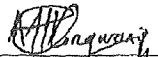


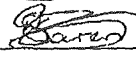


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PLANT AREA: Matla Power Station Boiler and Turbine Plant


TITLE: Matla Turbine and Boiler valves and heat exchangers normal maintenance as well as the High-Pressure Heaters.

REF: MEB-055228	Reference Rev No 0	MULTIDISCIPLINARY: No	Plant Level: 1
COMPILED BY	Name: Mfanelo Hlongwani/ Hlavutelo Nkwini Systems Engineer/End User	Signature 	Date 15/11/2023
APPROVED	Name: John Makuleka Line Manager	Signature 	Date 15/11/2023
APPROVED	Name: Lindokuhle Ngobese Group Manager	Signature 	Date 15/11/2023
REVIEWED	Name: Johan Lourens Quality Department	Signature 	Date 15/11/2023
REVIEWED	Name: Occupational Health and Safety N/A	Signature	Date
REVIEWED	Name: Thabo Lutho Environmental Department	Signature 	Date 15/11/2023
ACCEPTED	Name: Enock Tshabangu Maintenance	Signature 	Date 15/11/2023
ACCEPTED	Name: N/A AIA	Signature	Date

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NB: Do not tamper with the template.

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	Occupational Health and Safety	<ul style="list-style-type: none"> • Health and safety file should be approved by Safety risk management department prior to any work commences on site • All work is to be done in accordance with OHS Act 85 of 1993, Matla plant procedures and Plant Safety Regulations (240-150642762) • Matla power station SHEQ induction must be done before access to site can be granted • The contractor should ensure that all employees have acquired the required competency for the task they are performing • The contractor to ensure compliance to updated legal requirements and other requirements 	Eskom to witness	Contractor

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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
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 	Hold point	Contractor

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		<ul style="list-style-type: none"> 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 		
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
1	Provide the following services on Matla Turbine and boiler Valve I Repair the valves the valves in response to plant notification system The repairs could be done on load or off load in accordance with the requirement of the plant safety regulation and maintenance planning II The valve repairs entail <ul style="list-style-type: none"> • Removal of actuator from the valve • Installation of actuator on to the valves • Stripping and cleaning of valves 	<ul style="list-style-type: none"> - The service provider shall have the necessary valve experience and qualifications to work on valves including high pressure steam and temperature valves - The service provider shall have basic rigging capabilities - The service provider shall provide adequate resources and tools to perform the valve repairs according to the acceptable level of quality - Spares (complete valves, consumables, replacement parts) will be free issued by Eskom - Record the inspection findings and corrective repairs into the valve service report for each valve overhauled, repairs or worked on - Record the strokes and the valve AKZ/KKS on the check-sheet provided by engineering - Quality checks to be done in accordance to 	R	Contractor

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	and valves components for the purpose of repairs and investigation <ul style="list-style-type: none"> • Removal of valves (bolted valves) from the plant • Installation of valves into the plant • Collection of valves and valves spares from the stores or from the repairer • Measuring the valve components, dimension as and when required, and recording the measurement • Prevention of foreign material ingress into the valve system while 	the signed and approved QCP <ul style="list-style-type: none"> - Assistance will be provided to work under supervision of the competent person responsible for valve testing - Valves drawings to be provided as and when required Drawings can be requested from Engineering 		
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	valves are open <ul style="list-style-type: none"> • Packing, repacking and adjustment of the valve's glands • Assembling of the valves during valves overhaul • Lapping of valves • Reporting of technical findings to the Eskom technical representative (supervisor, technician, engineer etc) • Perform plan or scheduled plant walk to inspect the condition of the valves • Application of on load greasing 			
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	where required and possible iii Inspect the valve for the following defects during maintenance <ul style="list-style-type: none"> • Score marks on the spindle, disc and body seat • Pitting on the spindle disc and body seat • Washing of disc and body seat • Corrosion on plugs, spindle, disc and body seats • Bent shafts • Damaged spindle threads and nut • Clearance on guides and sliding parts • Damaged stem/disc connector blocks • Stellite thickness of valves parts where 			
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	<p>possible</p> <ul style="list-style-type: none"> • Blueing inspection during valves repairs • Adequacy of grease/lubrication during normal operation <p>IV Valves commissioning</p> <ul style="list-style-type: none"> • Measure and record the valves mechanical strokes prior to the installation of actuators • Measure and record the valves mechanical strokes with the actuators installed • Set the valves mechanical limits (close and open) during the valves stroking • Record the torques (opening and closing torques) for actuated valves 			
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	<p>V Valve Quality checking during outages</p> <ul style="list-style-type: none"> • Perform valves quality checks during outages (IR, GO and MGO) • During outages, raise recommendations to correct quality deviation to the valves system engineer or outage coordinator • Participate in the stroke checking process for valves during outages (IR, GO and MGO) <p>VI Valve trouble shooting during normal operation</p> <ul style="list-style-type: none"> • Assist operating with first line trouble shooting on valves challenges and defects 			
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	<p>during operation, plant commissioning, unit light-up and unit shut down</p> <ul style="list-style-type: none"> • Assist operating with valve challenges during the isolations and desolations as and when requested • Install the authorised valve gagging and blanking equipment, <p>VII Valve testing</p> <ul style="list-style-type: none"> • Provide assistance during the performance of boiler safety valve floating • Provide assistance during the performance of turbine safety valves tri- testing • Provide assistance during the performance of 			
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	valves leak tests VIII Valves spares management <ul style="list-style-type: none"> • Provide the spares list including consumables for the valves on scheduled maintenance IX Pipes flanged onto heaters/coolers (Heat exchangers) <ul style="list-style-type: none"> • Splitting of heaters and coolers connection flanges • Replacement of coolers or heaters pipe gaskets • Cleaning of flanges for the replacement of gaskets 			
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	<ul style="list-style-type: none"> Removal and re-installations of heat exchanger water boxes during plant maintenance Leak testing of heat exchanger during plant maintenance Plugging of heat exchangers during plant maintenance 			
2	<p>Scope coverage</p> <p>The service provider shall perform general valve maintenance on Matla turbine and boiler valves as well as heat exchangers normal maintenance The high-level valves type is as follows</p> <ul style="list-style-type: none"> Spring load safety valves 			

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	<ul style="list-style-type: none"> • Globe valves (isolating and regulating/control types) • Gate valves (parallel, slides gate, wedge gate, knife gate and rubber gate) • Butterfly valves • Steam traps and float traps • Non-Return valves • Ball valves <p>Heat exchangers</p> <ul style="list-style-type: none"> • Shell in tube leak testing, cleaning, tube plugging and gasket replacement • Plate heat exchanger cleaning, removal and leak testing 			
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3	This contract will require <ul style="list-style-type: none"> • 1 supervisor • 8 mechanical fitters • 8 assistant mechanical fitters 			
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SOURCE & Ref No.	Yes	No	N/A	Comments
Previous outage service reports		x		
Return to service data packages		x		
Maintenance Strategy with Rev number		x		
SAP defects (attach list as appendix)		x		
GHRMS (STEP) reports (Generation Heat Rate Management System)		x		
Online Condition Monitoring		x		
Pre-outage performance test results		x		
Post outage performance test results		x		
GPSS/ Plant Performance data on UCLF incurred		x		
OMS / IIRMS recommendations (Audits Reports)		x		
Risk controls (IRM system)		x		
Previous audits and reviews (e.g. ERAP)		x		
Engineering Change Requests (Projects)		x		
LOPP strategy reports		x		
URS		x		
Philosophy (Outage)		x		

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

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