings	50		10	
14	Overhaul & clean heat exchangers	20		5	
15	Repair heat exchanger	3		2	
16	Replacement of cooling fans	3		1	
17	Supply and fit new terminal box and cover	4		2	
18	Micro-weld and machine DE &NDE bearing journals	50		5	
19	Dynamically balance/trim balance the rotor at operating speed according to ISO 1940/1 balancing grade G6.3 (Balancing certificate to be included in test report).	50		5	
20	Replacement of line side leads (price per lead)	4		2	
21	Replacement of star side leads (price per lead)	4		2	
22	Replace all the rubber seals and gaskets, including refurbishment of terminal boxes	50		5	
23	Polish stator feet	50		5	
24	Reassemble motor complete	50		5	
25	Test run the motors in the presence of an Eskom representative and submit a report. Motor to be at full Voltage (3.3kV) for the duration of the test	50		5	
26	Paint the motors light grey (gloss enamel G29)	50		5	
27	Fit the shaft locking device	50		5	
28	Return the motor back to site (Kriel Power Station)	50		5	
Rewind					
29	Rewind stator	4		2	
30	Re-bar rotor	2		2	
31	New stator core	1		0	
Total					
Lead time to execute abovementioned Scope of Work (Weeks)					

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6.

Motor Description: Mill (U1-3) Motor: 141218	Output Power (kW) 328	Voltage (V) 3.3 kV	Current (A) 74 A	Speed (rpm) 938	Weight 4.5 Ton
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No.	Description	Estimated Quantity	Rate	Breakdown	Rate
	Basic overhaul				
1	Collect motor from Kriel Power Station	80		20	
2	Dismantle, clean, test & assess all parts. Perform Non-Destructive Testing on the rotor shaft. Provide Kriel with a failure report and QCP. Tests should include, as a minimum: IR, PI, El-Cid, Bar to bar continuity, core flux test, Tan delta testing	80		20	
3	Perform Non-Destructive Testing on the rotor shaft and provide feedback on the condition of the motor.	80		20	
4	Overhaul stator & spray with insulating varnish	80		20	
5	Overhaul rotor & spray with insulating varnish.	80		20	
6	Polish DE&NDE bearings	80		20	
7	Re-metal bearing (price per bearing) 110mm GB bearing	160		40	
8	Replacement of bearing seals (Labyrinth seals)	160		40	
9	Re-metal bearing (price per bearing) 4½ inch Glacier bearing	160		40	
10	Install new oil scoop kits	20		12	
11	Clean and paint bearing housings including all spares	160		40	
12	Replace bearing insulation	160		40	
13	Replacement of oil sight glasses to OEM standard (glass)	60		18	
14	Polish journals and seal landings	80		20	
15	Overhaul & clean heat exchangers	80		20	
16	Repair heat exchanger	10		2	
17	Replacement of cooling fans	3		1	
18	Supply and fit new terminal box and cover	4		2	
19	Micro-weld and machine DE &NDE bearing journals	80		20	

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20	Dynamically balance/trim balance the rotor at operating speed according to ISO 1940/1 balancing grade G6.3 (Balancing certificate to be included in test report).	80		20	
21	Replacement of line side leads (price per lead)	10		5	
22	Replacement of star side leads (price per lead)	10		5	
23	Replace all the rubber seals and gaskets, including refurbishment of terminal boxes	80		20	
24	Polish stator feet	80		20	
25	Reassemble motor complete	80		20	
26	Test run the motors in the presence of an Eskom representative and submit a report. Motor to be at full Voltage (3.3kV) for the duration of the test.	80		20	
27	Paint the motors light grey (gloss enamel G29)	80		20	
28	Fit the shaft locking device	80		20	
29	Return the motor back to site (Kriel Power Station)	80		20	
Rewind					
30	Rewind stator	12		6	
31	Re-bar rotor	6		4	
32	New stator core	2		2	
Total					
Lead time to execute abovementioned Scope of Work (Weeks)					

7.

Motor Description: Mill (U4-6) Motor: 179095	Output Power (kW) 570	Voltage (V) 3.3 kV	Current (A) 130 A	Speed (rpm) 986	Weight 5.5 Ton
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No.	Description	Estimated Quantity	Rate	Breakdown	Rate
Basic overhaul					
1	Collect motor from Kriel Power Station	40		6	
2	Dismantle, clean, test & assess all parts. Perform Non-Destructive Testing on the rotor shaft. Provide Kriel with a failure report and QCP. Tests should include, as a minimum: IR, PI, El-Cid, Bar to bar continuity, core flux test, Tan delta testing	40		6	
3	Perform Non-Destructive Testing on the rotor shaft and provide feedback on the condition of the motor.	40		6	

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4	Overhaul stator & spray with insulating varnish	40		6	
5	Overhaul rotor & spray with insulating varnish.	40		6	
6	Polish DE&NDE bearings	40		6	
7	Re-metal bearing (price per bearing) 140mm GB bearing	80		12	
8	Replacement of bearing seals (Labyrinth seals)	80		48	
9	Re-metal bearing (price per bearing) 5-inch Glacier bearing	80		10	
10	Install new oil scoop kits	30		4	
11	Clean and paint motor parts	60		12	
12	Replace bearing insulation	100		8	
13	Replacement of oil sight glasses to OEM standard (glass)	40		12	
14	Polish journals and seal landings	40		12	
15	Overhaul & clean heat exchangers	40		12	
16	Repair heat exchanger	10		2	
17	Replacement of cooling fans	3		1	
18	Supply and fit new terminal box and cover	5		2	
19	Supply and fit 1xheater box	6		2	
20	Micro-weld and machine DE &NDE bearing journals	40		12	
21	Dynamically balance/trim balance the rotor at operating speed according to ISO 1940/1 balancing grade G6.3 (Balancing certificate to be included in test report).	40		6	
22	Replacement of line side leads (price per lead)	4		2	
23	Replacement of star side leads (price per lead)	6		2	
24	Replace all the rubber seals and gaskets, including refurbishment of terminal boxes	40		12	
25	Polish stator feet	40		6	
26	Reassemble motor complete	40		6	
27	Test run the motors in the presence of an Eskom representative and submit a report. Motor to be at full Voltage (3.3kV) for the duration of the test	40		6	
28	Paint the motors light grey (gloss enamel G29)	40		6	
29	Fit the shaft locking device	40		6	
30	Return the motor back to site (Kriel Power Station)	40		6	
Rewind					
31	Rewind stator	6		3	
32	Re-bar rotor	4		2	
33	New stator core	2		1	
Total					
Lead time to execute abovementioned Scope of Work (Weeks)					

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8.

Motor Description: Condensate Extraction Pump (CEP) motor: Vertical: 179098	Output Power (kW) 1500	Voltage (V) 3.3 kV	Current (A) 310 A	Speed (rpm) 1488	Weight 6 Ton
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No.	Description	Estimated Quantity	Rate	Breakdown	Rate
	Basic overhaul				
1	Collect motor from Kriel Power Station	45		5	
2	Dismantle, clean, test & assess all parts. Perform Non-Destructive Testing on the rotor shaft. Provide Kriel with a failure report and QCP. Tests should include, as a minimum: IR, PI, El-Cid, Bar to bar continuity, core flux test, Tan delta testing	45		5	
3	Perform Non-Destructive Testing on the rotor shaft and provide feedback on the condition of the motor.	45		5	
4	Overhaul stator & spray with insulating varnish	45		5	
5	Overhaul rotor & spray with insulating varnish	45		5	
6	Polish NDE guide bearing	90		5	
7	Polish thrust pads	45		5	
8	Re-metal 110mm Federal Mogul thrust & guide bearing	45		5	
9	Polish DE bearing journal	45		5	
10	Replace NDE bearing - SKF 7324 angular contact bearing	45		5	
11	Replace DE bearing - SKF 6330 deep groove ball bearing	45		5	
12	Clean, overhaul and paint bearing housings	45		10	
13	Pressure test and repair bearing cooler	20		5	
14	Overhaul & clean bearing cooler	20		5	
15	Supply new bearing cooler	5		2	
16	Supply and fit new terminal box and cover	2		0	
17	Supply and fit 1xheater box	2		0	
18	Micro-weld and machine DE &NDE bearing journals	80		6	
19	Supply new coupling	10		2	
20	Dynamically balance/trim balance the rotor at operating speed according to ISO 1940/1	45		5	

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	balancing grade G6.3 (Balancing certificate to be included in test report).				
21	Replace all the rubber seals and gaskets, including refurbishment of terminal boxes	45		5	
22	Polish stator feet and conduct concentricity tests	45		5	
23	Reassemble motor	45		5	
24	Test run the motors in the presence of an Eskom representative and submit a report. Motor to be at full Voltage (3.3kV) for the duration of the test	45		5	
25	Paint the motors light grey (gloss enamel G29)	45		5	
26	Fit the shaft locking device	45		5	
27	Return the motor back to site (Kriel Power Station)	45		5	
Rewind					
28	Rewind stator	8		3	
29	Re-bar rotor	3		1	
30	New stator core	2		0	
Total					
Lead time to execute abovementioned Scope of Work (Weeks)					

9.

Motor Description: Cooling water (CW) pump motor: vertical: 179097	Output Power (kW) 1500	Voltage (V) 3.3 kV	Current (A) 340 A	Speed (rpm) 330	Weight 20 Ton
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No.	Description	Estimated Quantity	Rate	Breakdown	Rate
	Basic overhaul				
1	Collect motor from Kriel Power Station	25		2	
2	Dismantle, clean, test & assess all parts. Perform Non-Destructive Testing on the rotor shaft. Provide Kriel with a failure report and QCP. Tests should include, as a minimum: IR, PI, EI-Cid, Bar to bar continuity, core flux test, Tan delta testing	25		2	
3	Perform Non-Destructive Testing on the rotor shaft and provide feedback on the condition of the motor.	25		2	
4	Overhaul stator & spray with insulating varnish	25		2	
5	Overhaul rotor & spray with insulating varnish.	25		2	

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6	Polish NDE bearing	25		2	
7	Polish thrust pads	25		2	
8	Polish NDE bearing journal	25		2	
9	Clean, overhaul and paint NDE bearing housing	25		2	
10	Polish DE bearing	25		2	
11	Polish DE bearing journal	25		2	
12	Clean, overhaul and paint DE bearing housing	25		2	
13	Pressure test bearing cooler	25		2	
14	Overhaul & clean bearing cooler	25		2	
15	Supply new bearing cooler	5		2	
16	Supply and fit new terminal box and cover	5		2	
17	Supply and fit 1xheater box	5		2	
18	Micro-weld and machine DE &NDE bearing journals	50		4	
19	Supply new coupling	5		2	
20	Dynamically balance/trim balance the rotor at operating speed according to ISO 1940/1 balancing grade G6.3 (Balancing certificate to be included in test report).	25		2	
21	Swap Couplings	25		2	
22	Replace all the rubber seals and gaskets, including refurbishment of terminal boxes	25		2	
23	Polish stator feet and conduct concentricity tests	25		6	
24	Reassemble motor	25		6	
25	Test run the motors in the presence of an Eskom representative and submit a report. Motor to be at full Voltage (3.3kV) for the duration of the test	25		6	
26	Paint the motors light grey (gloss enamel G29)	25		6	
27	Fit the shaft locking device	25		6	
28	Return the motor back to site (Kriel Power Station)	25		6	
Rewind					
29	Rewind stator	3		0	
30	Re-bar rotor	2		0	
31	New stator core	1		0	
Total					
Lead time to execute abovementioned Scope of Work (Weeks)					

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10.

Motor Description: Ash pump motor: 217674	Output Power (kW) 420	Voltage (V) 3.3 kV	Current (A) 87 A	Speed (rpm) 1481	Weight 3 Ton
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No.	Description	Estimated Quantity	Rate	Breakdown	Rate
	Basic overhaul				
1	Collect motor from Kriel Power Station	80		15	
2	Dismantle, clean, test & assess all parts. Perform Non-Destructive Testing on the rotor shaft. Provide Kriel with a failure report and QCP. Tests should include, as a minimum: IR, PI, El-Cid, Bar to bar continuity, core flux test, Tan delta testing	80		15	
3	Perform Non-Destructive Testing on the rotor shaft and provide feedback on the condition of the motor.	80		15	
4	Polish stator feet	80		15	
5	Overhaul stator & spray with insulating varnish	80		15	
6	Overhaul rotor & spray with insulating varnish	80		15	
7	Supply and fit new DE and NDE "V" Seals (V90)	160		30	
8	Supply and fit DE bearings-NU219 & 6219 C3	80		30	
9	Supply and fit NDE bearing NU219 C3	80		15	
10	Supply and fit new ZORC (3.3 kVA)	30		10	
11	Supply and fit new terminal box and cover	5		15	
12	Supply and fit 1xheater box	5		15	
13	Supply new fan	50		15	
14	Micro-weld and machine DE &NDE bearing journals	80		15	
15	Dynamically balance/trim balance the rotor at operating speed according to ISO 1940/1 balancing grade G6.3 (Balancing certificate to be included in test report).	80		15	
16	Replace all the rubber seals and gaskets, including refurbishment of terminal boxes	80		15	
17	Reassemble motor	80		15	
18	Test run the motors in the presence of an Eskom representative and submit a report. Motor to be at full Voltage (3.3kV) for the duration of the test	80		15	
19	Paint the motors light grey (gloss enamel G29)	80		15	
20	Fit the shaft locking device	80		15	

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21	Return the motor back to site (Kriel Power Station)	80		15	
Rewind					
22	Rewind stator	15		10	
23	Re-bar rotor	8		4	
24	New stator core	6		2	
Total					
Lead time to execute abovementioned Scope of Work (Weeks)					

11.

Motor Description: Sluice pump motor: 141279	Output Power (kW) 300	Voltage (V) 3.3 kV	Current (A) 63 A	Speed (rpm) 1477	Weight 3 Ton
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No.	Description	Estimated Quantity	Rate	Breakdown	Rate
Basic overhaul					
1	Collect motor from Kriel Power Station	45		8	
2	Dismantle, clean, test & assess all parts. Perform Non-Destructive Testing on the rotor shaft. Provide Kriel with a failure report and QCP. Tests should include, as a minimum: IR, PI, El-Cid, Bar to bar continuity, core flux test, Tan delta testing	45		8	
3	Perform Non-Destructive Testing on the rotor shaft and provide feedback on the condition of the motor.	45		8	
4	Polish stator feet	45		8	
5	Overhaul stator & spray with insulating varnish	45		8	
6	Overhaul rotor & spray with insulating varnish	45		8	
7	Supply DE and NDE "V" Seals (V100)	45		8	
8	Supply and fit DE bearings- NU 322 C3	45		8	
9	Supply and fit NDE bearing 6219 C3	45		8	
10	Supply and fit new ZORC (3.3 kVA)	15		4	
11	Supply and fit new terminal box and cover	5		2	
12	Supply and fit 1xheater box	5		2	
13	Supply new fan	45		8	
14	Micro-weld and machine DE &NDE bearing journals	45		16	
15	Dynamically balance/trim balance the rotor at operating speed according to ISO 1940/1	45		8	

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	balancing grade G6.3 (Balancing certificate to be included in test report).				
16	Replace all the rubber seals and gaskets, including refurbishment of terminal boxes	45		8	
17	Reassemble motor	45		8	
18	Test run the motors in the presence of an Eskom representative and submit a report. Motor to be at full Voltage (3.3kV) for the duration of the test	45		8	
19	Paint the motors light grey (gloss enamel G29)	45		8	
20	Fit the shaft locking device	45		8	
21	Return the motor back to site (Kriel Power Station)	45		8	
Rewind					
22	Rewind stator	8		3	
23	Re-bar rotor	4		2	
24	New stator core	2		1	
Total					
Lead time to execute abovementioned Scope of Work (Weeks)					

12.

Motor Description: Centac Compressor motor: 501009	Output Power (kW) 530	Voltage (V) 3.3 kV	Current (A) 109 A	Speed (rpm) 2969	Weight 3 Ton
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No.	Description	Estimated Quantity	Rate	Breakdown	Rate
Basic overhaul					
1	Collect motor from Kriel Power Station	6		3	
2	Dismantle, clean, test & assess all parts. Perform Non-Destructive Testing on the rotor shaft. Provide Kriel with a failure report and QCP. Tests should include, as a minimum: IR, PI, El-Cid, Bar to bar continuity, core flux test, Tan delta testing	6		3	
3	Perform Non-Destructive Testing on the rotor shaft and provide feedback on the condition of the motor.	6		3	
4	Overhaul stator & spray with insulating varnish	6		3	
5	Overhaul rotor & spray with insulating varnish.	6		3	
6	Re-metal 80mm Glacier bearings	6		3	

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7	Replacement of motor bearing seals (Labyrinth seals)	12		6	
8	Supply new breathers and sight glasses	3		2	
9	Overhaul & clean heat exchangers	6		3	
10	Supply and fit new terminal box and cover	3		2	
11	Supply and fit 1xheater box	3		2	
12	Micro-weld and machine DE &NDE bearing journals	6		3	
13	Dynamically balance/trim balance the rotor at operating speed according to ISO 1940/1 balancing grade G6.3 (Balancing certificate to be included in test report).	6		3	
14	Replace all the rubber seals and gaskets, including refurbishment of terminal boxes	6		3	
15	Reassemble motor	6		3	
16	Test run the motors in the presence of an Eskom representative and submit a report. Motor to be at full Voltage (3.3kV) for the duration of the test.	6		3	
17	Paint the motors light grey (gloss enamel G29)	6		3	
18	Fit the shaft locking device	6		3	
19	Return the motor back to site (Kriel Power Station)	6		3	
Rewind					
20	Rewind stator	2		1	
21	Re-bar rotor	1		1	
22	New stator core	1		1	
Total					
Lead time to execute abovementioned Scope of Work (Weeks)					

13.

Motor Description: Demag Compressor motor: 500980	Output Power (kW) 650	Voltage (V) 3.3 kV	Current (A) 136 A	Speed (rpm) 2955	Weight 3.5 Ton
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No.	Description	Estimated Quantity	Rate	Breakdown	Rate
	Basic overhaul				
1	Collect motor from Kriel Power Station	6		3	

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2	Dismantle, clean, test & assess all parts. Perform Non-Destructive Testing on the rotor shaft. Provide Kriel with a failure report and QCP. Tests should include, as a minimum: IR, PI, EI-Cid, Bar to bar continuity, core flux test, Tan delta testing	6		3	
3	Perform Non-Destructive Testing on the rotor shaft and provide feedback on the condition of the motor.	6		3	
4	Overhaul stator & spray with insulating varnish	6		3	
5	Overhaul rotor & spray with insulating varnish.	6		3	
6	Re-metal 80mm Glacier bearings	6		3	
7	Replacement of motor bearing seals (Labyrinth seals) - 100mm	12		6	
8	Supply new breathers and sight glasses	6		3	
10	Supply and fit new terminal box and cover	3		1	
11	Supply and fit 1xheater box	3		1	
13	Micro-weld and machine DE &NDE bearing journals	6		3	
14	Dynamically balance/trim balance the rotor at operating speed according to ISO 1940/1 balancing grade G6.3 (Balancing certificate to be included in test report).	6		3	
15	Replace all the rubber seals and gaskets, including refurbishment of terminal boxes	6		3	
16	Reassemble motor	6		3	
17	Test run the motors in the presence of an Eskom representative and submit a report. Motor to be at full Voltage (3.3kV) for the duration of the test	6		3	
18	Paint the motors light grey (gloss enamel G29)	6		3	
19	Fit the shaft locking device	6		3	
20	Return the motor back to site (Kriel Power Station)	6		3	
Rewind					
21	Rewind stator	2		2	
22	Re-bar rotor	1		1	
23	New stator core	1		1	
Total					
Lead time to execute abovementioned Scope of Work (Weeks)					

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14.

Motor Description: Cameron Compressor motor: 664141	Output Power (kW) 510	Voltage (V) 3.3 kV	Current (A) 102 A	Speed (rpm) 2969	Weight 3 Ton
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No.	Description	Estimated Quantity	Rate	Breakdown	Rate
	Basic overhaul				
1	Collect motor from Kriel Power Station	10		2	
2	Dismantle, clean, test & assess all parts. Perform Non-Destructive Testing on the rotor shaft. Provide Kriel with a failure report and QCP. Tests should include, as a minimum: IR, PI, El-Cid, Bar to bar continuity, core flux test, Tan delta testing	10		2	
3	Perform NDT on the rotor shaft and provide feedback on the condition of the motor	10		2	
4	Overhaul stator & spray with insulating varnish	10		2	
5	Overhaul rotor & spray with insulating varnish	10		2	
6	Re-metal 80mm Glacier bearings	10		2	
7	Replacement of motor bearing seals (Labyrinth seals)	20		4	
8	Supply new breather and sight glasses	5		2	
9	Supply and fit new terminal box and cover	5		2	
10	Supply and fit 1xheater box	4		2	
11	Micro-weld and machine DE &NDE bearing journals	10		2	
12	Dynamically balance/trim balance the rotor at operating speed according to ISO 1940/1 balancing grade G6.3 (Balancing certificate to be included in test report).	10		2	
13	Replace all the rubber seals and gaskets, including refurbishment of terminal boxes	10		2	
14	Re-assemble motor	10		2	
15	Test run the motor in the presence of an Eskom representative and submit report. Motor to be at full voltage (3.3kV) for the duration of the test	10		2	
16	Paint the motor light grey (gloss enamel G29)	10		2	
17	Fit the shaft locking device	10		2	
18	Return the motor back to site (Kriel Power Station)	10		2	

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Rewind					
19	Rewind stator	3		2	
20	Re-bar rotor	2		2	
21	New stator core	2		1	
Total					
Lead time to execute abovementioned Scope of Work (Weeks)					

15.

Motor Description: HP Demin motor: 614532	Output Power (kW) 160	Voltage (V) 3.3 kV	Current (A) 36 A	Speed (rpm) 1484	Weight 2 Ton
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No.	Description	Estimated Quantity	Rate	Breakdown	Rate
Basic overhaul					
1	Collect motor from Kriel Power Station	10		2	
2	Dismantle, clean, test & assess all parts. Perform Non-Destructive Testing on the rotor shaft. Provide Kriel with a failure report and QCP. Tests should include, as a minimum: IR, PI, El-Cid, Bar to bar continuity, core flux test, Tan delta testing	10		2	
3	Perform Non-Destructive Testing on the rotor shaft and provide feedback on the condition of the motor.	10		2	
4	Overhaul stator & spray with insulating varnish	10		2	
5	Overhaul rotor & spray with insulating varnish.	10		2	
6	Supply DE and NDE "V" Seals (V90)	10		2	
7	Supply and fit DE bearings - 6320 C3	10		2	
8	Supply and fit NDE bearing - 6316 C3	10		2	
9	Supply and fit new terminal box and cover	4		2	
10	Supply and fit 1xheater box	4		2	
11	Supply new fan	4		2	
12	Micro-weld and machine DE &NDE bearing journals	10		2	
13	Dynamically balance/trim balance the rotor at operating speed according to ISO 1940/1 balancing grade G6.3 (Balancing certificate to be included in test report).	10		2	

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14	Replace all the rubber seals and gaskets, including refurbishment of terminal boxes	10		2	
15	Reassemble motor	10		2	
16	Test run the motors in the presence of an Eskom representative and submit a report. Motor to be at full Voltage (3.3kV) for the duration of the test	10		2	
17	Paint the motors light grey (gloss enamel G29)	10		2	
18	Fit the shaft locking device	10		2	
19	Return the motor back to site (Kriel Power Station)	10		2	
Rewind					
20	Rewind stator	3		1	
21	Re-bar rotor	1		1	
22	New stator core	1		1	
Total					
Lead time to execute abovementioned Scope of Work (Weeks)					

16.

Motor Description: Ash water return (small) motor: 141329	Output Power (kW) 300	Voltage (V) 3.3 kV	Current (A) 55 A	Speed (rpm) 1484	Weight 2.5 Ton
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No.	Description	Estimated Quantity	Rate	Breakdown	Rate
Basic overhaul					
1	Collect motor from Kriel Power Station	10		3	
2	Dismantle, clean, test & assess all parts. Perform Non-Destructive Testing on the rotor shaft. Provide Kriel with a failure report and QCP. Tests should include, as a minimum: IR, PI, EI-Cid, Bar to bar continuity, core flux test, Tan delta testing	10		3	
3	Perform Non-Destructive Testing on the rotor shaft and provide feedback on the condition of the motor.	10		3	
4	Polish stator feet	10		3	
5	Overhaul stator & spray with insulating varnish	10		3	
6	Overhaul rotor & spray with insulating varnish	10		3	
7	Supply DE and NDE "V" Seals	10		3	
8	Supply and fit DE bearings - NU 322	10		3	

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9	Supply and fit NDE bearing - 6318	10		3	
10	Re-sleeve DE bearing housing	10		3	
11	Re-sleeve NDE bearing housing	10		3	
12	Supply and fit new terminal box and cover	4		2	
13	Supply and fit 1xheater box	4		2	
14	Supply new fan	4		2	
15	Micro-weld and machine DE &NDE bearing journals	10		3	
16	Dynamically balance/trim balance the rotor at operating speed according to ISO 1940/1 balancing grade G6.3 (Balancing certificate to be included in test report).	10		3	
17	Replace all the rubber seals and gaskets, including refurbishment of terminal boxes	10		3	
18	Replace all grease pipes and fittings	10		3	
19	Reassemble motor	10		3	
20	Test run the motors in the presence of an Eskom representative and submit a report. Motor to be at full Voltage (3.3kV) for the duration of the test	10		3	
21	Paint the motors light grey (gloss enamel G29)	10		3	
22	Fit the shaft locking device	10		3	
23	Return the motor back to site (Kriel Power Station)	10		3	
Rewind					
24	Rewind stator	4		2	
25	Re-bar rotor	2		1	
26	New stator core	1		1	
Total					
Lead time to execute abovementioned Scope of Work (Weeks)					

17.

Motor Description: Ash water return (Big) motor: 587373	Output Power (kW) 485	Voltage (V) 3.3 kV	Current (A) 105 A	Speed (rpm) 1488	Weight 2.5 Ton
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No.	Description	Estimated Quantity	Rate	Breakdown	Rate
	Basic overhaul				
1	Collect motor from Kriel Power Station	10		3	

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2	Dismantle, clean, test & assess all parts. Perform Non-Destructive Testing on the rotor shaft. Provide Kriel with a failure report and QCP. Tests should include, as a minimum: IR, PI, EI-Cid, Bar to bar continuity, core flux test, Tan delta testing	10		3	
3	Perform Non-Destructive Testing on the rotor shaft and provide feedback on the condition of the motor.	10		3	
4	Polish stator feet	10		3	
5	Overhaul stator & spray with insulating varnish	10		3	
6	Overhaul rotor & spray with insulating varnish	10		3	
7	Supply DE and NDE "V" Seals	10		3	
8	Supply and fit DE bearings -NU 322	10		3	
9	Supply and fit NDE bearing - 6322	10		3	
10	Re-sleeve DE bearing housing	10		3	
11	Re-sleeve NDE bearing housing	10		3	
12	Supply and fit new terminal box and cover	3		1	
13	Supply and fit 1xheater box	3		1	
14	Supply new fan	10		3	
15	Micro-weld and machine DE &NDE bearing journals	10		3	
16	Dynamically balance/trim balance the rotor at operating speed according to ISO 1940/1 balancing grade G6.3 (Balancing certificate to be included in test report).	10		3	
17	Replace all the rubber seals and gaskets, including refurbishment of terminal boxes	10		3	
18	Replace all grease pipes and fittings	10		3	
19	Reassemble motor	10		3	
20	Test run the motors in the presence of an Eskom representative and submit a report. Motor to be at full Voltage (3.3kV) for the duration of the test	10		3	
21	Paint the motors light grey (gloss enamel G29)	10		3	
22	Fit the shaft locking device	10		3	
23	Return the motor back to site (Kriel Power Station)	10		3	
Rewind					
24	Rewind stator	5		2	
25	Re-bar rotor	2		1	
26	New stator core	1		1	
Total					
Lead time to execute abovementioned Scope of Work (Weeks)					

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18.

Motor Description: Electric Mulsifier pump motor: 141205	Output Power (kW) 261	Voltage (V) 3.3 kV	Current (A) 45 A	Speed (rpm) 1480	Weight 2 Ton
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No.	Description	Estimated Quantity	Rate	Breakdown	Rate
	Basic overhaul				
1	Collect motor from Kriel Power Station	5		2	
2	Dismantle, clean, test & assess all parts. Perform Non-Destructive Testing on the rotor shaft. Provide Kriel with a failure report and QCP. Tests should include, as a minimum: IR, PI, El-Cid, Bar to bar continuity, core flux test, Tan delta testing	5		2	
3	Perform Non-Destructive Testing on the rotor shaft and provide feedback on the condition of the motor.	5		2	
4	Polish stator feet	5		2	
5	Overhaul stator & spray with insulating varnish	5		2	
6	Overhaul rotor & spray with insulating varnish	5		2	
7	Supply DE and NDE "V" Seals	5		2	
8	Supply and fit DE bearings - NU220 EM1 C3	5		2	
9	Supply and fit NDE bearing - 6220 C3	5		2	
10	Re-sleeve DE bearing housing	5		2	
11	Re-sleeve NDE bearing housing	5		2	
12	Overhaul & clean heat exchangers	5		2	
13	Supply and fit new terminal box and cover	2		1	
14	Supply and fit 1xheater box	2		1	
15	Supply new fan	3		1	
16	Micro-weld and machine DE &NDE bearing journals	5		2	
17	Dynamically balance/trim balance the rotor at operating speed according to ISO 1940/1 balancing grade G6.3 (Balancing certificate to be included in test report).	5		2	
18	Replace all the rubber seals and gaskets, including refurbishment of terminal boxes	5		2	
19	Replace all grease pipes and fittings	5		2	
20	Reassemble motor	5		2	
21	Test run the motors in the presence of an Eskom representative and submit a report. Motor to be at full Voltage (3.3kV) for the duration of the test.	5		2	

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22	Paint the motors light grey (gloss enamel G29)	5		2	
23	Fit the shaft locking device	5		2	
24	Return the motor back to site (Kriel Power Station)	5			
Rewind					
25	Rewind stator	2		1	
26	Re-bar rotor	1		1	
27	New stator core	1		1	
Total					
Lead time to execute abovementioned Scope of Work (Weeks)					

8. Annexure 2: List of MV motor bearings as stock items

The service provider must be able to provide technical support relating to MV motor bearings (including coming to site) and to supply and deliver new bearings to Kriel power station.

Please note: Where applicable Kriel Power Station will free issue the new bearing to the supplier whereby the supplier will not cost Kriel Power Station for the new bearing issued.

	Bearings	Stock Number	Quantity
1	BEARING, SLEEVE: TYPE: MILL MOTOR; INSIDE DIAMETER: 127 MM; OUTSIDE DIAMETER: 157 MM; LENGTH: 127 MM; MATERIAL: WHITE METAL; SIZE: 5; SUPPLIER NOTE:	34061	30
2	BEARING, SLEEVE: TYPE: MILL MOTOR; INSIDE DIAMETER: 110 MM; MATERIAL: WHITE METAL; FOR USE ON 328 KW MOTOR; UNIT 1 TO 3; NDE/DE;	251388	30
3	BEARING, SLEEVE: TYPE: JOURNAL; INSIDE DIAMETER: 140 MM; OUTSIDE DIAMETER: 274 MM; LENGTH: 105 MM; MATERIAL: WHITE METAL; APPLICATION: USED ON THE HORIZONTAL BEARING ASSEMBLY ON NEW U4-6 MILL MOTOR; DRAWING NO: BP11611; PART NO: HRS14/EARP140/SS160/SB140/I; VENDORS ARE RESPONSIBLE FOR ENSURING THAT THEY ARE PERFORMING AGAINST THE CORRECT DRAWING	588610	30
4	BEARING, SLEEVE: TYPE: PA FAN MOTOR; INSIDE DIAMETER: 114 MM; OUTSIDE DIAMETER: 155 MM; LENGTH: 127 MM; MATERIAL: WHITE METAL; SIZE: 4.5 IN; MOTOR JKD 400/6, 465 KW, 3,3 KV, LM2556/04,	33554	25
5	BEARING, SLEEVE: TYPE: JOURNAL; INSIDE DIAMETER: 100 MM; OUTSIDE DIAMETER: 209 MM; LENGTH: 80 MM; MATERIAL: WHITE METAL; SIZE: 4	588609	20
6	BEARING, SLEEVE: TYPE: JOURNAL; INSIDE DIAMETER: 250 MM; OUTSIDE DIAMETER: 325	50748	25

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	MM; MATERIAL: WHITE METAL; SUPPL P/N: BS2613-1970		
7	BEARING, SLEEVE: INSIDE DIAMETER: 250 MM; MATERIAL: WHITE METAL; REFERENCE NO: DO 5032; FOR USE ON ELECTRIC PUMP MOTOR; NDE/DE;	251385	25
8	BEARING, SLEEVE: TYPE: EFP MOTOR; INSIDE DIAMETER: 250 MM; OUTSIDE DIAMETER: 428.84 MM; LENGTH: 205 MM; MATERIAL: GR 420/12; MAN	565476	25
9	BEARING, SLEEVE: TYPE: EXTERNAL OIL FEED SLIDE; INSIDE DIAMETER: 250 MM; OUTSIDE DIAMETER: 380 MM; LENGTH: 200 MM; MATERIAL: WHITE METAL; SPECIFICATION: ISO11687-3 DIN31694; SIZE: 22-250 MM; OEM P/N: EMZLB 22-250; CAT NO: RH- 1046;	0714646	25
10	BEARING, SLEEVE: TYPE: EXTERNAL OIL FEED SLIDE NON-LOCATING; INSIDE DIAMETER: 250 MM; OUTSIDE DIAMETER: 380 MM; LENGTH: 200 MM; MATERIAL: WHITE METAL; SPECIFICATION: ISO11687-3 DIN31694; SIZE: 22-250 MM; OEM P/N: EMZLQ 22-250; CAT NO: RH-1046;	0714637	25
11	BEARING, SLEEVE: TYPE: FD FAN MOTOR; INSIDE DIAMETER: 225 MM; OUTSIDE DIAMETER: 350 MM; LENGTH: 200 MM; MATERIAL: WHITE METAL; DRAWING NO: HSR22/EARP225/SS250.SB250/I REV 0; FOR USE ON 3050 KW MOTOR (SERIAL NO:DO 5027/01), NDE/DE; SIZE: 22 MM;	251383	15
12	BEARING, SLEEVE: TYPE: JOURNAL; INSIDE DIAMETER: 200 MM; OUTSIDE DIAMETER: 350 MM; LENGTH: 200 MM; MATERIAL: STL WHITE METAL LINED	694224	15
13	BEARING, SLEEVE: TYPE: JOURNAL; INSIDE DIAMETER: 200 MM; OUTSIDE DIAMETER: 408 MM; LENGTH: 210 MM; MATERIAL: STL WHITE METAL LINED;	34056	15

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