	Specification	Medupi Power Station
---	----------------------	-----------------------------

Title: **Medupi Power Station Coal Conveyor X-Ray Scanning Contract Scope of Work**

Document Identifier: **240-162882571**

Alternative Reference Number:

Area of Applicability: **Medupi Power Station**




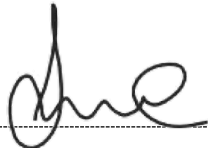
Functional Area: **Engineering**

Revision: **3**

Total Pages: **9**

Next Review Date: **N/A**

Disclosure Classification: **Controlled Disclosure**

Compiled by	Supported by	Functional Responsibility	Authorized by
			
EK Makatu Technician Engineering	LD Mogale Snr Advisor Engineering	TT Mukenga Performance & Testing Manager	JC Mkhathshwa Engineering Group Manager
Date: 2022/03/16	Date: 2022/03/16	Date: 2022/03/17	Date: 2022-03-17

Content	Page
1. Introduction.....	3
2. Supporting Clauses	3
2.1 Scope.....	3
2.1.1 Purpose.....	3
2.1.2 Applicability	3
2.1.3 Effective date.....	4
2.2 Normative/Informative Reference	4
2.2.1 Normative.....	4
2.2.2 Informative.....	4
2.3 Definitions	4
2.3.1 Terms:	4
2.4 Abbreviations.....	5
2.5 Roles and Responsibilities	5
2.6 Process for Monitoring.....	5
2.7 Related/Supporting Documents.....	5
3. Routine services.....	6
3.1 Works Information	6
3.2 Deliverables	8
3.2.1 Contract Activities.....	8
3.3 Service and Standards	8
3.4 Standby.....	8
3.5 Contract Requirements.....	8
3.6 Safety Requirements.....	8
4. Acceptance.....	9
5. Revisions.....	9
6. Development Team	9
7. Acknowledgements:	9

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Ltd, Reg No 2002/015527/30.

1. Introduction

Medupi Power Station URS indicates that the plant must be able to achieve 92% availability, 6% planned unavailability and 2% unplanned unavailability. This can only be achieved by doing the correct maintenance at the correct time as per Medupi Power Station Plant Maintenance Strategy.

Coal availability plays a very important role in ensuring a continual and reliability of power supply, as such, the transportation of coal from the mine into the units, using conveyor belts remains an important part in maintaining reliability of supply.

Coal conveyor belts should be monitored by conducting X-ray scanning in order to determine the integrity of the belts and ensuring that the plant is performing according to the specification.

This document is developed to ensure that there is a contract in place for performing X-ray scanning which may be required on the conveyor belts and.

Benefits of monitoring and performing X-ray scanning on conveyor belts:

- Maximize plant efficiency.
- Constant monitoring of belt integrity.
- Early indication of belt defects.
- Early indication of malfunctioning plant instruments.

2. Supporting Clauses

2.1 Scope

The scope covers the X-ray scanning of conveyor belts at Medupi Power Station quarterly.

2.1.1 Purpose

The purpose of this document is to outline the works information, the technical requirements, and all the contract and safety requirements for Medupi Power Station conveyor belt X-ray scanning.

The proposed contract must support the station to achieve zero Environmental and Safety contraventions.

It is therefore imperative that the successful and suitably qualified Contractor aligns his/her organisation fully to these specified scope activities and processes laid down in this document as well as relevant and recognised international, national and Employer's standards and policies.

2.1.2 Applicability

This document shall apply to Medupi Power Station.

CONTROLLED DISCLOSURE

2.1.3 Effective date

This document shall be effective from the date of authorisation.

2.2 Normative/Informative Reference

Parties using this document shall apply the most recent edition of the documents listed in the following paragraphs.

2.2.1 Normative

- [1] ISO 9001 Quality Management Systems
- [2] Occupational Health and Safety Act no. 85 of 1993
- [3] GGR 0992 Eskom Plant Safety Regulations
- [4] 240-62196227 Eskom Lifesaving Rules
- [5] 240-44175132 PPE Specification
- [6] 32-520 Occupational Health and Safety Risk Assessment Procedure
- [7] 32-477 SHE Is training and Development
- [8] 32-95 Environmental, Occupational Health and Safety Incident Management Procedure

2.2.2 Informative

- [1] 240-78790897 Coal Plant Maintenance Strategy

2.3 Definitions

2.3.1 Terms:

Terms	Definitions
Availability	Operable and committable state of the system.
Contractor	A company that undertakes a contract to provide materials or labour to perform a service or do a job.
Conveyer belt	A continuous moving band of rubber used for transporting coal and ash.
Planned unavailability	All the planned maintenance outages/shutdowns for plant maintenance purposes.
Unplanned unavailability	All the unplanned plant shutdowns or trips/load losses.

CONTROLLED DISCLOSURE

2.4 Abbreviations

Abbreviation	Explanation
LAR	Limited Access Register.
N/A	Not Applicable.
OHS	Occupational Health and Safety.
Ops	Operating.
P&T	Performance & Testing.
PPE	Personal Protective Equipment.
PTW	Permit to Work.
RWM	Routine Works Management.
SANAS	South African National Accreditation System.
SAP CM	Systems Application Corrective Maintenance.
SAP PM	Systems Application Planned Maintenance.
SOW	Scope of Work.
URS	User Requirement Specification.

2.5 Roles and Responsibilities

Department/Responsible Persons	Responsibilities
Contractor	To perform X-ray scanning on conveyor belts as per SOW and send the detailed reports to the Employer.
Operating	Shall grant LAR.
P&T	Ensuring that all the tests are conducted as per SOW.
Risk Department	Responsible for ensuring compliance to the Eskom Health and Safety Standards.
System Engineer	Record keeping of all the reports received from P&T and to review maintenance strategy.
Process Engineering	Interpretation of results for process performance optimisation.
Contractor	To perform X-ray scanning on conveyor belts as per SOW and send the detailed reports to the Employer.
Operating	Shall grant LAR.

2.6 Process for Monitoring

SAP PM will be used as a process for monitoring. A PM will be issued after every 3 months.

2.7 Related/Supporting Documents

Not Applicable

CONTROLLED DISCLOSURE

3. Routine services

To perform X-ray scanning at Medupi Power Station as specified below. The services are to be provided as per SAP PM and SAP CM for the following required services:

- Perform X-ray scanning on coal plant conveyor belts 4 times a year (Quarterly).
- Perform X-ray scanning on coal plant conveyor belts upon request for emergency scanning.
- The Contractor shall provide a detailed report and performance analysis after conducting a test

3.1 Works Information

Test	Area	Specification	Frequency
Perform X-ray scanning on coal plant conveyor belts	SY2A	1800 mm ST500 8.0 mm × 5.0 mm	3 Monthly
Perform X-ray scanning on coal plant conveyor belts	SY2B	1800 mm ST500 8.0 mm × 5.0 mm	3 Monthly
Perform X-ray scanning on coal plant conveyor belts	T1A	1800 mm ST500 8.0 mm × 5.0 mm	3 Monthly
Perform X-ray scanning on coal plant conveyor belts	T1B	1800 mm ST500 8.0 mm × 5.0 mm	3 Monthly
Perform X-ray scanning on coal plant conveyor belts	SY1	1800 mm ST500 8.0 mm × 5.0 mm	3 Monthly

SY2A & SY2B			
Conveyor Belt Information		Conveyor System Information	
Supplier	ContiTech	Belt Installation Date	Unknown
Belt Rating	ST500	Belt Speed (expected)	3.00 m/s
Belt Width	1800 mm	Belt Speed (calculated)	3.34 m/s
Belt Width (calculated)	1770 mm	Belt Length (expected)	1000.0 m
Pulley Cover	5.0 mm	Belt Length (calculated)	1349.7 m
Top Cover	8.0 mm	Splice Design	1 Stage
Cord Diameter	3.6 mm	Number of Splices (expected)	6
Number of Cords	63	Number of Splices (calculated)	10
Cord Pitch	28.0 mm		
Overall Belt Gauge	16.6 mm		

CONTROLLED DISCLOSURE

SY1			
Conveyor Belt Information		Conveyor System Information	
Supplier	ContiTech	Belt Installation Date	Original belt
Belt Rating	ST500	Belt Speed (expected)	2.86 m/s
Belt Width	2100 mm	Belt Speed (calculated)	
Belt Width (calculated)		Belt Length (expected)	260 m
Pulley Cover	5.0 mm	Belt Length (calculated)	
Top Cover	8.0 mm	Splice Design	1 Stage
Cord Diameter	3.6 mm	Number of Splices (expected)	1
Number of Cords	74	Number of Splices (calculated)	
Cord Pitch	26.0 mm		
Overall Belt Gauge	16.6 mm		

T1A and T1B			
Conveyor Belt Information		Conveyor System Information	
Supplier	ContiTech	Belt Installation Date	unknown
Belt Rating	ST500	Belt Speed (expected)	3.00 m/s
Belt Width	1800 mm	Belt Speed (calculated)	2.59 m/s
Belt Width (calculated)	1745 mm	Belt Length (expected)	1000.0 m
Pulley Cover	5.0 mm	Belt Length (calculated)	692.4 m
Top Cover	8.0 mm	Splice Design	1 Stage
Cord Diameter	3.6 mm	Number of Splices (expected)	3
Number of Cords	63	Number of Splices (calculated)	3
Cord Pitch	28.0 mm		
Overall Belt Gauge	16.6 mm		

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

3.2 Deliverables

3.2.1 Contract Activities

X-ray scanning on coal conveyor belts shall be done as per the scope of work, changes to the SOW will be made as, and when required and between the Service Manager and the Contractor.

3.3 Service and Standards

The Contractor shall perform all services necessary to ensure that the plant is monitored, and X-ray scanning is performed in accordance with agreed standards and procedures. The integrity of plant data shall continuously be checked and confirmed against history and any applicable standards.

3.4 Standby

The contractor will be expected to be available to perform X-Ray scanning when emergency scanning is required upon request.

3.5 Contract Requirements

- i. The contracting company shall provide its own transport.
- ii. The contracting company shall provide its own PPE.
- iii. The Contractor shall provide adequate skilled personnel for the job execution.
- iv. The Contractor shall compile a detailed report upon completion of work, and it must be submitted electronically within seven days from the date of completion to the Employer. The report shall contain the following:
 - a) Date and time of the test
 - b) Company letterhead and SANAS accreditation
 - c) Name of the test conducted
 - d) Tests results
 - e) Comments/Recommendation
 - f) Conclusion

3.6 Safety Requirements

- a) The Contractor shall comply with Eskom Occupational Health and Safety, Environmental, Risk and Quality requirements, standards, and policies.
- b) The Contractor shall ensure compliance to all Eskom mandatory standards and statutory requirements.
- c) The Contractor shall ensure that they use correct PPE (safety goggles, safety gloves, overalls, reflective vest, dust masks, earplugs, hardhat, safety boots) always.
- d) The Contractor shall provide valid medical certificates.

CONTROLLED DISCLOSURE

- e) The Employer shall ensure that a plant in operation PTW is in place prior commencement of work.
- f) The Contractor shall ensure that induction is done prior to commencement of work.
- g) The Contractor shall obtain LAR and conduct risk assessment prior to commencement of work.
- h) All safety regulations pertaining to the process shall be adhered to and the contracting company shall also ensure that it sends its safety file for approval with all the required documentation as per safety file checklist to Risk Department.
- i) The Contractor shall have a safety file with all the required documents as per Eskom Safety file checklist.
- j) The Contractor shall ensure that the vehicle to be used on site conforms to Eskom safety standards.

4. Acceptance

This document has been seen and accepted by:

Name	Designation
Danny Phosa	Senior Technician Performance and Testing
Moyahabo Makgai	Senior Technician Performance and Testing
Johann Claassen	Coal Plant System Engineer
Langa Zuma	Auxiliary Engineering Manager
Monaheng Mohlomi	Senior Technician Performance and Testing
Tendani Mukhuba	OHS Manager
Zanele Ngubeni	Senior Technician Performance and Testing

5. Revisions

Date	Rev.	Compiler	Remarks
March	1	EK Makatu	updated 3.1 works information by including SY1 technical information
April	0	SH Repinga	Fist issue

6. Development Team

The following people were involved in the development of this document:

- a) Kenny Makatu

7. Acknowledgements:

N/A

CONTROLLED DISCLOSURE