Eskom	**SCOPE OF WORK**	**Peaking Engineering**

Title: **Scope of work for Remedial Works at Drakensberg Pumped Storage Scheme**

Document Identifier:	**31A/5270**
Alternative Reference Number:	
Area of Applicability:	**Peaking**
Functional Area:	**Peaking Operating Unit: Drakensberg Pumped Storage Scheme**
Revision:	**1**
Total Pages:	**20**
Next Review Date:	**N/A**
Disclosure Classification:	**Controlled Disclosure**

Content Page

1. Introduction 4
2. Supporting Clauses 4
2.1 Scope 4
2.1.1 Purpose 4
2.1.2 Applicability 4
2.1.3 Effective date 4
2.2 Normative/Informative References 4
2.2.1 Normative 4
2.2.2 Informative 5
2.3 Definitions 5
2.4 Abbreviations 5
2.5 Roles and Responsibilities 5
2.6 Process for Monitoring 5
2.7 Related/Supporting Documents 5
3. Scope of Work 5
3.1 Lift Shaft 5
3.1.1 Water Ingress Remediation and Weepholes 5
3.1.2 Replacing of Gutters and downpipes 6
3.1.3 Repairs to Handrails 7
3.1.4 Drainage and dewatering pipe support 7
3.1.5 Cable racks 7
3.2 Machine Hall Cavern 8
3.3 Workshop & Stores 8
3.3.1 Removal of aircon units 8
3.3.2 Bricking up void: 8
3.3.3 Internal plastering of new brickwork 9
3.3.4 Replacing Damaged Doors 9
3.3.5 Waterproofing and Repainting of Defective Paint in Paint Store 9
3.4 Exploratory Tunnel – Structural Steel Remedial Works 10
3.4.1 Survey, Verification and Setting Out 11
3.4.2 Materials, Fabrication and Handling 11
3.4.3 Installation, Grouting and Protection of Existing Services 11
3.4.4 Inspection, Testing and Acceptance 12
3.5 Replacement of Potable Water Pipe and Tank Remedial Works 12
3.5.1 Replacement of Potable Water Pipeline 12
3.5.2 Potable Water Tank Remedial Works 13
3.5.3 Spare Pump Supply 13
3.5.4 Continuity of Water Supply 13
4. List of Drawings 13
5. Acceptance 14

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

6. Revisions 14
7. Development Team 15
8. Acknowledgements 15
Appendix A – Price List 16

Figures

Tables

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

1. Introduction

The Drakensberg Pumped Storage Scheme (DPSS) requires remedial maintenance works following deterioration observed during inspections and condition assessments. Water ingress, corrosion, structural deterioration, and serviceability issues have been identified across the Lift Shaft, Machine Hall Cavern, Workshop & Stores building, and the Exploratory Tunnel structures. These defects impact safety, operational efficiency, and long-term durability of the infrastructure. This Scope of Work defines the activities required to restore functionality, improve safety, and ensure continued operation of affected infrastructure.

2. Supporting Clauses

2.1 Scope

The work consists of remedial and refurbishment works on existing DPSS infrastructure, including repairs, replacements, inspections, drainage improvements, steelwork rehabilitation, waterproofing, concrete repairs, and replacement of potable water systems. No new construction is included; all work is within existing structures in a live power station environment.

2.1.1 Purpose

To restore deteriorated components, address water ingress, repair structural and mechanical supporting elements, and ensure safe and efficient ongoing operation in the affected areas.

2.1.2 Applicability

Applies to all parties involved in executing, supervising, or managing remedial works at DPSS. The work is within Eskom Peaking Generation.

2.1.3 Effective date

Date of 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] ISO 9001 Quality Management Systems

[2] SANS 2001 Construction Works

[3] SANS 1200 Civil Engineering Construction

[4] SANS 10120 Structural Steelwork Specifications

[5] SANS 10305 Painting of Buildings

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

[6] OHS Act 85 of 1993 & Construction Regulations 2014

2.2.2 Informative

[7] Eskom SHEQ Policy 32-727

[8] Eskom Waste Management Standard 32-245

[9] South African Structural Steel Detailing Manuals (Yellow & Green Books)

2.3 Definitions

2.4 Abbreviations

Abbreviation	Explanation
DPSS	Drakensberg Pumped Storage Scheme
HDPE	High Density Polyethylene
NDT	Non Destructive Testing
PPE	Personal Protective Equipment

2.5 Roles and Responsibilities

2.6 Process for Monitoring

N/A

2.7 Related/Supporting Documents

As per 2.2 above.

3. Scope of Work

The works include remedial and refurbishment interventions at four key areas within Drakensberg Pumped Storage Scheme:

3.1 Lift Shaft

The *Contractor* shall execute remedial works in the lift shaft to address water ingress, corrosion, and deterioration of associated services and components.

The scope includes, but is not limited to, the following:

3.1.1 Water Ingress Remediation and Weepholes

a) The *Contractor* must carry out a detailed abseiling inspection of the lift shaft concrete surfaces to identify areas of water ingress and seepage, including areas not accessible from staircases.

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

b) A detailed inspection report must be submitted to the *Employer's* Representative, identifying:
- the locations and extent of water ingress,
- observed defects in the concrete surfaces,
- and a proposed remedial approach.

c) No repair works will commence prior to acceptance of the proposed remedial approach.

d) Remedial works must include:
- sealing and repair of excessive groundwater seepage through the concrete,
- cleaning of concrete surfaces to remove efflorescence, calcium deposits, and contaminants prior to repair,
- drilling of 50 mm diameter weepholes through the concrete shaft at locations of water ingress.

e) Weepholes must
- be drilled on all four sides of the shaft per level where ingress is identified,
- be fitted with a 90-degree outlet to direct water into gutters,
- be provided in sufficient quantity, with allowance for approximately 100 weepholes in total.

f) The *Contractor* must submit all repair materials and specifications for acceptance prior to implementation

3.1.2 Replacing of Gutters and downpipes

a) All existing gutters and downpipes within the lift shaft must be removed and replaced.

b) New gutters must:
- be aluminium, epoxy-coated for corrosion protection to C5 environmental classification in accordance with Aluminium Federation of South Africa guidance,
- have a nominal section size of 150mm × 150mm × 140mm × 1 mm, unless an alternative size is proposed and accepted,
- follow the circular geometry of the lift shaft and be installed with a minimum fall of 1:250.

c) Downpipes must:
- have a minimum diameter of 110 mm,
- drain from each gutter level individually (no continuous downpipe),
- discharge into the existing drainage system ultimately draining to the drainage gallery.

d) Gutters must be installed at:
- every horizontal construction joint along the shaft, and
- additional locations where notable leakage occurs, as instructed by the *Employers* Representative.

e) The interface between gutters and concrete surfaces shall be sealed to prevent bypassing of seepage water. A 100 mm wide bituminous membrane (or accepted alternative) shall be used to ensure smooth water flow into the gutters.

f) Where vertical cables obstruct installation, open HDPE or similar gutters shall be installed to direct seepage water into the aluminium gutter system.

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

3.1.3 Repairs to Handrails

a) Corroded handrails must be repaired or replaced as required.

b) Works must include:
- surface preparation by removal of corrosion to sound metal,
- spot repairs where corrosion is localised,
- replacement of severely corroded sections with tubular mild steel handrails,
- application of corrosion protection coatings.

c) New or repaired handrails must match existing in form and be painted in black and yellow safety colouring. Paint specifications must be submitted for acceptance prior to application.

3.1.4 Drainage and dewatering pipe support

a) The *Contractor* must inspect the condition of six (6) DN250 dewatering pipelines and their spring-loaded pipe supports within the lift shaft, extending from the drainage gallery (approx. level 1154 m) to level 1297 m.

b) The inspection, as a minimum, must include:
- bolts,
- springs,
- hangers,
- channel beams,
- corrosion protection condition.

c) A photographic report must be submitted showing examples of:
- the most severely corroded supports,
- the best condition supports,
- with levels clearly indicated.

d) Pipe supports are spaced at approximately 2–3 m intervals, resulting in an estimated 300–360 supports. The report will form the basis for scoping and execution of subsequent remedial works, subject to acceptance by the *Employers* Representative.

3.1.5 Cable racks

a) The Contractor shall inspect cable racks and support systems throughout the lift shaft, from the drainage gallery to the surface building.

b) The inspection report shall focus on:
- cable tray anchors,
- trays,
- strapping and support systems.

c) The photographic report shall provide representative examples of the worst and best conditions observed and will be used to determine required remedial actions.

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

3.2 Machine Hall Cavern

a) The *Contractor* must execute remedial works to manage water ingress and deterioration within the Machine Hall Cavern.

b) The scope includes:
- installation of aluminium gutters (nominal 150 × 150 × 140 × 1 mm) along approximately 100 m of the cavern roof,
- establishment of an effective drainage system directing collected water to the existing station drainage system,
- interception and controlled drainage of seepage water from cavern walls,
- replacement of damaged or corroded gutters and drainage pipes,
- flushing and cleaning of all groundwater drainage systems across all cavern levels.

c) Areas affected by seasonal water ingress, including delaminated paint, efflorescence, calcification, algae, or mould, shall be cleaned, repaired, and repainted.

d) Where evidence of reinforcement corrosion is identified, the Contractor shall:
- expose affected reinforcement,
- clean to sound steel,
- apply re-passivating coating,
- reinstate concrete using an accepted low-shrinkage repair mortar.

e) Repair methodologies and material specifications shall be submitted for acceptance prior to execution

3.3 Workshop & Stores

3.3.1 Removal of aircon units:

a) Redundant air-conditioning units must be removed, and all loose or damaged surrounding brickwork shall be carefully removed.

3.3.2 Bricking up void:

a) Brick infill must be constructed to match existing construction.

b) Materials and workmanship must comply with:
- SANS 50197 (cement),
- SANS 1090 (sand),
- ASTM C494 (admixtures),
- SANS 523 (lime),
- SANS 227 (face bricks),
- SANS 2001-CM1 (masonry).

c) Mortar must be Class II, mixed at 1:6, and brick force must be installed at every course.

d) Bricks must have a minimum compressive strength of 14 MPa and water absorption not exceeding 7%.

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

3.3.3 Internal plastering of new brickwork:

a) All new plastering works must be executed to match existing finishes in thickness, alignment, texture, and appearance.

b) Plastering must:
- comply with SANS 2001 and applicable industry standards;
- be applied to properly prepared substrates free of loose material, dust, efflorescence, and contaminants;
- be applied in layers not exceeding 10 mm per coat;
- incorporate fibre mesh reinforcement where plaster thickness, chasing, or substrate condition presents a risk of cracking.

c) Plastered surfaces must be:
- plumb, straight, and flush with adjacent existing plaster;
- free of cracks, hollows, delamination, or surface defects.

d) Painting must:
- only commence once plaster has adequately cured and moisture levels are acceptable;
- include appropriate primers compatible with the substrate;
- consist of a minimum of two coats of approved paint;
- match existing colour, finish, and sheen unless otherwise instructed.

e) All paint and primer specifications must be submitted for acceptance prior to application.

f) Plastering and painting works must be inspected and accepted by the *Employers* Representative prior to progression to subsequent activities.

3.3.4 Replacing Damaged Doors

a) All damaged doors within the Workshop and Stores must be removed and replaced.

b) Replacement doors must:
- match existing doors in size, appearance, and functional performance;
- be installed plumb, level, and square;
- operate freely without binding or misalignment.

c) Existing frames may be retained where they are serviceable and compatible with the replacement doors. Where frames are damaged or unsuitable, they must be repaired or replaced.

d) All joints between doors, frames, and surrounding construction shall be sealed using Sikaflex-Pro 2HP or an accepted equivalent.

e) Completed installations must be inspected and accepted by the *Employers* Representative.

3.3.5 Waterproofing and Repainting of Defective Paint in Paint Store

Areas within the Paint Store exhibiting defective paint and plaster due to moisture ingress must be subjected to waterproof remedial works prior to repainting

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

3.3.5.1 Waterproof Plastering of internal brickwork:

a) All defective paint and plaster must be removed to expose a sound substrate. The exposed substrate must be adequately prepared to ensure effective bond of the new plaster system.

b) Waterproof plastering must be carried out using a cementitious plaster incorporating a liquid waterproofing admixture, such as Sika-1 or an accepted equivalent, suitable for internal masonry subjected to moisture exposure.

c) The waterproof plaster system must:
- Be applied in multiple coats as required to achieve a dense, waterproof render;
- Limit individual coat thickness to prevent shrinkage and cracking;
- Provide a sound, laitance-free finish suitable for subsequent painting;
- Be applied strictly in accordance with the manufacturer's published specifications.

d) The *Contractor* must submit the proposed waterproof plaster system and material data sheets for acceptance prior to execution.

3.3.5.2 Internal painting of newly plastered brickwork:

a) Painting must only commence once the waterproof plaster has adequately cured and moisture testing confirms suitability.

b) Painting works must include:
- cleaning of surfaces to remove dust, grease, and loose material;
- application of an approved plaster primer, such as Dulux Plaster Primer or accepted equivalent;
- application of a minimum of two coats of approved acrylic paint, such as Dulux Trade 100 Matt Acrylic or accepted equivalent.

c) Paint colour, finish, and product selection must be submitted for acceptance prior to application.

d) Completed painting works must be free of defects, overspray, staining, and uneven finish and must be accepted by the *Employers* Representative prior to handover

3.4 Exploratory Tunnel – Structural Steel Remedial Works

a) The *Contractor* must be suitably qualified, competent, and compliant with the Occupational Health and Safety Act (1993) and Construction Regulations (2014) for underground and structural steel works.

b) The *Contractor* must submit:
- a project-specific organogram identifying personnel responsible for execution, quality assurance, and quality control;
- qualifications, experience, and roles of key personnel as part of the Safety Plan;
- detailed procedures and method statements describing how the Works will be executed.

c) Acceptance of submissions does not relieve the *Contractor* of responsibility for workmanship, sequencing, safety, or fitness for purpose.

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

3.4.1 Survey, Verification and Setting Out

a) The *Contractor* must perform a detailed site inspection to verify existing as-built conditions prior to commencement.

b) This shall include:
- verification of the condition, location, and alignment of all corroded steel Unistrut members supporting the sewer pipe as identified on the layout drawings;
- verification of corroded steel brackets and cable ladders supporting lights and light cables;
- surveys before, during, and after construction to confirm vertical and horizontal alignment of installed steelwork;
- establishment and maintenance of suitable reference control points that will not be displaced during construction.

c) Any discrepancies between drawings, site conditions, or interfaces shall be reported to the Employer's Representative without delay

3.4.2 Materials, Fabrication and Handling

a) All replacement structural steel must:
- be Grade 350WA;
- receive hot-dip galvanising as corrosion protection;
- be clearly marked as galvanised.

b) Bolts and fasteners must:
- be minimum Grade 4.8 (bolts) and Grade 8.8 (nuts) unless noted otherwise;
- be hot-dip galvanised;
- comply with manufacturer specifications.

c) The *Contractor* must:
- verify quantities prior to fabrication;
- prepare and submit fabrication and shop drawings for acceptance prior to manufacture;
- ensure steel components are bundled, packed, transported, handled, and stored to prevent distortion and surface damage;
- store steel components clear of the ground on site

3.4.3 Installation, Grouting and Protection of Existing Services

a) Steelwork erection must be carried out in accordance with SANS 2001-CS1.

b) During installation, the Contractor must:
- take special precautions to prevent damage to the existing sewer pipe, lights, and light cables;
- provide temporary propping or support where required;
- ensure no load is transferred to permanent works until installation and grouting are complete.

c) All grouting must:
- be applied in accordance with manufacturer specifications;
- be completed prior to loading;
- achieve a minimum characteristic compressive strength of 40 MPa at 28 days

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

3.4.4 Inspection, Testing and Acceptance

a) The *Contractor* must implement a comprehensive inspection and testing regime, including:
- dimensional checks of fabricated steel components;
- verification of conformity with approved drawings;
- qualification of welders, welding operators, and tack welders by a competent fabricator, erector, or independent testing agency;
- maintenance of fabrication and erection test records.

b) Non-destructive testing (NDT) must be carried out as follows:
- 20% magnetic particle inspection of fillet welds;
- 100% ultrasonic testing of all butt welds and full penetration welds.

c) Permissible deviations for fabrication, foundations, anchor bolts, and erected steelwork shall comply with Tables 3 to 9 of SANS 2001-CS1. All test results and inspection records shall be submitted as part of the quality documentation.

3.5 Replacement of Potable Water Pipe and Tank Remedial Works

a) Inside the lift shaft, the potable water supply system comprises a buffer tank, a high-lift pump, and associated pipeline conveying treated water from the lower Machine Hall to the surface.

b) The existing infrastructure is ageing. The potable water buffer tank exhibits internal corrosion, and the existing pipeline has experienced repeated failures at joints, resulting in leakage between the pump outlet and the surface building. The existing pipeline and couplings are HDPE PN16, which has proven unsuitable for the operating conditions.

c) The *Contractor* must carry out remedial works to restore the reliability, durability, and integrity of the potable water supply system.

3.5.1 Replacement of Potable Water Pipeline

a) The *Contractor* must remove and replace the existing potable water pipeline within the lift shaft from the outlet of the high-lift pump to the surface building.

b) The replacement pipeline must:
- be HDPE Class PN25;
- have a nominal diameter of 50 mm;
- extend from the pump outlet to the surface tanks, over an approximate length of 250 m;
- be jointed by butt-welding at all joints.

c) The pipeline must be:
- supported and anchored to the concrete structure at intervals not exceeding 6 m, or as otherwise required to ensure stability;
- provided with supports designed by the Contractor and fabricated from galvanised steel suitable for the environmental conditions within the lift shaft.

d) The *Contractor* must submit details of the proposed pipe supports and anchorage arrangements for acceptance prior to installation

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

3.5.2 Potable Water Tank Remedial Works

a) The existing potable water buffer tank must be:
- internally cleaned to remove corrosion products and contaminants; and
- coated internally and externally with a solvent-free epoxy coating suitable for potable water applications.

b) The coating system must:
- be approved for contact with potable water;
- be applied strictly in accordance with the manufacturer's specifications;
- provide long-term corrosion protection.

c) Material specifications and product data sheets must be submitted for acceptance prior to application.

3.5.3 Spare Pump Supply

a) The *Contractor* must supply one spare high-lift pump for the potable water system, being:
- Grundfos pump model PN-SN A-96516671-10000519, or an accepted equivalent.

3.5.4 Continuity of Water Supply

a) The potable water supply to the site must be maintained throughout the execution of the Works.

b) The *Contractor* must:
- plan and implement temporary water supply measures as required during pipe and tank remedial works;
- ensure that complete shutdown of potable water supply is not permitted at any time.

c) Temporary arrangements must be suitable to maintain operational water requirements and must be removed upon completion of the permanent works

4. List of Drawings

Drawing number	Revision	Title
0.48/636	**7**	**Lift shaft general arrangement**
0.48/1042	**0**	**Details of false ceiling in machine hall portal frame construction**
0.48/179	**-**	**Machine Hall Isometric Arrangement**
0.48/2621	**2**	**Lift lobby level 1911.50**
0.48/1198	**0**	**Lift Shaft Cable Servitude**
0.48/4842	**-**	**Power station complex general arrangement at approx. 1184,00 level**
0.48-4847-2	**-**	**Power station complex sections 2of2**
0.48-4846-1	**-**	**Power station complex sections 1of2**

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

Drawing number	Revision	Title
0.48/4071	4	Drainage sump pump arrangement
0.48/890	4Z	Lift Shaft Platform Arrangement
0.48/462	SHT 0 Rev 13	Drainage and Dewatering pipework
0.48/187	4	Arrangement of services station lift shaft
0.48/5280	1	Workshop & Stores Plan
0.48/5281	1	Workshop & Stores Sections
0.48/5282	2	Workshop & Stores Elevations
0.48/5283	2	Workshop & Stores Building Door Schedule
0.48/5285	1	Workshop & Stores Building Schedule of Finishes
0.48/5292	2	Workshop & Stores Building Foundation and Surface Bed Concrete Layout and Details
18.48/6471-1	0a	Exploratory Tunnel Pipe & Cable Supports - Layout
18.48/6471-2	0a	Exploratory Tunnel Pipe & Cable Supports – Assembly & Details
18.48/6471-3	0a	Exploratory Tunnel Pipe & Cable Supports – Assembly & Details

5. Acceptance

This document has been seen and accepted by:

6. Revisions

Date	Rev.	Compiler	Remarks
February 2026	1	W Sithole	First document circulated for signatures

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

7. Development Team

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

- Abraar Dustay
- Mthobisi Makhanya

8. Acknowledgements

Zahier Kapery

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

Appendix A – Price List

Item no.	Description	Unit	Quantity	Rate	Price
1	**PRELIMINARY & GENERALS**				
1.1	Health and Safety File and documentation	1	sum		
1.2	Staff medicals and induction	1	sum		
1.3	Site establishment & de-establishment	1	sum		
1.4	Transport	1	sum		
1.5	Accommodation	1	sum		
1.6	Other (Please specify and list with quantities)				
2	**LIFT SHAFT SCOPE**				
2.1	Remove all gutters all around the circumference of the lift shaft	40	No.		
2.2	Remove all the downpipes in the lift shaft along the length of the lift shaft	192	m		
2.3	Install aluminium epoxy coated gutters 150x150x140x1mm section in the lift shaft including the supports at every 1,5m interval. Each gutter shall be the circumference of the shaft.	900	m		
2.4	100mm wide bituthene membrane/ similar	900	m		
2.5	Install 90mm aluminium epoxy coated downpipes in the lift shaft including the clamps at 3m interval	200	m		
2.7	Inspect the ingress of water in the lift shaft and produce the photographic report	1	Sum		
2.8	Inspect the in-watering and dewatering pipe supports and the cable racks, and submit a photographic report	1	Sum		
2.9	Repair corroded galvanised carbon steel handrails in the lift shaft. Including painting and fixing bolts and nuts	400	m		
2.10	Replace heavily corroded galvanised mild steel tubular handrails with paint protection	100	m		
2.11	Drilling of 50mm diameter weepholes through the 0,5m concrete shaft and install drainage pipes directed to the gutters	100	no.		
2.11	**Potable Water Pipe & Tank**				
2.12.1	Supply of a spare Grundfos water pump model PN-SN A-96516671-10000519	1	No.		

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

Item no.	Description	Unit	Quantity	Rate	Price
2.12.2	Supply and install a 250m long PN25 50mm diameter HDPE pipe that is buttwelded including its supports and fixing onto concrete.	m	250		
2.12.3	Cleaning and applying of a Solvent-Free Epoxy Coatings for Potable Water inside the 2m^3 buffer tank.	m^3	2		
2.12.4	Provision of a temporary water supply solution while the works on the tank & pipe are carried out	1	Sum		
3	**Machine Hall Cavern**				
3.1	Assess and propose drainage system to intercept, contain and manage water seepage occurring in the Machine Hall Cavern	1	Sum		
3.2	Implement the drainage system	100	m		
4	**WORKSHOP & STORES**				
4.1	**Removal of aircon units and reinstatement of brickwall**				
4.1.1	Remove redundant aircon units	9	No.		
4.2	**Brickwork**				
4.2.1	230mm wide collar-jointed wall of voids – internal face, plastered and painted. R.O.K. 14 MPa bricks. External face, facebrick to match existing, i.e. plum white chip rockface concrete facebricks. Rate to include brickforce at every coarse, Class II mortar and paint to internal face to match existing.	4	m^2		
4.3	**Waterproofing**				
4.3.1	Apply Sika-1 waterproofing admixture to mortar at paint store.	200	m^2		
4.3.2	Sikaflex-Pro 2HP around all doors, internal and external. Refer to drawing 0.48/5283 – Workshop & Stores Building Door Schedule	355	m		
4.4	**Carpentry and Joinery**				
4.4.1	Doors and Frames				
4.4.1.1	Supply and install weatherproof doors as per drawing 0.48/5283, complete with locks and all accessories. Rate to include tying in of	4	No.		

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

Item no.	Description	Unit	Quantity	Rate	Price
	doorframe and all jointing / nosing required. (Applicable to door D1, D4, D9 & D10)				
4.5	**Painting**				
4.5.1	Prepare and apply one primer coat, one undercoat and two coats Exterior quality PVA paint				
4.5.1.1	Internal plastered walls (colour to match existing)	205	m^2		
5	**EXPLORATORY TUNNEL PIPE SUPPORTS REPLACEMENT (Refer to drawings 18.48/6741-1; 18.48/6741-2; 18.48/6741-3)**				
5.1	**Survey**				
5.1.1	Survey existing sewer pipe and light cables and as-built condition. This includes performing a survey before and during construction for level control.	1	Sum		
5.2	**Removal of existing work**				
5.2.1	Remove existing corroded vertical Unistrut member and associated steelwork supporting sewer pipe and cart away to scrapyard area adjacent to sewer treatment plant	50	No		
5.2.2	Remove existing corroded horizontal Unistrut members of varying lengths and associated steelwork supporting sewer pipe	200	m		
5.2.3	Temporarily supporting sewer pipe until installation of new steelwork using vertical and horizontal propping	200	m		
5.2.4	Remove existing corroded bracket and associated steelwork supporting lights & light cables	6	No		
5.2.5	Remove existing corroded cable ladder members and associated steelwork supporting lights & light cables	80	m		
5.2.6	Temporarily supporting lights & light cables until installation of new steelwork using vertical and horizontal propping	20	m		
5.2.7	Clean existing cable ladder members and associated steelwork supporting lights & light cables by removing all white stains present	60	m		
5.3	**Supply and Fabrication**				

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

Item no.	Description	Unit	Quantity	Rate	Price
5.3.1	Preparation of shop detail drawings	1	Sum		
5.3.2	**Supply and fabrication of steelwork (see Drawings 18.48/6471-1; 18.48/6471-2; 18.48/6471-3) complete with all necessary cleats, brackets, gussets, packs, and hot dip galvanised etc., as follows:**				
	a) Using steel to Grade 350WA (sewer pipe steelwork)				
5.3.2.1	150x150x6.0mm Base plate with equal angle welded to base plate to be procured as an off the shelf item.	50	No		
5.3.2.2	5.0mm thick shaped gusset plate bolted to Unistrut channels	0.06	t		
5.3.2.3	41x41x2.5mm Vertical Unistrut channel	0.06	t		
5.3.2.4	41x41x2.5mm Horizontal Unistrut channel	0.6	t		
	b) Using steel to Grade 350WA (light & light cable steelwork)				
5.3.2.5	Steel bracket matching existing brackets or similar approved	6	No		
5.3.2.6	Cable ladder supporting lights and light cables matching existing or similar approved	80	m		
5.4	**Delivery**				
5.4.1	Delivery of steelwork included under items5.3.2.1 to 5.3.2.6				
	a) Normal loads	0.8	t		
5.5	**Erection**				
5.5.1	Offloading, stacking on site, and erection of steelwork included under items 5.3.2.1 to 5.3.2.6	0.8	t		
5.6	**Hot dip galvanised Erection Bolts and Nuts**				
5.6.1	Supply, deliver to site and store as follows:				
5.6.1.1	Grade 4.4 bolts	0.018	t		
5.6.1.1	Grade 8.8 nuts	0.007	t		
5.7	**Holding-down bolts and nuts**				
5.7.1	Supply, deliver to and stack on site as directed for building in by contractor, as follows:				
5.7.1.1	M12 FIS A hot dip galvanised grade 8.8 bolts epoxied using FIS EM epoxy mortar 110mm	200	No.		

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30

Item no.	Description	Unit	Quantity	Rate	Price
	deep as per Section 1-1 drawing no. 18.48/6471-2 (or similar approved)				
5.7.1.2	M12 FIS A hot dip galvanised grade 8.8 bolts epoxied using FIS V 360 chemical mortar 150mm deep as per Section A-A drawing no. 18.48/6471-3 (or similar approved)	14	No.		
5.8	**Testing**				
5.8.1	Weld Testing				
5.8.1.1	Allow for testing as per the specifications and requirements of the client	1	Sum		
5.9	**Grouting**				
5.9.1	Grouting in terms of project specification: 20mm non-shrinkage grout, 40 MPa as per dwg. no. 18.48/6471-1	2.1	m^2		
6	**As built Information**				
6.1	As built drawings	1	Sum		
7	**Equipment and Materials to Perform Inspection**				
7.1	Equipment to perform inspection. Rate includes testing, certification and safe access.	1	Sum		
7.2	Rope access to perform the works	1	Sum		
7.2	Provide lighting for inspections for the duration of the works including power supply where required	1	Sum		
9	**Disposal of waste Materials to the appropriate disposal site**	1	Sum		
	The total of the Prices (excluding VAT):				

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system. No part of this document may be reproduced in any manner or form by third parties without the written consent of Eskom Holdings SOC Ltd, © copyright Eskom Holdings SOC Ltd, Reg No 2002/015527/30