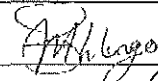
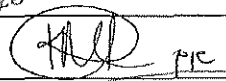
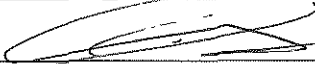
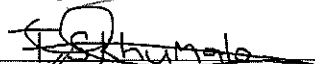

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PLANT AREA Eskom Matla Power Station Unit 1 to 6 and Outside Plant

TITLE: Actuator Maintenance at Matla Power Station Unit 1 to 6 and Outside Plant


REF MEC-05816		Reference Rev No: 01		MULTIDISCIPLINARY: Yes		Plant Level: L3
COMPILED BY	Name: Sylvester Mhlongo Senior Engineer (C&I)	Signature			Date	2020/12/24
APPROVED	Name: Katlego Mangope Line Manager C&I Engineering	Signature			Date	2021/01/12
APPROVED	Name: Charles Masekoameng Group Manager Engineering (Acting)	Signature			Date	20/01/2021
REVIEWED	Thabiso Khumalo Senior Engineer (Boiler Engineering)	Signature			Date	14/01/2021
REVIEWED	Zain Karodia System Engineer (Turbine Engineering)	Signature			Date	18/01/2021

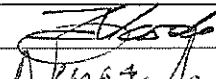
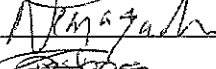
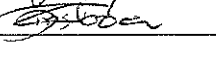
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REVIEWED	Nkosinathi Maseko Line Manager Electrical Engineering	Signature: 	Date 15/01/2021
REVIEWED	Name Quality Department <i>Bugimano</i>	Signature: 	Date 15/01/2021
REVIEWED	Name <i>Shoreen Ramaboea</i> Environmental Department	Signature: 	Date 18.01.2021
ACCEPTED	Name N/A Outages	Signature	Date
ACCEPTED	Name N/A A/A	Signature	Date

NB: Do not tamper with the template.

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	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"> <li>Safety file must be submitted and must meet all the Eskom safety file requirements</li> <li>All work is to be done in accordance with Matla plant procedures and safety regulations (GGR 0992)</li> <li>Matla power station induction must be done before any work commences</li> <li>Permit to work must be in place before any work commences</li> <li>Worker's register must be completed and daily risk assessment conducted before any work commences</li> <li>The Contractor immediately reports all injuries as well as any threat to health or safety of which it becomes aware of on the site of the Employer</li> <li>Plant Safety Regulations (PSR) All maintenance technically qualified (above semi-skilled) Contractors must be trained and authorised (in terms of PSR) within 6 months of the contract award date. The Employer shall provide training</li> </ul>	Eskom to witness	Contractor

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1 2	Environmental Management	<ul style="list-style-type: none"> <li>All activities listed in the National Environmental Act 107 of 1998, EIA Regulation 982,983,984 &amp; 985(2014), must have <b>AUTHORISATION</b> before commencement of work</li> <li>The contractor shall comply with all applicable legal and other requirements</li> <li>The polluter pays principle will be applied</li> <li>The contractor manager shall ensure compliance with Eskom Matla Environmental procedures to ensure the prevention of pollution (OMOP 4090)</li> <li>The last payment will be processed based on the status of the last housekeeping check sheet (Annexure G OMOP 4018) of designated area EMS file based on ISO14001 will be required</li> </ul>	Eskom to witness	Contractor
1 3	Quality Management	<ul style="list-style-type: none"> <li>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</li> </ul>	Hold point	Contractor

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		<ul style="list-style-type: none"> <li>Contractors/executioner to adhere to QM 58 and OMOP4497 requirements</li> <li>Number of NCR issued can affect your next tendering process</li> <li>The QCP shall be signed progressively by the Engineer/Supervisor, Eskom QC Inspector, Contractor QC Inspector and/or AIA</li> <li>No contractor should be in the possession of scopes for execution without the scopes approved by quality</li> <li>The contractor is subjected to quality auditing at any point in time during execution of scope</li> </ul>		
1 4	Area of Responsibility	<ul style="list-style-type: none"> <li>The Contractor Technician must be Authorised in Eskom Plant Safety Regulations (PSR) within 6 months after Contract Start date</li> <li>Contractor will be responsible for the actuators from the valve flange upwards</li> <li>Male Harting (Instrument and Electrical) plug connected to the actuator fly lead will fall under Contractor responsibility</li> <li>All the rigging and lifting as well as equipment where necessary will be provided by Eskom</li> </ul>		Contractor

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		<ul style="list-style-type: none"> <li>Contractor will provide a full report per unit on a three monthly rotational basis to the appointed Eskom representative</li> <li>Eskom will be responsible for normal maintenance as is currently done, however the onsite technician shall be available to assist upon approval from the designated Eskom employee</li> </ul>		
1.5	Spares Holding	<ul style="list-style-type: none"> <li>Eskom will be responsible for all spares holdings. It will be Eskom's responsibility to maintain the sufficient spares in stock on site at Matla power station</li> <li>All consumables including grease and or oil are Eskom's responsibility to provide and retain sufficient holding on site</li> <li>These spares will be drawn from the stores by a designated Eskom employee and free issued to a Contractor representative</li> <li>The Contractor will utilise the routable process for all refurbished spares</li> </ul>		Employer

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		<ul style="list-style-type: none"> <li>The Employer may request the Contractor to ensure that an accurate description of spare parts is maintained in the Employer's stores and the Contractor informs the Employer as to any recommended changes</li> </ul>		
16	Employer's Requirements for the Service	<ul style="list-style-type: none"> <li>Contractor will provide a full report per unit on a three monthly rotational basis to the appointed Eskom representative</li> <li>All the rigging and lifting as well as equipment will be provided by Eskom</li> <li>Male Harting plug connected to the actuator fly lead will fall under Contractor responsibility</li> <li>Contractor will be responsible for the actuators from the valve flange upwards</li> <li>All permit to work systems will be the sole responsibility of the Eskom representative on site before Contractor site service technician may commence any task at hand</li> <li>Eskom will be responsible for normal maintenance as is currently done, however the onsite technician shall be available to assist upon approval from the designated Eskom employee</li> </ul>		Contractor

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		<ul style="list-style-type: none"> <li>The maintenance team will be based on site for the duration of the contract</li> </ul>		
17	General	<ul style="list-style-type: none"> <li>The Employer and Contractor in this scope of work is committed towards the following <ul style="list-style-type: none"> <li>➤ Continuous improvement and plant performance</li> <li>➤ Continuous cost reduction</li> <li>➤ Safety, Health, Environment and Quality</li> <li>➤ Transfer of operational experience and skills</li> </ul> </li> <li>PPE to be provided by the Contractor to its staff/employees</li> <li>All tools to be provided by the Contractor and will be inspected by Eskom employee</li> <li>Daily logs and time sheet must be kept up to date, reflecting all work performed on a daily basis and approved by Eskom employee</li> <li>The Contractor shall complete a history data for each notification executed</li> <li>All works will be subject to anytime inspection from the Employer</li> <li>Attendance of meetings as and when required by Eskom</li> </ul>		Contractor


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		<ul style="list-style-type: none"> <li>All extra travelling requested by Eskom will be on Eskom's account</li> <li>All Eskom required training will be provided by Eskom</li> <li>If the Contractor need to bring in extra personnel, it must be negotiated with Eskom</li> <li>All documents required must be returned with the Tender Document</li> <li>Purchasing of spares or materials will go through the Eskom procurement process</li> </ul>		
1 8	Special Requirements	<ul style="list-style-type: none"> <li>Risk assessments must be completed before each task</li> <li>Eskom Lifesaving rules shall be adhered to</li> <li>Eskom safety meetings and regulations to be adhered to</li> <li>Will comply within Eskom (WWW) work week management system</li> <li>The Contractor will be authorised in Eskom (PSR) Plant Safety Regulations permit system</li> <li>Good housekeeping to be maintained at all times</li> <li>All telephone accounts on Contractor account</li> </ul>		Contractor

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		<ul style="list-style-type: none"> <li>• All cabins and LV equipment will comply within the Eskom standards (COC)</li> <li>• Site conditions will be according to the Eskom Health and Safety regulations standards</li> <li>• Tools, site, cabins and equipment will be inspected by the Contractor and check sheet must be filed</li> <li>• Audit on Contractor will be done on a frequent basis</li> <li>• Contractor to make use of own canteen (tea, food, coffee, sugar, etc )</li> </ul>		
1 9	Inputs from other departments			
1 10	Commissioning reference			

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	SCOPE OF WORK DESCRIPTION / ACTIVITY	PROCEDURE, SPECIFICATION, ENG. REQUIREMENTS / DOCUMENTATION	HOLD POINTS, WITNESS, REPORTS	RESPONSIBLE PARTY
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#### DETAILED SCOPE


	SCOPE OF WORK DESCRIPTION / ACTIVITY	PROCEDURE, SPECIFICATION, ENG. REQUIREMENTS / DOCUMENTATION	HOLD POINTS, WITNESS, REPORTS	RESPONSIBLE PARTY
1	Actuator test bench must be provided and be stationed on site throughout the duration of the contract			Contractor
2	External visual inspection of all external surfaces including paint finishes, control knobs and valve stems			Contractor
3	The oil level is checked and replenished if necessary			Contractor

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4	Mounting bolts, nuts, washers and screws are checked for damage and tightness			Contractor
5	Confirmation that hand wheel operation is possible and that there is physical movement of the valve			Contractor
6	Confirmation that local control works in both directions whilst checking for any signs of deterioration (e.g. undue motor noise). If the valve has a threaded stem and it has been operated more than 5000 times, the thread is covered with grease and the indentation on the thread is checked once it has gone through the drive bush.			Contractor
7	Where available (through data loggers) historic performance data is investigated and compared against stored torque profiles			Contractor
8	The terminal cover is removed and the connections are checked for tightness. Additionally, the compartment is checked for water ingress and corrective actions are taken as necessary. The 'O' ring seal is replaced and if it is an Explosion Proof type actuator the integrity of the flame path is inspected.			Contractor
9	The motor cover is removed and the motor is checked for any damages or deterioration. The motor is overhauled and refurbished if necessary. Rewind the motor stator if necessary. The case is checked for any ingress of moisture. The 'O' ring seal is replaced. If the unit is an Explosion Proof actuator the integrity of the flame path is inspected.			Contractor
10	The electrical cover is removed and the compartment checked for any ingress of moisture. The status of switches, contactors and electrical apparel are checked. The 'O' ring is replaced, if the unit is an Explosion Proof actuator the integrity of the flame path is inspected.			Contractor
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11	All cover screws are replaced using grease to enable future removal and protect them from corrosion			Contractor
12	In the case of IQ actuators the battery is replaced On completion both local and remote operation are checked			Contractor
13	All actuator settings must be checked for compatibility with the valve requirements before the actuator is put into service			Contractor
14	Stroking to be done after installation of the actuator			Contractor
15	Stroke checking as and when required			Contractor
16	Provide onsite test bench report for actuator			Contractor
17	Attend to defects			Contractor
18	Conduct standby duties			Contractor


#### BILL OF MATERIAL

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	N/A				


SCOPE COMPILATION REFERENCES				
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	

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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	
Condition Monitoring Report			x	
VA/PHD Viewer trends			x	
Corrective Actions			x	
CARAB reports			x	
Statutory Requirements			x	

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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	

COMMENTS

Compiled by: Sylvester Mhlongo


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