	<p style="text-align: center;">SOW</p>	<p style="text-align: center;">Camden Power Station</p>
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1. Introduction

Boiler pipes are an integral part of a steam generation process and require maintenance during planned and unplanned outages. In order to ensure proactivity, boiler pipes that have reached their end of design life are subjected to replacement and sometimes these pipes require bending due to their design configuration. Without bending some of these pipes, it will be impossible to carry out necessary scope of work to meet business demand. For Camden Power Station to ensure high quality work and effective performance of the components, it is essential that all basic requirements listed in this document are adhered to. This scope will be an as and when required.

1.1 Purpose

1.2 Applicability

This document applies to Eskom Camden Power Station only and is applicable to Boiler Engineering, Boiler Maintenance, Outage and Projects, Boiler Serve contractor and or any contractor that will be involved in executing this scope of work

2. Supporting Clauses

2.1 Scope

The scope of work will cover bending and/or manipulation of the tubes listed below on **Table 1**. The manipulated tube will be as per sample, or drawing provided

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2.1.1 Boiler Pressure Parts Tubes

Table 1: Boiler Pressure Parts Tubes

Material	Outside Diameter (mm)	Wall Thickness (mm)
15Mo3	76.1	7
15Mo3	57.15	4.87
15Mo3	57.15	7
15Mo3	53.97	5.38
15Mo3	53.97	4.87
15Mo3	53.97	6.4
15Mo3	54	5.38
15Mo3	50.8	7.06
15Mo3	50.8	6.4
10CrMo910	57.15	9.44
13CrMo44	57.15	8.22
13CrMo44	57.15	10.97
13CrMo44	48.4	5.38
316 Austenitic Stainless Steel	57.15	5.89

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2.1.2 Flow Accelerated Corrosion Tubes

Table 2:Flow Accelerated Corrosion Tubes

Material	Outside Diameter (mm)	Wall Thickness (mm)
15Mo3	355.6	26.2
15Mo3	273	20.6
15Mo3	127	18
15Mo3	168.3	18
15Mo3	88.9	5.6
15Mo3	101	12.5
15Mo3	76	12.5
15Mo3	60.3	6.3
10CrMo910	26.9	5.6
10CrMo910	42.2	6.3
10CrMo910	48.3	8
15Mo3	26.9	5.6
15Mo3	42.2	6.3
10CrMo910	168	7.1
10CrMo910	88.9	7.6
10CrMo910	101	12.5
13CrMo44	48.3	5.6
13CrMo44	26.9	5.6
10CrMo910	18	3.6
15Mo3	168	7.1

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15Mo3	60.3	6.3
13CrMo44	114	7.1
13CrMo44	60.3	6.3
13CrMo44	33.4	6.3

2.1.3 Minimum Requirements

To ensure success behind this bending scope of work, the following resources are required

- a) Hot and induction bending machines compatible for material and dimensions listed on Table 1.
- b) The bending shall comply to latest revision of the following codes and/or standards
 - 1) BS EN 12952
 - 2) BS EN 13480
 - 3) Eskom Welding Rule Book
 - 4) Standard for Non-Destructive Testing (NDT) on Eskom Plant (240-83539994)
- c) Trained, skilled and experienced personnel to operate the machine.
- d) Fabrication of manipulated bends as and when required
- e) Fabrication of manipulated bends will be as per the samples or approved drawing
- f) All new material will be free issue from Eskom
- g) The supplier must provide transportation to collect material from site, Camden Power Station and deliver newly fabricated bends to site on completion of fabrication.
- h) A quality inspection plan (QCP) or inspection Test Plan (ITP) must be made available and approved by Eskom and AIA before commencing of work.
- i) On completion, Eskom QC and/or AIA must release material for delivery to site
- j) 100% NDT on all the welds to be executed
- k) Lead time for bending must be a maximum of 3 days
- l) All bending to be done in accordance with material and listed on 2.1.1 and 2.1.2 of this SOW.

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2.1.4 Additional Bending Activities

- a) Manufacturing and welding of Evaporator Rear Wall Top Nose Bifurcation tubes.
- b) Welding of fins on the Evaporator Rear Wall Top Nose tubes shall be done using Automatic and/or Semi-Automatic welding processes
- c) Reference to attached drawing number 36.36/21 158 for information
- d) Swagging of tubes supplied and specified by the Client
- e) Detail drawings to be supplied as per sample

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

[1] 240-48929482: Tender Technical Evaluation Procedure

2.2.2 Informative

N/A

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2.3 Definitions

2.3.1 Classification

2.4 Abbreviations

Abbreviation	Explanation
CPS	Camden Power Station
GO	General Overhaul
HP	High Pressure
IR	Interim Repair
LP	Low Pressure
MBSA	Maintenance Basis Standardisation Application
MGO	Mini General Overhaul
SANAS	South African National Accreditation System
SOW	Scope of Work
IIW	International institute of Welding
GTAW	Gas Tungsten Arc Welding
GMAW	Gas Metal Arc Welding

2.5 Roles and Responsibilities

- **Process for monitoring**

N/A

2.6 Related/Supporting Documents

N/A

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3. Tender Technical Evaluation report

3.1 Technical Evaluation Strategy

3.1.1 TET Members

3.1.2 Mandatory Technical Evaluation Criteria

3.1.3 Qualitative Technical Evaluation Criteria

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3.2 Tender Technical returnable received

- **Technical Clarifications**

3.3 Technical Evaluation Results

3.3.1 Interpretation of evaluation results

3.3.1.1 Mandatory Evaluation Results

3.3.1.1.1 Evaluated Companies (Pty) Ltd

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3.4 TECHNICAL INPUTS FOR PRICE ADJUSTMENTS

N/A

3.5 Conclusions and Recommendations

4. Authorisation

This document has been seen and accepted by:

Name	Designation	Signatures
Mlungisi Makhaya	Boiler Maintenance: Senior Supervisor Welding	
Sipho Ndhlovu	Boiler Maintenance: Senior Inspector Welding	
David Kichenbrand	Approved Inspection Authority	

5.

Date	Rev.	Compiler	Remarks
29 May 2019	1	V Ntshokane	First draft

6. Development team

7. Acknowledgements

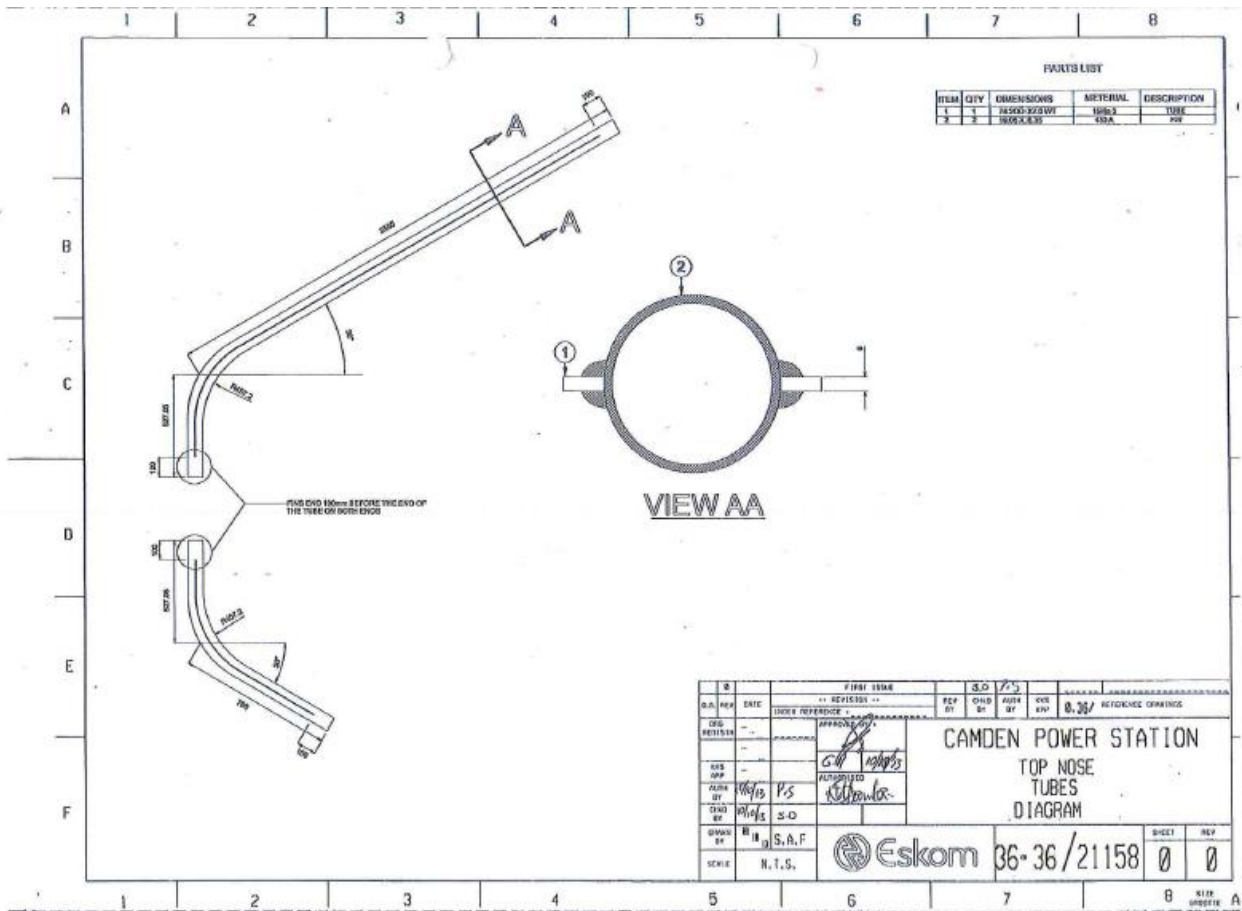
- Appendix

8.1 Top Nose Tube Diagram

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