

Document Title:

SCOPE OF WORK

Project Title:

RADIOLOGICAL PROTECTION SERVICES TO TRANSNET PORT TERMINALS

REVISION 01: FOR QUOTATION

SCOPE OF WORK

1. INTRODUCTION

Transnet Port Terminals (TPT) requires the services of a radiological protection service provider in four (4) of its terminals around South Africa. TPT handles both bulk and containerized cargo with radioactive properties and, accordingly, wishes to maintain its radiation protection program in each of these terminals.

2. SCOPE OF WORK

Transnet Port Terminals wishes to secure the services of a radiological protection service provider which will manage its radiation protection program in line with legislated standards, in the interests of its employee's health and the protection of the natural environment against any possible adverse impacts arising out of handling cargo with radioactive properties.

3. DELIVERABLES

The above services are required for the following terminals and are further elaborated upon below:

- a. Richards Bay terminals (Certificate of Registration Number 104)
- b. Durban Container Terminals – Pier 1 and Pier 2 (Certificate of Registration Number 178)
- c. Cape Town Terminals (Certificate of Registration Number 180)
- d. Saldanha Multi-Purpose Terminal (Certificate of Registration Number 181)

a). Richards Bay Terminals (COR104)

This work comprises the provision of a Radiation Protection Officer (RPO) and Radiation Protection Specialist (RPS) services to Richards Bay Terminals. The service for **1 year** will include the following:

- **Monthly visits** to the Richards Bay Terminals by an RPO to:
 - Provide training, inclusive of:
 - Emergency response
 - Spill containment
 - Procedure refresher training
 - Inspect the plants to ensure compliance to COR requirements and to note deviations where they exist
 - Interpret and evaluate waste and scrap clearance certificates
 - Follow up on non-conformances
 - Closing out audit findings and
 - Assisting TPT personnel with general administrative duties related to the COR requirements.
- **Quarterly:**
 - Performing other assessments and attend meetings with the NNR, as required by

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- TPT management.
- Attendance during NNR inspections.
- Prepare and submit quarterly waste reports to the National Nuclear Regulator (NNR)
- **Twice per annum:**
 - Visits by an RPS to the terminal for internal audits of the radiological protection system and discussions with management on the status of the system.
 - Attendance during NNR inspections.
 - Prepare and submit six-monthly dose register report to NNR
 - Conduct six monthly Self-Inspection and prepare report
- **Annually:**
 - Performing an annual dose assessment based on the routine and ad-hoc sampling and surveys, in order to determine the status of the facility in terms of the effectiveness of radiological controls.
 - Perform annual survey.
 - Obtain one solid sample for NORM (Naturally occurring radioactive material) Nuclide analysis for waste clearance requirements.
 - Obtain 4 air samples in Supervised areas.
 - Prepare and submit annual waste reports for submission to the National Nuclear Regulator (NNR)
 - Prepare and submit annual dose register report to NNR.
 - Attend scheduled Management Review meeting.
- **Every two years (required as part of this project):**
 - Internal audit of the Radiation Protection system, based on the requirements of RD-005 on the COR, and discussions with management on the status of the system by Radiation Protection Specialist thereafter.
 - Updating and developing of procedures and programmes as required by the COR.
 - Development of new documents and review of updated documents by RPS.

b). Durban Container Terminal (COR178)

This work comprises the provision of a Radiation Protection Officer (RPO) and Radiation Protection Specialist (RPS) services to DCT. The service for **1 year** will include the following:

- **Quarterly:**
 - Quarterly visit to the DCT for inspections, internal audits of the RP system and discussions with management on the status of the system.
 - Prepare and submit quarterly waste reports to the National Nuclear Regulator (NNR)

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- Prepare and submit quarterly waste reports to the National Nuclear Regulator (NNR)
- Attend meetings with the NNR as required by TPT management and/or the NNR.
- Evaluation of and interpretation of monitoring results of RPM surveys
- **Twice per annum:**
 - Prepare and submit six-monthly dose register report to NNR.
- **Annually:**
 - Performing an annual dose assessment based on the routine and ad-hoc sampling and surveys, in order to determine the status of the facility in terms of the effectiveness of radiological controls.
 - Attendance during NNR inspections.
 - Prepare and submit annual dose register report to NNR.
 - Prepare and submit annual waste reports for submission to the National Nuclear Regulator (NNR).
 - RPM refresher training sessions.
 - Self-Inspection plus report.
 - Radioactive spill training / emergency preparedness.
 - Attend scheduled Management Review meeting.
- **Every two years (required as part of this project):**
 - Internal audit of the Radiation Protection system, based on the requirements of RD-005 on the COR, and discussions with management on the status of the system by Radiation Protection Specialist thereafter.
 - Updating and developing of procedures and programmes as required by the COR.
 - Development of new documents and review of updated documents by RPS.

c). Cape Town Terminals (COR180)

This work comprises the provision of a Radiation Protection Officer (RPO) and Radiation Protection Specialist (RPS) services to Cape Town Terminals. The service for **1 year** will include the following:

- **Quarterly:**
 - Quarterly visit to the Cape Town Terminals for inspections, internal audits of the RP system and discussions with management on the status of the system.
 - Prepare and submit quarterly waste reports to the National Nuclear Regulator (NNR)
 - Evaluation of and interpretation of monitoring results of RPM surveys
 - Performing other assessments and attend meetings with NNR as required by TPT management and/or the NNR.

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- **Twice per annum:**
 - Prepare and submit six-monthly dose register report to NNR
 - Six-monthly visits to the Terminals to provide an RPO service when Koeberg nuclear fuel is off-loaded. This includes:
 - Pre off-loading surveys,
 - Provision of electronic personal dosimeters and controlling personnel exposures,
 - Monitoring each container when off-loaded and
 - Clearance of quayside when completed.
 - Compiling and submission of dose reports for Koeberg fuel campaigns for the Terminal.

- **Annually:**
 - Performing an annual dose assessment based on the routine and ad-hoc sampling and surveys, in order to determine the status of the facility in terms of the effectiveness of radiological controls.
 - Prepare and submit annual dose register report to NNR
 - Attendance at NNR inspections of the Terminal.
 - Prepare and submit annual waste reports for submission to the National Nuclear Regulator (NNR)
 - RPM refresher training sessions and any other training required.
 - Radioactive spill training / emergency preparedness
 - Attend scheduled Management Review meeting

d). Saldanha Multi-Purpose Terminal (COR181)

This work comprises the provision of a Radiation Protection Officer (RPO) and Radiation Protection Specialist (RPS) services to Saldanha MPT. The service for **1 year** will include the following

- **Quarterly:**
 - Quarterly visit to the Saldanha Terminals for inspections, internal audits of the RP system and discussions with management on the status of the system.
 - Evaluation of and interpretation of monitoring results of RPM surveys.
 - Prepare and submit quarterly waste reports to the National Nuclear Regulator (NNR).
 - Performing other assessments and attend meetings with NNR as required by TPT management and/or the NNR.

- **Twice per annum:**
 - Prepare and submit six-monthly dose register report to NNR.

- **Annually:**

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- Performing an annual dose assessment based on the routine and ad-hoc sampling and surveys, in order to determine the status of the facility in terms of the effectiveness of radiological controls.
 - Prepare and submit annual Dose report for submission to the National Nuclear Regulator (NNR).
 - Prepare and submit annual waste reports for submission to the National Nuclear Regulator (NNR).
 - Attendance of NNR inspections of the Terminal. This is additional to the above stated visits.
 - RPM refresher training sessions and any other training required.
 - Radioactive spill training / emergency preparedness.
 - Attend scheduled Management Review meeting.
 - **Every two years (required as part of this project):**
 - Updating and developing of procedures and programmes as required by the COR.
 - Development of new documents and review of updated documents by RPS.
- e). Service Provider to provide oversight of all the electronic submissions to authorities, undertaken by the terminals, not covered in clauses a) – d) above.

f). Calibration of all terminals radiological monitoring equipment

All terminals which are holders of a National Nuclear Regulator Certificate of Registration, possess radiological monitoring equipment. This equipment is utilized to undertake dose readings of the above-mentioned cargo, whilst in the terminals in question. Due to the stringent regulatory requirements surrounding this process, there is no room for error in dose readings being taken. As a result, equipment requires regular calibration, at stipulated frequencies and intervals. The following radiological monitoring equipment, per terminal will require calibration, at the stipulated frequency, for a period of **1 year**:

Equipment Name	Serial Number	Frequency of calibration
<i>RICHARDS BAY</i>		
Electra rate meter with GM tube	389/10991	Annual
<i>DCT PIER 1 and PIER 2</i>		
Electra rate meter with GM tube	503/11404	Annual
Electra rate meter with GM tube	19076/11411	Annual
<i>CAPE TOWN</i>		
RadEye with a Dual Scintillation Probe DP2R/4A	33707	Annual
RadEye G-10 Gamma Survey Meter	52167	Annual

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SALDANHA BAY		
Electra with GM Tube	466	Annual
Electra with Probe	466/11068	Annual
RadEye G-10	33037	Annual
RadEye SX	51601/11506	Annual

The service provider will arrange for the courier to transport the radiation equipment from each of the above-mentioned terminals to the service provider's premises and back to TPT, once completed. Included in this requirement will be adequate insurance coverage, obtained from the courier company for damage and / or loss of the radiological monitoring equipment being couriered, in each instance.

The Service Provider to provide calibration certificates with the following information:

- The calibration of surface contamination monitor calibration certificates must include the following measurement results: Percentage Activity Response (PAR) and 2π Efficiency.
- The calibration certificate for radiation monitor must include the following: Energy Response Factor and the calibration sources must be ¹³⁷Cs and ²⁴¹Am.
- The laboratory to be utilized for calibration purposes must be SANAS accredited, and accreditation must be up to date.

When executing the above-required services, the successful service provider will, for purposes of centralization, arrange all requirements **directly with TPT Head Office**.

Service provider to develop a comprehensive proposal, detailing how the above outputs will be achieved, including timeframes and dedication of resources to the project.

4. ADDITIONAL INFORMATION REQUIRED FOR TECHNICAL EVALUATION.

- a. Service Provider to provide reference letters from their clients proving number of years of experience undertaking radiological protection services, as outlined in this Scope. In order for the Service Provider to obtain maximum points, the reference letters provided need to satisfy the following criteria:
 - i. Company providing the reference letter to be contactable for confirmation purposes.
 - ii. State the contract duration.
 - iii. State the contract value.
 - iv. State the specific radiological protection activities undertaken as part of the services provided.

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Years of experience will be calculated on a consecutive basis. References from within the last five (5) years.

- b. Provide a company profile demonstrating that radiological protection services form part of the company's product and service offering.
- c. Project schedule for **one year**, detailing how the above-stated project deliverables, in Section 3 and 4 of the Scope of Work, will be executed, as per stipulated required frequencies.
- d. The proposal must contain the resume of the team undertaking the required services.

Resumes to contain:

- i. Previous radiological protection services work undertaken by each member of the team, which will be undertaking the onsite work.
 - Service Provider to indicate which personnel will be undertaking onsite work.
- ii. Radiation Protection Officer qualifications for each member of the team.
- iii. Southern African Radiation Protection Association (SARPA) membership for each member of the team.

5. PRICING CONSIDERATIONS – See separate Pricing Schedule for breakdown of costs to be provided

The quote must include the following information:

- a. Detailed cost breakdown per terminal, for **1 year**.
- b. Detailed disbursements, if not incorporated into the above cost per terminal.

6. TRANSNET PORT TERMINALS OBLIGATIONS

- a. TPT will ensure relevant personnel are available to assist the service provider's team, as and when required.
- b. TPT will provide historical radiological protection programme information at each facility, as required.

Reference:

- Occupational Health and Safety (Act 85 of 1993)
- Nuclear Energy Act (No. 46 of 1999)
- National Nuclear Regulator Act, (No 47 of 1999)
- National Environmental Management Act (No 107 of 1998)
- Transnet Integrated Management System (ISO 9001; ISO 14001 and ISO 45001)
- Other relevant legislation, regulations and applicable standards

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