
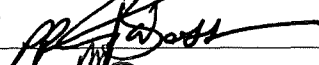


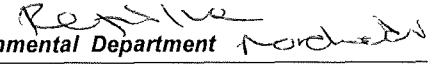



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PLANT AREA: CONDENSATE REGENERATION PLANT			
TITLE: SUPPLY AND DELIVERY OF CPP RESIN			
REF: MEP- 051292		Reference Rev No: 01	MULTIDISCIPLINARY: Yes
			Plant Level: 3
COMPILED BY	Name: Bongiwe Radebe Snr Chemistry Technician	Signature 	Date 2022/02/11
APPROVED	Name: Brenda Moeng Line Manager	Signature 	Date 2022/02/11
APPROVED	Name: Lindokuhle Ngobese Group Manager (Acting)	Signature 	Date 2022/02/11
REVIEWED	Name: Quality Department	Signature: 	Date 2022/02/11
REVIEWED	Name:  Regulatory Environmental Department	Signature 	Date 11 / 02 / 2022
ACCEPTED	Name: Stanley Motha Chemical Services Manager	Signature 	Date 2022-02-11
ACCEPTED	Name: Thembi Sambo Project Manager	Signature 	Date 11.02.2022

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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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	SCOPE OF WORK DESCRIPTION / ACTIVITY	PROCEDURE, SPECIFICATION, ENG. REQUIREMENTS / DOCUMENTATION	HOLD POINTS, WITNESS, REPORTS	RESPONSIBLE PARTY
2	DECOMMISSIONING			
	N/A			

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	SCOPE OF WORK DESCRIPTION / ACTIVITY	PROCEDURE, SPECIFICATION, ENG. REQUIREMENTS / DOCUMENTATION	HOLD POINTS, WITNESS, REPORTS	RESPONSIBLE PARTY
3	SCOPE OF WORK – ACTIVITY BREAKDOWN			
3 1	Supply and deliver the following quantities and type of resins 52000L of strong acid cation resin	Chemical properties: Cation resin must be supplied in hydrogen form with capacity greater than 2 0 eq/l Physical Properties Perfect beads >99% Broken beads % Nil / <1%	See general requirements in the additional attachment	Contractor
3 2	Supply and deliver the following quantities and type of resins 50000L of Strong base anion resin	Chemical properties: Anion resin must be supplied in hydroxyl form with capacity greater than 1 eq/l The chloride content must be less than 1% and the hydroxyl content of greater than 95% This is to ensure the station achieves a normal operating value of <0 5ppb Cl ⁻ at optimum pH of 9 3 Physical Properties Perfect beads >99% Broken beads <1%	See general requirements in the additional attachment	Contractor

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4	COMMISSIONING			
	N/A			

5	BILL OF MATERIALS				
	Full description Material/Spares/Equipment	Specifications of Material/Spares/Equipment	Stock No	Part Number	Required Quantity
5 1	Strong cation resins	Hydrogen form	N/A	N/A	52000 L
5 2	Strong anion resins	Hydroxyl form	N/A	N/A	50000 L

GENERAL REQUIREMENTS


- Matla power station condensate polishing plant (CPP) is a mixed bed system and the resin supplied for the CPP (both strong acid cation and strong base anion) must be designed to operate as pairs, to ensure good resin separation and minimize resin cross contamination
- The physical strength of both CPP cation and anion gellular resin must have less than 10% break down after exposure to 100 cycles of the osmotic shock attrition test and 500 cycles for macroporous resin **Osmotic shock results must be provided**
- The anion Mass Transfer Coefficient (MTC) must be greater than 2×10^{-4} m/sec for sulphate leakage at 100mh^{-1} linear flow **MTC results must be provided**
- Uniformity coefficient for both cation and anion resin must be less than 1.2 of which 90% of the resin beads must be in the range of 0.60 – 0.70mm
- The Safety Data Sheets (SDSs) must be provided per product. The SDSs must also specify the hazardous and disposal classifications
- The following documentation shall be submitted to the Eskom personnel upon arrival at the power station

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- I Ion exchange resin Certificate of Analysis with Batch Numbers as per the resin supplied
II Delivery
7 The resin to be supplied in a 25L Plastic bag, manufacturer's packaging

CPP Resin Technical Tender Returnable – Mixed Bed System

	Technical Tender Returnable	Mandatory for Evaluation	Mandatory for Contract Award	Weight for Criteria used for Evaluation
1	Provide evidence that the condensate polishing plant (CPP) mixed bed are designed to operate as pairs, which assume good resin separation and minimize resin cross contamination		X	20
2	Provide proof that the resin is designed for CPP		X	15
3	Provide proof that the anion resin selected for CPP has good kinetic performance in service and under leakage conditions Mass Transfer Coefficient of greater than 2×10^{-4} m/sec		X	25
4	List of services included in the price		X	5
5	Resins lead times		X	10
6	References (where the products are used in similar application to Eskom)		X	10
7	Product data sheets for all resins recommended		X	15


Note: If the score of the Tender is below 75% the Tender will be considered technically unacceptable

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Rating for Individual Technical Criteria	%
Completely Meets Technical Requirement	100
Meets Technical Requirement	75
Does not Meet Technical Requirement	0 - 74

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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)				
Risk controls (IRM system)				
Previous audits and reviews (e.g. ERAP)				
Engineering Change Requests (Projects)				
LOPP strategy reports				
URS				
Philosophy (Outage)	x			
Condition Monitoring Report				
VA/PHD Viewer trends				
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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

<ul style="list-style-type: none"> Contractor will be responsible for the movement and safe handling of both the old and the new resin from the storage area to the work site Contractor will be responsible for the issuing of Personal Protective Equipment (goggles , leather gloves and gum boots) The onus lies with the contractor to ensure that the personnel is fit as the work involves a lot of bending

Compiled by: Bongiwe Radebe

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