Scope of Work for Boiler Burner Fire Protection Maintenance Contract - Lethabo Power Station

Work Instruction
Install, inspect, clean, refurbish and reinstate the boiler burner fire protection detection and suppression systems during unit outages at Lethabo Power Station.

This will entail performing pre-inspections, removal and reinstallation of detection pipework where required, cleaning of all detection and suppression components, replacement of damaged or missing components, refurbishment of alarm valves, reinstatement of the system after outages, and all associated testing.

The Scope of Work is as follows:

- Perform pre-inspection and submit report to determine the condition of the system and establish missing components (IR/MGO/GO)
- Removal of detection pipework on 36 burners and plugging of the connection between the valve and the detection pipework. Contractor to provide plugs; work to be done one week before unit shutdown (MGO/GO)
- Removal and re-installation of detection systems where required (e.g., when burners need withdrawal) (IR)
- Cleaning of detection bulbs and heat collection plates (3×36 bulbs and plates) (IR/MGO/GO)
- Cleaning of open-head nozzles (3×36 nozzles) (IR/MGO/GO)
- Refurbishment of 36 alarm valves (MJCs) (MGO/GO)
- Replacement of alarm valves (MJCs), where required, based on pre-inspection. Valves to be supplied by contractor (MGO/GO)
- Replacement of all flexible piping with reinforced braided steel flexible piping where damage is evident (IR/MGO/GO)
- Replacement of missing heat collection plates (IR/MGO/GO)
- Replacement of missing hold-down bolts (IR/MGO/GO)
- Replacement of missing pipe supports (IR/MGO/GO)
- Replacement of missing detection bulbs. Bulbs supplied by Eskom (IR/MGO/GO)
- Replacement of missing open-head nozzles. Nozzles supplied by Eskom (IR/MGO/GO)
- Unplugging of detection lines and reinstatement of detection pipework one week after the unit is returned to service (MGO/GO)
- Compilation and delivery of a complete data book including as-built drawings, NDT records, material certificates, signed-off QCPs, and all testing documentation (IR/MGO/GO)

Pipe Specification:

- Size: 25NB – Schedule 40 (STD) Medium quality as per SANS 62
- Material: Carbon Steel
- Coating: Hot dip galvanised as per SANS 121
- Connection: As per installed base. Flanges as per below specification. Threaded connections: BSP.
- All above ground pipework and flanges shall be coated with a three coat system with a suitable primer such as Galvogrip and two coats signal red in accordance with SANS 10140-2

Flexible Hose Specification:

- Size: ½"
- Material: EPDM/NBR
- Sheath: Steel wire braid (SS)
- End connections: ½"/1/4" BSP Threaded (Male)

Flange Specification:

- Standard: Table 1600/3 according to SANS 1123
- Material: Carbon Steel
- Coating: Hot dip galvanised as per SANS 121
- Type: Raised face, slip on
- All buried pipes, flanges and fasteners shall be covered with Denso wrapping or Denso putty
- All above ground pipework and flanges shall be coated with a three coat system with a suitable primer such as Galvogrip and two coats signal red in accordance with SANS 10140-2

Alarm Valve Specification:

- Make**:** Floval
- Size: 40 NB
- Connection: 40NB BSP Threaded (Female)
- Type: Diaphragm
- Pressure rating: 16 Bar
- Material: Cast Iron, coated with signal red epoxy paint

Welding requirements:

- Contractor shall adhere to the Eskom welding rule book
- Contractor to provide QCP for approval
- Welding contractor shall be ISO 3834 accredited
- Material certificates, welding procedure and welder qualifications
- NDT: 10% PT; 100% Visual; Hydraulic pressure test

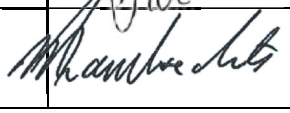
Equipment List:

Number	Unit	AKZ	Description
1	1	01UY72S016	Unit 1 Boiler Front Burner Fire Protection Deluge Valve
2	1	01UY72S009	Unit 1 Boiler Rear Burner Fire Protection Deluge Valve
3	2	02UY72S016	Unit 2 Boiler Front Burner Fire Protection Deluge Valve
4	2	02UY72S009	Unit 2 Boiler Rear Burner Fire Protection Deluge Valve
5	3	03UY72S016	Unit 3 Boiler Front Burner Fire Protection Deluge Valve
6	3	03UY72S009	Unit 3 Boiler Rear Burner Fire Protection Deluge Valve
7	4	04UY72S016	Unit 4 Boiler Front Burner Fire Protection Deluge Valve
8	4	04UY72S009	Unit 4 Boiler Rear Burner Fire Protection Deluge Valve
9	5	05UY72S016	Unit 5 Boiler Front Burner Fire Protection Deluge Valve
10	5	05UY72S009	Unit 5 Boiler Rear Burner Fire Protection Deluge Valve
11	6	06UY72S016	Unit 6 Boiler Front Burner Fire Protection Deluge Valve
12	6	06UY72S009	Unit 6 Boiler Rear Burner Fire Protection Deluge Valve

Reference documents

- 240-106628253 Standard for Welding Requirements on Eskom Plant
- 240-83539994 Eskom NDT Personnel Approval (NPA) for Quality Related Special Processes on Eskom Plant Standard
- LBE 22004PC Lethabo Waste Management Procedure
- ISO 3834 Quality Requirements for Fusion Welding of Metallic Materials
- GGR 0992 Eskom Plant Safety Regulations
- OHSAct Occupational Health And Safety Act of 1993
- 36-1126 Specification for corrosion protection of plant and equipment with coatings
- SANS 62 Steel pipes
- SANS 121 Hot dip galvanized coatings on fabricated iron and steel articles - Specifications and test methods
- SANS 1123 Pipe flanges
- SANS 10140 Identification colour marking

Authorisation:

Name	Designation	Signature	Date
[redacted]dt	O&M Engineer		2026-02-28
[redacted]	HOS – OPE		2026-03-02
[redacted]	Outage Coordinator		
[redacted]	HOD – Engineering	 pp	2026/04/29