Eskom	User Requirement Specification	Operating Unit – Koeberg Nuclear Power Station

Title: **The supply and delivery of Radiation Protection Products on an "as and when" required basis to the Nuclear Operating Unit for a period of five (5) years.**

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Abbreviations

COA	Certificate of Analysis
COC	Certificate of Conformance
KNPS	Koeberg Nuclear Power Station
MFR	Manufacturer
MSDS / SDS	Materials Safety Date Sheet / Safety Data Sheet
OHS Act	Occupational Health & Safety Act No. 85 of 1993
QA	Quality Assurance
SANS	South African National Standards
RP	Radiation Protection

Definitions

Certificate of Analysis	Certificate of Analysis is a manufacturer/testing laboratory data sheet indicating the total halogens, total sulphur, and heavy metal content of the tested product on the manufacturer/testing laboratory letterhead
CRACK	Control of Chemical Products at Koeberg Nuclear Power Station.
Materials Safety Data Sheet	Mean a document that is aligned to the GHS, providing information on hazard classification, properties of hazardous chemicals, procedures for handling or working with hazardous chemicals in a safe manner, and the effects of the hazardous chemical on health and safety at a workplace and that is prepared in accordance with regulation 14A of the Regulations for Hazardous Chemical Agents of 2021 (OHS Act 85 of 1993).

1. INTRODUCTION

This User Requirements Specification is for Radiation Protection Products for application at Koeberg Nuclear Station within Eskom's Generation Division. At KNPS Radiation Protection Products are sometimes referred to as RP Spares.

2. BACKGROUND

Koeberg Nuclear Power Station (KNPS) is situated at Duynefontein, 27km north of Cape Town on the Atlantic coast. It has operated safely and efficiently for nearly 40 years, and currently Eskom is doing upgrades to the plant and structures for long term operations.

Nuclear power stations are complex facilities that require meticulous attention to detail and a steadfast commitment to excellence. This unwavering dedication to excellence ensures the safe and reliable generation of electricity for millions of people around the country. At the heart of KNPS lies a culture of adherence to standards and quality.

This commitment to quality is reflected in the rigorous standards that govern every aspect of KNPS. These standards cover everything from the design and construction of plant systems to the Spares used on the plant, and they provide a robust foundation for the safe and reliable operation of the facility.

This document outlines the user requirements for Radiation Protection Products to be supplied at Koeberg Nuclear Power Station (KNPS). The purpose of this specification is to ensure that Radiation Protection Products supplied to KNPS meet the necessary requirements for efficient and safe operation, as well as the safety and well-being of Radiation Protection Personnel.

3. SCOPE OF WORK

The supply and delivery of Radiation Protection Products on an "as and when" required basis to the Nuclear Operating Unit for a period of five (5) years.

4. GENERIC USER REQUIREMENTS:

4.1 Functional Performance:

4.1.1 Radiation Protection Products shall meet the necessary performance requirements for use in plant operations and equipment at KNPS.

4.1.2 Radiation Protection Products with Specification DSG-317-094 shall be CRACK approved prior to being supplied to site where alternative or equivalent products shall be considered.

4.1.3 Any potential incompatibility with existing design specifications at Koeberg Nuclear Power Station for Radiation Protection Products shall be brought to Eskom's attention at the time of tender.

4.2 Safety and environment:

4.2.1 Radiation Protection Products shall be provided in safe packaging. Containers shall pose no risk of environmental spillage.

4.2.2 Radiation Protection Products shall pose no risk of emitting hazardous vapours to personnel and the environment as far as possible.

4.2.3 Radiation Protection Products shall be sourced from a manufacturer whose facilities operates an Environmental Management System which complies with the requirements of ISO 14001: 2015

4.3 Quality and cleanliness:

4.3.1 Radiation Protection Products shall meet the necessary quality standards for KNPS as specified.

4.3.2 Radiation Protection Products shall be manufactured and/or supplied by reputable and qualified suppliers.

4.3.3 The supplier shall notify Eskom of any significant changes that may affect the use or integrity of the Radiation Protection Products.

4.4 Storage, Handling and Expiry Dates:

4.4.1 All Radiation Protection Products shall be transported in a manner that prevents damage to the packaging or its contents.

4.4.2 All necessary precautions shall be taken to prevent leaks or spills during transportation.

4.4.3 Radiation Protection Products shall be stored, handled, and transported in accordance with the manufacturer's instructions and industry best practices prior being delivered to site.

4.4.4 Safety data sheet SDS) where applicable shall be delivered with each delivery of such items and must include manufacturing date, expiry date and allowable deviation of product.

4.4.5 All Radiation Protection chemical products with a shelf-life, shall not expire within one (1) year from the date of delivery to site.

4.5 Documentation:

4.5.1 Each delivery to site of Radiation Protection Spares shall be accompanied by the following documentation, where applicable:

4.5.1.1 Safety Date Sheets

4.5.1.2 Technical Datasheet

4.5.1.3 Certificate of Analysis (COA)

The Certificate of Analysis will demonstrate that the chemical characteristics in every requirement of the design specification guideline (DSG-317-094).

The following elements listed below depending on characteristics and concentration will have a negative impact on equipment, coolant pollution and activation products.

- Total halogens and halides
- Total sulphur
- Heavy metals

4.5.1.4 Certificate of Conformance

The certificate of conformance shall state that Radiation Protection Products meets the requirements for use at KNPS as described in the relevant DSG. Where DSG is not present only a COC shall be supplied. All documentation must be completely legible.

4.5.2 The documentation shall be submitted to and kept on file by KNPS as per the station records management system.

4.6 General

4.6.1 This URS is the minimum applicable technical specifications of Radiation Protection Products associated with the use and application of these products. It is the responsibility of the Supplier to advise and inform the Employer of any new developments on their effects on health, safety, environment, and the applicability of regulatory limitations prior to supply to site.

4.6.2 Where deviations are required, the Supplier shall clearly demonstrate that the alternative Radiation Protection Products Standards to be supplied meet and/or surpass the minimum requirements as set out in the Table below.

4.6.3 No deviation or exception shall be permitted without the written approval of the Employer.

4.6.4 Compliance to this specification shall not relieve the Supplier of the responsibility of furnishing Radiation Protection Products that meets the environmental and quality requirements at KNPS.

5. DESCRIPTION OF THE GOODS

The Supply and Delivery of Radiation Protection Products for the Nuclear Operating Unit.
The Radiation Protection Products list is split into two batches for ease of supply. Full list is available on Annexure A.

BATCH 1: PLASTIC SPARES

Refer to Annexure A

BATCH 2: RP SPARES

Refer to Annexure A

6. CATEGORIES OF LABOUR REQUIRED

6.1 The Contractor shall be responsible for the safe delivery of Radiation Protection Products to KNPS Site Stores using roadworthy vehicles that comply with all relevant legislation including the following:

- National Road Traffic Act 93 of 1996
- National Road Traffic Regulation, 2000

6.2 The Contractor shall ensure that drivers delivering Radiation Protection Products to KNPS meet Koeberg Nuclear Power Station access requirements:

- Have valid national driver's license.
- Not under the influence of intoxication substances including drugs and alcohol.
- Have no criminal record.

7. TIMING AND PLANNING

- Period of contract - 5 years
- Start Date 2026
- Completion Date 2030

8. TRIANING

8.1 The Contractor shall ensure that the Contractor's staff responsible for the delivery of Chemical Radiation Protection Products are suitably qualified and have undergone an inhouse training specific to the work to be executed under the contract.

8.2 Site access training for delivery personnel, where applicable and required.

9. ACCESS FORMALITIES

9.1 Access to the Koeberg Nuclear Power Plant is controlled and reserved. The Supplier shall comply with the various access requirements as stipulated in the KAA 777: "PROCESS FOR ACCESS TO KOEBERG NUCLEAR POWER STATION".

9.2 The mandatory Personal Protective Equipment (PPE) is displayed in various sections/areas at Koeberg Nuclear Power Station. However, the following are required as a minimum:

9.2.1 Hard hat with a chin strap,

9.2.2 Safety boot with a toe cap,

9.2.3 Gloves,

9.2.4 Ear protection and

9.2.5 Safety glasses

9.3 The service provider is responsible for supplying all his/her staff with this PPE and any safety equipment required to perform work safely.

10. ESKOM SCOPE OF SUPPLY

Eskom shall supply Access to site in support of the Supply and Delivery of Radiation Protection Products. Eskom shall also provide support for the On- / Off-loading of goods on KNPS site.

11. REFERENCES

Specifications as listed above will be supplied along with this document.

12. DOCUMENTATION

- DSG-318-040
- DSG-318-041
- DSG-318-042
- DSG-317-094
- DSG-314-416
- DSG-318-044
- DSG-310-153
- DSG-314-392
- DSG-312-085
- DSG-314-266
- KAA 777: Process for access to Koeberg Nuclear Power Station
- KAA 751: Chemical Restrictions And Controls At Koeberg (CRACK) Programme
- Occupational Health and Safety Act, 85 of 1993

13. DELIVERY TIMES

The delivery times will be stipulated on the Purchase Order (PO), and it will be on an as and when required basis.

14. METHOD

This Radiation Protection Products contract will be for stock replenishment. End users will request stock items via the stock reservation requests system. If the stock is low, the Inventory Planner will do a material run as per their schedule. The Supplier will receive a PO to deliver and offload items at the KNPS Site Stores. Inventory Management will replenish the bin location of the stock.