SCOPE OF WORK FOR THE AIR QUALITY MONITORING (DUST SAMPLING) & MAINTENANCE OF MONITORING EQUIPMENT AT PORT ELIZABETH TERMINALS FOR A PERIOD OF THREE (3) MONTHS.

1. INTRODUCTION

Transnet Port Terminals (Port of Port Elizabeth – Multi Purpose Terminal) requires the services of a Department of Labour Approved Inspection Authority (AIA) to conduct ambient environmental “Air Quality” monitoring as well as personal dust monitoring. The scope of the required services will include: Ambient Environmental Dust Fallout Monitoring and Ambient PM10 Monitoring and Personal Monitoring on daily intervals.

2. SCOPE OF WORK

2.1. Ambient Environmental Dust Fallout Monitoring

a) Eighteen (18) dust fallout monitoring points have been identified around the city located (+-2km) around the terminal.

b) Dust fallout sampling and laboratory analysis must comply with the following ASTM method: D 1739 – 98 Standard Test Method for Collection and Measurement of Dust fall (Settleable Particulate Matter).

c) Dust bucket changeovers shall be conducted on a monthly basis, and a report shall be compiled. The total dust fallout and the manganese fraction thereof must be analysed and reported on a monthly basis.

d) Results are to be compared against the relevant legal limits i.e. as stipulated by the NEM: AQA, 2004 (Act No. 39 of 2004) and its applicable regulations.

e) All analysis must be done at a SANAS Accredited Laboratory.

f) TPT will provide the equipment (Dust Buckets), which must be maintained and repaired (where required) by the service provider.

g) Annual report supplied as per legislation
2.2. Ambient PM10 Monitoring

a) Currently three (3) PM10 monitoring points have been identified and are in use for Ambient (PM10) monitoring. There are three (3) monitoring stations currently used to collect daily ambient dust samples at Manganese/bulk terminal.

b) TPT will require PM 2.5 to be measured in 2 monitors for the four-month period.

c) Day to day sampling will be done by TPT personnel, but the service provider must supply all consumables, pre-weigh filters, and prepare sampling heads for daily sampling.

d) The service provider will also be required to do sampling over the three months on a number of days (once a week) as specified by the client. The results must be analyzed for PM10, PM 2.5 Total Dust as well as the manganese fraction thereof.

e) The service provider must also maintain and repair (where required) the current and future purchased sampling equipment. All analysis must be done at a SANAS Accredited Laboratory.

f) TPT will provide the equipment (Minivol Dust Sampler, Minivol Heads, Batteries), which must be maintained and repaired (where required) by the service provider, including calibration.

g) All the consumables (Filters) must be provided by the service provider.

h) TPT requires two additional PM samplers, capable of measuring PM10 and PM2.5 fractions simultaneously

1. To provide indication of costs of these two additional PM10 and PM 2.5 monitors being solar powered as well.

2. TPT to take ownership of these PM samplers.

3. Service provider will also maintain and repair these monitors for the duration of the contract period and will provide costing accordingly.

i) All breakdowns and failures must also be attended to timeously.

j) The service provider shall utilize existing data and expert opinion to determine the optimum position for the location of the full complement of the five PM samplers (3 minivols and 2 personal pumps).

k) TPT will provide adequate security of the sampling units.

l) TPT will provide power to the sampling units if required.

m) Service provider to produce annual report as required by legislation.
2.3. Personal Monitoring

a) Currently two (2) personal sampling pumps are used on a day to day basis to collect respirable dust samples. One pump is dedicated to take samples for manganese total dust and the other used for samples of silica dust.

b) Day to day sampling will be undertaken by TPT personnel.

c) The service provider will however be required to do sampling every six months (depending on duration of order) on a number of days (5 days) as specified by the client:

<table>
<thead>
<tr>
<th>SILICA</th>
<th>MANGANESE</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

d) The service provider must supply all cartridges and weighed filters for daily sampling.

e) The total number of samples per month must be analyzed as sampled using the two different pumps.

a. Pump 1: 100% of the samples for respirable dust and manganese.

b. Pump 2: 100% of the samples for respirable dust and silica.

f) TPT will provide the equipment (Pumps, Cyclones), which must be maintained and repaired (where required) by the service provider, including calibration.

g) All the consumables (Filters) must be provided by the service provider.

h) All analysis must be done at a SANAS Accredited Laboratory. The sampling must at least comply with the Occupational Health & Safety Act (85 of 1993) – Hazardous Chemical Substances Regulations.

3. MINIMUM REQUIREMENTS

3.1 TECHNICAL RETURNABLES:

(a) Service Provider to have sound knowledge of Atmospheric Pollution and occupational Monitoring;

(b) Service provider to have relevant machinery and measurement equipment to provide the service;

(c) All machinery/ measurement equipment used for the maintenance of dust monitoring devices to have calibration certificates from approved authorities;

(d) Service provider to have sound knowledge of environmental legislation and occupational hygiene;
(e) Service Provider to provide structure of team to be allocated to TPT and assurance of the experience and 3 years or more formal qualification/s of the air quality specialist/s to be assigned to TPT;

(f) Project Specific Method Statements which will cover Environment, Quality, Health, Safety and Air Quality but not limited to same;

(g) Lead time for report submission to Client to be limited to 5 weeks from the sample collection date;

(h) Submit ISO 9001 Quality Management System certification/any similar accreditation.

3.2 ESSENTIAL RETURNABLES:

(a) Company Profile;

(b) Public liability insurance up to R5 million

(c) Letter of Good Standing (Workman’s Compensation)

4. MANDATORY REQUIREMENTS:

(a) Service Provider to be an Approved Inspection Authority – approved by the Department of Labour.

(b) Service Provider to provide certificate for SANAS accredited laboratory.

(c) Service Provider to be an accredited member of the South African Institute for Occupational Hygienist (SAIOH)

5. COMPLY WITH THE FOLLOWING LEGISLATION

(a) Occupational Health and Safety Act and Regulations (No. 85 of 1993)

(b) National Environmental Management Act: Air Quality Act No. 39 of 2004

(c) National Environmental Management: Air Quality Act, 2004 (Act No. 39 Of 2004)

(d) Hazardous Chemical Substances Regulation

(e) South African National Standards – SANS 1929:2005

(f) All other applicable legal requirements

6. GENERAL REQUIREMENTS

(a) Competency of staff taking dust samples

(b) Time Management in submitting report

(c) Confidentially

(d) Integrity
(e) Service Provider to have a good background of meteorology
(f) From the award of the tender, the tenderer will be expected to be fully functional with
the first set of results available in report format within 6 weeks.
(g) Service Provider to have experience and provide record in monitoring atmospheric
pollution with particulate matter (PM) of size 10 and under.

7. SHEQ RETURNABLE DOCUMENTS

(a) Notification of construction work
(b) Mandatory Agreement-Section 37 (2)- Fill and sign TPT template
(c) Project Specific Method Statement
(d) Project Specific Risk Assessments and Risk assessment awareness registers
(e) Project Specific Legal Appointments
(f) Project Specific Safety Management Plan
(g) Project Specific Environmental Management Plan
(h) Project Specific Quality Plan
(i) Post Project Site Clean-up Plan
(j) Onsite emergency plan and evacuation procedure
(k) Project Specific Written Safe Work Procedures
(l) Project Specific Certificates of Competencies for project personnel e.g. Riggers, Hot
work personnel, SHE Officer, Site Supervisor etc.
(m) Lock Out Procedures
(n) Hazardous Substance Control Procedure
(o) Project Specific Medical Fitness Certificates from an Occupational Health Practitioner
(p) Project Personnel ID Documents
(q) Proof of Equipment inspection Records e.g. hot work Equipment, Cranes etc.
(r) Public Liability Insurance Covering Letter

8. DELIVERABLES BY SERVICE PROVIDER

(b) Monthly and quarterly Scientific Report of Minivols (Dust Samplers) for PM$_{10}$ and
PM$_{2.5}$.
(c) Monthly Scientific Report of Personal Monitoring.
(d) Produce at least one Annual report that must include information for the year under review (i.e. annual year end of the company). The report must be submitted to TPT not later than 30 days after the end of each reporting period. The annual report must include, amongst others, the following items:

- Results of dust fallout monitoring, PM10 monitoring, and personal monitoring.
- Estimation of emission rates of particulate matter and all other criteria pollutants (kg/year) from all sources within the site (stockpiles, loading and unloading activities, motor vehicles, etc.).
- Any other requirements, as stipulated under Port Elizabeth’s Atmospheric Emissions License (AEL), inclusive of the schedule of Objectives and Targets, as per the AEL requirements and Environmental Management Plan.

(e) Monthly review of the progress of the terminal against legislative requirements.

(f) Compilation / update of fugitive emissions plan, in line with AEL requirements.

(g) Provide continuous sound and practical advice with monthly reports on innovative solutions / technologies with the aim of reducing dust emission levels.

(h) Presentation of reports to TPT Management as and when required.

(i) Recommendation for improvement on dust results, including the areas identified within the AEL.

(j) Maintenance plan of all air quality monitoring equipment.

(k) Maintain an existing statistical database of results.

(l) Provide advice pertaining to air quality monitoring results or air quality processes.

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

**9. PRICING CONSIDERATIONS**

a) Service provider to indicate costs for each bullet point detailed under Section 2 – Scope of Work, including maintenance and repair of equipment.

b) Service Provider to indicate costs for each deliverable detailed under Section 8 – Deliverables by Service Provider.

c) Service Provider to indicate contingency AND disbursement costs.

*Note: Contingencies may not be utilised without prior authorisation of the TPT Executive Manager - SHEQ & Sustainability*
Prepared by:

____________________

Vuyani Mtati
SHEQ Manager, PE Terminals
Date:

Approved by:

____________________

Raymond Van Rooyen
Executive Manager SHEQ & Sustainability
Transnet Port Terminals
Date: