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CONTENTS

Page

1. INTRODUCTION 3

2. SUPPORTING CLAUSES 3

2.1 SCOPE 3
2.1.1 Purpose 3
2.1.2 Applicability 3
2.2 NORMATIVE/INFORMATIVE REFERENCES 3
2.2.1 Normative 3
2.2.2 Informative 3
2.3 DEFINITIONS 3
2.3.1 Classification 4
2.4 ABBREVIATIONS 4
2.5 ROLES AND RESPONSIBILITIES 4
2.6 PROCESS FOR MONITORING 4
2.7 RELATED/SUPPORTING DOCUMENTS 4

3. TENDER TECHNCIAL EVALAUTION STRATEGY 5

3.1 TECHNICAL EVALUATION THRESHOLD 5
3.2 TET MEMBERS 5
3.3 MANDATORY TECHNICAL EVALUATION CRITERIA 6
3.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA 7
3.5 TET MEMBER RESPONSIBILITIES 15
3.6 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS 16
3.6.1 Risks 16
3.6.2 Exceptions / Conditions 16

4. AUTHORISATION ..... ERROR! BOOKMARK NOT DEFINED.

5. REVISIONS ..... ERROR! BOOKMARK NOT DEFINED.

6. DEVELOPMENT TEAM ..... ERROR! BOOKMARK NOT DEFINED.

7. ACKNOWLEDGEMENTS ..... ERROR! BOOKMARK NOT DEFINED.

TABLES

Table 1: TET Members 5
Table 2: Mandatory Technical Evaluation Criteria 6
Table 3: Qualitative Technical Evaluation Criteria 7
Table 4: TET Member Responsibilities 15
Table 5: Acceptable Technical Risks 16
Table 6: Unacceptable Technical Risks 16
Table 7: Acceptable Technical Exceptions / Conditions 16
Table 8: Unacceptable Technical Exceptions / Conditions 16

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1. INTRODUCTION

The Rotek Oil Lab Automation Project aims to refurbish and automate the Rotek Oil Lab. This project is a pilot project, which will be rolled out to the remaining Eskom Oil Labs. Supporting Clauses

2. SUPPORTING CLAUSES

2.1 SCOPE

This document provides the tender technical evaluation strategy for the required works of the Rotek Oil Lab Automation Project

2.1.1 Purpose

The purpose of this tender technical evaluation strategy is to define the Mandatory Evaluation Criteria, Qualitative Evaluation Criteria and 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 Rotek Oil Lab Automation Project only.

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

2.2.2 Informative

[2] 559-797820760 - Rotek Oil Lab Automation Project Technical Specification

2.3 DEFINITIONS

Definition	Description
Consultant/Tenderer	Refers to the corporation appointed to perform the engineering works required for the project.
Employer	Refers to Eskom Holdings State Owned Company
Eskom Plant Engineering	Refers to the Eskom Engineering team who will perform the reviews and provide technical assistance for the work performed by the appointed Contractor.
Specification	The document/s forming part of the contract in which the methods of executing the various items of work to be done is described, as well as the nature and quality of the materials to be supplied and it includes technical

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Definition	Description
	schedules and drawings attached thereto as well as all samples and patterns
The Client	The end user will be Eskom who will be represented by Eskom Properties throughout the duration of the Project.

2.3.1 Classification

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

2.4 ABBREVIATIONS

Abbreviation	Description
BoQ	Bill of Quantity
CoC	Certificate of Compliance
DoL	Department of Labour
ECSA	Engineering Council of South Africa
EDWL	Engineering Design Work Lead
LDE	Lead Discipline Engineer
TET	Technical Evaluation Team
RFP	Request For Proposal

2.5 ROLES AND RESPONSIBILITIES

N/A as per 240-48929482: Tender Technical Evaluation Procedure

2.6 PROCESS FOR MONITORING

N/A

2.7 RELATED/SUPPORTING DOCUMENTS

N/A

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3. TENDER TECHNCIAL EVALAUTION 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:

SCORE	PERCENTAGE (%)	DESCRIPTION
5	100	COMPLIANT • Meet the technical requirement(s) AND, • No foreseen technical risk(s) in meeting technical requirements
4	80	COMPLIANT WITH ASSOCIATED QUALIFICATIONS • Meet the technical requirement(s) with, • Acceptable technical risks AND/OR; • Acceptable exceptions AND/OR; • Acceptable conditions
2	40	NON-COMPLIANT • 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

3.2 TET MEMBERS

Table 1: TET Members

TET number	TET Member Name	Designation
TET 1	Vusumuzi Sibeko	Snr Technologist
TET 2	Mariaan Avis	Snr Technologist
TET 3	Tladi Moagi	C&I Engineer
TET 4	Andre Van Den Berg	Senior C&I Engineer
TET 5	Tebogo Modiba	Snr Advisor
TET 6	Jeanette Nkwana	Snr Advisor

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3.3 MANDATORY TECHNICAL EVALUATION CRITERIA

Table 2: Mandatory Technical Evaluation Criteria

	Mandatory Technical Criteria Description	Reference to Technical Specification / Tender Returnable	Motivation for use of Criteria
1.	Demonstrable similar project completion	Tender Returnable: Completed project reference with demonstration evidence	Requirement: The bidder must provide evidence of at least Three (3) completed project of similar scope and complexity (robotics-assisted laboratory automation, multi-instrument integration, and LIMS integration) within the past five (5) years. Demonstration: The bidder must provide a live or recorded demonstration of the completed project, including system operation, workflow automation, and data integration. The demonstration may be conducted virtually or on-site at the reference site, subject to Eskom approval.

3.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA

Table 3: Qualitative Technical Evaluation Criteria

	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
1.	**Technical Solution Design**			**25**	
	1.1	Automation of all eight tests with credible evidence 5 = Full automation for all eight tests. 2 = Partial automation for six or more tests. 0 = Fewer than six tests automated or no credible evidence provided	Supplier Provides Technical Proposal which includes detailed solution description, complete CAD laboratory layout design approach, work cell layout, visual demonstration concept, integration architecture diagrams, interface architecture, protocol matrix, instrument and robotics datasheets, and a compliance matrix against this SOW.		30
	1.2	Barcode-driven registration, tracking, and priority routing 5 = Fully automated workflow with LIMS integration and chain-of-custody tracking. 2 = Barcode scanning with manual metadata entry. 0 = No barcode integration.			20
	1.3	Robotics and sample preparation automation 5 = 6-axis or equivalent robotic system meeting specifications with automated decapping, homogenisation, aliquoting, reagent addition, and cleaning. 2 = Partial robotics. 0 = Manual preparation remains routine.			20

	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
	1.4	Instrument-to-LIMS data capture and performance targets 5 = All eight instruments digitally integrated through middleware, with automated parsing, validation, LIMS submission, throughput, and TAT targets demonstrated. 2 = Partial integration. 0 = Manual transcription remains routine.			30
2.	**Integration and Compliance**			**20**	
	2.1	LIMS integration 5 = Clear bid-specific bi-directional integration approach with traceability, exception handling, security controls, and no routine manual transcription. 2 = Incomplete or partially manual approach. 0 = No credible approach.	Integration and IT/OT Submission which includes infrastructure requirements specification pack, cybersecurity and protocol compliance matrix, data-flow design, and exception-handling design.		40
	2.2	IT/OT cybersecurity and protocol compliance 5 = Complete cybersecurity and protocol submission with architecture, controls, identity, patching, logging, remote access, and Eskom alignment. 2 = High-level response with gaps. 0 = Not adequately addressed.			30
	2.3	SANAS / ISO 17025 alignment 5 = Detailed data integrity, audit trail, validation, and competency approach. 2 = Mentioned without sufficient detail. 0 = Not addressed.			30

	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
3.	**Implementation and Validation**			**20**	
	3.1	Validation methodology 5 = Detailed site-specific SAT, IQ/OQ/PQ protocols for all tests and integrations. 2 = Generic templates only. 0 = No methodology.	Supplier provides a Validation and Quality documentation with draft SAT protocol, IQ/OQ/PQ methodology, and SANAS/ISO 17025 alignment approach. As well as the Project Execution Plan which contains the detailed schedule, resource plan, risk register, commissioning plan, and cutover strategy.		40
	3.2	Project plan and risk mitigation 5 = Detailed WBS, critical path, integration risks, and mitigation. 2 = High-level Gantt only or limited information. 0 = No plan.			35
	3.3	Change management, training, and visual demonstration readiness 5 = Includes role-based training, SOPs, competency assessments, and visual demonstration/training suite aligned with the approved laboratory design. 2 = Partial plan. 0 = No plan.			25
4.	**Vendor Capability and Support**			**15**	
	4.1	Warranty, hypercare, and support model 5 = Minimum 12-month warranty, four weeks on-site hypercare, and clear SLA proposal. 2 = Warranty only. 0 = No support model.	Supplier provides support and licensing Submission with warranty terms, hypercare plan, and support model.		60

	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
	4.2	IP and software licensing 5 = Perpetual, royalty-free licence for custom code developed for Eskom. 0 = Recurring licence fees proposed.			40
5.	Control and Instrumentation			**20**	
	5.1	**Functional safety, field instrumentation and fire/gas detection interlock design** 5 = Complete safety-related control design submitted, including a draft Safety Requirements Specification (SRS), Cause & Effect / Interlock Matrix, and SIL/PL determination approach per ISO 13849-1 / IEC 62061 covering all operating modes; a field instrumentation schedule covering sample-conditioning temperature control, extraction/ventilation monitoring, power quality/UPS status and the Hydrogen gas detector; and fire/gas alarm interlocks to the HMI and safety PLC/controller aligned with SANS 10108, the Eskom Fire Detection and Life Safety Design Standard (240-56737448) and the Eskom Alarm System Performance standard (240-57859210). 4 = A complete Safety Requirements Specification (SRS) and Cause & Effect / Interlock Matrix are provided covering all operating modes (Automatic, Manual/Semi-Auto, Teach, Maintenance, SIL/PL Method partially detailed). 2 = Partial safety design (e.g. E-stop/guarding only) without a complete Cause & Effect Matrix or field instrumentation schedule; fire/gas interlocks referenced but not detailed. 0 = No credible functional safety or field instrumentation design submitted.	3.4.4.7 Safety-Related Control / Interlock System – Supply provides C&I Safety Philosophy; draft SRS methodology; preliminary Cause & Effect / Interlock Matrix; safety architecture; SIL/PL determination methodology; robot safety concept; fire/gas and hydrogen detection interface philosophy		35

	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
	5.2	**C&I System Architecture and Interfaces** 5 = Complete control-system architecture drawing showing all layers (field -robot -PLC/safety PLC - HMI - middleware - LIMS) with clear OT/IT segregation, protocol matrix, network topology, data-flow architecture, fail-safe behaviour and automatic logged recovery. Bi-directional LIMS integration, exception handling, queuing and transaction integrity fully demonstrated. Zero routine manual transcription supported. 4 = Provides a coherent and technically feasible C&I architecture covering the principal systems and interfaces. 2 = Architecture drawing (high-level or partially developed C&I architecture) 0 = No credible control system architecture drawing or control philosophy submitted.	3.4.4.1 Control System Architecture; 3.4.4.2 Robotics and Automated Work Cell; 3.4.4.3 Instrument Integration; 3.4.4.4 Middleware and LIMS Integration; C&I architecture drawing; network topology; control architecture; instrument/robot/PLC/LIMS interface matrix; communication and protocol matrix; data-flow diagrams; failure/recovery philosophy; IT/OT interface requirements, time synchronisation, data buffering, transaction integrity, data reconciliation and reprocessing, interface ownership and responsibilities		25

	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
	5.3	**Field Instrumentation** 5 = Complete, tag-numbered field instrumentation schedule/index covering sample-conditioning temperature control (20°C ± 2°C or per test method) measurement and monitoring, extraction/ventilation performance monitoring, power quality and UPS status monitoring, and the hydrogen gas detector, supported by manufacturer datasheets, calibration certificates and a spares/maintainability plan covering at least the first two years of operation. 4 = Provides an appropriate instrumentation concept covering the principal monitoring and control requirements. 2 = Field instrumentation identified in general terms only (generic) 0 = No credible field instrumentation schedule or index submitted	3.4.4.8 Field Instrumentation – Supplier provides Preliminary Instrument Index; instrument datasheets; sample-conditioning temperature measurement and control philosophy; ventilation/extraction monitoring; hydrogen detector; UPS/power-status and quality monitoring; equipment status feedback; instrument health status monitoring; calibration and maintainability philosophy		15

	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
	5.4	**Alarm philosophy, HMI concept, user roles, manual/maintenance mode, abnormal-condition handling and audit trail** 5 = Complete HMI concept providing an overview of work cell, robot, sample and instrument status, active sequence, alarm and communication status; role-based access for Operator, Supervisor, Maintenance/Technician and Engineering/Administrator; controlled manual and maintenance recovery functions restricted to authorised, logged users; and an alarm philosophy rationalised against the Eskom Alarm System Performance standard (240-57859210), with critical alarms and events recorded in an audit/event log. 4 = Role based access, sound HMI concept and rationalised alarm philosophy addressing the main operational requirements. 2 = HMI concept and limited alarm philosophy 0 = No credible HMI or alarm-management design submitted.	3.4.4.9 HMI/Operator interface and Alarm Management – Supplier provides HMI philosophy; representative screen designs; alarm philosophy; alarm priority matrix; user-role/access matrix; manual/maintenance mode philosophy; abnormal-condition/recovery philosophy		15

	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
	5.5	**FAT/SAT, Verification, Validation, loop/interlock test plans, configuration backups, spares, training, as-builts and support model.** 5 = Detailed, site-specific FAT and SAT procedures covering loop checks, safety-function/interlock testing, IQ/OQ/PQ protocols, configuration backup and restore procedures, a spares holding plan, role-based C&I training and complete as-built documentation, aligned with the C&I Acceptance Criteria of Section 3.4.8. 4 = Credible FAT/SAT and commissioning methodology covering the major C&I systems. 2 = Generic FAT/SAT templates 0 = No credible C&I validation, backup, spares or support methodology submitted.	3.4.8 C&I Acceptance Criteria – Supplier provides C&I FAT methodology; SAT methodology; I/O verification procedure; loop/interlock test methodology; calibration/performance verification; configuration backup strategy; as-built documentation schedule; training and maintenance approach		10
				TOTAL: 100	

3.5 TET MEMBER RESPONSIBILITIES

Table 4: TET Member Responsibilities

Mandatory Criteria Number	TET 1	TET 2	TET 3	TET 4	TET 5	TET 6
1	x	x	x	x		
Qualitative Criteria Number	**TET 1**	**TET 2**	**TET 3**	**TET 4**	**TET 5**	**TET 6**
1	x	x	x	x	x	x
2			x	x	x	x
3	x	x	x	x	x	x
4	x	x	x	x	x	x
5			x	x		

3.6 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS

3.6.1 Risks

Table 5: Acceptable Technical Risks

Risk	Description
1.	

Table 6: Unacceptable Technical Risks

Risk	Description
1.	

3.6.2 Exceptions / Conditions

Table 7: Acceptable Technical Exceptions / Conditions

Risk	Description
1.	

Table 8: Unacceptable Technical Exceptions / Conditions

Risk	Description
1.	

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