

	MATLA POWER STATION SCOPE OF WORK	Template Identifier	240-43921898	Rev	6
		Document Identifier	14593	Rev	4
		Effective Date	October 2019		
		Review Date	October 2022		


PLANT AREA Matla Power Station					
TITLE Scope of Work for supply and delivery of dosing chemicals for the cooling water system at Matla Power Station on an as and when required basis for a period of 5 years					
REF MEP- 051316	Reference Rev No 1	MULTIDISCIPLINARY No		Plant Level All	
COMPILED BY	Name Maria Majake Contract Manager	Signature	<i>M. Majake</i>	Date	2021-05-14
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ACCEPTED	Name Stanley Motha Chemical Services Manager	Signature	<i>S. Motha</i>	Date	2021/05/14

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GENERAL

- Data books, reviews, reports and diagrams/drawings shall be submitted to Engineering after the completion of the work. Engineering to forward the data books to Quality Department (Document Control)
- All QCP's to be submitted to Engineering and Quality for approval prior to outage/project or maintenance work commencement


	SCOPE OF WORK DESCRIPTION / ACTIVITY	PROCEDURE, SPECIFICATION, ENG REQUIREMENTS / DOCUMENTATION	HOLD POINTS, WITNESS, REPORTS	RESPONSIBLE PARTY
1.1	Safety	<ul style="list-style-type: none"> All work is to be done in accordance with Matla plant procedures and safety regulations (GGR 0992) Matla power station induction must be done before any work commences Permit to work must be in place before any work commences Worker's register must be completed and daily risk assessment conducted before any work commences 	Eskom to witness	Contractor
1.2	Environmental Management	<ul style="list-style-type: none"> All activities listed in the National Environmental Act 107 of 1998, EIA Regulations as amended, must have environmental AUTHORISATION before commencement of work The contractor shall comply with all applicable legal and other requirements The polluter pays principle will be applied The contractor manager shall ensure compliance with Eskom Matla Environmental procedures to ensure the prevention of pollution (refer OMOP 4090 and 4402) The last payment will be processed based on the status of the last housekeeping check sheet (Annexure C OMOP 4402) of designated area EMS file based on ISO14001 will be required 	Eskom to witness	Contractor

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1.3	Quality Management	<ul style="list-style-type: none"> The contractor/executioner of work will be responsible for drawing up all QCP documentation and this must be approved by engineering and authorised by the Quality Department before commencing with the work Contractors/executioner to adhere to QM 58 and OMOP4497 requirements Number of NCR issued can affect your next tendering process The QCP shall be signed progressively by the Engineer/Supervisor, Eskom QC Inspector, Contractor QC Inspector and/or AIA No procuring of outage items without the approval of scopes by quality All outage scopes creep and scopes addition should be approved by quality No contractor should be in the possession of scopes for execution without the scopes approved by quality The contractor is subjected to quality auditing at any point in time during execution of scope 	Hold point	Contractor
1.4	Inputs from other departments			
1.5	Commissioning reference			

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	<p style="text-align: center;">MATLA POWER STATION</p> <p style="text-align: center;">SCOPE OF WORK</p>	Template Identifier	240-43921898	Rev	6
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SCOPE OF WORK DESCRIPTION / ACTIVITY		PROCEDURE, SPECIFICATION, ENG REQUIREMENTS / DOCUMENTATION	HOLD POINTS, WITNESS, REPORTS	RESPONSIBLE PARTY
1	System Description			
1.1	<u>SYSTEM INFORMATION</u>	<u>Cooling Circuit</u> South system volume = 47 ML North system volume = 47 ML Blowdown volume = 4 ML/D per system (at MCR) Average raw water make-up = 60 ML/D per system (at MCR) CoC (based on K) = 16 <u>Clarifier technical data</u> Type Sludge blanket recirculation type called an Accelerator type clarifier Diameter 45 m Depth 6.0 m Volume 8300 m³ Minimum Flow 1000 m³/h Maximum Flow 3900 m³/h Average Operating Flow 3 000 m³/h Retention Time 3.3 h @ flow 3 500 m³/h		

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		Operating Temperatures	26-37 deg C (min/max)		
		Impeller speed (variable speed)	Max output speed 1,33 - 5,0 r/min		
		Bridge drive	1 360 r/min loaded		
		<u>Chemical Dosing System Technical data (per CW side)</u>			
		Tanks	2 x 5000 L Dosing Tanks		
		Piping	¼" PVC flexible dosing lines		
		<u>Dosing Pumps</u>			
		Type	3 x ProMinent Solenoid –Driven Metering Pumps Gamma G/4b		
		Motor	230 V, 50/60 Hz 23/25 W, 0.9 A		
		Pump design capacity	14,8 L/h, 1,5 bar		
		Pump type	G/4B0215NP100DA00000		
		Note: All dosing and other monitoring equipment are to be supplied on loan and maintained by the supplier for the duration of the contract if needed			

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1 2	FLOW DESCRIPTION (see Appendix A for basic flow diagram) 1 Matla Power Station is designed with 2 similar but independent CW systems – North and South side Each system has 3 cooling towers designated to 3 operating units 2 The station has 3 clarifiers per side for treatment of cooling water Raw, CCW and Raw/CCW clarifiers 3 The clarifiers treat cooling water as a 10% side stream from the main Cooling Water System to meet the station's Cooling Water quality specifications as per the Eskom Standard 4 Only two of the clarifiers (per treatment side) will be in operation at any one time for cooling water treatment 5 The raw water make-up to the Cooling Water circuit is fed directly to the Cooling Tower evaporation ponds and is sourced from the Usutu or the Vaal water schemes or is a blend of the two types Currently, Matla is making primary use of Vaal water as raw water make-up 6 The pre-treatment dosing system on each side consists of 2 x 5000 L dosing tanks that contain a blend of coagulant and flocculant 7 The tanks feed to the chemical dosing pumps There are 3 pumps available for dosing to each of the Cooling Water clarifiers 8 The chemicals are dosed directly into the cooling water make-up supply pipeline to the clarifiers 9 Hydrated lime (Ca(OH) ₂) with a concentration of 64% as CaO, is also dosed through the bottom of the clarifiers into the primary mixing zone and is used to raise the water pH between			
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13	<p>9.9 to 10.3 for optimal alkalinity removal</p> <p>10 The treated cooling water is directed via launders back to the lower ponds from where it is gravity fed to the centre well for use in the condensers</p> <p><u>OTHER DOSING CHEMICALS</u></p>	<p>1 Hydrated lime ($\text{Ca}(\text{OH})_2$) for lime softening process required for alkalinity removal</p> <p>2 Slug dosing of biocides in main CW system (lower ponds)</p> <p>3 Biodispersant dosing in the main CW system (centre well)</p>		
2	Detailed requirements			
2.1	Supply and delivery of the required coagulant and flocculant dosing chemicals for optimal removal of suspended solids, colloidal material and NOM from the Cooling Water (quality provided in Appendix A) within the Cooling Water clarifiers			
2.2	The dosing chemical should be a blend of both coagulant and flocculant and be in the liquid phase (as per plant configuration)			
2.3	The proposed chemicals should deliver the following results The Cooling Water clarifier outlet requirements relative to the cooling water inlet should be as follows (Table in Appendix A) TOC > 40%			
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	Turbidity > 85%			
2.4	The supplier should obtain samples of both the North and South Cooling Water systems (the systems have different chemistry states) from the station and perform relevant testing to establish the suitability of the chemicals (based on the active ingredient) to Matla's Cooling Water for optimal clarification and demonstrate the findings back to the station	The tests should consider the addition hydrated lime to achieve a pH of 10,2 before dosing other chemicals)		
2.5	The contractor should submit a proposal report stating the optimal treatment regime for cooling water treatment to meet the specified limits. The proposed chemicals should not cause any damage or blockages in any parts of the cooling water treatment and distribution system. If the test was successful as per the technical requirements, the supplier will be allowed to continue to the plant trial period.	The tender documents must contain Jar Test results which will guide the station in deciding if the suppliers' recommendation chemicals are capable of meeting the required performance. The jar test should be done in accordance with the ASTM Method D 2035 Standard Practice for Coagulant-Flocculation Jar Test of Water. The result must indicate the performance of the chemicals, dosing rate and the treatment price as Rand per Mega Litre (R/ML) of raw water treated. The recommended dosing rate must be within the limitation of NSF/ANSI 60 Certification and/or SANS Compliance for each chemical. The RT&D test report will be used to support the rating given to each supplier during the test phase.		
2.6	The plant trial period should allow the supplier to demonstrate the effectiveness of the suggested products. The time of the test period will be negotiated. An order will be placed at the quoted rates for the test period to treat the specified volume. The supplier should provide own dosing equipment during the test period.	Suppliers who are granted access for pre-contracting trials should compile and submit a report of the outcome covering the timeline of the trial. The performance of each supplier will be based on the analytical results, technical support and state of the clarifier during the trial period. The RT&D trials report will		

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2.7	The product must be adaptable to seasonal changes (Quality and Temperature)	be used to support the rating given to each supplier after trials		
2.8	The product must be effective to improve and / or keep the system in stable condition and comply with the target values as stipulated according to the cooling water specifications captured in Appendix A			
2.9	Should the product quality deviate from Eskom Standards and cannot be corrected within 12 hours, the trial will be discontinued and the supplier disqualified			
2.10	The chemical name of the proposed chemical/s together with the active ingredient and the concentration of the active ingredient must be specified			
2.11	A detailed 16 point Material Safety Data Sheet (MSDS) with a South African contact number for each chemical shall be provided upon delivery			
2.12	Suppliers must provide a Certificate of Analysis (COA) that includes but is not limited to colour, pH and specific gravity			
2.13	All drums and tanks of chemicals must be labelled as a minimum with the chemical name, shelf life or expiry date, the appropriate hazard warnings and identification of the respective manufacturer			
2.14	Chemicals to be delivered in Original Equipment Manufacturer			
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	(OEM) containers, no repackaging allowed			
2 15	The supplier must conduct periodic site visits to ensure that the specified chemicals are being dosed optimally and the desired treatment outcome is achieved			
2 16	The supplier should mention all previous work conducted with similar SOW requirements and plant equipment as per Matla Power Station	<u>Details to be included in each reference mentioned in the previous work report.</u> (1) Name of plant and water source, (2) Raw water quality, (3) Clarifier outlet % Turbidity removal, (4) Clarifier outlet % TOC removal, (5) Dose rate and treatment cost R/ML, (6) Details for contact person which includes - name, telephone numbers and company name		
2 17	The technician allocated to site will be responsible for assisting station chemist with troubleshooting and optimisation of the pre-treatment plant. It is expected that the supplier's technician be of higher technical expertise than the station chemist to be able to advise when there are challenges on the plant. Changes of the allocated technician during the life of the contract should be in consultation and approval of the Eskom Services manager	The potential suppliers will be required to attach the detailed CV of the allocated technician for station to evaluate if the technician has the necessary experience to support site staff. The technician shall have a Matric plus 3 years technical qualification with at least 5 years related experience on pre-treatment plants of similar design.		

BILL OF MATERIAL

	Full description Material/Spares/Equipment	Specifications of Material/Spares/Equipment	Stock No	Part Number	Required Quantity
1	1 x Coagulant/Flocculant chemical	Liquid blend of coagulant and flocculant should be provided			As per supplier specifications

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Appendix A

Cooling water specification as per Eskom Chemistry and Microbiology Standard for Cooling Water 240-55864767 Revision 4

Parameter	Unit	Spec	Target
pH @ 25 C		8.1 – 8.6	8.1 – 8.5
Conductivity	µS/cm	< 4000	2800 – 3000
Turbidity	NTU	< 100	< 50
P-alkalinity	mg/kg CaCO ₃	< 7.5	< 5
M-alkalinity (with crystal modifier)	mg/kg CaCO ₃	120 – 180	120 – 180 *
Calcium hardness	mg/kg CaCO ₃	200 – 500	200 – 400
Permanent hardness	mg/kg as CaCO ₃	< 400	
PO ₄ ³⁻	mg/kg as P	< 0.5	< 0.5
NO ₃ ⁻	mg/kg as N	1	< 1
SO ₄ ²⁻	mg/kg CaCO ₃	< 1000 if Na ⁺ > 250 < 750 if Na ⁺ < 250	< 1000 < 750
Cl	mg/kg	< 400	< 400
Sodium	mg/kg as Na	< 500	
Reactive Silica	Mg/kg as SiO ₂	< 150	
Mg X SiO ₂	mg/kg	< 25000	< 23000
OA	mg/kg	< 20	
COD	mg/kg	< 200	
Ammonia	mg/kg as NH ₄	< 40	
Scaling Potential Calcium Carbonate precipitation potential (CCPP) at 38 C	mg/kg as CaCO ₃ with a crystal modifier	10 - 45	< 40


* WITH THE USE OF A CRYSTAL MODIFIER

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Raw water quality (95th percentile data from Jan 2018 – Feb 2021)

Parameter	Unit	Value
Turbidity	NTU	46
pH		8.6
Conductivity	µS/cm	326
M-alkalinity	mg/kg CaCO ₃	98
Calcium hardness	mg/kg CaCO ₃	54
Magnesium hardness	mg/kg CaCO ₃	59
Total hardness	mg/kg CaCO ₃	113
Sodium, Na	mg/kg	22
Potassium, K	mg/kg	8
Reactive Silica, SiO ₂	mg/kg	15
Chloride, Cl	mg/kg	14
Sulphate, SO ₄	mg/kg	47
EMA		60
Organic Acid, OA		13
Langelier Index, LI		0.4
Total Organic Carbon (TOC)	mg/kg	9

Cooling water clarifier specification as per the Eskom Chemistry and Microbiology Standard for Cooling Water revision 4

Parameter	Unit	Spec	Target
Inlet pH		9.9 – 10.3	10.0 – 10.2
Sludge	%	5 – 20	6 – 16
Turbidity	NTU	<15	< 10
Turbidity Removal	%	>85	>90
Alkalinity Removal	%	>50	>55
Clarifier Outlet Alkalinity		2P = M	

Note: All the above mentioned specifications must be used as a guideline to draw up a detailed report

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Cooling Water quality (95th percentile data from Jan 2018 – Feb 2021)

Parameter	Unit	Value	South CW	North CW
CW Turb	NTU	<100	74	71
CW pH		8.1 - 8.6	8.76	8.81
CW K25	uS/cm	<4000	3340	3430
CW P-alk	mg/kg	<7.5	16	20
CW M-alk	mg/kg	120 - 160	190	191
CW CaH	mg/kg	200 - 500	517	453
CW MgH	mg/kg		335	441
CW TH	mg/kg		750	759
CW Na	mg/kg	<500	489	499
CW K	mg/kg		126	136
CW Cl	mg/kg	<400	370	380
CW SiO2	mg/kg	<150	48	39
CW SO4	mg/kg	<1000	1143	1162
CW Mg*SiO2		<25 000	11769	10336
CW CCPP		10 - 45	64	61

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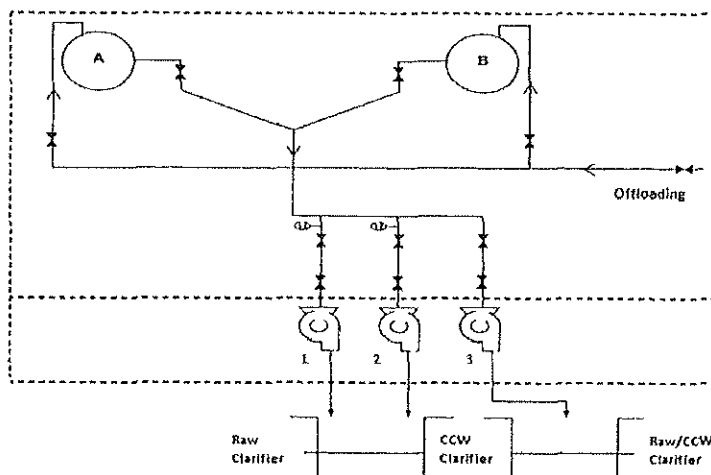
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PROCESS FLOW DIAGRAM FOR THE SOUTH & NORTH COOLING WATER CLARIFIER DOSING SYSTEM



Key

- A Poly/Floc Dosing Tank 1
- B Poly/Floc Dosing Tank 2
- 1 Poly/Floc Dosing Pump 1 to Raw Clarifier
- 2 Poly/Floc Dosing Pump 2 to CCW Clarifier
- 3 Poly/Floc Dosing Pump 3 to Raw/CCW Clarifier

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SCOPE COMPILATION REFERENCES				
SOURCE & Ref No	Yes	No	N/A	Comments
Previous outage service reports				
Return to service data packages				
Maintenance Strategy with Rev number				
SAP defects (attach list as appendix)				
GHRMS (STEP) reports				
(Generation Heat Rate Management System)				
Online Condition Monitoring				
Pre outage performance test results				
Post outage performance test results				
GPSS/ Plant Performance data on UCLF Incurred				
OMS / IIRMS recommendations (Audits Reports' 1 2 3				
Risk controls (IRM system)				
Previous audits and reviews (e.g. ERAP)				
Engineering Change Requests (Projects)				
LOPP strategy reports				
URS				
Philosophy (Outage)				

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Condition Monitoring Report				
VA/PHD Viewer trends				
Corrective Actions				
CARAB reports				
Statutory Requirements				
Grid code requirements				
Waivers and Exemptions				
Calibration requirements				
Previous Outage SOW variations				
Post Mortems Actions from previous outages				
Pre-Outage plant walks				
Risk based Inspection (RBI) report				
Simulation, TOIs, OON, SI				

COMMENTS

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Compiled by Bertie Venter
Natalie Naidoo
Maria Majake

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 Eskom	Strategy	Engineering
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Title Tender Technical Evaluation Strategy for supply and delivery of dosing chemicals for the cooling water system at Matla P/S Unique Identifier 373-MAT--AABZ31-SG0002-9

Alternative Reference Number N/A

Area of Applicability Engineering


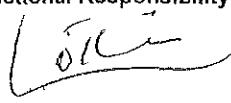

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Revision 1

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Disclosure Classification CONTROLLED DISCLOSURE

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Date 2021-05-14	Date 2021/05/14	Date 19/05/2021

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1. INTRODUCTION

This document is aimed at setting the standard technical evaluation criteria to be used when evaluating the tender submissions for the supply and delivery of dosing chemicals for the cooling water (CW) system at Matla P/S. The scope entails the requirements and expectations from suppliers for the selection, supply and delivery of pre-treatment chemicals for the main CW system. As raw water is used to supplement the water losses by evaporation from the cooling tower ponds, pre – treatment of the station's cooling water is imperative to remove suspended solids and natural organic matter to protect the condensers downstream of the plant.

2. SUPPORTING CLAUSES

2.1 SCOPE

This document covers the technical evaluation process and criteria for the selection, supply and delivery of pre-treatment chemicals for the main cooling water and distribution system at Matla Power Station.

The technical evaluation will consist of a first and second stage evaluation phase.

- During the first stage evaluation, the jar test results will be evaluated (both from the supplier and Eskom RT&D department) and a minimum of 55% (out of 75%) qualifying score should be obtained for a supplier to proceed to the second evaluation phase.
- During the second evaluation phase, the chosen suppliers will be allowed to conduct plant trials for the proposed chemical systems as per the first stage recommendations. The plant trial results will be evaluated (both from the supplier and Eskom RT&D department), a minimum qualifying score of 15% (out of 25%) should be obtained in order to proceed to the final combined scoring evaluation.
- The final combined score of 70% for the first and second stage evaluation should be obtained in order for the supplier's proposed cooling water pre-treatment chemical system to be deemed technically suitable at Matla Power Station.

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 applies to Matla 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.

List the references under the following paragraphs, without indicating the date.

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2.2.1 Normative

- [1] 32-1034 – Eskom procurement and supply chain management
- [2] 240-48929482 Tender Technical Evaluation Procedure
- [3] 240-53716712 Tender Technical Evaluation Results Form Template
- [4] 240-53716726 Tender Technical Evaluation Scoring Form Template
- [5] 240-150393224 Water Treatment Plant Pre-Treatment Chemicals Scope of Work Guideline

2.2.2 Informative

- [6] MEP – 051315 Scope of Work for supply and delivery of raw water pre-treatment chemicals for Potable production at Matla Power Station on an as and when required basis

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
OEM	Original Equipment Manufacture
TET	Technical Evaluation team

2.5 ROLES AND RESPONSIBILITIES

Roles and responsibilities are as per 240-48929482 Tender Technical Evaluation Procedure

2.6 PROCESS FOR MONITORING

N/A

2.7 RELATED/SUPPORTING DOCUMENTS

Refer to Section 2.2

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3. TENDER TECHNICAL EVALUATION STRATEGY

3.1 TECHNICAL EVALUATION THRESHOLD

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

Evaluation of tenders will comprise of two stages in which the first stage identifies suppliers which will be allowed to do plant trials of their proposed chemicals and second stage will be the outcome of the plant trials. Evaluation Stages and weighting should be as per Table 1 below

Table 1 Technical Evaluation Weight allocation

Evaluation Stages	Weighting	Minimum Threshold
Stage 1	75%	55%
Stage 2	25%	15%
Final (Sum of Stages 1 and 2)	100%	70%

3.2 TET MEMBERS

Table 2 TET Members

TET number	TET Member Name	Designation
TET 1	Bertie Venter	Matla PS Chemical Engineering
TET 2	Maria Majake	Matla PS Chemical Services

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3.3 MANDATORY TECHNICAL EVALUATION CRITERIA

Table 3 defines all the Mandatory Evaluation Criteria to be used as well as the reference to the specification and motivation for Criteria use. These criteria will not be scored. Each tender will be assessed on a yes/no basis.

Table 3 Mandatory Technical Evaluation Criteria

No.	Mandatory Technical Criteria Description	Reference to Technical Specification / Tender Returnable	Motivation for use of Criteria
1	The proposed coagulant and flocculant should be a blended product and should be in the liquid form.	SOW MEP-051316, Section 2.2/Tender returnable should be detailed 16 point Material/Product Data sheets indicating that the chemicals are in liquid state and a blended product.	The plant design/configuration only allows for liquid dosing of chemicals.

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 Error!

Reference source not found

Table 4 Qualitative Technical Evaluation Criteria

Score	(%)	Definition
5	100	COMPLIANT <ul style="list-style-type: none"> 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, <ul style="list-style-type: none"> Acceptable technical risk(s) AND/OR, Acceptable exceptions AND/OR, Acceptable conditions
2	40	NON-COMPLIANT <ul style="list-style-type: none"> 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		

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Table 5 indicated the qualitative technical evaluation criteria that shall be used by the technical tender evaluation team. Appendix A contains the detailed mandatory and qualitative evaluation criteria scoring sheets.

Table 5 Qualitative Technical Evaluation Criteria

	Qualitative Technical Criteria Description		Reference to Technical Specification / Tender Returnable	Criteria Weighting (%)	Criteria Sub Weighting (%)
	Technical Requirements				
Stage 1 Evaluation Criteria	1	Technical Personnel Qualification - Diploma in Analytical Chemistry or Water Care and work experience in plants of similar design	SOW MEP-051316, Section 2.17/ CV of the responsible person with related work experience on pre-treatment plants of similar design & copy of certificate for Diploma in Analytical Chemistry or Water care	75%	20%
	2	Detailed previous jar test reports for previous work in plants of similar design	SOW MEP-051316, Section 2.5/Jar test reports with all 6 points mentioned as per SOW Section 2.16		20%
	3	Detailed MSDS	SOW MEP-051316, Section 2.10 & 2.11/Detailed 16 point Material Data and Specification Sheets for proposed chemicals		10%
	4	Jar test results as per RT&D report	SOW MEP-051316, Section 2.5/Test results as mentioned in Eskom RT&D test report and the supplier's test report		25%
Stage 2 Evaluation Criteria	5	Trial test results as per Eskom RT&D report	SOW MEP-051316, Section 2.6/Trial test results as mentioned in the Eskom RT&D trial report and the supplier's trial report	25%	-
				TOTAL 100	

3.5 TET MEMBER RESPONSIBILITIES

In Table 6 identify the TET members allocated to review/evaluate each Qualitative criterion (minimum 2 evaluators per criteria / sub-criteria)

Table 6 TET Member Responsibilities

Mandatory Criteria Number	TET 1	TET 2	TET 3	TET 4	TET 5	TET 6	TET 7	TET n
1	X	X						
Qualitative Criteria Number	TET 1	TET 2	TET 3	TET 4	TET 5	TET 6	TET 7	TET n
1	X	X						
2	X	X						
3	X	X						
4	X	X						
5	X	X						

3.6 FORESEEN ACCEPTABLE / UNACCEPTABLE QUALIFICATIONS

3.6.1 Risks

Table 7: Acceptable Technical Risks

Risk	Description
1	N/A

Table 8: Unacceptable Technical Risks

Risk	Description
1	N/A

3.6.2 Exceptions / Conditions

Table 9: Acceptable Technical Exceptions / Conditions


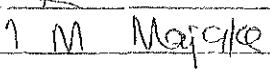
Risk	Description
1	N/A

Table 10: Unacceptable Technical Exceptions / Conditions

Risk	Description
1	N/A

4. AUTHORISATION

This document has been seen and accepted by

Name	Designation	Signature
Bertie Venter	Matla PS Chemical Engineering	
Maria Majake	Matla PS Chemical Services	

5. REVISIONS

Date	Rev	Compiler	Remarks
May 2021	0	Bertie Venter	Draft document sent for signatures
May 2021	1	Bertie Venter	Signed document

6. DEVELOPMENT TEAM

Natalie Naidoo

Bertie Venter


7. ACKNOWLEDGEMENTS

None

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APPENDIX A: TECHNICAL EVALUATION CRITERIA

 PART A: MANDATORY TECHNICAL REQUIREMENTS MATLA POWER STATION: COOLING WATER PRE-TREATMENT CHEMICALS			
	Yes	No	Required (Mandatory) - PLEASE ATTACH THE FOLLOWING:
The coagulant and flocculant should be a blended product and should be in the liquid form			Plant configuration
NOTE: NON CONFORMANCE TO ANYONE OF THE ABOVE REQUIREMENTS DISQUALIFY THE RESPECTIVE CONTRACTOR. ALL BLOCKS MUST BE TICKED YES IN ORDER TO PROCEED TO PART B. IF PROOF NOT ATTACHED AS REQUIRED ON COLUMN L, THE CONTRACTOR WILL BE SCORED "NO".			

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PART B TECHNICAL EVALUATION CRITERIA SUPPLY AND DELIVERY OF COOLING WATER PRE-TREATMENT CHEMICALS									
<p>* First stage Evaluation: Tender documents and Jar Test Results Proposals will be required to meet 55% qualifying score in order to be allowed to do Pre-contract trials (2nd stage) on the plant</p> <p>* Second Stage Evaluation: Pre-contract Trial Proposals will be required to meet 15% qualifying score in order to be considered for total score evaluation</p> <p>* Total Score Evaluation Proposals will be required to meet a total combined score of 70% to be deemed technically suitable</p>									
Sections	KPI Criteria Evaluation Indicator	Source	%	0	2	4	5	Score	
SECTION 1 TECHNICAL REQUIREMENTS									
Nr	Technical requirements			0%	40%	80%	100%		
Stage 1 Criteria	1. Technical Personnel: Qualification: Diploma in Analytical Chemistry or Water Care and work experience in plants of similar design	SOW MEP-051316 Section 2.17	20%	CV of the responsible person with related work experience on pre-treatment plants of similar design & copy of certificate for Diploma in Analytical Chemistry or Water Care	< 2 years or work experience and/or the work experience mentioned is not of similar design	≥ 2 but < 4 years with related work experience on pre-treatment plants of similar design	≥ 4 but < 5 years with related work experience on pre-treatment plants of similar design	≥ 5 years with related work experience on pre-treatment plants of similar design	
	2. Detailed previous jar test reports for previous working plants of similar design	SOW MEP-051316 Section 2.16	20%	Jar test reports with at least 6 points mentioned as per SOW Section 2.19	0 references or references are mentioned but with no additional details	1-2 references and most of the points mentioned in each reference	3-4 references and most of the points mentioned in each reference	5 or more references in report and at least 6 points mentioned in each reference	
	3. Detailed MSDS	SOW MEP-051316 Section 2.10 & 2.11	10%	Details of 16 points Material Safety Data Sheet (MSDS) with a South African contact number for each chemical. The MSDS must state the minimum active ingredient and the concentration thereof	0 MSDS attached	MSDS attached for both chemicals but not detailed		Detailed MSDS attached for both chemicals	
	4. Jar test results as per Estom RT&D report	SOW MEP-051316 Section 2.5 Estom Chemistry and Microbiology Standard for Cooling Water: 240 55864767 Section 3.5	25%	Test results as mentioned in Estom RT&D test report and supplier report	Turbidity > 15 NTU	Turbidity > 10 but ≤ 15 NTU	Turbidity > 10 but ≤ 15 NTU	Turbidity < 10 NTU	
TOTAL SCORE FOR 1ST STAGE EVALUATION								must be ≥ 66% to commence to 2nd stage	
Stage 2 Criteria	5. Technical service to Supplier from RT&D report	SOW MEP-051316 Section 2.6 Estom Chemistry and Microbiology Standard for Cooling Water: 240 55864767 Section 3.5	25%	Test results as mentioned in the Estom RT&D test report and supplier report	Turbidity > 15 NTU	Turbidity > 10 but ≤ 15 NTU	Turbidity > 5 but ≤ 10 NTU	Turbidity < 5 NTU	
	TOTAL SCORE FOR 2ND STAGE EVALUATION								must be ≥ 15% to allow for total score evaluation
TOTAL SCORE FOR STAGE 1 AND STAGE 2 EVALUATION								must be ≥ 70% to be deemed technically suitable	