Eskom	Scope of Work	Camden Power Station

Title: **Scope of Work for *Bag Filter Replacement Project (Fourth Cycle)***

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Compiled by	Supported by	Functional Responsibility	Accepted by
CR Naicker	pp **P Mthombeni**	p.p **M Mathabatha**	**L Sew**
Senior Engineer: Boiler Engineering	**Boiler Engineering Manager**	**Engineering Manager**	**Projects Manager**
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Content

1. Introduction

Camden Power Station has bag filters or fabric filter plant (FFP) installed for the control of particulate matter (PM) or dust emissions. High temperature PPS/PI bags are used due to the site specific design. Bag life is typically 30 000 operating hours but the life can be compromised and premature failure may result due to sub optimal operations.

2. Supporting Clauses

2.1 Scope

2.1.1 Purpose

This scope will cover the Installation portion for the replacement of the complete unit set of bags: 9620 bags on four units at Camden Power Station, at this stage planning assumptions will be such that two of the four units will be conducted with the unit off-load which will require lime-coating. The other two units be conducted cell by cell, with the unit still on load. Exact arrangements will be finalised close to the time of replacements. Replacement of the bags is essential for the station to meet the Atmospheric Emissions License (AEL) limits and Station Contract targets.

2.1.2 Applicability

This document shall apply throughout Camden Power Station more specific to the Boiler Engineering and Projects Departments as well as the Boiler Maintenance, Quality Control and Environmental Departments.

2.1.3 Effective date

The effective date remains the date that the document is signed for Authorisation when compliance to the document requirements shall have been established and implemented.

2.1.4 Normative References

[1] 240 - 56242363 – Emissions Monitoring and Reporting Standard, Rev 2

[2] 32-727 Eskom SHEQ Policy

2.1.5 Informative References

[3] Atmospheric Emission License for Camden PS (Msukaligwa/Eskom H SOC Ltd/CPS/0012/2014/F02)

[4] GNR 893 DEA NEMAQA – Minimum Emission Standards (22 Nov 2013)

[5] National Environmental Management: Air Quality Act 2001 (Act 39 of 2004)

2.2 Definitions

N/A

2.3 Abbreviations

Abbreviation	Explanation
AEL	Atmospheric Emission License
FFP	Fabric Filter Plant
ITP	Inspection and Test Plan
PI	Polyimide (P84 ®)
PM	Particulate Matter
PPS	Polyphenylene sulphide
QC	Quality Control
QCP	Quality Control Plan

2.4 Roles and Responsibilities

- Projects Department will be responsible for co-ordinating all activities for the bag filter replacement project on the four units and will also form part of the Technical Evaluation Team.
- Boiler Engineering will assist with all technical enquiries, scope of work compilation, approval of ITPs and QCP's etc.
- Production Department will be responsible for arranging of unit loads or shutdowns for the re-bagging activity to take place.
- Quality Control will assist with all QC related issues, approval of ITPs, cell cleanliness inspections, cage damage sorting assessment etc.

2.5 Process for Monitoring

N/A

2.6 Related/Supporting Documents

N/A

3. Scope of Work

The works is the installation portion for a complete bag replacement on four units at Camden Power Station. Two options will be included at this stage (Replacement off-load for two units and replacement on-load for two units) but this will be further clarified closer to the time of execution.

3.1 Installation of FFP bags on two units to be conducted on-load

- The bag replacement on two units are planned to be conducted on-load thus one cell at a time. There are four cells per unit. Exact unit details will be communicated later.
- Arrangements will be made by Production prior with National Control with respect to the loading requirements and durations for the cells to be taken out of service, a cell at a time, for the replacements.
- The Project/Contract Manager will advise the contractor at least a week before of the plan for which cells and in which order the replacement is to be conducted on the specific unit.
- All necessary site establishments for project commencement.
- Supply of forklifts and all other necessary equipment to transport bags and cages from storage areas to the applicable unit's bag filter house in preparation for work commencement and for removal of old bags and cages from plant to storage area.
- Removal of old bags from the fabric filter plant on the specified cells for the applicable unit.
- Skips or trucks are to be made available for the storage of bags that are to be removed and are to be disposed of.
- Disposal of the old bags to an approved dumping site (Holfontein). Relevant certificates are to be provided to the contract manager once disposal of the used bags is completed. Transportation for disposal should also be included.
- Removal of cages from the fabric filter plant on the specified cells of the unit.
- All cages that were removed will be re-used with the exception of damaged cages that are to be repaired if possible. Cages that cannot be repaired will be replaced with new cages which will be provided by the station. All cages that are removed are to be sorted into reuse/repair/scrap categories and inspected by site personnel before go-ahead to re-install.
- Storage of damaged cages which cannot be repaired in the demarcated areas for steel scraping.
- Cleaning and removal of ash by vacuum cleaning from the filter casing of all cells before new bags are inserted.
- Repair of any damage to the casings, tube plates, inspection doors and access doors before installation of new bags and cages begin.
- Installation of the new set of bags (which will be provided) in to the cells of the filter casings. Assistance will also be required to be provided to off-load bags to demarcated storage areas when delivered to site before the replacements can begin.
- Installation of the cages into the new bags in the cells of the filter casings.

- Any required fabric filter plant commissioning activities when the cell is being put back into service.
- Any required fabric filter plant commissioning once all cells in the unit are completed.

NB: If the replacement is being conducted on load for this unit, workspace is limited and conditions could be slightly unfavourable therefore attention must be placed on supply of adequate labour force and equipment for the activities listed above

3.2 Installation of FFP bags and cages on two to be conducted off-load

- The bag replacements on two units will be conducted off-load thus all cells can be worked on simultaneously.
- All necessary site establishments for project commencement.
- Supply of forklifts and all other necessary equipment to transport bags and cages from storage areas to the applicable unit's bag filter house in preparation for work commencement and for removal of old bags and cages from plant to storage area.
- Removal of old bags from the fabric filter plant on the specified unit.
- Skips or trucks are to be made available for the storage of bags that are to be removed and are to be disposed of.
- Disposal of the old bags to an approved dumping site (Holfontein). Relevant certificates are to be provided to the contract manager once disposal of the used bags is completed. Transportation for disposal should also be included.
- Removal of cages from the fabric filter plant on the specified unit.
- All cages that were removed will be re-used with the exception of damaged cages that are to be repaired if possible. Cages that cannot be repaired will be replaced with new cages which will be provided. All cages that are removed are to be sorted into reuse/repair/scrap categories and inspected by site personnel before go-ahead to re-install.
- Storage of damaged cages which cannot be repaired in the demarcated areas for steel scraping.
- Cleaning and removal of ash by vacuum cleaning from the filter casing of all cells before new bags are inserted.
- Repair of any damage to the casings, tube plates, inspection doors and access doors before installation of new bags and cages begin.

- Installation of the new set of bags in to the filter casings. New bags will be provided by the station. Assistance will also be required to be provided to off-load bags to demarcated storage areas when delivered to site before the replacements can begin.
- Installation of the cages into the new bags.
- Pre-coating of the newly installed bags with hydrated lime. Supply and delivery of the hydrated lime is to be arranged for by the contractor.
- Any required fabric filter plant commissioning activities due to the unit bag replacement when the unit is returned to service.

4. Document Acceptance (Stakeholders)

This document has been seen and accepted by:

Name	Designation	Approval Signatures
None		

5. Revisions

Date	Rev.	Remarks	Compiler
22/05/2023	1	Original Issue	CR Naicker

6. Development Team

The ffg people were involved with development of this document:

- Charlene Naicker

7. Acknowledgements

None