

	<b>Scope of work for manipulation of boiler tubes and small pipes contract</b>	Doc. no. F/290/007
		Rev.1.0
		Total pages 1 of 2
Matimba Power Station		Reference Document: PS/290/003

Unit:      1     2     3     4     5     6     O/P

Outage    IR     GO                     OTHER

Outage Date     

Function           

System	System Engineer	Date
Boiler Internal Pressure Parts Sitsi Mogoai		2023/02/07

	APPROVED	Date
Riaan Nel Boiler Engineering Manager		2023/02/08
Jacky Mathobela Engineering Manager	 pp	2023/02/09

## 1. Description of the **WORKS INFORMATION**

To supply labour, transport and equipment to manipulate boiler tubes and small pipes to the V.G.B specifications as and when required.

### 1.1 Transport to and from Matimba Power Station:

After the tubes are released from Matimba Power Station the contractor will transport the material to his site in a controlled manner to prevent the following:

- Distortion and deformation
- Internal and external corrosion of the tubes
- Any intrusion of foreign matter into the tubes
- Fading of the material identification stamps

### 1.2 Manipulation/bending of tubes and small pipes:

- The cold process shall be used for all bending of tubes. **Heat treatment is required after cold bending for X20CrMoV121 material.**
- All bending shall be carried out in accordance with the VGB – Directives for construction and inspection of high-Capacity Steam Boilers (VGB - R 501 He)
- The contractor to ensure that the bend ovalates and wall thinning are within the tolerance as per VGB directives
- The Appointed Inspection Authority (AIA) to verify all the bends against the results given by the contractor. The Appointed Inspection Authority must submit a report with technical detail per bend
- The contractor to ensure that all ends of the tubes are covered with an end cap before the bends are sent back to Matimba P/S
- No petrochemical substances will be present on or in the tubes after manipulation. AIA must inspect all tubes for this prior to release from workshop and release note to accompany delivery to site
- Normal turnaround time required is 14 working days
- Urgent turnaround time is 24 hours for tube leak repairs and any other emergency

### 1.3 Components specifications:

Below are the specification ranges of the typical boiler tubes and small pipes that will require manipulation:

Boiler Tubes:

<b>Material</b>	<b>OD Range (mm)</b>	<b>WT range (mm)</b>
16 MO3	30 – 63,5	3,6 – 8
13CrMo4-5	44,5 – 51	3,6 – 5,6
10CrMo9-10	44,5 – 70	4 – 8
X10CrMoVNb9-1	70	4,5 – 5
X20CrMoV11-1	38	4 – 6,3

Small pipes:

<b>Material</b>	<b>OD Range (mm)</b>	<b>WT range (mm)</b>
St35	60,3	3,6
13CrMo44	33,7	4
15Mo3	33,7 – 114,3	2,6 - 5,6
ST45.8	33,4	3,38
ST35.8	33,7	2,6