	<p style="text-align: center;">Scope of Work</p>	<p style="text-align: center;">Generation</p>
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Title: **Medupi Power Station
Configuration Management Service
Contract Scope of Work**

Document Identifier: **241-2022676**

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Area of Applicability: **Medupi Power Station**


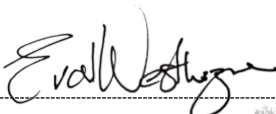
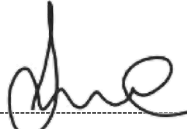
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1. Introduction

Design and Specification function is the custodian of the design base information at a Power Station. The function discipline provides a structured approach to identify, control and maintain the configuration management of a plant/system during product life cycle. However, the main functions of Configuration Management (CM) are to provide assurance and evidence plant configuration (data and labelling); which is based on accuracy and reliability.

However, incorrect plant configuration database and labelling can lead to inefficient plant operating, maintenance and engineering with severe consequences which are safety related (plant trips, load losses and etc.). Therefore it is essentially to ensure that plant configuration database vs plant equipment is align. inconsistency might result in poor plant governance or asset management information which could lead to financial and statutory contravention implications.

Medupi Power Station decided to outsource partial configuration management (plant configuration maintenance service) functions to suitably qualified, experience and well-established *Contractor*. This document describes the detail of the applicable plant areas, including requirements and specifications for this function.

2. Supporting Clauses

2.1 Scope

To provide a service contract (plant labelling service) full time, which will include plant configuration status accounting and verification, redline plant drawings, supply, and installation of labels/tags for Medupi Power Station, some services will be on an as when required. This document covers the requirements for scope of work of the services required.

2.1.1 Purpose

The purpose of this document is to specify the configuration management services activities, as well as to define technical requirements for the provision of the configuration management services required by Medupi Power Station. This Service Contract mainly focuses on the following but not limited:

- a) Plant Status Account and verification on a full-time basis.
- b) Supply and installation of plant tags and configuration maintenance as and when required.
- c) Verify plant drawings and update (redline) drawings on a full-time basis.
- d) Verify and maintain piping system coding (marking) and direction flow on a full-time basis.
- e) Manage Outage configuration verification and investigation activities (contractor oversee all labels are reinstated as they were before outage) as and when required.
- f) Supply plant signage as and when required.

2.1.2 Applicability

This scope of work shall apply throughout Medupi Power Station.

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2.1.3 Effective date

The effective date of this document is the authorisation date.

2.2 Normative/Informative References

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

2.2.1 Normative

- [1] 240-7143250 Plant Labelling Standards
- [2] 240-109607736 Eskom KKS Key Part Standard
- [3] 240-100523028 Medupi Power Station Labelling and Coding User Requirements Specification
- [4] 240-109607332 Eskom Plant labelling and Abbreviation Standard
- [5] 240-118378224 Drawing Quality Assurance Guideline for Gx Technology
- [6] 32-136 Contractor Health and Safety Requirements
- [7] 32-1126 Smoking Policy
- [8] 32-421 Eskom Plant Life Saving
- [9] 240-53114002 Engineering Change Management Procedure
- [10] ISO 9001:2015 Quality Management Systems
- [11] 32-1033 Eskom Procurement and Supply Chain Management Policy
- [12] 240-76474270 Medupi Power Station Documents and Records Management Work Instruction
- [13] 32-173 Conflict of Interest Policy
- [14] Act No.85 of 1993 Occupational Health and Safety Act and Regulations, 1993
- [15] 32-726 Mandatory SHE Requirements for the Eskom Procurement and Supply Chain Management Process
- [16] SANS 1091 National Colour Standards for Paints.
- [17] 241-2022534 Medupi Plant Identification Guideline

2.2.2 Informative

- [18] Annexure C: S.H.E Requirements for Tender Enquiries
- [19] Annexure D: S.H.E Tender Evaluation and Scoring Card
- [20] Annexure E: Supplier Suspension Process
- [21] ISO 10007 Guidelines for Configuration Management
- [22] 240-101651897 Configuration Management Strategy
- [23] VGB-B 105 E KKS Guidelines 2010

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[24]VGB-B 106 E – KKS – Part A Application Commentaries

[25]VGB-B 106 B1 E – KKS – Part B1 Identification in Mechanical Engineering 2004

[26]VGB-B 106 B2 E – KKS – Part B2 Identification in Civil Engineering 2004

[27]VGB-B 106 B3 E – KKS – Part B3 Identification of Electrical and C&I Engineering 2004

[28]VGB-B 106 B4 E – KKS – Part B4 Identification of C&I in Process Systems 2004

2.3 Definitions

- a) **Baseline** – The state of the plant configuration, which depicts the plant requirements and design at, specified point in time.
- b) **Configuration** – The interrelated functional and physical characteristics of a plant or system, as defined in requirements, as defined in product configuration information and as achieved in plant itself.
- c) **Configuration Management** – is responsible capture and maintain engineering information that consist of functional and physical attributes, design and operational information throughout the lifecycle of Eskom’s generation assets.
- d) **Contractor** – Service provider contracted for supplying specific services to Eskom, Medupi Power Station.
- e) **Contract Manager** – Any person appointed in writing by Eskom as the delegated *Contract Manager* in terms of the provisions of the Act, (normally the Power Station Manager or General Manager).
- f) **KKS** – Is a code used to clearly identify systems and components in power plant according to process functions, points of installations and structures (reference to a Standard)
- g) **Plant** – Any structure, machinery, apparatus or equipment, which does not fall within the scope of the operating regulations for high voltage systems, and excludes, mobile portable lifting equipment, domestic circuits, appliances and tools.
- h) **SPO** – Smart Plant Owner is a system that manages technical documents (design base)
- i) **ECON** – Main work centre for Engineering Configuration Notifications
- j) **Contract Manager** - A *Contract Manager* is the Eskom Agent appointed in terms of the applicable NEC contract, or a person assigned by the Eskom Agent, to manage and administer the post-award phase of the procure to-pay process. A *Contract Manager* must undergo the necessary training as prescribed by the Contract Management Department, be able to demonstrate the necessary prior experience of managing similar contracts of a similar magnitude prior to appointment as a *Contract Manager*.

2.4 Abbreviations

Abbreviation	Explanation
BOP	Balance of Plant
CAD	Computer Aided Draughting
DWG/DXF	AutoCAD Drawing File Extensions
CM	Configuration Management
C&I	Control and Instrumentation

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Abbreviation	Explanation
DCS	Distributed Control System
EAF	Energy Availability Factor
ECON	Engineering Configuration Notifications (Work Centre in SAP PM)
ECM	Engineering Change Management
GX	Generation
HMI	Human Machine Interface
IP	Intellectual Property
KKS	Kraftwerk Kennzeichen System
LTPH	Long Term Plant Health
NEC	New Engineering Contract
PCLF	Planned Capacity Loss Factor
P&ID	Piping and Instrumentation Diagram
QMP	Quality Management Programme
QCP	Quality Control Plan
SAP	System Applications, Products (Plant Maintenance, Procurement, Finance and Materials Management integrated maintenance management system)
SAP PM	SAP Plant Maintenance
SD&L	Skills Development and Localisation
SOW	Scope of Work
SOC	State Owned Company
SPPID	Smart Plant Piping and Instrumentation
SPO	Smart Plant Owner
UCF	Unit Capability Factor
UCLF	Unplanned Capability Loss Factor
ZAR/R	South African Rands or Rands
2D/3D	Two or Three Dimensional

2.5 Roles and Responsibilities

Roles	Responsibilities
Contract Manager	Eskom Agent appointed in terms of the applicable NEC contract or person assigned by Eskom Agent, to manage and administer the post-award phase of the procure-to-pay process.
Contractor	To fulfil the agreed conditions of the contract entered (Service Contract).
CM Practitioner	Responsible for the development of the configuration management plan, configuration and management of the PBS and the management of plant item tags.
Draughtsperson	Responsible for producing, update and review technical plans and drawings to construct building and or equipment

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Installer	Responsible for installing labels, colour coding or stencilling of labels and identified structural points in the units for the purpose of identification.
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2.6 Process for Monitoring

The Contractor for evaluation and approval must submit project plan before any work commencement. Any deviation from the plan needs to be pre-approved by *Contract Manager* before any work execution. Daily/weekly progress feedback as agreed with contract manager need to be provided. Monthly inspection report shall be provided by the contractor to prove the productivity, effectiveness, and efficiency of his/her services.

Furthermore, the effectiveness of the Skills Development and Localisation (SD&L) implementation Progress and Skills Transfer to Eskom Employees (as well as others where applicable) shall also be monitored.

2.7 Related/Supporting Documents

The contractor: provides all related and or supporting documentation (such as Plant check sheets, QCPs, Working Procedures, Certificates, Qualifications and etc.) to be used while providing services as covered in this scope of work (must be clearly define as approved by the *Contract Manager*)

3. Document Content

3.1 Document and Technical Requirements

- a) The *Contractor Manager's* responsible for management of the CM Service Contract.
- b) The *Contractor Manager's* and *Contractor* in this SOW are committed towards the following:
 - i. Zero Harm
 - ii. Retention of critical skills
 - iii. Continuous cost reduction
 - iv. Health and Safety Environment
 - v. Transfer of operational knowledge and skills
 - vi. Meeting SD&L Requirements.
- c) The *Contractor Manager* will provide a site induction to the *Contractor*. This training is compulsory to the *Contractor* and his/her staff.
- d) All works performed by the Contractor will be subjected to anytime audit from the *Contractor Manager*.
- e) The Contractor shall employ adequately competent persons responsible to perform all CM activities according to this scope of work.
- f) Should the *Contract Manager* become aware of any changes to the activity scheduled (programme of notifications), the *Contract Manager* may issue the *Contractor revised* programme.

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- g) Work against this contract can only be performed upon receipt of task order.
- h) All task orders done by the *Contractor* shall be assessed and approved by the *Contract Manager*.
- i) The *Contractor* maintains all year around, agreed base crew at Medupi Power Station which supervised by the *Contractor*. Any based crew changes must be pre-negotiated and authorised by *Contract Manager*.
- j) The *Contractor must* ensure that they have competent persons to access restricted areas in terms of PSR and ORHVS within reasonable time (less than two months) of the contract award date. Training will be provided by the *Contract Manager*, cost for the first, failure to obtain the required pass mark by the employees of the *Contractor will* be done at *Contractor's* cost. Note Authorisations are site specific and cannot be transferred between the Eskom Power station sites (must be Medupi Power Station specific).
- k) Before any works starts on site the *Contractor is* responsible to submit their Safety File to *Contract Manager* for review and acceptance as per SHE specification issued by the *Contract Manager*.
- l) The *Contractor is* also responsible for their employee's annual medical checks, which must be, up to date and kept in the Safety File.

3.2 Configuration Management Service Scope of Work

The contractor shall provide the following services (but not limited to these requirements):

- a) Plant Status Account (as is versus design base) and plant verification.
- b) Plant labelling, manufacturing, and installations.
- c) Verify plant drawings and update (redline) drawings as requested by site.
- d) Oversee outage configuration verification, contractor oversee all labels are put back as they were before outage).
- e) Supply plant signage as and when required.

3.3 Continuous Improvement

- a) The *Contractor may* propose continuous improvement programmes to achieve cost reductions and the *Contract Manager* will approve such programmes if found to be feasible.
- b) The *Contractor shall* participate in improvement programs as stipulated by the *Contract Manager*.

3.4 Management Reporting

- a) Relevant report shall be provided by the *Contractor* to prove the productivity, effectiveness and efficiency of his/her services.
- b) The *Contractor shall* be present at the *Contract Manager* Safety meetings and planned plant walks.
- c) The *Contractor maybe* requested to be present at any ad hoc meetings that may rise to address any production or safety related matters.

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- d) Liaison meetings shall be held with the *Contract Manager's* Representative or his/ her delegate to discuss any concerns that may rise.

3.5 Quality and Documentation Management Control

- a) The Contractor shall provide complete *Contract Quality Plan* in accordance with the requirements of ISO 9001:2015 and *Supplier Contract Quality* requirements specifications to the Contract Manager for approval.
- b) This plan must ensure an integrated quality service as part of the contract, execution of all quality related activities, as per Contractor's scope of work.
- c) The Contractor shall utilise the Contract Manager's quality documentation management system and processes (240-76474270).

3.6 Service Delivery Plan

The *Contractor shall* supply the *Contract Manager*, a project implementation and execution plan including but not limited to the following:

- a) Proof of previous experience of similar scope of work done, with respective values in Rands (ZAR/R) and client references with their contact details.
- b) Company profile that stipulates why the *Contractor* is competent to execute this scope of work.
- c) Technical Method Statement regarding the manufacturing and installation of labelling.
- d) Manpower Planning
- e) Organogram
- f) Curriculum Vitae, Skills and Competencies required.
- g) Quality Management Plan and/ or ISO Certification
- h) Environmental Management Plan and/or relevant ISO Certification.
- i) Safety Management Plan and/or relevant ISO Certification.
- j) Communication Plan (Weekly or monthly report)

3.7 Manpower Requirements

- a) The *Contract Manager* and the *Contractor* will mutually agree the Manpower requirements during contract negotiation phase.
- b) The successful *Contractor* shall utilise/provide skilled and suitably qualified staff (1x Site Supervisor, 1 Snr draughtman on ad hoc basis, 4x Snr CM Technician CM, 2x CM Technicians, and 2 Installers) with current experience in the following but not limited to the following knowledge areas:
 - i. Ability to perform codification functions as per KKS Coding Standards or guidelines (based on VGB standards).
 - ii. Ability to interpret and redline technical drawings (For example P&ID or As-built)
 - iii. Ability to conduct Plant Configuration Management activities.

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- iv. Ability to understand the product flows between the components (valves and fittings) of the plant in the pipe system.
- c) The successful *Contractor* shall employ staffs that meet the minimum requirements related to Eskom job descriptions.
- d) All staff brought on site in connection with the SOW should be able to fluently speak, understand and write in English as well computer literate.
- e) Proof of staff qualification is to be supplied by the *Contractor* on request by the *Contract Manager*.
- f) The *Contractor* must ensure that all staff being brought into Medupi Power Station site, produce valid fitness certificate and police clearance (medical test) as per specified plant man-job specification.
- g) The work force plan needs to specify ad-hoc and base crews required for the duration of the service contract.
- h) The personnel might be required to work overtime, and the *Contractor* should submit the proposed labour rate(s) with their tender(s).
- i) The Contractor will be required to attend Employer's meetings and adhere with statutory requirements.
- j) Before work starts on site, a kick-off meeting is held with the *Contractor*, and the *Contract Manager*, to explain the detail all requirements of the Site Regulations.
- k) Adhere and comply with SHERQ and statutory requirements.
- l) The *Contractor* is responsible for ensuring compliance to Eskom Holdings SOC Limited and Medupi Power Station specific policies, procedures and standards.
- m) The *Contractor* is responsible for supplying their employees with applicable PPE and Safety Harnesses when performing the task at elevated positions.
- n) *Contractor* shall be accountable for the compliance with Occupational Safety, Health and Environmental Risk and Quality requirements and Policies of Medupi Power Station and Eskom Holdings SOC limited.
- o) *Contractor* and the *Contract Manager* shall carry out risk assessment to establish what hazards to the health and safety or persons are attached to any work, which is to be performed. *Contractor* shall ensure compliance to Zero Harm, Zero Injuries and Zero fatalities and zero environmental incidents.

3.8 Facilities and equipment provided by the Contract Manager and Contractor

- a) The *Contractor* will provide equipment and the material required for manufacturing of plant labelling and stencilling. Material and engraving must comply with Eskom KKS Plant labelling Specification. This equipment also needs to be able to print/engrave a barcode for the specific KKS code on the label.
- b) The *Contract Manager* will provide, KKS Plant labelling specification, Outage Scope of Work, and Drawing standard to the *Contractor* for reference. These documents remain the property of Medupi Power Station respectively.
- c) The *Contract Manager* to organise internal and necessary training or awareness on applicable tools or systems (SPO and SAP Awareness).

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- d) The *Contractor* will supply all required tools, equipment, and Personal Computers (PCs) to their employees or subcontractor to perform their tasks. PC needs to comply with specific standards to be link to Eskom network.
- e) The *Contract Manager* will provide P&IDs to the *Contractor* to perform their task. The *Contractor* must use only latest P&ID or As Built supplied by the *Contract Manager*.
- f) The *Contract Manager* will provide preliminary or working data for *KKS Baseline*, *SAP data* and *HMI/DCS* as required by the *Contractor* to perform the tasks in hand.

3.9 Scope of Work Outline

3.9.1 Plant Status Account

- a) *Contractor* to conduct and oversee pre and post outage plant configuration items verification, based on baseline configuration vs plant configuration (item labelling and pipe marking).
- b) *Contractor* to develop pre-planning for outages based on Medupi Outage philosophy, it can be an average of six outages per year.
- c) Identify all the discrepancies and load notifications for corrections and findings must be incorporated to a monthly report.
- d) Redline all plant configuration deviations from design base identified during inspections.

3.9.2 Plant Labelling

- e) Verify compliance of installed plant tags or labels as per Eskom Standards and requirements. The *Contractor* shall fit labels in such a manner as to not hamper routine operations and maintenance activities.
- f) The *Contractor* shall supply labels or tags together with accessories required for label manufacturing and installation. Alternatively, the *Contractor* can print the labels at their place of work and bring them on site for installation after obtaining employer's approval.
- g) The *Contractor* shall not attach labels to removable equipment or component (i.e. Motor, Valves, Pump, Transmitter or Lagging) but will be attached to non-removable structures as near to it as possible, without compromising identity of exact equipment.
- h) *Contractor* shall fit labels in a position where they can be easily seen without compromising identity of exact equipment. In case labels cannot be fitted on the equipment properly, brackets/stands to be installed so as to clearly identify equipment, without posing a hazard.
- i) Highlight trends for KKS tags or labels non-compliance relating to coding descriptions, duplication errors, missing labels and use of poor material.
- j) Perform manufacturing and installation of labels as required and labels shall also be fitted on non- interchangeable or removable covers. All labels to be mounted on a vertical level flat surface to minimize dirt build-up.
- k) Label fixing devices, for example rivets, self-tapping screws, or adhesives, should not penetrate the equipment housing or constitute a potential source of corrosion. Fixing devices or drilling holes may not cover or damages the engraving on the labels. Adhesives may only be used on cabinets and panels.

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- l) Latest P&IDs/As-built to reflect the status of the plant design base and shall match with installed plant labels
- m) Any signage and painting required outside of the standard scope – will be based on agreed quotation with handling markup – part of tender requirements – to give a markup %

3.9.3 Plant colour coding and stencilling

- n) The Contractor shall supply suitably qualified and experienced personnel required for this service.
- o) The Contractor shall supply their employees with required Personal Protective Equipment (PPE) to work in both operating plant environment and plant under construction.
- p) The Contractor shall supply paint from SANS approved manufacturer. The contractor shall ensure that paint supplied is tested in the manufacturer's factories to ensure good quality of paints.
- q) The paint systems must be resistant to colour change and must be compatible with other paint systems and primers proposed. In addition, the primers proposed must be compatible with the substrates on which they are applied, viz. concrete and steel.

3.9.4 Document Management

- a) Ensure registration of documentation on approved Electronic Document Management System
- b) Ensure proper control of the creation and approval process of all new documents,
- c) Ensure proper control of all updates, review, and re-approval cycles of existing documents within your area of responsibility,
- d) Ensure proper version control and communication of relevant versions or changes to existing documents to all interested parties,
- e) Ensure that relevant versions are legible, available, and readily identifiable to all interested parties,
- f) Ensure original and electronic documents are easily retrievable, stored and protected as per prescribed procedures,
- g) Ensure that documents are retained, archived, and disposed of when obsolete as per prescribed procedures.

3.9.5 Draughtsman

- a) The Contractor shall supply suitably qualified and experienced personnel required for this service. This will be an Ad hoc service supplied by the service provider or Contractor.
- b) The Contractor shall supply their employees with required Personal Protective Equipment (PPE) to work in both operating plant environment and plant under construction.
- c) Ability to create specialised technical drawings, both hand drawings (redline), computer – aided design (CAD) blueprints and/or any applicable software or recommended for use by Contract Manager/Employer.

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- d) Ability to analyse, review and sketches triggered by technical changes or concepts from designers or engineering change and turn them into detailed, accurate final drawing product (P&ID and As Built).
- e) Ability to read, analyse and interpret the Eskom P&ID and Drawings for various technical requirements and disciplines (Mechanical, Electrical, Control and Instrumentation and Structural).
- f) Ability to not only interprets the ideas of the design requirements that into a workable set of documentation ready for technical and operational related activities.
- g) Ability or knowledge about Eskom tools and material required to execute and to complete the task in hand and including the format required by employer of final products at the completion of each task.
- h) Knowledge of Eskom Power Plants and including related equipment of various plant areas and its functionality (mechanical, electrical, control and instrumentation and structural)

3.9.6 Site Facilities and Service provided by Contract Manager (Employer)

The sites are Medupi Power Station, and any further information will be made available on request.

3.9.6.1 Telecommunications

At Medupi Power Station, the *Contract Manager* will provide required telecommunication application and for any private phone calls the *Contractor* will be responsible.

3.9.7 Site Facilities and Service Provider by Contractor

3.9.7.1 Service Cost

- a) The *Contractor's* performance evaluation shall be done monthly between the *Contractor* and the *Contract Manager*.

3.9.7.2 Equipment

- a) Any tools, equipment, and appliances used by the *Contractor* conforms to the applicable OHS Act and Eskom safety standards and is maintained in a safe and proper working condition. The *Contract Manager* has the right to stop the *Contractor's* use of any Equipment which, in the opinion of the *Contract Manager*, does not conform to the requirements.

3.9.7.3 Access to Site

- a) The *Contractor* makes his own assessment of and allows in his/her rates for those access problems that may be encountered. No extra payment or claim of any kind is allowed because of difficulties of access to the works, or for the requirement of working adjacent to or in the same area as others.
- b) Access to the site shall be in line with the Medupi Power Station's access procedure. All *Contractors* shall be required to make an application to enter site for the duration of the contract. An access permit shall only be issued once the *Contractor* has attended the safety induction and has undergone medical checks and police clearance.

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- c) All the assets must be declared and registered with security upon entering site. This includes portable assets such as laptop, toolbox and etc.
- d) The *Contractor* shall have no claim against the *Contract Manager* in respect of delay at the security main gate.

3.9.8 Accommodation and transportation

- a) The *Contractor* provides his/her own accommodation and transport for all his/her employees and Subcontractor engaged in the execution of the work.
- b) The cost for accommodation, as well as transportation to and from site must be included in the prices.

3.9.9 Communication and Correspondence

All correspondence must include the following:

- a) Medupi Power Station
- b) *Contract Manager's* Contract Number
- c) Contract description
- d) Correspondence subject matter
- e) *Contract Manager's* name and contact details.
- f) Contract contact details.
- g) Date

Where appropriate the correspondence includes the *Contract Manager's* reference and delivered as a single package. All communications from Contractor is numbered sequentially with prefix as advised by the *Contract Manager*. The *Contract Manager* responds in like manner. The prefix and numbering system is deciding upon at the kick-off meeting.

4. Acceptance

This document has been seen and accepted by:

Name	Designation
Lesley Baloyi	Risk and Assurance Group Manager Medupi Power Station
Sithokozile Hlongwa	Boiler Engineering Manager Medupi Power Station
Khathu Mudzielwana	Turbine Engineering Manager Medupi Power Station
Langa Zuma	Auxiliary Engineering Manager Medupi Power Station
Nthabi Mashigo	C&I Engineering Manager Medupi Power Station
Thembi Mukenga	P&T Engineering Manager Medupi Power Station
Pieter Myburgh	Process Engineering Manager Medupi Power Station
Derrick Chauke	Electrical Engineering Manager Medupi Power Station

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5. Revisions

Date	Rev.	Compiler(s)	Remarks
October 2023	0	NHP Luthuli	New Document

6. Development Team

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

- a) Mbhoni Chauke
- b) Thambo Shiba

7. Acknowledgements

Not applicable.

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Appendix A – Technical Evaluation Criteria

<u>TECHNICAL EVALUATION CRITERIA :</u>			
Minimum Criteria for Technical Evaluation Requirements		Proof required	
	Company:	Proof required	15%
Company Profile	Proof of previous configuration management services (be specific on services provided and where). Submit Order number for services	Contact references	100%
	Technical Staff:		45%
Labels Supply and Installation, drawing service and Stencilling or Painting service	Historic credibility of supplier (years in industry)	Years in industry	10%
Services required for service	Supervisor CM (X1) • N Dip Diploma (Min) • 4 years Power Plant Experience • 4 years Configuration Experience • Competency in reading of drawings and supervision	Attach Certificate and training records on the CV. Proof of experience	20%
	Snr CM Technician (X4) • N Dip Diploma (Min) • 3 years Power Plant Experience • 3 years Configuration Experience • Competency in reading of drawings and supervision	Attach Certificate and training records on the CV. Proof of experience	25%
	Installer (X2) • Grade 12 or Painter Certificate or N3 (Min) • 2 years stencilling or painting or installation experience • 2 years Power Plant Experience • Competency in reading of drawings	Attach Certificate and training records on the CV. Proof of experience	10%

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	<p>CM Technician (X2)</p> <ul style="list-style-type: none"> • N Dip Diploma (Min) • 1 years Power Plant Experience • 1 years Configuration Experience • Competency in reading of drawings. 	Attach Certificate and training records on the CV. Proof of experience	20%
	<p>Snr Draughtman (X1)</p> <ul style="list-style-type: none"> • National Diploma (Min) or N3 with technical drawing or draughting certificate • 3 years Power Plant Experience • 3 years Related Experience in Drawing/Draughting or with N3 needs 8 years • Competency in technical drawings and other graphic information 	Attach Certificate and training records on the CV. Proof of experience	10%
Quality Assurance			20%
	<ul style="list-style-type: none"> *Plant Identification *Label Description *Label Material *Attachment of label *Label positioning *Tools *Drawing software 	QC Plan	100%
Project Execution Plan			20%
	<p>Technical Method Statement (with the below criteria) regarding the Manufacturing and installation of labelling</p> <ul style="list-style-type: none"> * Plant Identification * Labelling * Selection of Material * Ergonomics Requirements * Label attachment requirements * Environmental Factors 	Provide Technical Method Statement	100%

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Appendix B – Scope Breakdown

Item No	Description	Uom	Number
1	Preliminaries and General		
1.1	Safety File	Once off	1
1.2	PPE(every 6 months)	ea	20
1.3	Medicals (entry and exit)	annually	20
1.4	Transportation (15 seater bus)	monthly	1
2.	Labour		
2.1	Supervisor	hour	1
2.2	Senior Draughtsman	hour	1
2.3	Snr CM Technician	hour	4
2.4	CM Technician	hour	2
2.5	Label installers	hour	2

3	Material		Quantity
	Direct stencils	ea	690
	Non-Lagging Pipe	ea	690

4	Labels	Size	Material Type	uom	Qty
		mm			
1	Label type GA	160x40	Anodised Aluminium	ea	10000
			Stainless steel	ea	5000

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	Back plate		Anodised aluminium	ea	15000
2	Label type GB	120x25	Anodised Aluminium	ea	5000
			Stainless steel	ea	4000
	Backplate		Anodised Aluminium	ea	9000
3	Label Type GC	95x50	Anodised Aluminium	ea	10000
			Stainless steel	ea	2000
	Backplate		Anodised Aluminium	ea	12000
4	Label type GD	120x50	Anodised Aluminium	ea	6000
			Stainless steel	ea	2000
	Backplate		Anodised Aluminium	ea	8000
5	Label type GE	95x20	Anodised Aluminium	ea	1500
			Stainless steel	ea	1500
	Backplate		Anodised Aluminium	ea	3000
6	Label type GH	100x50	Anodised Aluminium	ea	1500
			Stainless steel	ea	1500
	Backplate		Anodised Aluminium	ea	3000

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7	Label type EA	440x150x40	White Graflux	ea	800
			Traffolyte	ea	800
8	Label type EB	400x25	White Graflux	ea	400
			Traffolyte	ea	400
9	Label type EC	160x75x35	White Graflux	ea	400
			Traffolyte	ea	400
10	Label type ED	150x40	White Graflux	ea	400
			Traffolyte	ea	400
11	Label type EE	80x20x21	White Graflux	ea	400
			Traffolyte	ea	400
12	Label type EF	220x35	White Graflux	ea	400
			Traffolyte	ea	400
13	Label type EG	45x25	White Graflux	ea	400
			Traffolyte	ea	400
14	Label type EH	120x50	White Graflux	ea	400
			Traffolyte	ea	400
15	Label type EI	75x20x20	White Graflux	ea	400
			Traffolyte	ea	400
16	Label type EJ	20x10	White Fraflux	ea	400

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17	Label type EK	20x10	White Fraflux	ea	400
18	Label type EL	20x10	White Fraflux	ea	400
19	Label type EM	1100x230	Chromadek	ea	300
20	Label type EM.1	400x250	Chromadek	ea	300
21	Label type EM.2	300x230	Chromadek	ea	300
22	Label type EM.3	300x230	Chromadek	ea	300
23	Label type EN	K type flexible markers on 10 digit carrier strips	PVC	ea	400
24	Label type EP	This shall be used for all exterior cables to be labelled with stainless steel	Stainless steel	ea	400
25	Stencil	20 Characters Font to be determined(Pipe diameter or plant area)	Heat Resistant	ea	400
26	Mimic Panels	297x420	Chromadek	ea	300
			Traffolyte	ea	300
27	KKS Labels Fitting Consumables				

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27.1	Silicone based adhesive guaranteed effectiveness for 20 years (Sikaflex 252 per 600ml tube)			ea	250
27.2	3.2 mm Pop Rivets/pack of 100			ea	100
27.3	Stainless steel cable tie (per pack of 100)			ea	200
27.4	Stainless Steel Cable Strap per roll			ea	300
27.5	Hose clamps per packet of 10	14-32mm		ea	300
27.6	Hose clamps per packet of 10	19-44mm		ea	300
28	Provisional Sum for unspecified signage and painting required (quote plus markup)			Sum	1

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