

Title: **Cleaning Coal Spillage Under
Conveyor Structures and Idlers**
Work Instruction

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1. INTRODUCTION

- 1.1** The coal staithes are to be lashed or trimmed to ensure a safe and reliable supply of coal at all time, therefore the minimum requirement laid down in this Instruction must be complied with.;
- 1.2** That all activities are performed in compliance with the Power Station regulations and required legislation;
- 1.3** That all work is performed in accordance to the scope of work;
- 1.4** That all work is performed timeously and to the highest quality standard.

2. SUPPORTING CLAUSES

2.1 Scope

This Instruction specifies the essential activities to be carried out the production group regarding the lashing of coal staithes.

2.1.1 Purpose

- a) To ensure no fire occurs, reduce coal hang-ups, therefore ensuring a reliable and safe supply of coal.
- b) Site specific guidelines will address additional hazards that workers may be exposed to and be available to any support services.
- c) This procedure must be read in conjunction with the ESKOM Plant Safety Regulations, GGR0992 Section 16.5c and Occupational Health and Safety Act (Act 85 of 1993).

2.1.2 Applicability

To all Energy / coal supply personnel and ERI coal plant employees at Camden Power Station

2.1.3 Effective Date

This document shall be effective once authorised.

2.2 Normative/Informative References

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

2.2.1 Normative

- a) Eskom Plant Safety Regulations GGR0992 Section 16.5c.
- b) ISO 9000: Quality Management System – Fundamentals and Vocabulary.
- c) ISO 9001: Quality Management Systems – Requirements.
- d) ISO 14001: Environmental Management System.
- e) BS OHSAS 18001: Occupational Health and Safety Management Systems.
- f) Construction Regulations 2003.
- g) OSH Act 85 of 1993 cr 8.

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2.2.2 Informative

Hazard Identification Risk Assessment (HIRA) (240-94027465)

2.3 Definitions

Definition	Explanation
Coal Hang-up	Wet coal chemically reacts forms a clogged lump(s) which can become a major bridged formation of coal not able to be conveyed of flow.
Lashing	An activity required to get rid of coal hang-ups.
Coal Bunker	A coal storage facility on a power station
Lashing team	Select group of skilled persons appointed for the lashing of the staithe
Team Leader	Person in charge of the lashing – acting as appointed person - Authorised for the specific skill of lashing staithes – normally ops
Supervisor	A person appointed in writing to supervise safe execution of the lashing

2.4 Abbreviations

Abbreviation	Explanation
ERI	Eskom Rotek Industries
CPC	Common plant controller
EOD	Electrical Operating Desk
PPE	Personal Protective Equipment
PSR	Plant Safety Regulations
PTW	Permit To Work
WBGT	Wet Bulb Globe Temperature (Environmental Certificate)
RP	Responsible Person
AP	Appointed Person
CO	Carbon Monoxide
PPM	Parts Per Million

2.5 Roles and Responsibilities

2.5.1 Line Manager

- Shall be responsible for the implementation of the procedure in his area of responsibility.
- Shall provide consistent update regarding this procedure.
- Shall ensure that designated employees and supervisors are appointed in writing and trained in the understanding and practical working of the procedure and shall ensure that designated persons are trained and certified in the correct methods and processes of all maintenance work.
- Shall ensure that all measuring equipment is calibrated as prescribe by the relevant legislation and manufacture specifications.
- Shall ensure an adequate supply of measuring equipment required per site.

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- f) Shall ensure that calibration certificates is maintained and valid.
- g) Shall ensure that all lifting equipment is load tested as prescribe by the relevant legislation and manufacture specifications.

2.5.2 Supervisor

- a) Responsible for arranging with control room for a work permit to be issued for the relevant section of the Plant.
- b) Will be responsible for explaining the scope of work to all workers and describing the areas in which they are allowed to work.
- c) Responsible for the safety of the employees.
- d) The Supervisor is responsible for determining which section of the Plant is to be cleaned or worked on.
- e) Ensure that all lifting equipment is send for load testing on a rotation basis as prescribe by the relevant legislation and manufacture specifications.

2.5.3 Competent person

- a) Is responsible for the PTW
 - i) Carry out a Production Risk assessment with Operations
 - ii) Apply for permit to work
 - iii) Record workers names into the workman's register
 - iv) Inspect the necessary isolations to ensure safe working conditions
- b) Is responsible for performing the relevant risk assessment performed prior to commencing the task and ensuring that all risks and potential hazards are communicated and understood by all parties involved.
- c) Is responsible for ensuring that all tools, equipment and debris have been removed.
- d) Is responsible for advising the supervisor on completion of the task.

2.1 Related/Supporting Documents

- 2.1.1 Eskom Scaffold Work Operation (240-64978847)
- 2.1.2 Working at Heights (Form No.: 240-100556864)
- 2.1.3 Appointment: Fall Protection Developer CR 8 (1) (a) (Form No.: H-130)
- 2.1.4 Eskom Fall Protection Plan (240-83818077)
- 2.1.5 Eskom Working on Heights Procedure (32-418)
- 2.1.6 Hazard Identification Risk Assessment (HIRA) Procedure (240-94027465)
- 2.1.7 Hazard Identification Risk Assessment (Form No.: 240-94026665)
- 2.1.8 Task Based SHE Risk Matrix (Form No.: H-708)
- 2.1.9 Eskom Occupational Health and Safety Risk Assessment Procedure (32-520)

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2.2 Process for Monitoring

This document is subject to document control procedures and will be updated when it is due for revision or when conditions dictate. The process for monitoring is through internal and external audits.

2.3 Related/Supporting Documents

3. ACTIVITIES IN GENERAL

- 3.1** No work is allowed to commence until the work permit has been issued. Only responsible persons appointed by the power station are authorized to do the required permit.
- 3.2** Perform relevant risk assessment for planned activity.
- 3.3** All workers are prohibited from cleaning staithes without a PTW and Risk Assessment carried out.
- 3.4** Unauthorized entry into a bunker/staithe or any coal/ash storage space is prohibited.
- 3.5** No person shall ever partly or completely enter any chute or conveying system for cleaning unless he is in the possession of/or has signed onto a workers register for a PTW clearly indicating that the relevant portion of the plant has been isolated.
- 3.6** All coal/ash plant workers must know how to operate the emergency trip wire in case of danger to the plant and/or personnel.
- 3.7** Owing to the inherent dangers associated with operation of conveyors, it is essential that no person will cross a belt, whether stationary or not, by any manner other than the use of stairways, walkways or ladders provided for such purpose.
- 3.8** Ensure that all PPE, plant and competent persons are planned for the set task.
- 3.9** Ensure that all tools and equipment must be inspected on a monthly basis in accordance with the checklists contained in the SHEQ manual.
- 3.10** Request site specific guidelines where required.
- 3.11** Compulsory personal protective equipment:
 - 3.11.1** Hardhat
 - 3.11.2** Safety Goggles
 - 3.11.3** Reflector vests
 - 3.11.4** Ear Protection
 - 3.11.5** Respirators/dust masks (FFP2)
 - 3.11.6** Gloves - Short
 - 3.11.7** Safety shoes
 - 3.11.8** Safety Harness
 - 3.11.9** Overalls shall be worn at all times
 - 3.11.10** Breathing Apparatus or oxygen box

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- 3.12** Communicate the emergency plan and use of fall arrest system/fall protection if work is to be performed at height
- 3.13** If the activity is resumed after shift change, changed from original plan, additional equipment is introduced or continues the next day, the risk assessment must be reviewed
- 3.14** Request permit to be cleared
- 3.15** Ensure all equipment, tools and workers are accounted for
- 3.16** Remove all debris
- 3.17** On completion of the work all barricades and signage must be removed
- 3.18** Notify Supervisor on completion if relevant.
- 3.19** Working on elevated conveyors:
 - 3.19.1 Ensure that the activity is planned to cover all aspects of the scope of work.
 - 3.19.2 Ensure that areas underneath the locations where work is to be carried out are demarcated so as to prevent other persons not involved in the work being carried out, from gaining access below the work area.
 - 3.19.3 Where the requirements of the above cannot reasonably be complied with, then warning signs must be strategically placed such that adequate warning will be given that overhead work is in progress.

3.20 Scope of Work

- 3.20.1 Under no circumstances are any operators, cleaners or visitors to the coal plant allowed to put their hands on the tripper car rails or belt while it's running.
- 3.20.2 Always do: Plan job activities with recourses before start working.
- 3.20.3 It's prohibited to climb or jump over a standing or running conveyor belt at any time.
- 3.20.4 Ensure all employees do a risk assessment before they go to the plant on plant walk and inspections.
- 3.20.5 All employees will wear the correct PPE before entering the plant.
- 3.20.6 Identify all hazards in the working area and do a risk assessment to inform employees and make them aware of the potential danger and to eliminate, reduce, isolate, control or remove the risk of a possible incident.
- 3.20.7 No ERI employees are allowed to do any work or cleaning activities on a running conveyor belt.
- 3.20.8 Shift supervisor to communicate with site supervisor on all uncontrolled spillages on the plant.
- 3.20.9 Site supervisor and cleaning team leader will do Job planning to specify who should clean where, when and how.
- 3.20.10 The employee doing the cleaning activity must follow the following steps:
 - a) If it is a normal dust and coal spillage under the belt or idlers the employee could use a broom or scraper to sweep the spillage unto the walk way.
 - b) Then the dust and coal are scooped up and thrown unto the conveyor belt.

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- c) When pushing the shovel into the spillage the amount of spillage on the shovel when picking it up must not exceed 50% of the capacity that the shovel can carry.
- d) After scooping up a shovel of spillage it must be thrown unto the conveyor belt. The employee must repeat these actions until the spillage is cleaned up.
- e) After completion of the cleaning activity the employee must report to the team leader.
- f) When it is a large spillage the employee must use a shovel with a long wooden handle.
- g) Then start scooping up the spillage from the top working down to the bottom.

3.21 Control of Records

Master copy of this Work Instruction is kept at the Document Control Centre.

4. ACCEPTANCE

This document has been seen and accepted by:

Name	Designation
Moreen Mosetle	Coal 3 HOD (Acting)
Mandla Mthembu	Contracts Manager

5. REVISIONS

Date	Rev.	Compiler	Remarks

6. DEVELOPMENT TEAM

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

- P Fourie
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7. ACKNOWLEDGEMENTS

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