

 Eskom	Condition monitoring criteria	Matla Power Station
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Condition Monitoring Qualitative Technical Evaluation Criteria

COMPILER:	Zanele Phungula	Date:	14 October 2021
BUSINESS UNIT	Matla Power Station		
DESCRIPTION	Condition Monitoring Service		

NOTE: The minimum qualifying score for functionality is 70%. All tenders that fail to achieve the minimum qualifying score on functionality will not be considered for further.

				Scale (0=0% , 2=40% , 4=80% , 5=100%)			
KPA - Area of	Criteria Weighting (%)	Criteria Sub Weighting (%)	Qualitative Technical Criteria Description	Not submitted= 0	Non Compliant=2	Compliant with Acceptable Risk =4	Fully Compliant= 5
Emerson CSI Software	15%	6%	Dashboard Set Up	Not submitted	2 Samples of different components trends/graphs of vibration status indicating classification defects such as (bearing, alignment etc.), no. of tests done, component defect priority and an	4 Samples of different components trends/graphs of vibration status indicating classification defects such as (bearing, alignment etc.), no. of tests done, component defect priority and an	5 Samples of different components trends/graphs of vibration status indicating classification defects such as (bearing, alignment etc.), no. of tests done, component defect priority and an

					overview of component reliability over a period of 6 months.	overview of component reliability over a period of 6 months.	overview of component reliability over a period of 6 months.
		9%	Database set up: Alarms, Fault Frequency sets, and Analysis Parameter set (Eskom standard no 36-1095)	Not submitted	N/A	N/A	A snapshot/sample showing measurement points for the components (eg Fans, Air heater, Pumps, Gearbox and Motors). Defining appropriate alert and alarm limits to detect faults. The following Set up should be included: Overall alarm levels, Spectral alarm bands, Narrowband alarm envelopes.
Testing Facility / Equipment	15%	3%	FLIR Camera/ Thermal Scan Camera IR cameras should have the following minimum characteristics: a) image quality NETD < 80 mK	Not submitted= 0	Expired Calibration Certificate	N/A	Valid Calibration Certificate

			b) Auto Hot/Cold Spot Recognition c) Temperature range -20 to +350°C d) Data transfer to host computer system				
		3%	Ultrasonic/Thickness gauge/NDT	Not submitted=0	Expired Certificate	N/A	Valid Calibration Certificate
		3%	Laser/Alignment	Not submitted=0	Expired Certificate	N/A	Valid Calibration Certificate
		3%	Video Amplification	Not submitted=0	Expired Certificate	N/A	Valid Calibration Certificate
		3%	Operational Deflection Shape Analysis	Not submitted=0	Expired Certificate	N/A	Valid Calibration Certificate
Skills Capability	35%	8%	Technical site manager (x1)	Not submitted=0	Minimum qualification: Diploma in any engineering field with 2 years industry experience, Vibration Analysis Level III, Infrared Level III, Ultrasonic II	Minimum qualification: Diploma in any engineering field with 4 years industry experience, Vibration Analysis Level III, Infrared Level III, Ultrasonic II	Minimum qualification: Diploma in any engineering field with 5 years industry experience, Vibration Analysis Level III, Infrared Level III, Ultrasonic II

8%	Senior Analyst (x2)		<i>Minimum qualification Diploma in any engineering field with minimum experience of 2 years industry experience. Vibration Analysis Level II, Infrared Level II, Ultrasonic II.</i>	<i>Minimum qualification Diploma in any engineering field with minimum experience of 4 years industry experience. Vibration Analysis Level II, Infrared Level II, Ultrasonic II.</i>	<i>Minimum qualification Diploma in any engineering field with minimum experience of 5 years industry experience. Vibration Analysis Level II, Infrared Level II, Ultrasonic II.</i>
7%	Condition Monitoring Technician (x2)	Not submitted= 0	<i>Minimum qualification: N3 Engineering with relevant trade subjects with 2 years related Experience, Vibration Analysis Level I, Ultrasonic I & Infrared Level I</i>	<i>Minimum qualification: N3 Engineering with relevant trade subjects with 4 years related Experience, Vibration Analysis Level I, Ultrasonic I & Infrared Level I</i>	<i>Minimum qualification: N3 Engineering with relevant trade subjects minimum 50% with 5 years related Experience, Vibration Analysis Level I, Ultrasonic I & Infrared Level I</i>
4%	Oil Lab Technician (x1) FLA/MLA I, Oil Analysis II	Not submitted= 0	<i>National Diploma in Analytical Chemistry /Chemical Engineering with 2 years relevant experience. FLA/MLA I, Oil Analysis II.</i>	<i>National Diploma in Analytical Chemistry /Chemical Engineering with 4 years relevant experience. FLA/MLA I, Oil Analysis II.</i>	<i>National Diploma in Analytical Chemistry /Chemical/Mechanical Engineering with 5 years relevant experience. FLA/MLA I, Oil Analysis II.</i>

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		8%	Tribologist (x1) FLA/MLA III, Oil Analysis III	Not submitted= 0	<i>Minimum qualification: Diploma in Analytical Chemistry, Mechanical/Chemical Engineering with 2 years industry experience. FLA/MLA III, Oil Analysis III.</i>	<i>Minimum qualification: Diploma in Analytical Chemistry, Mechanical/Chemical Engineering with 4 years industry experience. FLA/MLA III, Oil Analysis III.</i>	<i>Minimum qualification: Diploma in Analytical Chemistry, Mechanical/Chemical Engineering with 5 years industry experience. FLA/MLA III, Oil Analysis III.</i>
Transport	5%	5%	4X4 Bakkie	Not submitted= 0	N/A	N/A	<i>Proof of ownership/ lease agreement</i>
Documentation	10%	3%	Vibration report sample and failure analysis (Eskom standard no 36- 1095)	Not submitted= 0	<i>Submitted 2 (different components) Vibration Failure report sample and failure analysis. The report should include the following: Overall vibration signal, spectrum, time waveform and high frequency enveloping analysis.</i>	<i>Submitted 4 (different components) Vibration Failure report sample and failure analysis. The report should include the following: Overall vibration signal, spectrum, time waveform and high frequency enveloping analysis.</i>	<i>Submitted 5 (different components) Vibration Failure report sample and failure analysis. The report should include the following: Overall vibration signal, spectrum, time waveform and high frequency enveloping analysis.</i>
		3%	Oil Analysis report sample and failure analysis	Not submitted= 0	<i>Submitted 2 (different components) Oil Analysis report sample and failure</i>	<i>Submitted 4(different components) Oil Analysis report sample and failure analysis should</i>	<i>Submitted 5 (different components) Oil Analysis report sample and failure analysis should</i>

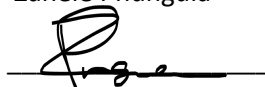
					<i>analysis should include additives & lubricant condition, viscosity, particle count, wear metals and contaminants</i>	<i>include additives & lubricant condition, viscosity, particle count, wear metals and contaminants</i>	<i>include additives & lubricant condition, viscosity, particle count, wear metals and contaminants</i>
		2%	Thermal scan report sample and failure analysis (Eskom standard 36-511)	<i>Not submitted=0</i>	<i>Submitted 2(includes mechanical, electrical equipment, piping and valves) Thermal scan report sample and failure analysis should include image interpretation, machine fault diagnosis, machine prognosis and acceptance criteria</i>	<i>Submitted 4(includes mechanical, electrical equipment, piping and valves) Thermal scan report sample and failure analysis should include image interpretation, machine fault diagnosis, machine prognosis and acceptance criteria</i>	<i>Submitted 5(includes mechanical, electrical equipment, piping and valves) Thermal scan report sample and failure analysis should include image interpretation, machine fault diagnosis, machine prognosis and acceptance criteria</i>
		2%	NDT report sample and fault or failure analysis	<i>Not submitted=0</i>	<i>Submitted 2 NDT report sample</i>	<i>Submitted 4 NDT report sample and failure analysis</i>	<i>Submitted 5 NDT report sample and failure analysis</i>
Oil Laboratory Standard	10%	6%	Certified by authorized bodies of SANAS and ISO	<i>Not submitted=0</i>	N/A	N/A	Valid SANAS and ISO Certificate
		4%	Dashboard	<i>Not submitted=0</i>	<i>2 components Samples of all trends/graphs and overview component status</i>	<i>4 components Samples of all trends/graphs and overview component status</i>	<i>5 components Samples of all trends/graphs and overview component status</i>

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Company experience	10%	10%	List of companies service offered and Company years of experience	Not submitted= 0	2 years company experience and proof of related service rendered on companies	4 years company experience and proof of related service rendered on companies	5 years and above company experience and proof of related service rendered on companies
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Criteria Compiled by: Zanele Phungula

Signature:



Date:

2022/09/22

Approved by: Brenda Moeng

Signature:



Date:

2022-09-22