necsa
We're in your world
South African Nuclear Energy Corporation SOC Limited

Document Title	SCOPE OF WORK FOR CONCRETE AND STEEL ROOF WATERPROOFING ON NECSA SITE
Document Number	MS-CVL-SOW-0001
Revision Number	0.01
Date	26 / 05 / 2023

DISTRIBUTION

	NAME	SIGNATURE	DATE
Drafted	TSHIPANDU FA Civil Maintenance	09/06/2023 14:14:59(UTC+02:00) Signed by Fulufhelo Tshipandu, fulufhelo.tshipandu@necsa.co.za	
Checked	MALETE MP Civil Maintenance	09/06/2023 14:15:47(UTC+02:00) Signed by Molatelo Prudence Malete, prudence.malete@necsa.co.za	
Approved	KHOTLO PR Maintenance	09/06/2023 14:16:25(UTC+02:00) Signed by Pazel Ray Khotlo, ray.khotlo@necsa.co.za	
Distribution	Maintenance Records Property Management Record		

TABLE OF CONTENTS **PAGE**

DISTRIBUTION **1**

1 EXECUTIVE SUMMARY **3**

2 PROJECT DESRCIPTION **3**

3 PURPOSE **3**

4 PROJECT SCOPE **3**

4.1 CONCRETE ROOF 3

4.2 STEEL ROOF 4

1 EXECUTIVE SUMMARY

A visual inspection was conducted to assess the condition of the roofs on Necsa site due to the defects reported by tenants and the following were observed:

- The waterproofing membrane has deteriorated and showing signs of paint spalling.
- Waterproofing membrane is showing cracks on the joint overlaps.
- There is an air bubbles pocket between the concrete slab and waterproofing membrane.
- Expansion joints sealant is not watertight to prevent water from seeping through the joint.
- Inadequate roof slope
- Steel roof sheets are showing rust that is occurring due to lack of maintenance and aging.
- The paint on steel roof sheets are not protecting steel material from direct sunlight uv rays.

2 PROJECT DESRCIPTION

Concrete and steel roof waterproofing on Necsa site.

3 PURPOSE

The purpose of this document is to provide solution on preventing water leak from the roof. The document will be used as a scope of work for the roof repairs and maintenance when service of maintenance required.

4 PROJECT SCOPE

4.1 CONCRETE ROOF

- Strip and remove existing waterproofing membrane from the roof.
- Clean down the entire roof completely throughout, removing all loose sand, dust and debris.
- Apply a coat of BITU-PRIMER, a high grade solvent based penetrating bituminous primer and allow curing.
- Remove +/-25mm existing deterioted expansion joint sealant.
- Apply a silicon sealant joint.
- Apply/install new waterproofing membrane using Thermo flex Dual waterproofing system (dual reinforced torch-on bitumen membrane 4mm) a high performance synthetic reinforced polymer modified torch on waterproofing membrane.
- This should be applied to the entire roof area as detailed and will incorporate flashing details throughout.
- Thermo flex Dual waterproofing system (dual reinforced torch-on bitumen membrane 4mm) must be applied by means of the torch-on fusion application method and is fully bonded. 75 mm side laps and 100mm end laps fully bonded.
- Seal all edged of waterproofing with polyester reinforced liquid mastic flashing strips. Turn-ups at all terminating edges (flashings) will be a total height of +/- 300 mm throughout unless otherwise specified

- The contractor must make sure that there must be no water ponds after the application of waterproofing.
- Paint the entire roof with UV resistant waterproofing paint.
- Roof painting coulour should be green or silver.
- Clean the area and remove all rubble from the site.

4.2 STEEL ROOF

- Clean down the steel roof completely, removing all sand, sediment, dust and debris ensuring a clean and sound surface. Wire brush all areas where rust is evident.
- Check, re-secure and replace where necessary all roof screws individually throughout.
- Wire brushes all areas.
- Finally once the roof is clean and dry apply a coat of RUSTBAN. This should be applied to all areas where rust is evident. By creating this important impervious barrier, moisture penetration to the roof surface. All forms of surface contamination must be removed to ensure a smooth surface, free of moisture and any loose material, or any other barrier to adhesion. Porous non ponding surfaces should be primed with an acrylic bonding liquid or a 50/50 water and FIBRE SEAL solution. On metal surfaces – Prime with DC4.

Application

- FIBRE SEAL can be applied by means of a brush or roller at a total rate of 1–1.2L/m2.
- In areas of significant movement FIBRE SEAL can be used in conjunction with a waterproofing membrane.
- Apply at the rate of 1L/m2 undiluted FIBRE SEAL and immediately embed the SBP Geo-Fabric into the wet product ensuring no creases or folds in the material.
- Work the membrane into the FIBRE SEAL using a brush. Product should be evident “striking through” the membrane and if this is not the case, too little product has been applied or the product has been allowed to dry before embedding the membrane.
- After allowing a minimum drying period of 30 minutes, apply further final coat roof paint.

Where applicable

- Galvanised metal surfaces must be treated with one coat Metal Etch Primer complying with the requirements of SABS 723.
- Steel surfaces must be treated with one coat Type Zinc Chromate Primer complying with the requirements of SABS 679.
- Steel roof, must have all loose primer together with all rust spots, dirt, etc. removed and be treated with one coat red oxide or zinc chromate primer complying with the requirements of SABS 909.