Eskom	Scope of Work	Camden Power Station

Title: **Camden Condensate and Feedwater Safety Valve Refurbishment Service Contract Scope of Work**

60 Months

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Compiled by	Functional Responsibility	Authorized by
A. Rudman	**S. Govender**	**M. Mathabatha**
Senior Engineer	**Turbine Engineering Manager**	**Camden Engineering Manager**
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1. Introduction

The purpose of this document is to provide a technical scope of work for the establishment of a Camden Power Station safety valve refurbishment contract for the condensate and feedwater systems, for a period of 60 months, with a safety valve refurbishing company.

2. Supporting Clauses

2.1 Scope

The document outlines requirements for a Safety Valve Refurbishment Contract.

Camden aims to directly secure this contract with a safety valve refurbishment company that has the complete set of capabilities and necessary equipment for refurbishing safety valves.

2.1.1 Purpose

The goal of this scope of work is to outline the technical requirements for contractors who are interested in bidding for a 60-month contract for safety valve refurbishment.

2.1.2 Applicability

This document applies to Camden power station Condensate and Feedwater plant only.

2.1.3 Effective date

Date of document authorisation.

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] OHS-Act	Occupational Health and Safety Act 85 of 1993 (OHS-Act)
[2] PER	Pressure Equipment Regulation (PER)
[3] SANS 347	South African National Standard 347 (SANS)
[4] PD 5500	Specification for unfired fusion welded vessels
[5] EN 13445	Unfired Pressure Vessels
[6] EN13480	Metallic Industrial Piping
[7] AD-2000	Technical rules for pressure vessels (TRB) / AD-Merkblatter
[8] ISO 3834	Quality requirements for Welding
[9] ISO 9001	Quality Management System

[10]	ASME Section VIII	Rules for construction of pressure vessels (divisions 1-3)
[11]	ASME Piping Codes	B31.1 – Power Piping, B31.3 – Process Piping

2.2.2 Informative

[12]	240-69258336	Pressure Relieving Safety Devices Standard
[13]	240-166574085	Safety Valve Inspection Refurbishment Testing Procedure
[14]	240-106628253	Standard for Welding Requirements on Eskom Plant
[15]	QM 58	Supplier Contract Quality Requirements Specification
[16]	240-4892948	Tender Technical Evaluation Procedure
[17]	TE-IN-025	Engineering instruction: Feedwater PRV Set Point
[18]	CAM-TES-006	The Tender evaluation strategy for this contract.

2.3 Definitions

Definition	Explanation
Maintenance	Repair and replacement of components to endure the reliable operation of the plant and conformance to statutory legislation
Outage	Planned down-time for a specific power station Unit. An outage is a maintenance opportunity, during which outage scope of work is executed.
Design Pressure	The gauge pressure used in the design formulae to determine the dimensions of the component parts of the pressure equipment.
Design Temperature	The temperature used in the design formulae to determine the dimensions of the component parts of the pressure equipment.
Pressure Accessory	Devices with an operational function having pressure-bearing housing.
Pressure Equipment	A steam generator, pressure vessel, piping, pressure accessory and safety accessory, transportable gas container, and fire extinguisher and includes, but is not limited to an accumulator, a hot-water geyser and hyperbaric chambers.
Pressure Relieve Valve	Is a spring operated valve that operates by means of static upstream pressure against a spring. The opening travel is in proportion to the pressure increase to operating pressure. The Relief Valves are designed to relieve excessive pressure in systems containing incompressible fluids.
Pressure Vessel	Is a housing designed and manufactured to contain a fluid/gas under a design pressure equal to or greater than 50 kPa.
Safety accessory	Is a device designed to protect pressure equipment
Safety Relief Valve (PRV)	Is a spring-operated pressure relief valve that can be used either as relief valve or safety valve depending on application.
Safety Valve Refurbishment Company	Registered Company that refurbishes safety valves. The company must have their own workshop, safety valve refurbishment equipment and skilled personnel that can refurbish safety valves. The intention is to do business directly with the entity that will be refurbishing and not a middleman.

Definition	Explanation
Safety Valve	Is a spring-operated valve that operates by means of static upstream pressure against a spring. The opening is characterised by rapid action or “popping” and mostly used for compressive fluids. The valves are designed to provide immediate relief of over-pressure for any fluid (compressible fluids like: air, gasses, steam) which could cause an explosion if over-pressurised.
Set Pressure	Pressure at which the safety valve / accessories / pressure relief devices is set to lift, protecting the pressure equipment on which it is installed against exceeding its design pressure.
Trevi-Test / Hydro setting	Is a method (online verification and setting) of functionally testing mechanically operated safety valves to protect pressure equipment from over-pressurization.
Valve Parts / Components	Valve internal components/parts exclude the body and bonnet. The valve internal components/parts are generally the spindle, disk, nozzle, springs, bushes, flow guides, adjusting rings lock nuts and spring end plates/steps to name a few.

2.4 Abbreviations

Abbreviation	Explanation
ADM	AD-Merkblatter (Design code)
AIA	Approved Inspection Authority
CEP	Condensate Extraction Pump
CW	Cooling Water
DPI	Dye Penetrant Inspection
GO	General Overhaul (± 95 DAYS)
HP	High Pressure
ID	Inside Diameter
LP	Low Pressure
MGO	Mini General Overhaul (± 56 DAYS)
MPI	Magnetic Particle Inspection
NDE	Non-Destructive Examination
NRV	Non-Return Valve
OC	Outage Coordinator
PER	Pressure Equipment Regulation
PMI	Positive Material Identification
PO	Purchase order
PR	Purchas Request
PRV	Pressure Relief Valve
PT	Penetrant Testing
PTW	Permit to work
QCP	Quality Control Plan
RT	Radiographic Testing

Abbreviation	Explanation
SANS	South African National Standard
SE	System engineer
SOW	Scope of work
UT	Ultrasonic Testing
WT	Wall Thickness

3. Safety Valve Refurbishment Technical Requirements

3.1 System Limits

Table 1, Camden Condensate and Feedwater Safety Valve List

#	KKS No.	Description	Lift-Set Pressure [KPa]	Size	Make [5]
1.	LCA21AA601	Water Extraction Condenser (Shell Side)	1138.5	DN 25 (1”)	Bailey Birkett - 707
2.	LCA22AA601	Gland Steam Condenser (Tube Side)	1138.5	DN 25 (1”)	Bailey Birkett - 707
3.	LCC11AA601	LP-Heater 1 (Shell Side)	172.5	DN 150 (6”)	Farris - 2952
4.	LCC11AA602	LP-Heater 1 (Tube Side)	1138.5	DN 25 (1”)	Bailey Birkett - 707
5.	LCC12AA601	LP-Heater 2 (Shell Side)	172.5	DN 150 (6”)	Farris - 2952
6.	LCC12AA602	LP-Heater 2 (Tube Side)	1138.5	DN 25 (1”)	Bailey Birkett - 707
7.	LAB10AA601	SFP Suction Piping	690	DN 40 (1½”)	Bailey Birkett – 707 [1]
8.	LAB20AA601	EFP - A Suction Piping	690	DN 40 (1½”)	Bailey Birkett – 707 [1]
9.	LAB30AA601	EFP - B Suction Piping	690	DN 40 (1½”)	Bailey Birkett – 707 [1]
10.	LAA10AA601	East Feedwater Tank	226-247	DN 200 (8”)	AULD – SP06
11.		Pilot Valve	260	DN ± 25 (1”)	
12.	LAA20AA601	West Feedwater Tank	226-247	DN 200 (8”)	AULD – SP06
13.		Pilot Valve	260	DN ± 25 (1”)	
14.	LAA30AA601	Centre Feedwater Tank Valve No. 1	226-247	DN 200 (8”)	AULD – SP06
15.		Pilot Valve No.1	260	DN ± 25 (1”)	
16.	LAA30AA602	Centre Feedwater Tank Valve No. 2	226-247	DN 200 (8”)	AULD – SP06
17.		Pilot Valve No.2	260	DN ± 25 (1”)	
18.	LAD10AA601	HP-Heater 1 (Shell Side)	800	DN 100 (4”)	THIES – 359/357 [2]
19.	LAB40AA601	HP-Heater 1 (Tube Side)	21000	DN 40 (1½”)	Birkett1.5E2/2711A5/D
20.	LAD20AA601	HP-Heater 2 (Shell Side)	1310	DN 80 (3”)	THIES – 359/357 [2] [3]
21.	LAB40AA602	HP-Heater 2 (Tube Side)	21000	DN 40 (1½”)	Birkett1.5E2/2711A5/D
22.	LAD30AA601	HP-Heater 3 (Shell Side)	2816-2837	DN 80 (3”)	AULD – SP06
23.		Pilot Valve	2850	DN ± 25 (1”)	
24.	LAB40AA603	HP-Heater 3 (Tube Side)	21000	DN 40 (1½”)	Birkett1.5E2/2711A5/D
25.	LBQ40AA602	GLAND STEAM SUPPLY VALVE NO.1	345	DN 80 (3”)	Hokinson’s 513 [4]
26.	LBQ40AA603	GLAND STEAM SUPPLY VALVE NO.2	345	DN 80 (3”)	Hokinson’s 513 [4]

Notes – Table 1:

[1] May also be Birkett type 480

[2] May also be Farris type 26

[3] May also be Leser type 141

[4] May also be Leser Type 526

[5] The most common safety valve brand is indicated in this column, due to obsolescence and design differences between Units, there may be alternative valve brands used.

3.2 Contractor Execution Requirements for Safety Valve Activities

3.2.1 Work Excluded from This Contract

The following activities fall outside the scope of this contract and will be executed by Eskom or other designated parties:

- **Removal and installation** of safety valves on the plant at Camden Power Station.
- **On-site disassembly inspection**, which will be conducted by Eskom Turbine Engineering, including the compilation of the valve specific on-site inspection report and the associated repair scope of work.
- **Final assembly of the valve** following the on-site inspection by Eskom Turbine Engineering.
- **Transferring of the valve** to the designated pickup location at Camden Power Station.

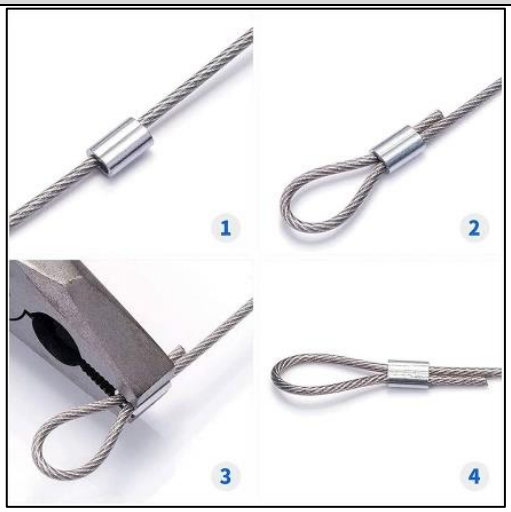
3.2.2 Work Included in This Contract

Table 2, Safety Valve - Refurbishment Requirements

#	Requirement
2-1	Obtain and review the Turbine Engineering On-Site Inspection Report and Scope of Work (SOW). Each safety valve must have its own unique On-Site Inspection Report prior to the commencement of any work by the contractor.
2-2	Transfer the valve(s) from the designated location at Camden Power Station to the contractor’s workshop. During handling and transport, "gagging" devices—supplied by the contractor—must be used to secure the valve spindle and prevent seat hammering. Valves must also be firmly fastened onto soft, dampening material to protect them from damage during transit to and from the station.
2-3	Disassemble the valve(s) with care. The contractor is fully responsible for all valve components; any missing or misplaced parts must be replaced at the contractor’s expense. Each safety valve must be placed in a separate disassembly bin or container, with all parts securely stored and clearly identified.
2-4	Thoroughly clean all valve components using non-abrasive cleaning methods to prevent damage and ensure component integrity.
2-5	Perform a visual inspection of the valve body and trim components, checking for any signs of damage, wear, or deterioration. All findings should be documented in the Turbine Engineering On-Site Inspection Report. If any observations made by the contractor fall outside the scope of the original report, photograph and describe the affected areas and submit the images and defect description to Camden Turbine Engineering. Written approval must be obtained before proceeding with any repairs related to these findings.

#	Requirement
2-6	Develop an individualized Quality Control Plan (QCP) for each valve, incorporating all tasks specified in the Turbine Engineering On-Site Inspection Report and the Scope of Work (SOW). If the contractor identifies the need for additional work elements, these may only be included upon receiving prior written approval from Camden Turbine Engineering.
2-7	A dedicated service book must be compiled for each valve, containing a comprehensive set of supporting documents. At a minimum, this should include: • The valve lift pressure setting certificate, including associated graphs. • Valve seat tightness test report. • Valve dimensional inspection report. • Valve Spring stiffness test report. • Calibration certificates for all gauges used during testing. • Records of all spare parts used, including invoices for OEM replacement components. • The approved Quality Control Plan (QCP). Upon completion of the valve refurbishment, a digital copy of the service book must be submitted to Camden Turbine Engineering.
2-8	Use a spring stiffness test bench to measure and document the stiffness of each valve spring(s). The measured values must be compared against the corresponding OEM specifications, and the comparison report must be included in the valve's service book. Include a dimensional inspection of the spring(s), where the following parameters are recorded: • Free length • Coil OD • Wire Diameter • Number of coils
2-9	Execute the valve-specific Scope of Work (SOW) in accordance with the Turbine Engineering On-Site Inspection Report, and any preapproved additional tasks. The activities performed at this stage include, but are not limited to: • Lapping, blueing, and greying of valve disks and nozzle seats. The lapping required surface finish for metal seated valves is N1 (0.0025µm). • Replacement of soft spares, including gaskets and sealing elements (O-rings, preform gaskets, packing, etc.). Soft spares are to be supplied by the contractor, and the specifications for all soft spares used must be approved by Eskom for each valve type and application. • Stamping of serial numbers on exhaust flange or valve bonnet where absent or unclear.
2-10	**As required - non-essential welding:** Refurbishment of valve components requires prior approval from Turbine Engineering and includes machining as well as welding operations, such as general welding and overlay-welding of seal faces. All welding work must be performed by an entity certified to ISO 3834.

#	Requirement
2-11	**As required - seal face weld overlay:** Overlay welding on valve components shall be qualified according to BS EN ISO 15614-7:2019 for Corrosion Resistant Weld Overlay. A pre-machining drawing must be prepared, showing the original dimensions of the component and the intended weld preparation to be machined; this drawing must receive Eskom Engineering's approval before machining begins. After machining, a Positive Material Identification (PMI) test shall verify that all previous weld metal has been removed. Following the weld overlay, a hardness test is required on the seal face of the pre-final machined component to ensure the desired hardness is achieved. Additionally, a PMI test on the pre-final machined seal face shall confirm that the chemical composition falls within acceptable limits relative to the overlay filler material. Finally, components subjected to overlay welding must undergo a heat-cycle test, where they are heated at a rate representative of the system's operating conditions up to the design temperature for a minimum of three cycles. Afterward, a surface crack inspection focusing on the welded area must be conducted to confirm that no cracking has occurred.
2-12	**NDT:** Performing non-destructive testing (Magnetic Particle Inspection (MPI) or Dye Penetrant Inspection (DPI)) on valve bodies and bonnets operating above 400˚C.
2-13	Replacement of valve components with OEM spare parts or Eskom approved parts only; all new spares require Eskom approval.
2-14	Assemble the valve only after all valve refurbishment QCP hold points were signed off.
2-15	Set the safety valve lift pressure in accordance with the specified value documented in the latest revision of the Camden Safety Valve Inspection, Refurbishment and Testing Procedure (Document No. 240-166574085). Upon completion of the pressure setting, a Pressure Setting Certificate shall be issued for each valve. This certificate must reference the valve's unique Eskom serial number, as stamped on the valve body, to ensure traceability. The certificate shall be signed by Eskom Engineering or the Authorised Inspection Authority (AIA). A copy of the fully signed Pressure Setting Certificate must be included in the valve's Service Data Book.
2-16	Conduct a valve seat leakage test in full compliance with the requirements of **BS EN ISO 4126-1:2013+A2:2019.**
2-17	Secure a tamper-proof seal to prevent unauthorised adjustment of the valve's set pressure. The seal must consist of 1 mm stainless steel cable, fastened with an oval stainless-steel crimp, as illustrated below.

#	Requirement
	 The safety valve identification plate, manufactured by the company performing the pressure setting, must be affixed to the valve using the same tamper-proof seal. This plate must clearly display all information required by **BS EN ISO 4126-1:2013+A2:2019**, section 10.1.2, including but not limited to: • The name of the company conducting the pressure setting • The set pressure of the valve (in kPa) • A reference to ISO 4126-1:2013 • The flow area (in mm^2) • The valve's unique serial number issued by Eskom, which must match the serial number stamped on the valve's discharge flange • The date of pressure setting
2-18	Fit dust covers to both the inlet and outlet flanges of the valve to prevent the ingress of debris and contamination during handling and storage.
2-19	Transport the valve to the designated location at Camden Power Station. During transit, install spindle "gagging" devices—provided by the contractor—to immobilize the valve spindle and prevent seat hammering. Secure the valve on soft, shock-absorbing material to protect it from mechanical damage throughout transportation.

4. Contract Budgeting and Quantity Surveillance (QS)

Table 3 provides a comprehensive overview of the distinct activities that the contractor is required to undertake throughout the refurbishment process. To facilitate the tender submission, the contractor is obligated to include a meticulously calculated cost estimate. This estimate should be derived by cross-referencing the invaluable data presented in **Tables 4 through 11**.

Notably, **Tables 4 to 11** present detailed quantity estimations for each activity that is itemized in **Table 3**. These estimations are strategically projected over a span of 60 months, affording a comprehensive outlook on the financial aspects of the contract.

Table 3: Contract Requirements

#	Description	Activities required for every safety valve being refurbished.	Requirements described in Table 2
3-1	Safety Valve Refurbishment	Transport to and from Camden Power Station	2-1, 2-19
		Safety Valve disassembly	2-3
		Cleaning of safety valve components	2-4
		Safety valve visual inspection	2-5
		Safety valve QCP development	2-6
		Safety valve service book development	2-7
		Safety valve spring stiffness testing and dimensional Inspection report	2-8
		Safety valve general refurbishment activities	2-9
		Safety valve assembly	2-14
		Safety valve lift pressure setting	2-15
		Safety valve seat leakage test	2-16
		Installation of the anti-tamper seal and identification plate	2-17
		Dust cover installation	2-18

#	Description	Activities required for every safety valve being refurbished.	Requirements described in Table 2
3-2	Welding – Nonessential	Weld build-up and machining on valve components that are not clearance dependant. Welding company shall be ISO3834-2 certified.	2-10
3-3	Welding – Seal Face	Disk and Nozzle seal face machining and overlay welding (Stellite 6). Welding company shall be ISO3834-2 certified, and the welding procedure shall be qualified to ISO 15614-7 specifically for corrosion resistant weld overly using Stellite-6.	2-11
3-4	Replacement - Spring	Replace valve spring with new OEM or Eskom authorised Spring. The company conducting the valve refurbishment is responsible for procuring the new spring.	2-13
3-5	Replacement - Disk	Replace valve disk with new OEM or Eskom authorised Disk / Spindle seat. The company conducting the valve refurbishment is responsible for procuring the new disk.	2-13
3-6	Replacement - Nozzle	Replace valve spring with new OEM or Eskom authorised Nozzle. The company conducting the valve refurbishment is responsible for procuring the new nozzle.	2-13
3-7	Replacement - Spindle	Replace valve spring with new OEM or Eskom authorised Spindle. The company conducting the valve refurbishment is responsible for procuring the new spindle.	2-13
3-8	Surface Crack Inspection	Perform Magnetic Particle Inspection (MPI) or Dye Penetrant Inspection (DPI) on valve bodies and bonnets that operate above 400°C	2-12

5. BUDGET AND QUANTITY SURVEYING REQUIREMENTS

Table 4: Valve Refurbishment (TABLE 3: 3-1)

Stock Nr.	Valve type and size	Valve Refurbishment Quantity 5 years (Table 3: 3-1)	Indicative Cost Per Item	Indicative Total Cost *(Cost per item x quantity)*
230253	AULD – SP06 - 3"	20	R	R
230253	AULD – SP06 - 3" Pilot Valve	20	R	R
230256	AULD – SP06 - 8"	50	R	R

Stock Nr.	Valve type and size	Valve Refurbishment Quantity 5 years (Table 3: 3-1)	Indicative Cost Per Item	Indicative Total Cost *(Cost per item x quantity)*
230256	AULD – SP06 - 8" Pilot Valve	50	R	R
232073	Bailey Birkett - 707 - 1 1/2"	40	R	R
234196	Bailey Birkett - 707 - 1"	50	R	R
230257	Birkett1.5E2/2711A5/D - 1 1/2"	60	R	R
640711	Farris - 26LA21-170, 3"	20	R	R
640661	Farris - 26NA11-170; 4"	20	R	R
237338	Farris - 2952 - 6"	30	R	R
237340	Hokinson's 513 - 3"	30	R	R
721231	Leser Type 526 - 3"	10	R	R
230252	THIES – 359/357 - 3"	10	R	R
230254	THIES – 359/357 - 4"	10	R	R
				R

Table 5: Welding: Nonessential (TABLE 3: 3-2)

Stock Nr.	Valve type and size	Welding Nonessential Quantity 5 years (Table 3: 3-2)	Indicative Cost Per Item	Indicative Total Cost *(Cost per item x quantity)*
237340	Hokinson's 513 - 3"	20	R	R
				R

Table 6: Welding: Seal Face – Stellite 6 (TABLE 3: 3-3)

Stock Nr.	Valve type and size	Welding: Seal Face Quantity 5 years (Table 3: 3-3)	Indicative Cost Per Item	Indicative Total Cost *(Cost per item x quantity)*
230253	AULD – SP06 - 3"	5	R	R
230253	AULD – SP06 - 3" Pilot Valve	5	R	R
230256	AULD – SP06 - 8"	8	R	R
230256	AULD – SP06 - 8" Pilot Valve	8	R	R
230257	Birkett1.5E2/2711A5/D - 1 1/2"	15	R	R
640711	Farris - 26LA21-170, 3"	2	R	R
640661	Farris - 26NA11-170; 4"	2	R	R
237338	Farris - 2952 - 6"	3	R	R
237340	Hokinson's 513 - 3"	10	R	R
721231	Leser Type 526 - 3"	4	R	R
230252	THIES – 359/357 - 3"	4	R	R
230254	THIES – 359/357 - 4"	4	R	R
				R

Table 7: Replacement: Spring (TABLE 3: 3-4)

Stock Nr.	Valve type and size	Replacement - Spring Quantity 5 years (Table 3: 3-4)	Indicative Cost Per Item	Indicative Total Cost *(Cost per item x quantity)*
230253	AULD – SP06 - 3"	4	R	R
230253	AULD – SP06 - 3" Pilot Valve	5	R	R
230256	AULD – SP06 - 8"	6	R	R
230256	AULD – SP06 - 8" Pilot Valve	8	R	R
232073	Bailey Birkett - 707 - 1 1/2"	5	R	R
234196	Bailey Birkett - 707 - 1"	5	R	R
230257	Birkett1.5E2/2711A5/D - 1 1/2"	10	R	R
640711	Farris - 26LA21-170, 3"	3	R	R
640661	Farris - 26NA11-170; 4"	3	R	R
237338	Farris - 2952 - 6"	5	R	R
237340	Hokinson's 513 - 3"	16	R	R
721231	Leser Type 526 - 3"	2	R	R
230252	THIES – 359/357 - 3"	4	R	R
230254	THIES – 359/357 - 4"	4	R	R
				R

Table 8: Replacement: Disk / Spindle Seat (TABLE 3: 3-5)

Stock Nr.	Valve type and size	Replacement Disk Quantity 5 years (Table 3: 3-5)	Indicative Cost Per Item	Indicative Total Cost *(Cost per item x quantity)*
230253	AULD – SP06 - 3"	1	R	R
230253	AULD – SP06 - 3" Pilot Valve	5	R	R
230256	AULD – SP06 - 8"	2	R	R
230256	AULD – SP06 - 8" Pilot Valve	6	R	R
232073	Bailey Birkett - 707 - 1 1/2"	10	R	R
234196	Bailey Birkett - 707 - 1"	14	R	R
230257	Birkett1.5E2/2711A5/D - 1 1/2"	30	R	R
640711	Farris - 26LA21-170, 3"	1	R	R
640661	Farris - 26NA11-170; 4"	1	R	R
237338	Farris - 2952 - 6"	4	R	R
237340	Hokinson's 513 - 3"	4	R	R
721231	Leser Type 526 - 3"	2	R	R
230252	THIES – 359/357 - 3"	1	R	R
230254	THIES – 359/357 - 4"	1	R	R
				R

Table 9: Replacement: Nozzle (TABLE 3: 3-6)

Stock Nr.	Valve type and size	Replacement Nozzle Quantity 5 years (Table 3: 3-6)	Indicative Cost Per Item	Indicative Total Cost *(Cost per item x quantity)*
230253	AULD – SP06 - 3"	1	R	R
230253	AULD – SP06 - 3" Pilot Valve	5	R	R
230256	AULD – SP06 - 8"	2	R	R
230256	AULD – SP06 - 8" Pilot Valve	6	R	R
232073	Bailey Birkett - 707 - 1 1/2"	5	R	R
234196	Bailey Birkett - 707 - 1"	7	R	R
230257	Birkett1.5E2/2711A5/D - 1 1/2"	30	R	R
640711	Farris - 26LA21-170, 3"	1	R	R
640661	Farris - 26NA11-170; 4"	1	R	R
237338	Farris - 2952 - 6"	2	R	R
237340	Hokinson's 513 - 3"	2	R	R
721231	Leser Type 526 - 3"	1	R	R
230252	THIES – 359/357 - 3"	1	R	R
230254	THIES – 359/357 - 4"	1	R	R
				R

Table 10: Replacement: Spindle (TABLE 3: 3-7)

Stock Nr.	Valve type and size	Replacement Nozzle Quantity 5 years (Table 3: 3-7)	Indicative Cost Per Item	Indicative Total Cost *(Cost per item x quantity)*
230253	AULD – SP06 - 3"	2	R	R
230253	AULD – SP06 - 3" Pilot Valve	2	R	R
230256	AULD – SP06 - 8"	2	R	R
230256	AULD – SP06 - 8" Pilot Valve	2	R	R
232073	Bailey Birkett - 707 - 1 1/2"	2	R	R
234196	Bailey Birkett - 707 - 1"	2	R	R
230257	Birkett1.5E2/2711A5/D - 1 1/2"	2	R	R
640711	Farris - 26LA21-170, 3"	2	R	R
640661	Farris - 26NA11-170; 4"	2	R	R
237338	Farris - 2952 - 6"	2	R	R
237340	Hokinson's 513 - 3"	2	R	R
721231	Leser Type 526 - 3"	2	R	R
230252	THIES – 359/357 - 3"	2	R	R
230254	THIES – 359/357 - 4"	2	R	R
				R

Table 11: Surface Crack Inspection (TABLE 3: 3-8)

Stock Nr.	Valve type and size	Welding Nonessential Quantity 5 years (Table 3: 3-8)	Indicative Cost Per Item	Indicative Total Cost *(Cost per item x quantity)*
237340	Hokinson's 513 - 3"	20	R	R
				R

6. Acceptance

This document has been seen and accepted by:

Note: Initials not acceptable

Full Name and Surname	Designation
Paul Le Grange 07/07/2025	Condensate and Feedheating System Engineer
Selelepoo Ntoampe 07/07/2025	Senior Advisor – Technical Support

7. Revisions

Date	Rev.	Compiler	Remarks
July 2024	07	A Rudman	Included requirements of Camden's safety valve inspection, refurbishment and testing procedure (240-166574085). Updated document template.
August 2024	06	A Rudman	Included the safety valve stock numbers and improved the budget requirements section.
November 2022	05	A Rudman	Included comments from corporate specialist
September 2022	04	A Rudman	Updated to new document template
March 2022	03	A Rudman	Linked Scope to Technical Evaluation Criteria
February 2021	02	A Rudman	Included Gland Steam Safety Valves
January 2021	01	A Rudman	First Revision

8. Development Team

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

- Abel Rudman – Senior Engineer
- Micheal Amir – GX Engineering (Subject matter expert)

9. Acknowledgements

N/A