

Title: **Tender Technical Evaluation
Strategy for Medupi
Outstanding HVAC Works**

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1. INTRODUCTION

This document presents the tender technical evaluation strategy for Medupi Outstanding HVAC Works.

Medupi Power Station Heating Ventilation and Air Conditioning (HVAC) Plants are currently under construction and some sections of the plants have been partially commissioned and tested but not complete; therefore they have not been handed over to the Client (Eskom Generation) as yet. This is global issue across two civil packages namely P35A and P35C as well as the cable tunnel ventilation system.

In order to handover the various HVAC plants to the Client (Eskom Generation), the services of a Contractor is required to complete the various outstanding HVAC Works at Medupi Power Station.

2. SUPPORTING CLAUSES

2.1 SCOPE

The outstanding HVAC scope of work comprise of the engineering, the provision of all labour including materials and Contractor's equipment, manufacturing (where required), supply (where required), delivery (where required), off-loading, hoisting, erection, testing, balancing and commissioning to serve, guarantee and maintenance after final completion of the HVAC installation.

The engineering, quality control, inspections, plant and material selection (where required), preparation of installation drawings (where required), testing, balancing, commissioning and preparation of operating and maintenance manuals, are to be managed and executed by the Contractor in a systematic manner as follows:

- a) Cable tunnel ventilation system
- b) P35A and P35C Service and maintenance of the complete HVAC Works. Critical repairs and maintenance are required to ensure the HVAC plant is available for commissioning & handover.
- c) Engineering of the complete HVAC Works, which include existing drawings and equipment submissions which are to be updated and approved to reach As-built status.
- d) Completion of construction, including quality control and assurance. All outstanding Works is to be completed to comply with Employer's requirements.
- e) KKS Coding.
- f) All defects to be fixed.
- g) Complete data books to Employer's requirements.
- h) Interface between local Network Control Panel (NCP) and Consolidated Building Management System (CBMS) to be engineered and implemented.
- i) Testing & commissioning of the complete HVAC system. HVAC System to be commissioned, witnesses and signed off according to approved procedures.
- j) Completion & handover which includes training, operation & maintenance, and As-built documentation (including testing, balancing, and commissioning documentation).

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2.1.1 Purpose

The purpose of this tender technical evaluation strategy is to define the Mandatory Evaluation Criteria, Qualitative Evaluation Criteria and Technical Evaluation Team (TET) member responsibilities for tender technical evaluation. The technical evaluation strategy serves as basis for the tender technical evaluation process.

2.1.2 Applicability

This document is applicable to the the Medupi Outstanding HVAC Scope of Works.

2.2 NORMATIVE/INFORMATIVE REFERENCES

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

2.2.1 Normative

- [1] 240-48929482: Tender Technical Evaluation Procedure
- [2] 32-1034: Eskom Procurement Policy
- [3] 348-9973203 Scope of Work for the appointment of a Contractor to Complete all outstanding HVAC Works at Medupi Power Station

2.2.2 Informative

- [4] ISO 9001: Quality Management Systems.

2.3 DEFINITIONS

N/A

2.3.1 Classification

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

2.4 ABBREVIATIONS

Abbreviation	Description
CoC	Certificate of Completion
C&I	Control & Instrumentation
ECSA	Engineering Council of South Africa
EDWL	Engineering Design Work Lead
HMI	Human Machine Interface
HVAC	Heating, Ventilation, and Air Conditioning
LDE	Lead Discipline Engineer
MPS	Medupi Power Station
MPSJV	Medupi Power Station Joint Venture

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Abbreviation	Description
NCP	Network Control Panel
O&M	Operations and Maintenance
PEM	Project Engineering Manager
P&ID	Piping and Instrumentation Diagram
P35A	Package 35A
P35C	Package 35C
SANS	South African National Standards
TM	Team Medupi
VO	Variation Order

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2.5 ROLES AND RESPONSIBILITIES

Compiler	The document compiler is responsible for ensuring that this document is up-to-date and that this document is not a duplication of an existing documentation, regarding the document's objectives and content.
Functional Responsibility (CoE Manager)	The Functional Responsible Person shall determine if the document is fit for purpose before the document is submitted for authorisation.
Authoriser (Senior Manager)	The document authoriser is a duly delegated person with the responsibility to review the document for alignment to business strategy, policy, objectives, and requirements. He/she shall authorise the release and application of the document.
Lead Discipline Engineers	Provide input to the technical tender evaluation strategy and associated engineering activities.
Configuration Management Lead	Is accountable for ensuring that the engineering documentation, engineering systems and databases are correctly configured. As part of this role, the Configuration Practitioner is responsible for the development of the configuration management plan; configuration and management of the PBS and the management of plant item Tags.

2.6 PROCESS FOR MONITORING

The primary process for monitoring will be governed by Design Review Procedure (240-53113685), this entails assuring that the design achieves the requirements set out in this document. Any changes to this document will be performed as per Project Engineering Change Management Procedure (240-53114026).

2.7 RELATED/SUPPORTING DOCUMENTS

Please refer to Section 2.2.

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3. TENDER TECHNICAL EVALUATION STRATEGY

3.1 TECHNICAL EVALUATION THRESHOLD

Mandatory Technical Evaluation Criteria (gatekeepers) are 'must meet' criteria. These criteria shall not be weighted, or point scored but shall be assessed on a Yes/No basis as to whether the criteria are met. An assessment of 'No' against any criterion shall technically disqualify the tenderer and shall not be further evaluated against Qualitative Criteria.

Qualitative Technical Evaluation Criteria are weighted evaluation criteria used to identify the highest technically ranked tenderer after determining that all the Mandatory Evaluation Criteria have been met. The Qualitative Evaluation Criteria are weighted to reflect the relevant importance of each criterion.

The minimum weighted final score (threshold) required for a tender to be considered from a technical perspective is 70%. The following scoring method will be used:

Table 1: Technical Scoring Methodology

SCORE	PERCENTAGE (%)	DESCRIPTION
5	100	COMPLIANT <ul style="list-style-type: none">• Meet the technical requirement(s) AND,• No foreseen technical risk(s) in meeting technical requirements
4	80	COMPLIANT WITH ASSOCIATED QUALIFICATIONS <ul style="list-style-type: none">• Meet the technical requirement(s) with,• Acceptable technical risks AND/OR;• Acceptable exceptions AND/OR;• Acceptable conditions
2	40	NON-COMPLIANT <ul style="list-style-type: none">• Does not meet the technical requirement(s) AND/OR Unacceptable technical risk(s) AND/OR;• Unacceptable exceptions AND/OR;• Unacceptable conditions
0	0	TOTALLY DEFICIENT/NON-RESPONSIVE

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3.2 TET MEMBERS

From each Engineering Discipline a professional registered Engineer/Technologist and one other member is to be part of the evaluation team.

Table 2: TET Members

TET number	TET Member Name	Designation
TET 1		Chief Technologist GX Asset Management, Mechanical Engineering
TET 2		HVAC Engineer
TET 3		HVAC Engineer
TET 4		Electrical Engineer
TET 5		Electrical Engineer
TET 6		Civil/Structural Engineer
TET 7		Civil/Structural Engineer
TET 8		C&I Engineer
TET 9		C&I Engineer
TET 10		Configuration Management
TET 11		Configuration Management

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3.3 MANDATORY TECHNICAL EVALUATION CRITERIA

Table 3: Mandatory Technical Evaluation Criteria

	Mandatory Technical Criteria Description	Reference to Technical Specification / Tender Returnable	Motivation for use of Criteria
1.	<p>Background and Experience of similar completed projects that includes, as a minimum, the following: Integrated multidisciplinary design of all relevant engineering disciplines (electrical, C&I, civil, mechanical etc), construction / modification / installation, certification commissioning and testing of Chilled Water Plant HVAC systems for Power Station or building services environment.</p> <p>The scope of work comprises of Heating Ventilation and Air Conditioning System (HVAC), associated electrical works for complete HVAC system, associated controls, and accessories for complete HVAC Works, including Central Building Management System (CBMS) interface, associated building and civil works for complete HVAC Works, and Interfacing with fire detection system</p>	<p>Provide testimonial certificates or completion certificates of at least 5 Multidisciplinary Projects similar to the scope of work. The testimonial certificates or completion certificates shall consist of the following information:</p> <ul style="list-style-type: none"> a) Name of company where project was executed b) Project Description c) Construction period d) Verifiable reference (Contact person) <p>Note 1: Appointment letters will not be considered.</p> <p>Note 2: If item b, c and d is not indicated on the testimonial certificate or completion certificates, the tender shall provide the information as an attachment to the testimonial certificate or completion certificate.</p> <p>Note 3: If the project description is not provided or not comparable to the SoW (integrated multidisciplinary, the testimonial or completion certificate will not be considered.</p> <p>Note 4: The Tender to complete Appendix A of this document.</p>	<p>Previous similar work experience and capacity to perform the required work.</p>
2.	<p>Has the Tenderer confirmed all major equipment and devices offered is supplied by the Original Equipment Manufacturers (OEMs)?</p>	<p>A confirmation letter is to be provided by the tenderer listing major equipment and devices supplied by the Original Equipment Manufacturers (OEMs).</p>	<ul style="list-style-type: none"> a) Reliability of equipment and devices. b) Warranty reservation.

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	<p>A confirmation letter is to be provided by the tenderer</p> <p>If the equipment concerned is manufactured under licence, the tenderer shall provide a proof of licence agreement made with the OEM. The distributors or agents provide a copy of the contract agreement made with the OEM for the distribution of their equipment and the duration of the agreement should match that of the Contract.</p>		
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3.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA

The weight for the technical review will be 100% with a minimum threshold of 70% and will be based on the following:

Table 4: Qualitative Technical Evaluation Criteria

	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
1.	Engineering of the complete HVAC Works and Construction Supervision			20	
	1.1	2-off Professional Registered Mechanical Technologists/ Engineers with a track record of 5 completed projects as a minimum; for design, construction, and commissioning of HVAC systems in Power Station or building services environment.	Tender returnable – CVs and ECSA certificates to be submitted with reference to 5 completed projects for design, construction, and commissioning of HVAC systems in Power Station or building services environment		60
	1.2	1-off Professional Registered Electrical Technologist/ Engineer with a track record of 5 completed projects as a minimum; for design, construction, and commissioning of Electrical systems in Power Station or building services environment.	Tender returnable – CV and ECSA certificate to be submitted with reference to 5 completed projects for design, construction, and commissioning of Electrical systems in Power Station or building services environment.		20
	1.3	1-off Professional Registered Civil or Structural Technologist /Engineer with a track record of 5 completed projects as a minimum; for design and construction of Civil and Structural Works in Power Station or building services environment or related projects	Provide CV for key registered professional. The professional shall have a minimum of 5 years post ECSA registration with design and construction monitoring experience with relevant reference to the scope of work.		20

			The number of years of experience as indicated above must be clearly indicated in the CV for actual projects that the professional has been responsible for.		
2.	Completion of Construction, Defects to be fixed, Service and Repairs of the complete HVAC works			30	
	2.1	<p>1-off Service Manager/Site Manager qualification and experience on similar projects.</p> <p>The Service Manager is the person to whom the Contractor has assigned the responsibility of decision making on all matters relating to the on-site service and maintenance activities (including programming). He/she shall commit to the project for its full duration, unless otherwise agreed by the parties. Should a substitution be allowed, only a person with the same or higher qualifications and experience will be accepted</p>	Tender returnable – Tenderers will score points for a nominated Service Manager with minimum of five (5) or more years working experience in the service & maintenance, construction, commissioning and testing of HVAC projects or other related projects		20
	2.2	<p>General HVAC Foreman qualification and experience on similar projects.</p> <p>The General Foreman is the person to whom the Contractor has assigned the responsibility of supervising the teams engaged in construction, commissioning and testing activities. He/She shall commit to the project for its full duration, unless otherwise agreed by the parties. Should a substitution be allowed, only a person with the same or higher qualifications and experience will be accepted. The contractor is to provide contactable references.</p>	Tender returnable – Tenderers will score points for a nominated General Foreman with minimum of five (5) or more years working experience in the construction, commissioning and testing of HVAC projects		20
	2.3	3-off HVAC Service technician qualification and experience on similar projects.	Tender returnable – Tenderers will score points for a nominated HVAC		40

		HVAC Service and maintenance technician is the person to whom the Contractor has assigned the responsibility of supervising, service and maintenance, commissioning and testing activities. He/She shall commit to the project for its full duration, unless otherwise agreed by the parties. Should a substitution be allowed, only a person with the same or higher qualifications and experience will be accepted. The contractor is to provide contactable references.	Service and maintenance technician with minimum of five (5) or more years working experience in the service and maintenance, construction, commissioning and testing of HVAC projects		
	2.4	1-off Registered Electrician with Department of Labour (DoL) as Master Installation Electrician or Installation Electrician in terms of Electrical Installation Regulations to certify the electrical installation by issuing the Certificate of Compliance (CoC) on the modified installations.	Tender returnable – CV and Proof of Registration certificate for Master installation electrician or installation electrician to be submitted with reference to 5 completed projects for design, construction, and commissioning of Electrical systems in Building Services Environment.		20
3.	Testing, Commissioning & Correction of Faults, Completion & Handover and Training & Transfer of Technology			10	
	3.1	2-off HVAC Mechanical Testing and Commissioning technician qualification and experience on similar projects. HVAC Mechanical Testing and Commissioning technician is the person to whom the Contractor has assigned the responsibility of commissioning and testing activities. He/She shall commit to the project for its full duration, unless otherwise agreed by the parties. Should a substitution be allowed, only a person with the same or higher qualifications and experience will be accepted. The contractor is to provide contactable references.	Tender returnable – Tenderers will score points for a nominated HVAC Mechanical Testing and Commissioning technician with minimum of five (5) or more years working experience in the service and maintenance, construction, commissioning and testing of HVAC projects		40

	3.2	<p>1-off HVAC Electrical & Electronics Testing and Commissioning technician qualification and experience on similar projects.</p> <p>HVAC Electrical & Electronics Testing and Commissioning technician is the person to whom the Contractor has assigned the responsibility of commissioning and testing activities. He/She shall commit to the project for its full duration, unless otherwise agreed by the parties. Should a substitution be allowed, only a person with the same or higher qualifications and experience will be accepted. The contractor is to provide contactable references.</p>	Tender returnable – Tenderers will score points for a nominated HVAC Electrical & Electronics Testing and Commissioning technician with minimum of five (5) or more years working experience in the service and maintenance, construction, commissioning and testing of HVAC projects		40
	3.3	<p>1-off HVAC Training Specialist qualification and experience on similar projects.</p> <p>HVAC Training Specialist is the person to whom the Contractor has assigned the responsibility of Training & Transfer of Technology activities (including on job & classroom training). He/She shall commit to the project for its full duration, unless otherwise agreed by the parties. Should a substitution be allowed, only a person with the same or higher qualifications and experience will be accepted. The contractor is to provide contactable references.</p>	Tender returnable – Tenderers will score points for a HVAC Training Specialist with minimum of five (5) or more years working experience in the training environment for servicing & maintenance, construction, commissioning and testing of HVAC projects or other related projects		20
4.	KKS (Kraftwerk-Kenzeichnungs System) Coding			10	
	4.1	<p>1-off KKS (Kraftwerk-Kenzeichnungs System) Coding Specialist with a track record of 5 completed projects as a minimum; for coding of plant structures, systems and components according to the KKS (Kraftwerk-Kenzeichnungs System) as developed by the VGB in Power Station or related projects</p>	Tender returnable – CV and certificates to be submitted with reference to 5 completed projects for coding of plant structures, systems, and components according to the KKS in Power Station.		100
5.	Quality Control Inspection Test Plans (ITP) or QCP and Complete Data Books to employer's requirements			10	

	5.1	<p>1-off Quality Control Inspector qualification and experience on similar projects.</p> <p>The Quality Control Inspector is the person to whom the Contractor has assigned the responsibility of all matters relating to the on-site Quality Control Inspection Test Plan (ITP) or Quality Control Plan (QCP) activities to ensure that HVAC meet a set of standards. He/she shall commit to the project for its full duration, unless otherwise agreed by the parties. Should a substitution be allowed, only a person with the same or higher qualifications and experience will be accepted</p>	<p>Tender returnable – Tenderers will score points for a Quality Control Inspector with minimum of five (5) or more years working experience in Quality Control and Quality Assurance related to construction, commissioning and testing of HVAC projects or other related projects</p>		100
6.	General			20	
	6.1	<p>Organogram of the Proposed Full Time Multidisciplinary Project Team that includes each individual years of relevant experience, minimum 5 years.</p>	<p>Provide complete project team structure (organograms) based on the full scope of work i.e., site team organogram and design team organogram. Organograms should clearly distinguish between all required engineering disciplines. The organogram(s) must be accompanied by a letter confirming the availability of project team for the duration of the project</p> <p>It is noted that team members may only be replaced with individuals of equal or higher level of competence, after Client approval.</p> <p><u>Project team to include the following as minimum in addition to the requirements of Qualitative Technical Criteria 1-5 above.</u></p>		30

			<ul style="list-style-type: none"> • Project Manager/Contracts Manager • Project Planner • SHEQ team • Configuration and Document Management <p>The number of years of relevant experience of each individual must be provided in the CV.</p>		
	6.2	Technical proposal that meets requirements of project scope	<p>Technical proposal to include the following as a minimum:</p> <ul style="list-style-type: none"> a) Understanding of the scope of work as detailed by the functional specification. b) Proposed approach and methodology which includes deliverables, and resource plan, however not limited to. Indicate by general design/construction approach and method statements how the contractor will perform the work for each sub-system of the works (HVAC, Electrical, BMS and Building related works). c) Tenderer confirm compliance to the full scope of work and Technical Specification for the Works Information. Deviation form to be completed should 		40

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			there be a deviation to technical requirements.		
	6.3	Proposed work plan -indicating intent to undertake full scope of work whilst the Bellville remains live. -activities divided up realistically in schedule -timelines realistic for execution of activity	(Preliminary Project schedule showing key deliverable dates and Proposed Work plan indicating intent to undertake full scope of work whilst the Medupi Power Station remains live.)		20
	6.4	Lead time to mobilise team to execute the site investigations and design work after contract award.			10
				TOTAL: 100	

3.5 QUALITATIVE TECHNICAL EVALUATION SCORING CRITERIA

The scoring criteria are as follows:

Table 5: Qualitative Technical Evaluation Scoring Criteria

	Qualitative Technical Criteria Description		Scoring Criteria
1.	Engineering of the complete HVAC Works and Construction Supervision		
	1.1	2-off Professional Registered Mechanical Technologists/ Engineers with a track record of 5 completed projects as a minimum; for design, construction, and commissioning of HVAC systems in Power Station or building services environment.	<p>The Engineering of the complete HVAC works in terms of this Contract is to be executed by a qualified professional Technologist/Engineer who is a member of Engineering Council of South Africa (ECSA) or equivalent international acknowledgement.</p> <p>5 = Formal Mechanical BSc/Btech qualification or equivalent international acknowledgement and has 6 or more years working experience.</p> <p>4 = Formal Mechanical BSc/Btech qualification or equivalent international acknowledgement but has 4 to 5 years working experience.</p> <p>2 = Formal Mechanical BSc/Btech qualification or equivalent international acknowledgement, but less than 3 years working experience.</p> <p>0 = Has less than 3 years' experience and no formal Mechanical BSc/Btech qualification or equivalent international acknowledgement.</p>
	1.2	1-off Professional Registered Electrical Technologist/ Engineer with a track record of 5 completed projects as a minimum; for design, construction, and commissioning of Electrical	<p>5 = Formal Mechanical BSc/Btech qualification or equivalent international acknowledgement and has 6 or more years working experience.</p> <p>4 = Formal Mechanical BSc/Btech qualification or equivalent international acknowledgement but has 4 to 5 years working experience.</p>

		systems in Power Station or building services environment.	<p>2 = Formal Mechanical BSc/Btech qualification or equivalent international acknowledgement, but less than 3 years working experience.</p> <p>0 = Has less than 3 years' experience and no formal Mechanical BSc/Btech qualification or equivalent international acknowledgement.</p>
	1.3	1-off Professional Registered Civil or Structural Technologist /Engineer with a track record of 5 completed projects as a minimum; for design and construction of Civil and Structural Works in Power Station or building services environment or related projects	<p>5 = Formal Mechanical BSc/Btech qualification or equivalent international acknowledgement and has 6 or more years working experience.</p> <p>4 = Formal Mechanical BSc/Btech qualification or equivalent international acknowledgement but has 4 to 5 years working experience.</p> <p>2 = Formal Mechanical BSc/Btech qualification or equivalent international acknowledgement, but less than 3 years working experience.</p> <p>0 = Has less than 3 years' experience and no formal Mechanical BSc/Btech qualification or equivalent international acknowledgement.</p>
2.	Completion of Construction, Defects to be fixed, Service and Repairs of the complete HVAC works		
	2.1	<p>1-off Service Manager/Site Manager qualification and experience on similar projects.</p> <p>The Service Manager is the person to whom the Contractor has assigned the responsibility of decision making on all matters relating to the on-site service and maintenance activities (including programming). He/she shall commit to the project for its full duration, unless otherwise agreed by the parties. Should a substitution be allowed, only a person with the same or higher qualifications and experience will be accepted</p>	<p>5 = Formal tertiary education Mechanical & electrical degree or Diploma or equivalent international acknowledgement but has 5 or more years working experience in service & maintenance construction, commissioning and testing of Mechanical and Electrical System projects.</p> <p>4 = Formal tertiary education Mechanical & electrical degree or Diploma or equivalent international acknowledgement but has 3 or more years working experience in service & maintenance construction, commissioning and testing of Mechanical and Electrical System projects.</p> <p>2 = No formal tertiary education Mechanical & electrical degree or Diploma or equivalent international acknowledgement but has 3 or more years working experience in service & maintenance construction,</p>

			<p>commissioning and testing of Mechanical and Electrical System projects.</p> <p>0 = No formal tertiary education or equivalent international acknowledgement.</p>
2.2	<p>General HVAC Foreman qualification and experience on similar projects.</p> <p>The General Foreman is the person to whom the Contractor has assigned the responsibility of supervising the teams engaged in construction, commissioning and testing activities. He/She shall commit to the project for its full duration, unless otherwise agreed by the parties. Should a substitution be allowed, only a person with the same or higher qualifications and experience will be accepted. The contractor is to provide contactable references.</p>	<p>5 = Formal Trade Test on air conditioning & refrigeration or equivalent international acknowledgement, but has 5 or more years working experience in construction, commissioning and testing of large HVAC or Refrigeration System projects.</p> <p>4 = Formal Trade Test on air conditioning & refrigeration or equivalent international acknowledgement, but has 3 or more years working experience in construction, commissioning and testing of large HVAC or Refrigeration System projects</p> <p>2 = No formal Trade Test on air conditioning or refrigeration or equivalent international acknowledgement, but has 3 or more years working experience in construction, commissioning and testing of large HVAC or Refrigeration System projects.</p> <p>0 = No formal Trade Test on air conditioning or refrigeration or equivalent international acknowledgement.</p>	
2.3	<p>3-off HVAC Service technician qualification and experience on similar projects.</p> <p>HVAC Service and maintenance technician is the person to whom the Contractor has assigned the responsibility of supervising, service and maintenance, commissioning and testing</p>	<p>5 = Formal tertiary education Mechanical degree or Diploma or equivalent international acknowledgement or Formal Trade Test on air conditioning & refrigeration or equivalent international acknowledgement, but has 5 or more years working experience in construction, commissioning and testing of large HVAC or Refrigeration System projects.</p>	

		activities. He/She shall commit to the project for its full duration, unless otherwise agreed by the parties. Should a substitution be allowed, only a person with the same or higher qualifications and experience will be accepted. The contractor is to provide contactable references.	<p>4 = Formal tertiary education Mechanical & electrical degree or Diploma or equivalent international acknowledgement or Formal Trade Test on air conditioning & refrigeration or equivalent international acknowledgement, but has 3 or more years working experience in construction, commissioning and testing of large HVAC or Refrigeration System projects</p> <p>2 = Formal tertiary education Mechanical & electrical degree or Diploma or equivalent international acknowledgement or No formal Trade Test on air conditioning or refrigeration or equivalent international acknowledgement, but has 3 or more years working experience in construction, commissioning and testing of large HVAC or Refrigeration System projects.</p> <p>0 = No Formal tertiary education or formal Trade Test on air conditioning or refrigeration or equivalent international acknowledgement.</p>
2.4	1-off Registered Electrician with Department of Labour (DoL) as Master Installation Electrician or Installation Electrician in terms of Electrical Installation Regulations to certify the electrical installation by issuing the Certificate of Compliance (CoC) on the modified installations.	<p>The electrical installation in terms of this Contract is to be executed by a qualified Master Installation Electrician or Installation Electrician who is registered with the Department of Labour (DoL) or equivalent international acknowledgement.</p> <p>5 = Qualified Master Installation Electrician or Installation Electrician who is registered with the Department of Labour (DoL) or equivalent international acknowledgement and has 6 or more years working experience.</p> <p>4 = Qualified Master Installation Electrician or Installation Electrician who is registered with the Department of Labour (DoL) or equivalent international acknowledgement but has 4 to 5 years working experience.</p> <p>2 = Qualified Master Installation Electrician or Installation Electrician who is registered with the Department of Labour (DoL) or equivalent international acknowledgement, but less than 3 years working experience.</p> <p>0 = Has less than 3 years' experience and no formal qualification or equivalent international acknowledgement.</p>	

3.	<p>Testing, Commissioning & Correction of Faults, Completion & Handover and Training & Transfer of Technology</p>	
	<p>3.1</p> <p>2-off HVAC Mechanical Testing and Commissioning technician qualification and experience on similar projects.</p> <p>HVAC Mechanical Testing and Commissioning technician is the person to whom the Contractor has assigned the responsibility of commissioning and testing activities. He/She shall commit to the project for its full duration, unless otherwise agreed by the parties. Should a substitution be allowed, only a person with the same or higher qualifications and experience will be accepted. The contractor is to provide contactable references.</p>	<p>5 = Formal tertiary education Mechanical degree or Diploma or equivalent international acknowledgement or Formal Trade Test on air conditioning & refrigeration or equivalent international acknowledgement, but has 5 or more years working experience in construction, commissioning and testing of large HVAC or Refrigeration System projects.</p> <p>4 = Formal tertiary education Mechanical & electrical degree or Diploma or equivalent international acknowledgement or Formal Trade Test on air conditioning & refrigeration or equivalent international acknowledgement, but has 3 or more years working experience in construction, commissioning and testing of large HVAC or Refrigeration System projects</p> <p>2 = Formal tertiary education Mechanical & electrical degree or Diploma or equivalent international acknowledgement or No formal Trade Test on air conditioning or refrigeration or equivalent international acknowledgement, but has 3 or more years working experience in construction, commissioning and testing of large HVAC or Refrigeration System projects.</p> <p>0 = No Formal tertiary education or formal Trade Test on air conditioning or refrigeration or equivalent international acknowledgement.</p>
	<p>3.2</p> <p>1-off HVAC Electrical & Electronics Testing and Commissioning technician qualification and experience on similar projects.</p> <p>HVAC Electrical & Electronics Testing and Commissioning technician is the person to whom the Contractor has assigned the responsibility of commissioning and testing activities. He/She shall commit to the project for its full duration, unless otherwise agreed by the parties. Should a substitution be allowed, only a person with the</p>	<p>5 = Formal tertiary education Electrical degree or Diploma or equivalent international acknowledgement or Formal Trade Test on air conditioning & refrigeration or equivalent international acknowledgement, but has 5 or more years working experience in construction, commissioning and testing of large HVAC or Refrigeration System projects.</p> <p>4 = Formal tertiary education Electrical degree or Diploma or equivalent international acknowledgement or Formal Trade Test on air conditioning & refrigeration or equivalent international acknowledgement, but has 3 or more years working experience in construction, commissioning and testing of large HVAC or Refrigeration System projects</p>

		<p>same or higher qualifications and experience will be accepted. The contractor is to provide contactable references.</p>	<p>2 = Formal tertiary education Electrical degree or Diploma or equivalent international acknowledgement or No formal Trade Test on air conditioning or refrigeration or equivalent international acknowledgement, but has 3 or more years working experience in construction, commissioning and testing of large HVAC or Refrigeration System projects.</p> <p>0 = No Formal tertiary education or formal Trade Test on air conditioning or refrigeration or equivalent international acknowledgement.</p>
	3.3	<p>1-off HVAC Training Specialist qualification and experience on similar projects.</p> <p>HVAC Training Specialist is the person to whom the Contractor has assigned the responsibility of Training & Transfer of Technology activities (including on job & classroom training). He/She shall commit to the project for its full duration, unless otherwise agreed by the parties. Should a substitution be allowed, only a person with the same or higher qualifications and experience will be accepted. The contractor is to provide contactable references.</p>	<p>5 = Formal tertiary education Mechanical/Electrical degree or Diploma or equivalent international acknowledgement or Formal Trade Test on air conditioning & refrigeration or equivalent international acknowledgement, but has 5 or more years working experience in the training environment for servicing & maintenance, construction, commissioning and testing of HVAC projects or other related projects</p> <p>4 = Formal tertiary education Electrical degree or Diploma or equivalent international acknowledgement or Formal Trade Test on air conditioning & refrigeration or equivalent international acknowledgement but has 3 or more years working experience in the training environment for servicing & maintenance, construction, commissioning and testing of HVAC projects or other related projects.</p> <p>2 = Formal tertiary education Electrical degree or Diploma or equivalent international acknowledgement or No formal Trade Test on air conditioning or refrigeration or equivalent international acknowledgement but has 3 or more years working experience in the training environment for servicing & maintenance, construction, commissioning and testing of HVAC projects or other related projects.</p> <p>0 = No Formal tertiary education or formal Trade Test on air conditioning or refrigeration or equivalent international acknowledgement in the training environment for servicing & maintenance, construction, commissioning and testing of HVAC projects or other related projects.</p>
4.	KKS (Kraftwerk-Kenzeichnungs System) Coding		

	4.1	1-off KKS (Kraftwerk-Kenzeichnungs System) Coding Specialist with a track record of 5 completed projects as a minimum; for coding of plant structures, systems, and components according to the KKS (Kraftwerk-Kenzeichnungs System) as developed by the VGB in Power Station or related projects	<p>KKS coding in terms of this Contract is to be executed by an experienced KKS (Kraftwerk-Kenzeichnungs System) Coding Specialist with proven track record in coding of plant structures, systems, and components according to the KKS (Kraftwerk-Kenzeichnungs System) as developed by the VGB in Power Station or related projects</p> <p>5 = Experienced KKS (Kraftwerk-Kenzeichnungs System) Coding Specialist with proven track record and has 6 or more years working experience.</p> <p>4 = Experienced KKS (Kraftwerk-Kenzeichnungs System) Coding Specialist with proven track record but has 4 to 5 years working experience.</p> <p>2 = Experienced KKS (Kraftwerk-Kenzeichnungs System) Coding Specialist with proven track record, but less than 3 years working experience.</p> <p>0 = Has less than 3 years' experience.</p>
5.	Quality Control Inspection Test Plans (ITP) or QCP and Complete Data Books to employer's requirements		
	5.1	<p>1-off Quality Control Inspector qualification and experience on similar projects.</p> <p>The Quality Control Inspector is the person to whom the Contractor has assigned the responsibility of all matters relating to the on-site Quality Control Inspection Test Plan (ITP) or Quality Control Plan (QCP) activities to ensure that HVAC meet a set of standards. He/she shall commit to the project for its full duration, unless otherwise agreed by the parties. Should a substitution be allowed, only a person with the same or higher qualifications and experience will be accepted</p>	<p>5 = Experienced Quality Control Inspector with proven track record and has 6 or more years working experience.</p> <p>4 = Experienced Quality Control Inspector with proven track record but has 4 to 5 years working experience.</p> <p>2 = Experienced Quality Control Inspector with proven track record, but less than 3 years working experience.</p> <p>0 = Has less than 3 years' experience.</p>
6.	General		

	6.1	Organogram of the Proposed Full Time Multidisciplinary Project Team that includes each individual years of relevant experience, minimum 5 years.	<p>5 = All key project professional CVs submitted and meets minimum years of relevant experience.</p> <p>4 = More than 5 CVs of the key required project professionals submitted that meets minimum years of relevant experience.</p> <p>2 = Less than 5 CVs of the key required project professionals submitted that meets minimum years of relevant experience.</p> <p>0 = No organogram submitted</p>
	6.2	Technical proposal that meets requirements of project scope	<p>5 = Excellent response which demonstrates the ability to deliver the service far more than minimum requirements.</p> <p>4 = Good response detailing clearly how the service will be delivered above and beyond the minimum requirements.</p> <p>2 = Barely adequate levels of required scope proposal.</p> <p>0 = Less than minimum level of required scope proposal or irrelevant.</p>
	6.3	<p>Proposed work plan</p> <ul style="list-style-type: none"> -indicating intent to undertake full scope of work whilst the Medupi Power Station remains live. -activities divided up realistically in schedule -timelines realistic for execution of activity 	<p>5 = All three conditions of proposed work plan have been met.</p> <p>4 = Only two conditions of proposed work plan have been met.</p> <p>2 = Only one condition of proposed work plan have been met.</p> <p>0 = None of conditions of proposed work plan have been met.</p>
	6.4	Lead time to mobilise team to execute the site investigations and design work after contract award.	<p>5 = 1 week or less.</p> <p>4 = Between 1 and 2 weeks.</p> <p>2 = Between 3 and 4 weeks.</p> <p>0 = More than 4 weeks.</p>

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2.1. 1-off Service Manager/Site Manager qualification and experience on similar projects.	X	X	X								
2.2. General HVAC Foreman qualification and experience on similar projects.	X	X	X								
2.3. 3-off HVAC Service technician qualification and experience on similar projects.	X	X	X								
2.4. 1-off Registered Electrician with Department of Labour (DoL) as Master Installation Electrician or Installation Electrician in				X	X						
3. Testing, Commissioning & Correction of Faults, Completion & Handover and Training & Transfer of Technology											
3.1. 2-off HVAC Mechanical Testing and Commissioning technician qualification and experience on similar projects.	X	X	X								

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3.2. 1-off HVAC Electrical & Electronics Testing and Commissioning technician qualification and experience on similar projects.				X	X			X	X		
3.3. 1-off HVAC Training Specialist qualification and experience on similar projects.	X	X	X								
4. KKS (Kraftwerk-Kenzeichnungs System) Coding										X	X
5. Quality Control Inspection Test Plans (ITP) or QCP and Complete Data Books to employer's requirements	X	X	X								
6. General	X	X	X	X	X	X	X	X	X	X	X

X – Required Attendance

O – Optional

3.7 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS

3.7.1 Risks

Table 7: Acceptable Technical Risks

Risk	Description
1.	Alternative solutions with the same or better performance

Table 8: Unacceptable Technical Risks

Risk	Description
1.	Exclusions of scope specified in the employers requirements
2.	Unclear staff organogram. i.e. the staffing plan is weak not showing clarity in allocation of tasks and responsibilities
3.	Exclusion of a project specific schedule

3.7.2 Exceptions / Conditions

Table 9: Acceptable Technical Exceptions / Conditions

Risk	Description
1.	Accept deviation with technical qualification

Table 10: Unacceptable Technical Exceptions / Conditions

Risk	Description
1.	Deviation without technical qualification not accepted

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4. AUTHORISATION

This document has been seen and accepted by:

Name & Surname	Designation
	Lead Discipline Engineer, Low Pressure Services
	Chief Technologist, Asset Management
	Project Engineering Manager
	Project Manager
	Configuration Management
	Configuration Management
	Configuration Management
	Electrical Engineering
	Electrical Engineering
	Electrical Engineering
	C&I Engineering
	C&I Engineering
	Civil & Structural Engineering
	Civil & Structural Engineering
	Medupi Auxiliary Engineering
	Medupi Auxiliary Engineering
	Fire Engineering, Low Pressure Services

5. REVISIONS

Date	Rev.	Compiler	Remarks
March 2021	0		Draft version for review by Engineering Team
April 2021	0.1		Comments and updates
June 2021	1		Final Revision
November 2021	2		P08 SoW removed.
May 2022	3		Maintenance SoW removed.

6. DEVELOPMENT TEAM

All Technical Evaluation Team Members, as listed in Table 1, were involved with the development of this document.

7. ACKNOWLEDGEMENTS

We would like acknowledge Site Engineering as well as Medupi Power Station operating and maintenance departments for their support during data gathering and plant walk downs.

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8. APPENDICES

In addition to the Tender Technical Evaluation Strategy and other related documents applicable to the Contract, the following appendices are issued by the employer, for the tenderer to with the relevant information.

Table 11: Background and Experience of Similar Completed

Appendix	Title
A	Background and Experience of Similar Completed

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