Eskom	Strategy	Engineering

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Compiled by	Functional Responsibility	Authorised by
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TABLES

1. INTRODUCTION

The objective of the scope is to make necessary for the upgrade of the Cooling Water (CW) Pumps Programmable Logic Controller (PLC). The upgrade is such that the plant can be safely and reliably operated until its end of life.

The Tender Technical Evaluation Strategy has defined the mandatory and qualitative evaluation criteria which serve as a basis for the technical evaluation process.

2. SUPPORTING CLAUSES

2.1 SCOPE

High level scope of the Works:

(1) Engineering, design, procurement, manufacturing, factory acceptance testing, delivery, off-loading at site, storage, installation, testing, commissioning, and as-built documentation for the Duvha Cooling Water (CW) Pumps control system S7-1500 PLC.

(2) The specific sub-systems provided as part of Duvha Cooling Water (CW) Pumps control system include:

i. Battery Chargers and their status monitoring system to interface to the marshalling S7-400 PLC.

ii. Existing interface to L2 connected plant via Profinet enabled gateway.

iii. Connecting the supplied S7-1500 PLC to the marshalling S7- 400 PLC.

(3) Installation and commissioning of twelve (12) CW Pumps Sump Level Transmitters & Probes

(4) Supply, installation and commissioning of twelve (12) CW Pumps bearings CW flow meters.

(5) Removal and/or relocation of existing equipment where required by new design.

(6) Plant and labelling of all equipment supplied as part of the works.

(7) Earthing of all equipment supplied as part of the works.

(8) Training of Operating, Engineering & Maintenance staff

(9) All activities, services or equipment specified (special tools, consumables, etc.)

(10) All software, license and copyright agreements for the works.

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 applies to the tender evaluation team for the Duvha Power Station.

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] 240-168966153 Rev 1: Tender Technical Evaluation Procedure

[2] 382-171295 Rev 2.1: Duvha Power Station CW Pumps Control System Upgrade Technical Specification.

[3] 32-1034 : Eskom procurement and supply chain management.

2.2.2 Informative

[4] Not applicable (N/A)

2.3 DEFINITIONS

2.3.1 Classification

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

2.4 ABBREVIATIONS

Abbreviation	Description
C&I	Control and Instrumentation
CV	Curriculum Vitae
CW	Cooling Water
ECSA	Engineering Council of South Africa
FAT	Factory Acceptance Test
PLC	Programmable Logic Controller
SIT	Site Integration Test
TET	Technical Evaluation Team

2.5 ROLES AND RESPONSIBILITIES

Roles are as per 240-48929482: Tender Technical Evaluation Procedure

2.6 PROCESS FOR MONITORING

N/A

2.7 RELATED/SUPPORTING DOCUMENTS

N/A

3. TENDER TECHNCIAL EVALAUTION STRATEGY

3.1 TECHNICAL EVALUATION THRESHOLD

The minimum weighted final score (threshold) required for a tender to be considered from a technical perspective is 70%.

3.2 TET MEMBERS

Table 1: TET Members

TET number	TET Member Name	Designation
TET 1	Elliot Mamba	Electrical Engineering Technician
TET 2	Lemuel Zwart	C&I Engineer
TET 3	Sakhy Mnguni	Senior Electrical Engineering Technician
TET 4	Sibu Makhoba	C&I Engineer

3.3 MANADATORY 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.	The lead C&I designer is required to be a professionally registered as an Electrical Electronic engineer/technologist with 3 years ECSA registration as a minimum.	ECSA professional registration certificate	This is a critical plant, and it is required that staff be professionally registered to ensure designs are done by a competent engineer/technologist.
2.	The lead Electrical designer is required to be a professionally registered as an Electrical engineer/technologist with 3 years ECSA registration as a minimum.	ECSA professional registration certificate	This is a critical plant, and it is required that staff be professionally registered to ensure designs are done by a competent engineer/technologist.
3.	The company staff member responsible for PLC programming to have a certificate in Simatic S7 advanced programming and a National Diploma in Electrical/Electronic as a minimum. Traceable work experience of at least two (2) Simatic S7 Projects	Simatic S7 advanced programming certificate, National Diploma Electrical/Electronic certificate, and Two (2) S7 Project completion certificates	This is a critical plant, and it is required that the company has experience and that the staff be competent to ensure that the works is executed by competent person/s.
4.	The company staff member responsible for networking communication to have a certificate in Simatic S7 network communication and a National Diploma in Electrical/Electronic as a minimum. Traceable work experience of at least two (2) Simatic S7 Projects	Simatic S7 network communication certificate, National Diploma Electrical/Electronic certificate, and Two (2) S7 networking communication Project completion certificates	This is a critical plant, and it is required that the company has experience and that the staff be competent to ensure that the works is executed by competent person/s.

3.4 QUALITATIVE TECHNICAL EVALUATION CRITERIA

During the tender evaluations the following table shall be used by the TET members to score each criterion on a scale of 0 to 5 as per Table 3.

Table 3: Qualitative Technical Evaluation Criteria Scoring

Score	(%)	Definition
5	100	**COMPLIANT** • Meet technical requirement(s) AND; • No foreseen technical risk(s) in meeting technical requirements.
4	80	**COMPLIANT WITH ASSOCIATED QUALIFICATIONS** Meet technical requirement(s) with; • Acceptable technical risk(s) AND/OR; • Acceptable exceptions AND/OR; • Acceptable conditions.
2	40	**NON-COMPLIANT** • Does not meet technical requirement(s) AND/OR; • Unacceptable technical risk(s) AND/OR; • Unacceptable exceptions AND/OR; • Unacceptable conditions.
0	0	**TOTALLY DEFICIENT OR NON-RESPONSIVE**
Note 1: The scoring table does not allow for scoring of 1 and 3. **Note 2**: Foreseen acceptable and unacceptable risk(s), exceptions and conditions shall be unambiguously defined in the relevant Tender Technical Evaluation Strategy.		

- Table 4 indicates the qualitative technical evaluation criteria that shall be used by the technical tender evaluation team.

Table 4: Qualitative Technical Evaluation Criteria

Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)	Floor (0)	Kick in (2)	Average (4)	Ceiling (5)
1. CONTRACTORS EXPERIENCE								
1.1	Completed Projects in Simatic S7 1500 PLC installation and commissioning in the past 5 years.	Each completed project that is referenced the following must be included in the summary as a minimum: 1. Title with short description of the project scope of work 2. Contract or order number 3. Signed agreement page(s) or signed completion certificate(s) 4. Client name(s) and contact details 5. Start date and end date of contract	35	30	No proof of work in Simatic 1500 PLC installation and commissioning project.	One (1) in Simatic 1500 PLC installation and commissioning project.	Two (2) in Simatic 1500 PLC installation and commissioning project.	Three (3) in Simatic 1500 PLC installation and commissioning project.

Qualitative Technical Criteria Description		**Reference to Technical Specification / Tender Returnable**	**Criteria Weighting (%)**	**Criteria Sub Weighting (%)**	**Floor (0)**	**Kick in (2)**	**Average (4)**	**Ceiling (5)**
1.2	Completed Projects in Battery Chargers installation and commissioning in the past 5 years.	Each completed project that is referenced the following must be included in the summary as a minimum: 5. Title with short description of the project scope of work 6. Contract or order number 7. Signed agreement page(s) or signed completion certificate(s) Client name(s) and contact details		10	No proof of work In installation and commissioning of DC systems in the scope of work	One(1)	Two(2)	Three(3)
1.3	COMPANY ORGANOGRAM	Provide a detailed organogram for the Duvha project that indicates the hierarchal structure, Employees' names and their expertise and their CVs provided for following key employees. - Project Manager – Advanced Diploma in Project Management - Lead C&I Engineer/Technologist - Lead Electrical Engineer/Technologist - S7 Programming Technician - S7 Network communication Technician - Quality Controller - Artisans -		5	No organogram and/ or no CVs	Detailed organogram provided and missing some of the key employees. CVs missing.	Detailed organogram provided with all key employees and their CVs	Detailed organogram provided other support employees over and above key employees and all employees' CVs.
1.4	Project Manager's experience as a Project Manager in the past 5 years. Minimum Qualifications: Advanced Diploma in Project Management	Certified copy of Qualifications CV with traceable references of experience as a Project Manager		10	Zero (0) Years experience Or no CV or qualification.	One (1) year experience	Two (2) Years experience	Three (3) Years experience

1.5	Lead C&I Engineer/Technologist experience in executing Simatic S7 1500 PLC Projects in the past 5 years. Minimum Qualifications BSc/B. Eng/Btech Electrical Electronic Engineering.	ECSA Professional Registration Certified copy of Qualifications CV with traceable references in Simatic S7 1500 PLC projects executed.		15	Zero(0) Simatic 1500 PLC installation and commissioning project.	One(1) Simatic 1500 PLC installation and commissioning project.	Two(2) Simatic 1500 PLC installation and commissioning project.	Three(3) Simatic 1500 PLC installation and commissioning project.
1.6	Lead Electrical Engineer/Technologist experience in executing Battery Chargers Project In the past 5 years Minimum Qualifications BSc/B. Eng/Btech Electrical Engineering.	ECSA Professional Registration Certified copy of Qualifications CV with traceable references in Battery Chargers projects executed.		10	Zero (0) Battery Chargers installation and commissioning project.	One (1) Battery Chargers installation and commissioning project.	Two (2) Battery Chargers installation and commissioning project..	Three (3) Battery Chargers installation and commissioning project.
1.7	S7 Programming Technician experience in executing Simatic S7 1500 PLC Projects in the past 5 years. Minimum Qualifications National Diploma Electrical/Electronic Engineering. Simatic S7 advanced programming	Simatic S7 advanced programming certificate Certified copy of Qualifications CV with traceable references in Simatic S7 1500 PLC projects executed		10	Zero (0) Simatic 1500 PLC installation and commissioning project.	One (1) Simatic 1500 PLC installation and commissioning project.	Two (2) Simatic 1500 PLC installation and commissioning project.	Three (3) Simatic 1500 PLC installation and commissioning project.
1.8	S7 network communication Technician experience in executing Simatic S7 1500 PLC Projects in the past 5 years. Minimum Qualifications National Diploma Electrical/Electronic Engineering. Simatic S7 network communication.	Simatic S7 network communication certificate Certified copy of Qualifications CV with traceable references in Simatic S7 1500 PLC projects executed		5	Zero (0) Simatic 1500 PLC installation and commissioning project.	One (1) Simatic 1500 PLC installation and commissioning project.	Two (2) Simatic 1500 PLC installation and commissioning project.	Three (3) Simatic 1500 PLC installation and commissioning project.
1.9	Quality Controller's (QC) years' experience as a quality controller. Minimum qualifications. National Diploma in Electrical/Electronic Engineering.	Certified copy of Qualifications CV with traceable references		5	Zero (0) Years experience Or no CV or qualification.	One (1) Year experience	Two (2) Years experience	Three (3) Years experience

	Qualitative Technical Criteria Description	Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)	Floor (0)	Kick in (2)	Average (4)	Ceiling (5)
2. PROJECT EXECUTION METHODOLOGY								
2.1	The tenderer provides a project method statement highlighting how the tenderer intends to execute the C&I scope of work.(Detailed Engineering)	Method statement to get the Detailed Engineering design for the systems based on the input documentation and investigations. .	25	20	No method statement submitted	Method statement submitted and it is unacceptable	Method statement submitted but can be optimized	Method statement submitted and it is acceptable
2.2	The tenderer provides a project method statement highlighting how the tenderer intends to execute the Electrical scope of work (Detailed Engineering)	Method statement to get the Detailed Engineering design for the systems based on the input documentation and investigations.		10	No method statement submitted	Method statement submitted and it is unacceptable	Method statement submitted but can be optimized	Method statement submitted and it is acceptable
2.3	Control & Instrumentation system Factory Acceptance Test (FAT)	C&I System FAT testing method statement describing approach for all systems/equipment supplied as part of the works.		10	No method statement submitted	Method statement submitted and it is unacceptable	Method statement submitted but can be optimized	Method statement submitted and it is acceptable
2.4	Electrical system FAT – DC systems as per the scope of work.	Electrical system FAT testing method statement describing approach for all systems/equipment supplied as part of the works.		5	No method statement submitted	Method statement submitted and it is unacceptable	Method statement submitted but can be optimized	Method statement submitted and it is acceptable
2.5	Procurement, Erection & Installation	Provide the infrastructure that is required for the successful installation of the new complete system.		35	No method statement submitted	Method statement submitted and it is unacceptable	Method statement submitted but can be optimized	Method statement submitted and it is acceptable

2.6	Site Integration Test (SIT)	Method statement for the SIT including all electrical loads required for the successful SIT.		5	No method statement submitted	Method statement submitted and it is unacceptable	Method statement submitted but can be optimized	Method statement submitted and it is acceptable
2.7	Commissioning	Commissioning strategy that describes the methodology for undertaking cold and hot commissioning of the system.		10	No method statement submitted	Method statement submitted and it is unacceptable	Method statement submitted but can be optimized	Method statement submitted and it is acceptable
2.8	Technical Documentation	Method statement of how the Tenderer will ensure high quality.		5	No method statement submitted	Method statement submitted and it is unacceptable	Method statement submitted but can be optimized	Method statement submitted and it is acceptable

Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)	Floor (0)	Kick in (2)	Average (4)	Ceiling (5)
3. SCOPE OF WORK REQUIREMENTS								
3.1	Compliance to Cooling Water(CW) Pumps Control System scope of work requirements including field instrumentation scope of work requirements.	Provide Detailed control system architecture and general arrangement which includes all the proposed CW control system components to meet the requirements of the Works, submit documentation with detailed Original Equipment Manufacturer (OEM) that meet the description in the scope of work. Provide Engineering tools.	40	50	Unacceptable conditions. TOTALL Y DEFICIE NT OR NON-RESPO NSIVE	NON-COMPLIANT Does not meet technical requirement(s) AND/OR; Unacceptable technical risk(s) AND/OR; Unacceptable exceptions AND/OR; Unacceptable conditions.	COMPLIANT WITH ASSOCIATED QUALIFICATI ONS • Meet technical requirement(s) with; Acceptable technical risk(s) AND/OR; Acceptable exceptions AND/OR; Acceptable conditions.	Meet technical requirement(s)/AND No foreseen technical risk(s) in meeting technical requirements.
3.2	Compliance to C&I Scope of Work requirements for network and communication to existing S7-400 PLC	Provide detailed network architecture. submit documentation with detailed Original Equipment Manufacturer (OEM) that meet the description in the scope of work.		10	Unacceptable conditions. TOTALL Y DEFICIE NT OR NON- RESPO NSIVE	NON-COMPLIANT Does not meet technical requirement(s) AND/OR; Unacceptable technical risk(s) AND/OR; Unacceptable exceptions AND/OR; Unacceptable conditions.	COMPLIANT WITH ASSOCIATED QUALIFICATI ONS • Meet technical requirement(s) with; Acceptable technical risk(s) AND/OR; Acceptable exceptions AND/OR; Acceptable conditions.	Meet technical requirement(s)/AND No foreseen technical risk(s) in meeting technical requirements.

3.3	Compliance to Training Requirements in the Scope of Work	Provide proposed training for Maintenance, Operating and Engineering in the Project as per the scope of work.		10	Unacceptable conditions. TOTALL Y DEFICIE NT OR NON- RESPO NSIVE	NON-COMPLIANT Does not meet technical requirement(s) AND/OR; Unacceptable technical risk(s) AND/OR; Unacceptable exceptions AND/OR; Unacceptable conditions.	COMPLIANT WITH ASSOCIATED QUALIFICATI ONS • Meet technical requirement(s) with; Acceptable technical risk(s) AND/OR; Acceptable exceptions AND/OR; Acceptable conditions.	Meet technical requirement(s)/AND No foreseen technical risk(s) in meeting technical requirements.
3.4	Compliance to Electrical Scope of Work (DC Systems) Requirements	Provide the basic design for the Dual Redundant DC system/s.		30	Unacceptable conditions. TOTALL Y DEFICIE NT OR NON- RESPO NSIVE	NON-COMPLIANT Does not meet technical requirement(s) AND/OR; Unacceptable technical risk(s) AND/OR; Unacceptable exceptions AND/OR; Unacceptable conditions.	COMPLIANT WITH ASSOCIATED QUALIFICATI ONS • Meet technical requirement(s) with; Acceptable technical risk(s) AND/OR; Acceptable exceptions AND/OR; Acceptable conditions.	Meet technical requirement(s)/AND No foreseen technical risk(s) in meeting technical requirements.

3.5 TET MEMBER RESPONSIBILITIES

Table 4: TET Member Responsibilities

Mandatory Criteria Number	TET 1(Elliot)	TET 2(Lemuel)	TET 3(Sakhy)	TET 4(Sibu)
1	X	X	X	X
2	X		X	
3		X		X
4		X		X
Qualitative Criteria Number	**TET 1**	**TET 2**	**TET 3**	**TET 4**
1. Contractor Experience				
1.1		X		X
1.2	X		X	
1.3	X	X	X	X
1.4	X	X	X	X
1.5		X		X
1.6	X		X	
1.7		X		X
1.8		X		X
1.9	X	X	X	X

2. Project Execution Methodology				
2.1		X		X
2.2	X		X	
2.3		X		X
2.4	X		X	
2.5	X	X	X	X
2.6		X		X
2.7	X	X	X	X
2.8	X	X	X	X
3. Scope of Work Requirements				
3.1		X		X
3.2		X		X
3.3	X	X	X	X
3.4	X		X	

3.6 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS

3.6.1 Risks

Table 5: Acceptable Technical Risks

Risk	Description
1.	**None**

Table 6: Unacceptable Technical Risks

Risk	Description
1.	**N/A**

3.6.2 Exceptions / Conditions

Table 7: Acceptable Technical Exceptions / Conditions

Risk	Description
1.	**None**

Table 8: Unacceptable Technical Exceptions / Conditions

Risk	Description
1.	**None**

4. AUTHORISATION

This document has been seen and accepted by:

Name	Designation	Signature
Elliot Mamba	Electrical Engineering Technician	
Lemuel Zwart	C&I Engineer	
Nsizwa Mhlongo	C&I Engineer	
Sakhy Mnguni	Senior Electrical Engineering Technician	

5. REVISIONS

Date	Rev.	Compiler	Remarks
July 2025	0	S Makhoba	1st draft
September 2025	1	S. Makhoba	Section 3.2 Table 1 updated for TET members
October 2025	2	S. Makhoba	Section 3.3, 3.4 & 3.5 updated

6. DEVELOPMENT TEAM

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

Elliot Mamba

7. ACKNOWLEDGEMENTS