Eskom	Specification	Medupi Power Station

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Content

Page

1. Introduction 4
2. Supporting Clauses 4
2.1 Scope 4
2.1.1 Purpose 4
2.1.2 Applicability 4
2.1.3 Effective date 4
2.2 Normative/Informative References 4
2.2.1 Normative 5
2.2.2 Informative 5
2.3 Definitions 5
2.4 Abbreviations 6
2.5 Roles and Responsibilities 6
2.6 Process for Monitoring 7
2.7 Related/Supporting Documents 7
3. Scope of Work 8
3.1 Requirements 8
3.1.1 Contract Roles and Responsibilities 8
3.1.2 Condition Monitoring 12
3.1.3 Continuous Improvement 12
3.1.4 Management and Reporting 12
3.1.5 Quality and Documentation Control 13
3.1.6 Project Implementation 13
3.1.7 Manpower Requirements 13
3.1.8 Re-commissioning 14
3.1.9 Contractor's Management, Meetings and Key People 14
3.2 Plants Area 15
3.2.1 Fuel Oil, LPG and Ignition & Cooling Air Plant 15
3.2.2 Burners 17
3.3 Site Facilities and Services Provided by Contractor 18
3.3.1 Service Cost 18
3.3.2 Communication and Correspondence 18
3.4 Tender Requirements 19
4. Acceptance 19
5. Revisions 19
6. Development Team 20
7. Acknowledgements 20
Appendix A – Cost Break-down Structure 21
A.1 Fuel Oil and LPG Burner Plant Price List Template 21
A.2 PF Burner Plant Price List Template 22

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A.3 Non-Plant Related Price List Template 23

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1. Introduction

Medupi Power Station Management have decided to outsource the total Fuel Oil, Atomizing Steam, Liquefied Petroleum Gas, Drallstufen Burner (coal burners) and Burners System Mechanical and Control and Instrumentation (C&I) Maintenance Scope service function to a suitably qualified, experienced and well-established Contractor. The duration of this contract will be 60 months. This document describes the detail of the applicable plant areas, scope of work, standards, quality requirements, specifications, terms & conditions as well as the criteria to qualify for the tender.

2. Supporting Clauses

2.1 Scope

2.1.1 Purpose

The purpose of this document is to define the specified Fuel oil, Atomizing steam, Liquefied Petroleum Gas and Drallstufen burners (coal burners) and Burner Mechanical and C&I Maintenance scope of work activity requirements for Medupi Power Station.

The station is expected to perform at 92% UCF, 6% PCLF and 2% UCLF, and the specified Mechanical Maintenance on Fuel oil, Atomizing steam, Liquefied Petroleum Gas and Drallstufen burners (coal burners) and Burner Maintenance activities and the Management strategy must support this requirement.

It is therefore imperative that the successful and suitably qualified Contractor aligns his/her organisation fully to these specified scope activities and processes set out in this document.

2.1.2 Applicability

This specification shall apply to all Maintenance employees as well as contracting employees that are required to perform maintenance work and/or activities in support of the Medupi Maintenance Department on Fuel oil, Atomizing steam, Liquified Petroleum Gas steam and Drallstufen burners (coal burners) and Burner System at Medupi Power Station.

2.1.3 Effective date

The effective date of this document will be the date of authorisation.

2.2 Normative/Informative References

The following documents contain provisions that, through reference in the text, constitute requirements of this document. At the time of publication, the editions indicated were valid. These documents are subject to revision and users are responsible to ensure that the most recent editions of the documents listed below are used.

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2.2.1 Normative

- 240-97020108 v5.5: Medupi Power Station Maintenance Contract User Requirement Specification
- 237 - 0016 Rev 0: Integrated Business improvement – Prevention and Improvement Standard
- 240-86851633: Foreign Material Exclusion
- 32 - 726 Rev 0: Mandatory S.H.E. Requirements for the Eskom Procurement and Supply Chain Management Process

  Note: See Annexure C: S.H.E. Requirements for Tender Enquiries

  Annexure D: S.H.E. Tender Evaluation and Scoring Card

  Annexure E: Supplier Suspension Process
- 36 - 505 Rev 1: Personnel and Entities Performing Welding Related Special Processes on Eskom Plant
- 36 - 942 Rev 0: Arc Flash Protection Specification
- Act No 107 of 1998: National Environmental Management Act, 1998
- Act No 14 of 2009: The National Environmental Laws Amendment Act, 2009
- Act No 73 of 1989: The Environment Conservation Act, 1989
- Act No 102 of 1980: National Key Points Act, 1980
- Act No 36 of 1998: National Water Act, 1998
- Act No 85 of 1993: Occupational Health and Safety Act & Regulations, 1993
- GGR 0992: Plant Safety Regulations
- 32-846 Rev 0 Operating Regulations for High Voltage Systems
- NMP47-7 Rev 0: Application of KKS Plant Coding
- 36 -702 Rev 1: Remnant Life Monitoring

2.2.2 Informative

None

2.3 Definitions

2.3.1 Contractor:	Service provider contracted for supplying specific service to Eskom, Medupi Power Station.
2.3.2 Employer:	Eskom, or Eskom Medupi Power Station

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2.4 Abbreviations

Abbreviation	Explanation
BOM	Bill of Material
BS	British Standard
C&I	Control and Instrumentation
DCS	Distributed Control System
DIN	German Institute of Standard
DP	Differential Pressure
DS	Drallstufen
ISO	International Standards Organisation
KKS	Kraftwerk Kennzeichen System
LPG	Liquefied Petroleum Gas
NEC	New Engineering Contract
ORHVS	Operating Regulations for High Voltage Systems
PAS 55	Publicly Available Specification 55
PCLF	Planned Capability Loss Factor
PF	Pulverized Fuel
PSR	Plant Safety Regulations
SANS	South African Bureau of Standards
SAP	Systems, Applications, Products (Plant Maintenance, Procurement, Finance and Materials Management) integrated maintenance management system.
SOW	Scope of Work
STEP	Station Thermal Efficiency Program
UCF	Unit Capability Factor
UCLF	Unplanned Capability Loss Factor

2.5 Roles and Responsibilities

Activity	Responsible	Accountable	Consult	Inform
Compilation	• Senior Technician • Senior Supervisor	• Mechanical Maintenance Manager	• Maintenance Manager	• All
Revision and Template update	• Technician • Senior Technician • Senior Supervisor	• Mechanical Maintenance Manager	• Maintenance Manager • Documentation Officer	• All
Implementation	• Contractor • Technician • Senior Technician • Senior Supervisor	• Contractor • Technician • Senior Technician • Senior Supervisor	• Maintenance Manager • System Engineer	• All

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	• Mechanical Maintenance Manager	• Mech. Maintenance Manager		

2.6 Process for Monitoring

In case of any additions, subtractions and/or amendments to the contents of the scope of work or any part of this document, prior the revision date, the Mechanical Maintenance Manager shall appoint a technician or senior technician to effect the necessary changes and to use the most current approved template for new revision.

This document shall be reviewed on a 3 yearly period to affect any amendments and updates as may be necessary.

The document must then be reregistered on the Hyperwave system or any electronic document management system in place at the time of revision, through Document Centre.

2.7 Related/Supporting Documents

The following additional documents are attached and form an integral part of this scope of work. Copies of the relevant Employer performance standards can be made available on request.

[1] BS 4504-3.1:1989:	Circular Flanges for Pipes, Valves and Fittings
[2] BS 5316-3:1988:	Specification for Acceptance Tests for Centrifugal, Mixed Flow and Axial Pumps
[3] DIN EN ISO 5199:	Technical Specification for Centrifugal Pumps
[4] EST0002:	Eskom Approval of Personnel Performing Quality Related Special Processes on All Eskom Plant
[5] GGPP 0592:	Power Station Plant Classification Policy
[6] GGS 0462:	Quality Requirements for Engineering and Construction Works in Generation
[7] GGSS 0423:	Specification for Low Pressure Valves
[8] ISO 1125-3:	Preparation of Steel Substrates Before Application of Paints and Related Products and Test Methods for Metallic Blast-cleaning
[9] PAS 55-1:2008:	Specification for the optimized management of physical assets
[10] PAS 55-2:2008:	Guidelines for the application of PAS 55-1
[11] SANS 10108:	Classification of Hazardous Locations and the Selection of Apparatus for Use in Such Locations
[12] SANS 10400 of 1990:	Application of the National Building Regulations (NRB)
[13] SANS 1123 of 2015:	Pipe Flanges

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[14] ISO 1461:2009: Hot Dip Galvanised Coatings on Fabricated Iron and Steel Articles—Specifications and Test Methods

[15] SANS 1313-1 of 2002: Conveyor Belt Idlers

[16] SANS 1669-1 of 2005: Pulley Types, Construction and Dimensions

[17] SANS 1700: Fasteners

3. Scope of Work

3.1 Requirements

3.1.1 Contract Roles and Responsibilities

1. The Employer is responsible for Total Fluid Management.
2. The Employer and Contractor in this SOW is committed towards the following.

✓ Retention of critical skills

✓ Continuous cost reduction

✓ Health & Environment Safety

✓ Transfer of operational experience and skills

3. The Contractor shall compile improvement programmes to enhance plant performance and achieve cost reductions and the Employer will approve such programmes.
4. The Contractor shall be responsible for all Mechanical and C&I Maintenance as per Employer's instructions, processes and systems.
5. The contractor shall be responsible for calibration of plant C&I equipment and to provide calibration certificates after as and when required.
6. The employer shall be responsible for inspection, replacement and maintenance of all DCS equipment.
7. The contractor shall be responsible to assist in execution of any approved modification work.
8. The Employer (C&I Maintenance) will be responsible for sending out old flow meters to E&H or appointed 3rd party for calibration verification as specified in the Fuel Oil Plant Maintenance Strategy 240-89339278 or during outages.
9. The Contractor shall employ a competent person who is accredited and responsible to perform all statutory plant tests regarding this SOW.
10. The Contractor shall be responsible for all equipment alignment requirements within this scope of work.
11. The contractor shall provide their own tools associated with Fuel Oil, LPG and Burner System Day to day maintenance. Such tools will include **but not be limited to**:

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a. Comprehensive toolbox for all mechanical and C&I artisans
b. Torque wrenches and torque multipliers
c. Torque machines and all accessories
d. Hydraulic jacks and pumps
e. Alignments tools and machines
f. Sets of socket spanners, combination spanner and flogging spanners
g. Electrical and pneumatic impact wrenches
h. Portable lighting and extension cables
i. Power tools such as grinders and drilling machines, etc.
j. Welding machines and welding consumables

12. The contractor shall provide all lifting equipment needed for all lifting activities.
13. The contractor will be penalized should any job stand due to damaged or unavailable tools, damaged or unavailable lifting equipment or due to tools or lifting equipment having invalid certificates.
14. The contractor shall ensure that all tools and lifting equipment requiring load testing and/or calibration are load tested, calibrated and certified at intervals stipulated by law or by manufacturers of such equipment. Such certificates will be filed by the contract and made readily available to Eskom as and when required and for Eskom audit purposes. (The Eskom Contracts Manager will do 3 monthly formal audits).
15. The Contractor is responsible for implementing a system in place for managing the tools and lifting equipment, which will involve serial coding and the signing in and out of such tools and equipment.
16. The Contractor is obliged to submit ITP/QCP documents for all Fuel oil, Atomizing steam, LPG and DS burners (coal burners) and Burner System activities aligned with mill services and inspections, such as but not limited to 1 000, 2 000- and 10 000-hours service; such quality documentation must be completed and signed during such activities.
17. The Contractor shall be responsible for the inspection, repair and replacement of all structural and support steel work in this scope of work including but not limited to.

a. Walkways
b. Grating
c. Handrails
d. Cat ladders
e. Hangers
f. Supports etc.

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18. The Contractor shall make use of local black economic empowerment through the use of black business. The Contractor during the duration of the contract shall train persons from the local community in relation to the works; such proof shall be given to the Employer for verification and acceptance.
19. Performance is measured by the Employer against those areas which contribute to the Employer's business and the Contractor shall be compensated accordingly. (e.g. Reliability, Availability and Safety).
20. Areas of measurement include the Employer's key business indicators and will be redefined from time to time.
21. The following complementary services to improve Plant and labour performance can be defined as follows.

a. Project management
b. Value engineering
c. Procedure and documentation writing
d. Design services
e. Spares management
f. Technical advice
g. Operational and production process review
h. Asset management in accordance with PAS55
i. Component failure analysis reporting

22. The Employer may request the Contractor to ensure that an accurate description of spare parts is maintained in the Employer's stores and the Contractor informs the Employer as to any recommended changes.
23. The Contractor is to ensure that any service rendered does not interfere with the Employer's scheduled work and should align himself with the Employer's work control management process.
24. Should the Employer become aware of any changes to the activity schedule (programme of notifications), the Employer may issue the Contractor with a revised programme.
25. The contract entered with the Contractor is non-exclusive and work against this contract can only be performed upon receipt of a Task Order.
26. All statutory tests or inspections done by the Contractor shall be reviewed and accepted by the Employer.
27. The Contractor shall be responsible for statutory inspections/tests as defined by the Employer and supply the Employer with proof of such tests.

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28. All works will be subject to anytime inspection from the Employer.
29. Please note that equipment will only form part of the works once the respective area has been commissioned and handed over to Generation. The Contractor shall take cognisance of the fact that the contract start date can deviate.
30. The Contractor maintains an all year round agreed base crew at Medupi Power Station which is supervised by the Contractor with any changes to the crew being negotiated and agreed upon with the Employer.
31. This contract is for preventative, predictive, corrective maintenance (breakdowns) and outage SOW.
32. Spillage is viewed to be very important for plant housekeeping as well as Environmental Management and any spillage caused as a result of the Contractor shall be cleaned by the Contractor.
33. The Contractor shall perform leak checks on all responsible plant areas and inform the Employer's representative accordingly. Defects must be raised on the system to address any plant deviations.
34. The Contractor shall ensure the integrity of plant labelling and that deficiency with regards to KKS labelling is reported immediately.
35. The Contractor must ensure that they have responsible persons (in terms of PSR and ORHVS) for any work performed on plant. This requires individuals to successfully complete a written and oral examination for the relevant regulation based on the Plant Safety Regulations and Operating Regulations for High Voltage Systems.
36. All technically qualified (above semi-skilled) personnel will be trained and authorised (in terms of PSR and ORHVS) within 6 months of the contract award date. Training will be supplied by the Employer. At least 1 or 2 persons shall be authorized per unit, i.e. minimum of 6 employees will be authorised Responsible Persons (RP) by the end of 6 months, with the intention of authorising more going forth.
37. Eskom will pay for the employee's time spent in the first training course for each artisan and if they fail the time spent on retraining and re-authorisation will be deducted from the employee's time on the payment assessment.
38. The Contractor must ensure that all personnel successfully complete a written examination for the relevant regulation based on the Fossil Fuel Firing Regulations (FFFR). Training will be provided by the Employer.
39. Before any work starts on site the Contractor is responsible to submit their Safety File to the Employer for review and acceptance.

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40. The Contractor is also responsible for their employees' annual medical checks which must be up to date and also kept in the Safety File. Site Induction must be done before any work is done by any Contractor on site.
41. The contractor shall supply all their PPE such as safety shoes/safety boots, branded reflective trousers and branded jackets, hard hat with secure chin strap, industrial dust mask, disposable dust coveralls, goggles, face shield, gloves and ear plugs/muffs.
42. The contractor shall ensure that all safety valves are sealed and that nameplates are fitted to all pressure equipment.
43. **Note**: The Contractor shall be responsible for auxiliary cooling downstream from the last isolating valve on the inlet to the coolers and up-stream to the first isolating valve on the outlet of the coolers; this includes all lubrication, hydraulic and gear oil coolers.
44. The contractor will be expected to have a night shift team consisting of at least 3 mechanical fitters, 2x C&I artisan, 1x C&I technician ,3 semi-skilled assistants and 1 PSR Responsible Person (RP) and a standby team consisting of at least 3 mechanical fitters, 3x semi-skilled assistants, 2x C&I artisan, 1x C&I technician ,1x supervisor, 1x boilermaker,1x A-class welder, 1 x rigger and 1x crane/truck/forklift operator. Such teams will be rotated on a weekly basis.
45. Eskom will not pay for employees that are not on site due to any kind of leave.

3.1.2 Condition Monitoring

The Contractor shall assist in the implementation, recommendations and corrective actions which are identified by the Medupi Power Station Condition monitoring programme, including the Station Thermal Efficiency Program (STEP).

3.1.3 Continuous Improvement

- ✓ The Contractor shall implement a program of continuous improvement to optimise Plant performance and reduce system and equipment failures.
- ✓ The Contractor shall participate in improvement programs as stipulated by the employer.

3.1.4 Management and Reporting

a. The Contractor shall participate in improvement programs as stipulated by the employer.
b. The type of reports, level of detail and frequency of reporting will be mutually agreed by the Employer and the Contractor during the contract negotiation phase of this agreement. These may change from time to time on request by the Employer.

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c. The Contractor to be represented at all production and outage related meetings which may be daily, weekly or monthly.
d. The Contractor to be represented at all Employer safety meetings.
e. The Contractor to be represented at any ad-hoc meetings that may arise to address any production or safety related matters.
f. Liaison meetings shall be held with the Employer's Representative or his/her delegate monthly to discuss any technical details, or concerns.

3.1.5 Quality and Documentation Control

a. The Contractor shall ensure that any witness, hold and inspection points are strictly adhered to.
b. The Contractor to ensure that all measuring and test equipment are calibrated at all times & proof thereof must be readily available.
c. All Quality References and Standards as stipulated in this document will be adhered to.
d. Work will only be conducted with an Employer approved Quality Management Programme.
e. The Contractor shall utilise the Employer's quality documentation management system and processes.

3.1.6 Project Implementation

The Contractor shall supply a project implementation plan including at least the following.

✓ Site establishment
✓ Manpower plan
✓ Organogram
✓ Skills required and associated cost per skill (e.g. artisan, site manager, etc.) as per Appendices A.1 – A.5.

3.1.7 Manpower Requirements

1. The successful Contractor shall utilise/provide skilled and suitably qualified staff with current experience in the following but not limited disciplines:

a. Working knowledge of SAP R/3 system
b. Occupational Health and Safety Act 85 of 1993
c. NEC contract management
d. Quality Management Control and Assurance procedures
e. Plant Safety regulation authorisation

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f. Spares optimisation
g. Procedure writing
h. BOM compilation

2. Staff must meet minimum requirements of Eskom job descriptions, with additional requirements specified.
3. All staff brought onto site in connection with this work scope should be able to fluently speak, understand and write in English.
4. Proof of qualification is to be supplied on request by the Employer.
5. The Contractor ensures that all staff being brought onto Medupi site has a valid fitness certificate based on the specified plant man-job specification and Valid police clearance certificate.
6. The Contractor shall employ in and about the execution of the works only such persons that are careful, competent and efficient in their specific trades and callings and the Employer shall be at liberty to object to and require the Contractor to remove from the works forthwith any person employed by the Contractor in or about the execution of the works who, in the opinion of the Employer, misconducts himself or is incompetent or negligent in the proper performance of his/her duties and such person shall not again be employed for the works without the written permission of the Employer.
7. Provide daily supervision of all related plant through trained and competent personnel to ensure that inspections & work activities are conducted daily.
8. Ensures proper behaviour of personnel under his/her supervision as per the Medupi culture.
9. Ensures training of all personnel under his/her supervision. The training required will include but not limited to Eskom safety training requirements, related plant training and Medupi culture.
10. Ensures high morale of staff and competency.

3.1.8 Re-commissioning

✓ All Plant equipment maintained shall be re-qualified as per site specific procedure (237-0081) after any maintenance intervention.
✓ The Contractor shall be responsible or held liable for any defects arising from maintenance/operational faults twenty-four hours after an intervention, provided that the equipment has been placed into service.

3.1.9 Contractor's Management, Meetings and Key People

1. Before work starts on site, an inaugural meeting is held with the Contractor and the Employer, to explain in detail all requirements of the Site Regulations.

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2. The Contractor is issued with a file of current Site Regulations on arrival. The file remains the property of the Employer, and the Contractor is responsible for its maintenance and updating to include new or revised regulations as issued by the Employer.
3. The Contractor must ensure that all personnel operating mobile equipment and vehicles are authorised, this includes but not limited to:

✓ Forklifts
✓ Mobile cranes
✓ Cherry Pickers
✓ Sky Jacks

4. The Contractor shall be responsible for the regular inspections and daily equipment checks of the mobile equipment and vehicles including record keeping.
5. The Contractor must ensure that all personnel performing work on the plant are authorised, this includes but not limited to:

✓ Confine space locations
✓ Working at heights
✓ Heat stress areas
✓ Scaffolding
✓ Hazardous substances

3.2 Plants Area

3.2.1 Fuel Oil, LPG and Ignition & Cooling Air Plant

3.2.1.1 Applicable Plant Area

Plant Area	Boundaries of Plant Area
Fuel Oil and LPG Plant	The Fuel Oil and LPG Plant is defined as the plant and equipment interfacing with fuel oil, that exists between the following points: - the inlet of oil storage tank (oil offloading bay inclusive), and - fuel oil supply to the units (pump houses) - the inlet of oil burners, and - the inlet of gas storage tank (offloading bay inclusive), and - the inlet of oil burners (including LPG igniters), and - the inlet of the Auxiliary Boiler. It has the following plant within its boundary: **Oil off-loading Area**

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	Oil storage tanks **Oil pumping, piping and heating system** - LP, inline heaters & HP pumps - slop oil system **Gas storage tank and cylinders** **Gas liquid separation system**
Atomizing Steam System	Atomizing steam is taken from the auxiliary steam line to the five burner levels (e.g. KKS No. 30-1 0HJM)
Ignition and Cooling Air Plant	Ignition and cooling air fan system (e.g. KKS No. 30-1 0HJQ)

3.2.1.2 Applicable S.O.W

1. Inspection, testing, maintenance, and replacement of the following:

a. Flexible hoses and couplings

b. Filters

c. Motors, couplings and pumps

d. Piping including flanges gaskets and bolting

e. Heaters

f. Inspection manholes

g. Supports and hangers

h. Storage tanks

i. Expansion bellows

j. Slop oil system

k. Related compressed air distribution system (If applicable)

l. Purification systems

m. Ignition and cooling air fans

n. Ignition and cooling air fan filter cleaning

o. DS coal burner

2. Inspection, testing, calibration, maintenance and replacement of the following C&I equipment

a. Temperature, pressure, flow and level measuring equipment

b. Limit switches

c. C&I Cabling

d. AUMA actuator matics

3. Stoke checking of motorised and pneumatic actuators

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4. Cleaning of pressure and differential pressure (DP) measurement taping points to remove blockages or settled particles

3.2.1.3 Costing Matrix

Refer to Appendix A.3 for cost breakdown structure.

3.2.2 Burners

3.2.2.1 Applicable Plant Area

Plant Area	Boundaries of Plant Area
Burner	The plant and equipment interfacing with PF, LPG, fuel oil, air and steam that exists between the following points: - inlet of PF to the burner up to outlet of PF at burner nozzle, and - inlet of core, secondary and tertiary air to the burner, and - inlet of fuel oil from the first isolating valve closest to the burner to the outlet of the oil lance, and - inlet of LPG from the first isolating valve closest to the burner to the outlet of the igniter, and - inlet of steam from the first isolating valve closest to the burner to the outlet of the burner nozzle. This implies the following plant and equipment: **PF Burner** - casing - associated equipment with oil lance, ignitor & propane gas (including atomized steam system) - core, secondary and tertiary air dampers - swirl vanes

3.2.2.2 Applicable S.O.W

1. Inspection, testing, maintenance and replacement of the following:

a. PF (primary air) tube including impact elbow and integrated fuel nozzle

b. Secondary air tube including integrated air deflector nozzle

c. Tertiary air tube including burner throat

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d. Maintenance on the fuel oil lance and LPG ignitor
e. Adjustable swirl blades
f. Fuel nozzle
g. Stabiliser ring
h. Related compressed air distribution system (If applicable)

2. Inspection, testing, calibration, maintenance and replacement of the following C&I equipment:
   a. Temperature, pressure, flow and level measuring equipment
   b. LPG igniter
   c. Limit switches
   d. UV and IR flame scanners and optic lenses
   e. C&I Cabling
   f. Power supplies
   g. Relays and fuses
   h. AUMA actuator matics
3. Maintenance of the ignitor and simulation of flame on feedback
4. Stripping, cleaning, tightening and testing of oil burner ignitors during associated mill services and replacing any damaged ceramics.
5. Assist in putting oil burners in service
6. Stoke checking of motorised and pneumatic actuators

3.2.2.3 Costing Matrix

Refer to Appendix A.4 for cost breakdown structure.

3.3 Site Facilities and Services Provided by Contractor

3.3.1 Service Cost

✓ The Contractor's performance evaluation shall be done during monthly meetings between the Contractor and the Employer.
✓ Quoted prices should be in line with the attached costing sheet, Appendices A.1 – A.3.

3.3.2 Communication and Correspondence

All correspondence includes:

a. Medupi Power Station
b. Employer's Contract number
c. Contract description

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d. Correspondence subject matter

e. Employer's name and contact details

f. Contractor contact details

g. Date

Where appropriate the correspondence includes the Employer's reference and is delivered as a single package.

All communications from the Contractor are numbered sequentially with a prefix as advised by the Employer. The Employer responds in like manner. The prefix and numbering system is decided upon at the Inaugural meeting.

3.4 Tender Requirements

a. A proposal is to be submitted by the tenderers for the above-mentioned scope of work, including the referenced in 32-726 and 237-0012, Rev 4.

b. Hereafter a contract shall be negotiated with the successful Contractor.

c. The appointment of successful Contractor is at Eskom's (The Employer) sole discretion considering the factors which Eskom considers relevant.

d. The tender prices shall be completed as per attached pricing structure, Appendices A.1 – A.2.

e. The non-plant related pricing structure (Appendix A.3) is to be completed for staff and overheads that are not directly related to plant maintenance, operations and services.

4. Acceptance

This document has been seen and accepted by:

Full Name and Surname	Designation
Benji Rahlogo	Chief Technologist Engineering
Bernard Matanda	Snr Advisor Engineering
Sithokozile Hlongwa	Manager Engineering
Lerato Sehume	Manager Maintenance
Kenneth Ndumo	Engineer Prof Mechanical
Phuti Mashita	Snr Supervisor
Itumeleng Maja	Snr Supervisor

5. Revisions

Date	Rev.	Compiler	Remarks
Jun 2025	3	L. Mphohoni	Second Revision

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Date	Rev.	Compiler	Remarks
Dec 2020	2	PM Mashita	First revision
May 2013	1	N. Walters	First issue

6. Development Team

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

Lindelani Mphohoni	Senior Technician Maintenance
Phuti Mashita	Senior Supervisor Tech Maintenance
Chrisprior Madonsela	Senior Engineer Boiler
Kgabo Choshi	Mechanical Maintenance Manager

7. Acknowledgements

N/A

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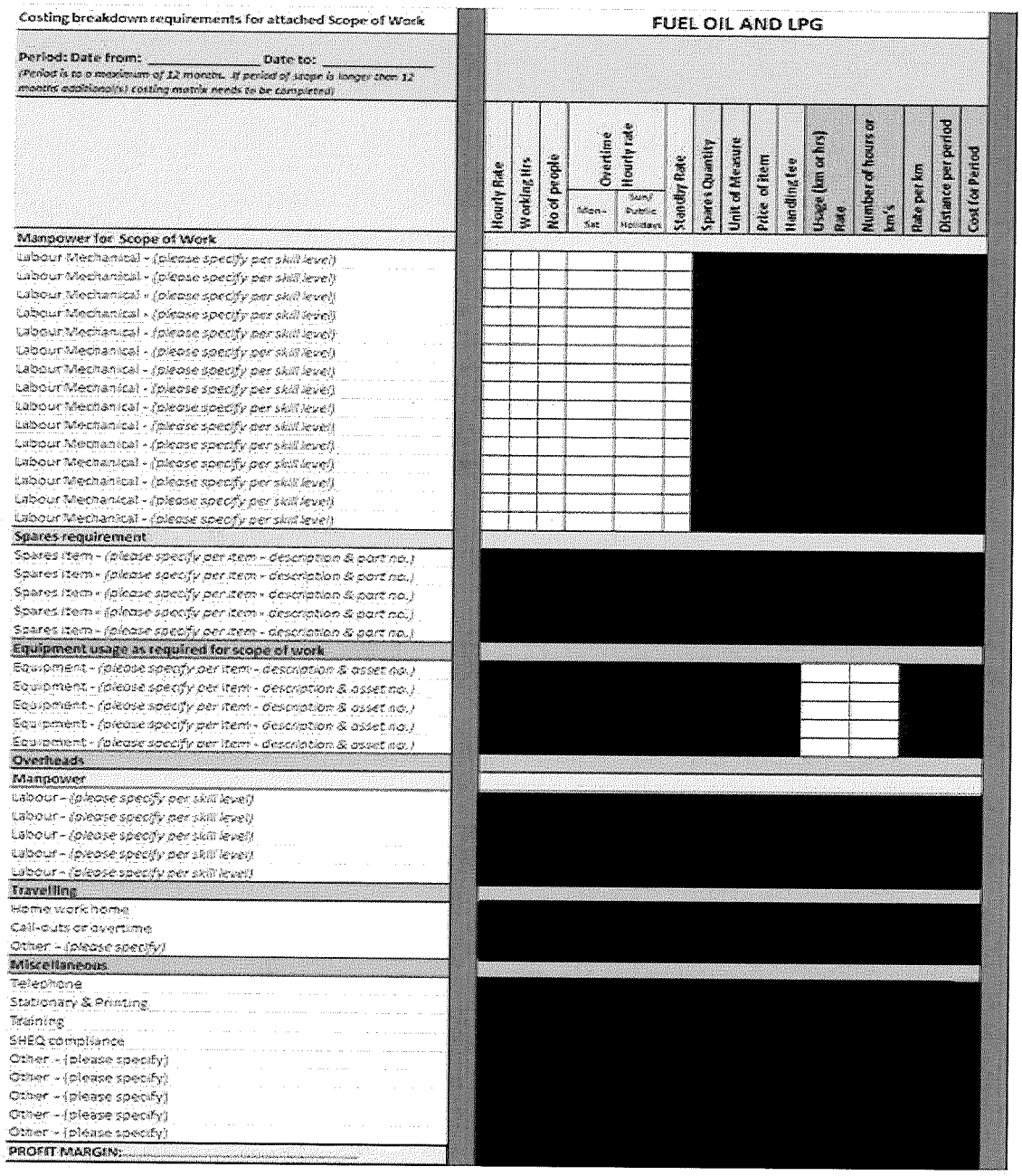
Appendix A – Cost Break-down Structure

A.1 Fuel Oil and LPG Burner Plant Price List Template



Costing breakdown requirements for attached Scope of Work	FUEL OIL AND LPG																
Period: Date from: _____ Date to: _____ (Period is to a maximum of 12 months. If period of scope is longer than 12 months additional(s) costing matrix needs to be completed)	Hourly Rate	Working Hrs	No of people	Overtime Hourly rate: Mon - Sat	Overtime Hourly rate: Sun / Public Holidays	Standby Rate	Spares Quantity	Unit of Measure	Price of item	Handling fee	Usage (km or Hrs) Rate	Number of hours or km's	Rate per km	Distance per period	Cost for Period
Manpower for Scope of Work															
Labour Mechanical - (please specify per skill level)															
Labour Mechanical - (please specify per skill level)															
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Labour Mechanical - (please specify per skill level)															
Spares requirement															
Spares item - (please specify per item - description & part no.)															
Spares item - (please specify per item - description & part no.)															
Spares item - (please specify per item - description & part no.)															
Spares item - (please specify per item - description & part no.)															
Spares item - (please specify per item - description & part no.)															
Equipment usage as required for scope of work															
Equipment - (please specify per item - description & asset no.)															
Equipment - (please specify per item - description & asset no.)															
Equipment - (please specify per item - description & asset no.)															
Equipment - (please specify per item - description & asset no.)															
Equipment - (please specify per item - description & asset no.)															
Overheads															
Manpower															
Labour - (please specify per skill level)															
Labour - (please specify per skill level)															
Labour - (please specify per skill level)															
Labour - (please specify per skill level)															
Labour - (please specify per skill level)															
Travelling															
Home work home															
Call-outs or overtime															
Other - (please specify)															
Miscellaneous															
Telephone															
Stationary & Printing															
Training															
SHEQ compliance															
Other - (please specify)															
Other - (please specify)															
Other - (please specify)															
Other - (please specify)															
Other - (please specify)															
PROFIT MARGIN:															

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A.2 PF Burner Plant Price List Template

Costing breakdown requirements for attached Scope of Work	PF BURNER																
Period: Date from: _____ **Date to:** _____ *(Period is to a maximum of 12 months. If period of scope is longer than 12 months additional(s) costing matrix needs to be completed)*	Hourly Rate	Working Hrs	No of people	Overtime Hourly rate		Standby Rate	Spares Quantity	Unit of Measure	Price of item	Handling fee	Usage (km or hrs) Rate	Number of hours or km's	Rate per km	Distance per period	Cost for Period
				Mon - Sat	Sun/ Public Holidays										
Manpower for Scope of Work															
Labour Mechanical - *(please specify per skill level)*															
Labour Mechanical - *(please specify per skill level)*															
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Labour Mechanical - *(please specify per skill level)*															
Labour Mechanical - *(please specify per skill level)*															
Labour Mechanical - *(please specify per skill level)*															
Spares requirement															
Spares item - *(please specify per item - description & part no.)*															
Spares item - *(please specify per item - description & part no.)*															
Spares item - *(please specify per item - description & part no.)*															
Spares item - *(please specify per item - description & part no.)*															
Spares item - *(please specify per item - description & part no.)*															
Equipment usage as required for scope of work															
Equipment - *(please specify per item - description & asset no.)*															
Equipment - *(please specify per item - description & asset no.)*															
Equipment - *(please specify per item - description & asset no.)*															
Equipment - *(please specify per item - description & asset no.)*															
Equipment - *(please specify per item - description & asset no.)*															
Overheads															
Manpower															
Labour - *(please specify per skill level)*															
Labour - *(please specify per skill level)*															
Labour - *(please specify per skill level)*															
Labour - *(please specify per skill level)*															
Labour - *(please specify per skill level)*															
Travelling															
Home work home															
Call-outs or overtime															
Other - *(please specify)*															
Miscellaneous															
Telephone															
Stationary & Printing															
Training															
SHEQ compliance															
Other - (please specify)															
Other - (please specify)															
Other - (please specify)															
Other - (please specify)															
Other - (please specify)															
Other - (please specify)															

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A.3 Non-Plant Related Price List Template

Costing breakdown requirements for attached Scope of Work	NON-PLANT RELATED																
Period: Date from: _____ Date to: _____ *(Period is to a maximum of 12 months. If period of scope is longer than 12 months additional(s) costing matrix needs to be completed)*	Hourly Rate	Working Hrs	No of people	Overtime Hourly rate: Mon - Sat	Overtime Hourly rate: Sun/ Public Holidays	Standby Rate	Spares Quantity	Unit of Measure	Price of item	Handling fee	Usage (km or hrs) Rate	Number of hours or km's	Rate per km	Distance per period	Cost for Period
Manpower for Scope of Work															
Labour Mechanical - *(please specify per skill level)*															
Labour Mechanical - *(please specify per skill level)*															
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Labour Mechanical - *(please specify per skill level)*															
Labour Mechanical - *(please specify per skill level)*															
Labour Mechanical - *(please specify per skill level)*															
Spares requirement															
Spares item - *(please specify per item - description & part no.)*															
Spares item - *(please specify per item - description & part no.)*															
Spares item - *(please specify per item - description & part no.)*															
Spares item - *(please specify per item - description & part no.)*															
Spares item - *(please specify per item - description & part no.)*															
Equipment usage as required for scope of work															
Equipment - *(please specify per item - description & asset no.)*															
Equipment - *(please specify per item - description & asset no.)*															
Equipment - *(please specify per item - description & asset no.)*															
Equipment - *(please specify per item - description & asset no.)*															
Equipment - *(please specify per item - description & asset no.)*															
Overheads															
Manpower															
Labour - *(please specify per skill level)*															
Labour - *(please specify per skill level)*															
Labour - *(please specify per skill level)*															
Labour - *(please specify per skill level)*															
Labour - *(please specify per skill level)*															
Travelling															
Home work home															
Call-outs or overtime															
Other - *(please specify)*															
Miscellaneous															
Telephone															
Stationary & Printing															
Training															
SHEQ compliance															
Other - (please specify)															
Other - (please specify)															
Other - (please specify)															
Other - (please specify)															
Other - (please specify)															
PROFIT MARGIN:															

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