Eskom	MATLA POWER STATION SCOPE OF WORK	Document Identifier	14593	Rev	6
		Effective Date	March 2023		
		Review Date	March 2026		

PLANT AREA: Matla Power Station Coal plant

TITLE: Coal plant chutes, tripper cars and rotary feeders' refurbishment.

REF: MEA: 06949	Reference Rev No:1	MULTIDISCIPLINARY: No	Plant Level: All

COMPILED BY	*Name: Ramogale Thulare* *Civil Engineer/End User*	Signature:	Date: 09/07/2024
APPROVED	*Name: Gavin Phelelo* *Line Manager*	Signature:	Date: 19/07/2024
APPROVED	*Name: Lindokuhle Ngobese* *Group Manager*	Signature	Date: 23/07/2024
REVIEWED	*Name: Jabulani Mtsweni* *Quality Department*	Signature:	Date: 29/07/2024
REVIEWED	*Name: Robert Mathiba* *Occupational Health and Safety*	Signature:	Date: 05-08-2024
REVIEWED	*Name: Lufuno Tshidzumba* *Environmental Department*	Signature	Date:
ACCEPTED	*Name: Aaron Masehla* *Outage Manager/Maintenance manager*	Signature:	Date:
ACCEPTED	*Name:* *AIA*	Signature:	Date

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

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	• 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
1.2	Environmental Management. .	• All activities listed in the National Environmental Act 107 of 1998, EIA Regulations as amended, must have environmental **AUTHORISATION** before commencement of work.	Eskom to witness.	Contractor

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

		• 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.		
1.3	Quality Management	• 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	Hold point	Contractor

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

		• 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			

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

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

	SCOPE OF WORK DESCRIPTION / ACTIVITY	PROCEDURE, SPECIFICATION, ENG. REQUIREMENTS / DOCUMENTATION	HOLD POINTS, WITNESS, REPORTS	RESPONSIBLE PARTY
	The Scope of work specifies the requirements for refurbishment of coal plant chutes, tripper cars and rotary feeders. The components are leaking due to wear and tear of the ceramic liner, which exposed the component shell to the abrasive nature of coal.			
2.1	**Scaffolding:** • Before any commencement of the work install/erect scaffolding to have platform to work on.	SANS 10085-1:2004	Witness/verify	RSC
2.2	**Coal staithe 1 tripper cars:** • Remove or untighten the bolts and nuts holding the tripper assembly. • Remove the ceramic liners on each segment. • Sandblast all the steel segments. • Cut out all the pitting sections and weld a new section.	**Specification:** • Wall thickness= 6mm • Quantity= 16 • Sandblasting: Grade 3. **Standards:**	Hold	Engineer

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

	• Replace all segments where pitting or patches cover more than 50% of the surface Area. • Replace the liners, ceramic 25 mm thick. • Adhesive/epoxy to withstand high impact by coal with a volumetric flow of 600tons/hour. • Supply Bolts, nuts washers and spring washers. • Assemble the tripper cars and tighten all the bolts and nuts. • Replace the drives to Open the clamshell doors. NB: All welding activities to be adhered to as per Eskom welding Rule: 240-106628253. NB: All the NDTs to adhere to *standard for Non -destructive Testing (NDTs) on Eskom plants*: 240-83539994.	• standard for Non -destructive Testing (NDTs) on Eskom plants: 240-83539994. • Standard for Welding Requirements on Eskom Plant		

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

	NB: Product material certificate to be submitted to the system engineer prior commencing with the work for approval.			
2.3	**Coal staith 2 rotary feeders:** • Remove or untighten the bolts and nuts holding the rotary feeder assembly. • Remove the ceramic liners on each segment. • Sandblast all the steel segments. • Cut out all the pitting sections and weld a new section. • Replace all segments where pitting or patches cover more than 50% of the surface Area. • Replace the liners, ceramic 25 mm thick. • Adhesive/epoxy to withstand high impact by coal with a volumetric flow of 600tons/hour. • Supply bolts, nuts, washers and spring washers for rotary feeders assembly. • Assemble the rotary feeder and tighten all the bolts and nuts.	**Specification:** • Wall thickness = 6 mm • Quantity: 2	Witness	Contractor

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

2.3	**Coal bunker tripper cars:** • Remove or untighten the bolts and nuts holding the tripper car assembly. • Remove the ceramic liners on each segment. • Sandblast all the steel segments. • Cut out all the pitting sections and weld a new section. • Replace all segments where pitting or patched cover more than 50% of the surface Area. • Replace the liners, ceramic 25 mm thick. • Adhesive/epoxy to withstand high impact by coal with a volumetric flow of 600tons/hour. • Supply bolts, nuts washers and spring washers for tripper cars assembly. • Assemble the tripper cars and tighten all the bolts and nuts. • Repair both the front and sides inspection doors.	**Specification:** • Wall thickness = 6 mm • Quantity: 12		

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

2.4	**7/8 transfer chutes:** • Remove or untighten the bolts and nuts holding the tripper assembly. • Rig out the chute assembly. • Remove the ceramic liners on each segment. • Sandblast all the steel segments. • Cut out all the pitting sections and weld a new section. • Replace all segments where pitting or patched cover more than 50% of the surface Area. • Replace the liners, ceramic 25 mm thick. • Adhesive/epoxy to withstand high impact by coal with a volumetric flow of 600tons/hour. • Supply bolts, nuts, washers, and spring washers for chute assembly. • Assemble the tripper car and tighten all the bolts and nuts. • Repair/ replace the inspection doors.	**Specification:** • Wall thickness = 6 mm • Mass = 435 kg • Quantity = 6	Witness	Contractor

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

2.5	**8/9 Cross-over chutes:** • Remove or untighten the bolts and nuts holding the chute assembly. • Rig out the flopper gate. • Rig out the chute assembly. • Measure the requirements for isolation plate and fabricate, thickness = 12mm. • Install the isolation plate after removing the flopper gate and the entire assembly. • Remove the ceramic liners on each segment. • Sandblast all the steel segments. • Cut out all the pitting sections and weld a new section. • Replace all segments where pitting or patches cover more than 50% of the surface Area. • Replace the liners, ceramic 25 mm thick. • Adhesive/epoxy to withstand high impact by coal with a volumetric flow of 600tons/hour. • Supply bolt, nuts, and washers for chute assembly.	**Specification:** • Wall thickness = 6 mm • Mass = 720 kg • Quantity = 6	Witness	Contractor

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

	• Assemble the chute and tighten all the bolts and nuts. • Repair/ replace the inspection doors.			
2.6	**9/10 transfer chutes:** • Remove or untighten the bolts and nuts holding the tripper assembly. • Rig out the chute assembly. • Remove the ceramic liners on each segment. • Sandblast all the steel segments. • Cut out all the pitting sections and weld a new section. • Replace all segments where pitting or patched cover more than 50% of the surface Area. • Replace the liners, ceramic 25 mm thick. • Adhesive/epoxy to withstand high impact by coal with a volumetric flow of 600tons/hour. • Supply bolts, nuts and washers for chute assembly.	**Specification:** • Length =+- 4200 mm • Wall thickness = 6 mm • Mass = 720 kg • Quantity = 6	Witness	Contractor

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

	• Assemble the tripper car and tighten all the bolts and nuts. • Repair/ replace the inspection doors.			
	9/11 transfer chutes and 16 belts crossover chutes. • Remove or untighten the bolts and nuts holding the tripper assembly. • Rig out the chute assembly. • Remove the ceramic liners on each segment. • Sandblast all the steel segments. • Cut out all the pitting sections and weld a new section. • Replace all segments where pitting or patched cover more than 50% of the surface Area. • Replace the liners, ceramic 25 mm thick. • Adhesive/epoxy to withstand high impact by coal with a volumetric flow of 600tons/hour. • Supply bolts, nuts, and washers for chute assembly.	**Specification:** • Length =+- 4200 mm • Wall thickness = 6 mm • Mass = +-720 kg • Quantity = 6 (9/11) transfer chutes • Quantity = 2 (16 belts) cross over chutes. • Quantity = 2 (16 belts) flopper gates.	Witness	Contractor

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

	• Assemble the tripper car/cross over chutes and tighten all the bolts and nuts. • Repair/ replace the inspection doors.			
2.3	**Perform NDT:** Perform a Non-Destructive Test (NDT) on the welds.	**NDT specifications:** • Standard-SANS 3059:2021 • Type –Magnetic particle inspection (MPI) Submit tests report to system engineer.	Report	Contractor
2.4	**Electrical Work:** **Rotary Feeder Control Circuit** • The contractor to assess, test the existing electrical control circuit panel for 7F and 7E rotary feeder. • The contractor to design, manufacture, install, test and commission a new control circuit panel. • The circuit must be able to control the rotary feeder to Start, Stop, Traverse backwards and Traverse forward.	240-109607332 Abbreviation Standard for Labelling of Plant at Power Stations 240-86973501 - Drawing Standard 240-56176097 Electrical Cable Schedule Template 240-77301384 Electrical LV Load Schedule Template	Witness	Contractor

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

	• The contractor must provide drawings for the new circuit, the operation and design philosophy must not be changed. • The control circuit panel must be IP65 rated. • The control circuit must show the state at which the rotary feeder is currently operated with (Traverse forward, Traverse backwards, Stop, plough trip, plough run, stop plough, start plough, on and off). • All the controls must have buttons that the controller will press and there must be an LED that will give indication of the selection. **7E and 7F Vahle Rail System:** The contractor shall Supply, deliver, install and commission the Vahle Rail System: • U30/75 C-6 Insulated conductor rail • U30/75 C-6 PE Insulated Conductor • UDV 30/75 C k4 Expansion section. • UDV 30/75 C k4 PE Expansion section. • USK 30 k4 Locating clamp. • UK 30-L End caps.			

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

	• UK 30/75 C Rigid joints. • UEG 30/75 C Feed terminal. • UAM Insulated hangers. • KDST 200/300 DBL Current collectors. • UM 24 Collector brackets • Conductive grease -100ml tube. **NB: The contractor shall install as per the OEM guidelines and/or work instructions.**			
2.6	**Housekeeping:** Clear all unused, rubble and unwanted material offsite and dump it at Eskom dumping side.		Witness /Verify	Contractor
2.7	• The quantities given shall be used for tendering purposes only. The successful contractor will be required to visit the site and verify all dimensions and locations, and notify the Employer or project manager of any changes to the estimated quantities before any		Witness/Verify	Contractor

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

	work is done, prior to or on return of tender documents. The contractor takes full responsibility to verify all quantities. Measurements and bill of quantities are to be used as a guideline. The contractor takes full responsibility for all final measurements.			

BILL OF MATERIAL

	Full description of Material/Spares/Equipment	Specifications of Material/Spares/Equipment	Stock No	Part Number	Required Quantity
1	6 mm steel plate	Grade S355JR	N/A	N/A	
2	M12 bolts and nuts	Grade 8.8	N/A	N/A	
3	M12 washers and spring washers	Grade 8.8	N/A	N/A	
4	Ceramic wear liners	Ceramic	N/A	N/a	
5	Control circuit for 7E and 7F	IP 65 rated	N/A	N/A	2
6	U30/75 C-6 Insulated conductor rail	U30/75 C-6	N/A		212

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

7	U30/75 C-6 PE Insulated Conductor	U30/75 C-6 PE	N/A	N/A	53
8	UDV 30/75 C k4 Expansion section.	UDV 30/75 C k4	N/A	N/A	16
9	UDV 30/75 C k4 PE Expansion section.	UDV 30/75 C k4	N/A	N/A	4
10	USK 30 k4 Locating clamp.	USK 30 k4	N/A	N/A	50
11	UK 30-L End caps.	UK 30-L	N/A	N/A	10
12	UK 30/75 C Rigid joints.	UK 30/75	N/A	N/A	260
13	UEG 30/75 C Feed terminal.	UEG 30/75 C	N/A	N/A	10
14	UAM Insulated hangers.	132690-UAM	N/A	N/A	1085
15	KDST 200/300 DBL Current collectors.	KDST 200/300 DBL	N/A	N/A	20
16	UM 24 Collector brackets	175076-UM 24	N/A	N/A	4
17	Conductive grease -100ml tube.		N/A	N/A	4

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

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		
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		

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

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		
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

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

ATTACHMENTS: DRAWINGS, SKETCHES, DIAGRAMS, INSTRUCTIONS, etc	
1	Figure 1: 9 tail end chutes.
2	Figure 2: 10/11 intermediate transfer chutes.
3	Figure 3: Coal plant tripper cars.
4	Figure 4: Coal plant rotary feeder.
5	
6	
7	

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

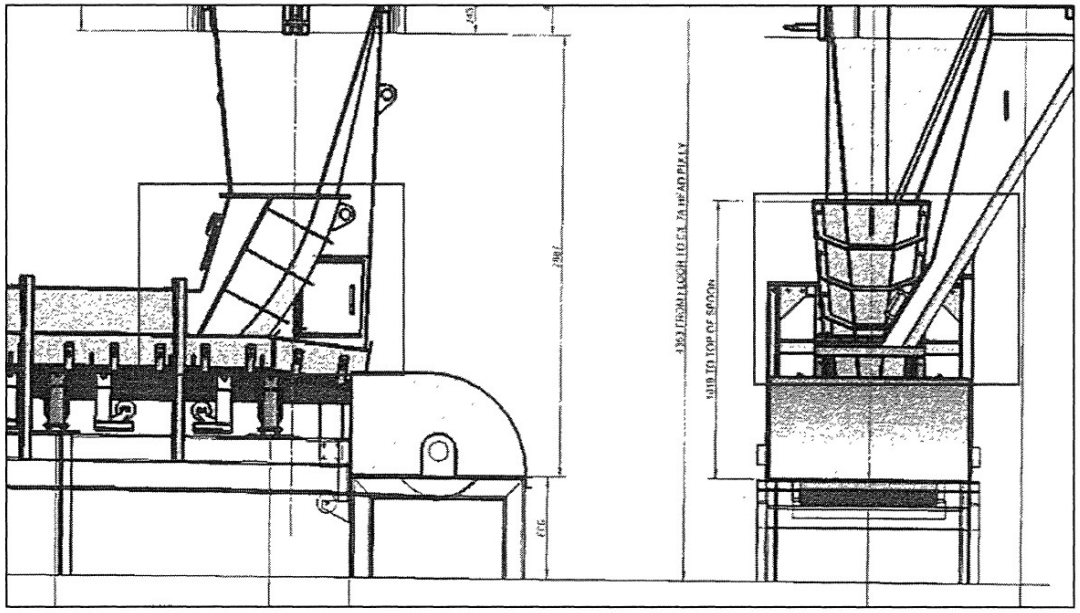

Figure 1: 9 tail end chutes (7/8 chutes)

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

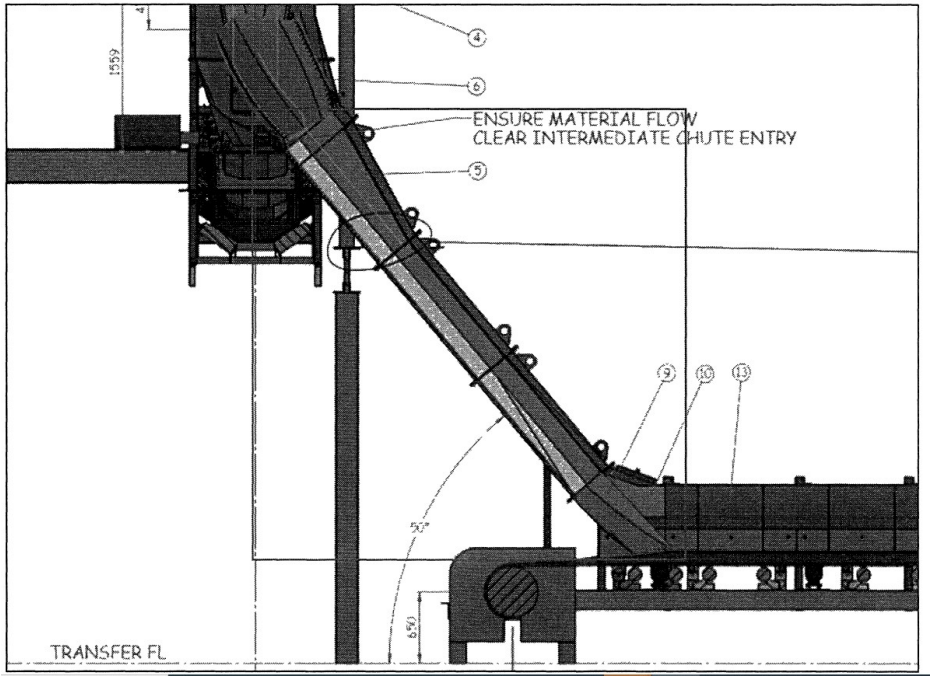

Figure 2: 10/11 intermediate transfer chute.

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

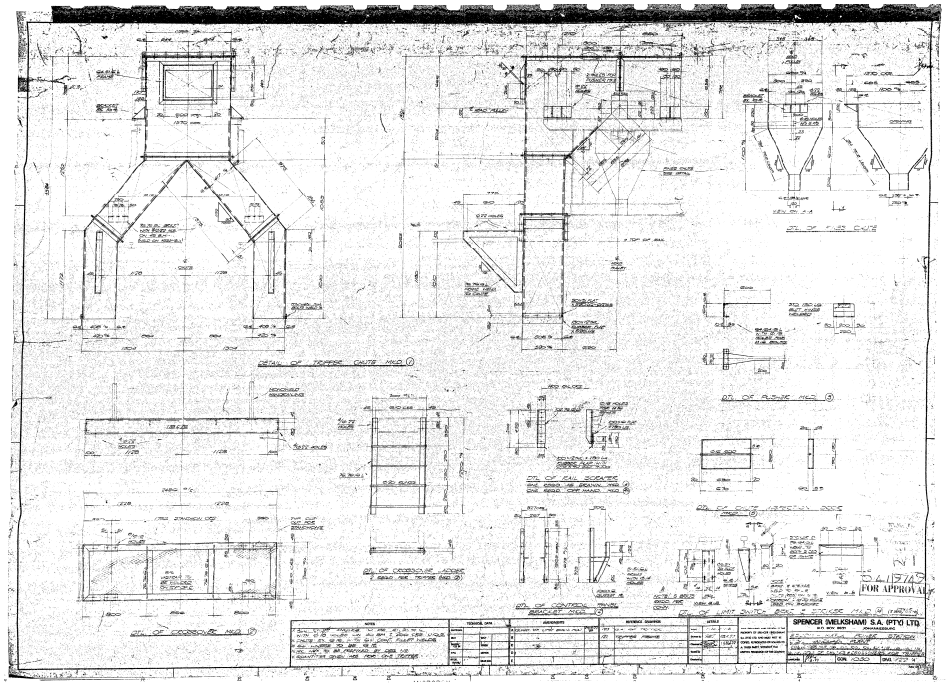

Figure 3: Coal plant tripper cars.

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

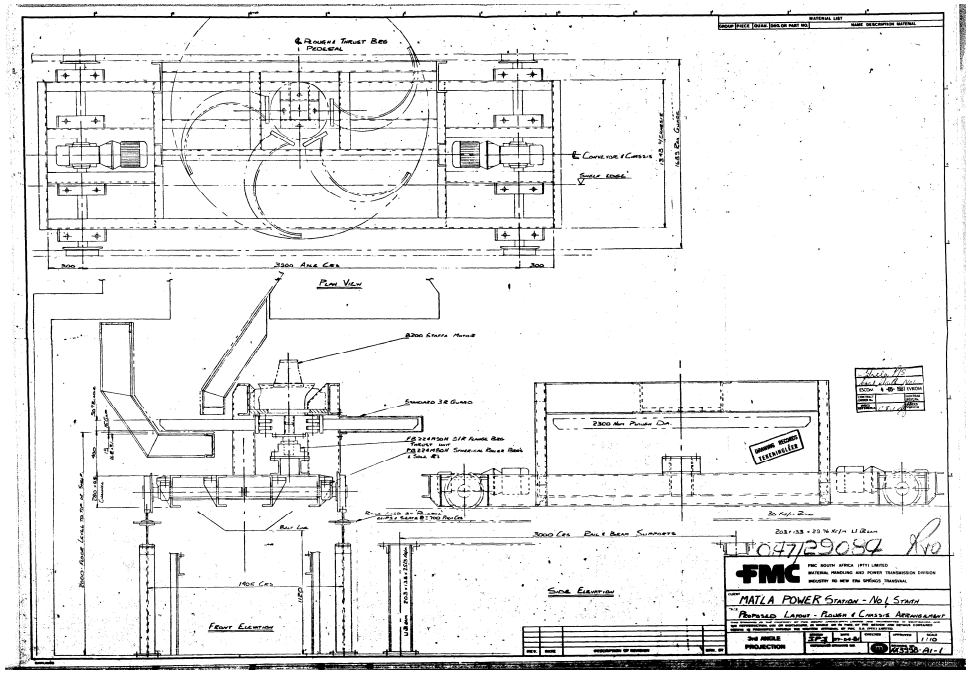

Figure 4: Coal plant rotary feeder.

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