

	Scope of Work	Kusile Power Station
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Title: **Supply, delivery and Installation of Absorber Spray Banks at Kusile Power Station**

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Functional Area: **Auxiliary Engineering**

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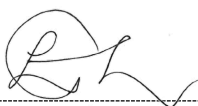
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Functional Responsibility

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1. Introduction

This document serves as the SOW for supply, delivery and installation of spray banks on absorbers.

2. Supporting Clauses

2.1 Scope

2.1.1 Purpose

2.1.2 Applicability

This document shall be applicable to the Absorber 1, 2 and 3 spray banks

2.1.3 Effective date

Effective from date of signature

2.2 Normative/Informative References

2.2.1 Normative

- [1] ISO 9001 Quality Management Systems
- [2] I00009-03878241160100-PRMAN-0001-001-A-WFGD Operation Manual _Section 1 – 3
- [3] 240-82869282 Kusile Power Station - Maintenance Execution Strategy for the FGD Unitised Plant Rev.4
- [4] 0.90/11528 Spray Header Supports
- [5] 0.90/12102 GPR Spray Bank Assembly
- [6] 366-21641 GENERAL LAYOUT PLAN VIEW AND SECTIONS
- [7] ISO 14001 Environmental Management System

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2.2.2 Informative

Not Applicable

2.3 Abbreviations

Abbreviation	Explanation
BOP	Balance of Plant
FGD	Flue Gas Desulphurisation
GRP	Glass Reinforced Plastic
QCP	Quality Control Plan
SOW	Scope of Work

2.4 Roles and Responsibilities

Department	Responsibility
Engineering	Draw up the SOW and submit to Maintenance
Maintenance	Issue the SOW to the contractor(s)
Contractor(s)	Execute the SOW to the required standard

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3. Absorber Spray Banks Supply Delivery and Installation

3.1 Scope of Work

The following SOW must be executed:

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System	Component	Major scope	Activities	Responsibility
Absorbers	Spray banks	Supply and deliver	Supply and deliver 6 sets of spray banks as per the specifications provided.	Contractor
			Specifications:	
			Pipe integrity: Type of resin: DER.411 Interior Abrasion Resistant Liner: Fillers Al203-3mm Exterior abrasion Resistant Liner: fillers Al203-3mm Design Pressure: 6 bar Design Temperature: 80°C See attached drawing for geometric specifications. Spray bank spool/branches wall thickness: 11mm	Contractor
			Note: each set of spray banks has one distribution header and eighteen branches with nozzles see attached drawings.	Contractor
			Delivery:	
			Upon delivery of the piping to site, the entire delivery scope shall be visually examined immediately after unloading and before pipe installation by the competent person. Damage pipes and fittings should be quarantined and repaired if feasible. Pipe handling belts or straps shall be used. Ropes, chains or other rigid and/or sharp-edged lifting accessories shall not be used. Pipes and fittings can be stored in the original packages, but it needs to be ensured that the surface of the ground where the storage place is, supposed to be even and no edges are pushing towards the pipe.	Contractor

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			GRP pipes are corrosion resistant and can be stored outdoors at any temperature. It is recommended not to pile up pipes while being stored higher than 1,5m as the construction can be deemed as unstable and unsafe.	
		Installation	<p>Kusile absorber utilises spray banks for slurry recirculation in the SO2 removal process. The spray banks are installed in elevated sections of the absorber, the absorber is a circular structure and spray banks will be installed at heights inside the 42m tall absorber.</p> <p>The contractor to provide the method statement for installation of spray banks to the engineer for approval.</p> <p>To ensure the optimum performance, the pipe system shall be installed as per the relevant drawing and piping support design provided. All flanged connections shall be made in accordance with the approved method statement, as mentioned above, particular attention shall be given to Flange alignment and torque settings.</p> <p>The following points not limited to, shall be considered in the method statement:</p> <ul style="list-style-type: none">• Handling of chemicals• Handling of the spray banks• Installation of above ground pipe system• Branches/Spools Erection• Branches/Spool Jointing• Resin mixing• Waste control• Safety	Contractor

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The following precautions to be taken:

- Due to the dangers of working at heights necessary precautions (lifelines and others) will be required
- Where lifelines are in contact with the rubber lining the necessary protection for the rubber lining is required to prevent damage
- See attached drawing that details the spray banks.

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3.2 Required Spares

No	REPLACE/ REFURBISH	COMPONENT DESCRIPTION	COMPONENT / MATERIAL SPECIFICATION	OPERATING PARAMETERS	PART / NUMBER	STOCK NUMBER	DESIGN QUANTITY
1	Replace	Spray header	GRP	12800m3/h			
2							

4. Acceptance

This document has been seen and accepted by:

Name	Designation
Mandla Nxumalo	FGD Maintenance
Sibusiso Vezi	BOP Maintenance Manager
Thando Mbulawa	Auxiliary Engineering Manager
Bakie Kubheka	Senior Advisor Ops

5. Revisions

Date	Rev.	Compiler	Remarks
December 2022	0	T. Moloi	First Issue

6. Development Team

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

Tebogo Moloi

7. Acknowledgements

Not Applicable

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