

PORT OF RICHARDS BAY



Document Title:

SCOPE OF WORK 2025 - 2027

Project Title:

DUST MONITORING, MANAGEMENT AND ISOKINETIC CONTRACT FOR TWO YEARS AT THE TRANSNET SOC LTD (REG.NO.1990/000900/30) OPERATING AS TRANSNET PORT TERMINAL (hereinafter referred to as "TPT") PORT OF RICHARDS BAY

REVISION 04: REQUEST FOR QUOTATION

CHANGE CONTROL

DOCUMENT PREPARATION

1 INTRODUCTION:

Transnet Port Terminals (TPT) provides services for the handling of imports, exports and storage of dry bulk and break bulk cargoes in the Port of Richards Bay on the north coast of KwaZulu-Natal. The terminal handles tens of millions of tons of cargo annually (import and export) and is a key link between marine and terrestrial cargo transport. The terminal currently handles a variety of products such as alumina, andalusite, coking coal, chrome, magnetite, ferro fines, fertiliser, metallurgical coke, petcoke, rock phosphate, rutile, salt, sulphur, titanium slag, vanadium slag, vermiculite, wood chips, zircon, granite monoliths, logs, paper rolls and pig iron.

The terminal also facilitates intermediate storage, with bulk cargo being stored in open storage areas, and in warehouses. The cargo is imported and exported utilizing a complex conveyor system. The storage, transfer and handling processes result in the generation of dust, both within the plant and on the quayside.

The land on which TPT is located is zoned as Port Related Industrial and is surrounded by other (typically harbour-related) industries such as other cargo handling facilities, workshops and administration / office buildings supporting these industries.

The terminal is currently undertaking a listed activity identified in terms of Section 21(1) of the National Environmental Management: Air Quality Act. The terminal has been issued with an Atmospheric Emissions License (UDM/11-12/AEL0005/1). A requirement thereof is the consistent monitoring of dust emissions.

2 SCOPE OF WORK:

The Richards Bay Terminal requires an experienced service provider to be appointed to manage and control the dust monitoring activities at the terminal inclusive of the following actions:

- 2.1 The service provider must conduct dust fallout monitoring in eight principal wind directions or more.
- 2.2 Dust bucket changeovers shall be conducted on a monthly basis, and a report shall be compiled. The report is to include the dust fallout results per device and provide a detailed and objective analysis of air quality impacts. The report must be delivered to TPT electronically within one month of sample collection.
- 2.3 Results are to be compared against the relevant legal limits i.e. as stipulated by the NEM: AQA, 2004 (Act No. 39 of 2004) including the National Dust Control Regulations.
- 2.4 The service provider must consider the following when determining the locations of the air quality monitoring devices: a) Review historic data; b) Conditions stipulated in the AEL; c) Expert opinion.
- 2.5 Ad hoc Gravimetric and Metal and soluble and insoluble analysis to be conducted and reported on at monitoring points. The following parameters are to be included: chromium, copper, manganese and iron. Metal analysis must be conducted on fenceline samples from dust buckets on those which exceed the National Dust Control regulations threshold for Non-residential standards.
- 2.6 Dust fallout sampling and laboratory analyses must comply with the following American Society of Testing Materials (ASTM) method: D 1739 – 98 Standard Test Method for Collection and Measurement of Dust fall (Settleable Particulate Matter), including soluble and insoluble analysis.
- 2.7 Evaluate the ambient air quality information and determine how much dust the Terminal contributes to the ambient air quality, and under what conditions dust is generated.
- 2.8 Data recovery for all parameters shall be at least 80 percent computed on a quarterly and annual basis. [Data Recovery = (Number of data points collected in evaluation

period)/ (number of scheduled data points in evaluations period) *(100%)].

2.9 The service provider will maintain the following dust monitoring devices:

- 1) 2 x Topas, Total Suspended Particulates (PM₁₀, PM_{2.5} and) continuous analyser, fitted with an internal data logger as well as a wind speed and direction monitor.
 - 2) 13 Dust buckets (9 fence line and 4 internal and placements)
 - 3) Meteorological Station
- 2.10 The service provider shall make provision for four (4x) events of water damage, power supply replacement, or other unforeseen damages to the PM units, including transport, and fault diagnostics and repair of the PM units.
- 2.11 The service provider shall make provision for the supply and installation of 13 new dust bucket stands, at locations to be determined, within or external to the terminal. The design of the stands needs to comply with current requirements. These will be supplied and installed as needed on an ad hoc basis.
- 2.12 The service provider must conduct full maintenance, including annual calibration, of the instruments and check the integrity of the dust bucket stands. All breakdowns and failures must also be attended to timeously. Any costs associated with the transportation/delivery of the devices for repair/replacement/calibration must be accounted for in the proposal.
- 2.13 The service provider shall be required to evaluate all current existing locations for the dust buckets and PM samplers. The service provider shall utilise existing data and expert opinion to determine the optimum position for equipment relocation, if required.
- 2.14 The current emissions inventory, as approved in the AEL, must be maintained and updated as necessary.
- 2.15 Conduct a fugitive emissions survey. The survey must culminate in the compilation of a fugitive dust management plan. The plan must identify all significant sources of fugitive dust and measures that will be implemented to address these fugitive sources. The plan must include detailed methodologies, timeframes for implementation, assessment of efficiency and regular reporting criteria.
- 2.16 Compile an Ambient Air Quality Monitoring Plan for dust fallout, PM₁₀, PM_{2.5} and Total Suspended Particles within 8 weeks of appointment. The Air Monitoring Plan

shall include chemical analysis of samples which exceed the threshold to determine major and trace metal compositions and shall be reviewed annually.

2.17 Compile and submit NAEIS Reporting on South African Atmospheric Emissions Licencing Inventory Portal.

2.18 The service provider shall be required to conduct and submit periodic Particulate Matter (PM) sampling (isokinetic) in accordance with the applicable environmental authorization as well as the atmospheric emissions licence.

2.18.1 The Service provider will be required to conduct sampling at 3 identified locations:

- Tippler 1.
- Tippler 2.
- Bottom Discharge.

2.18.2 The service provider will be required to provide a report for each one of the above-mentioned samples sites.

2.18.3 The service provider shall be required to conduct six (6) Isokinetic samples and submit the reports over a period of 2 Years. Note the samples should be taken annually as per the TPT AEL requirements.

2.19 The service provider must conduct a biennial audit on the facility against the conditions of the AEL. The audit must include:

- (a) a site inspection report with photographs and monitoring results
- (b) indicate compliance with the Atmospheric Emissions Licence conditions and action plan for identified non-conformances and agreed timeframes.
- (c) be complied by an intendent qualified person.
- (d) must be submitted to the authority within 30 days of the audit date.

3 DELIVERABLES

3.1 Monthly Comprehensive Air Quality Reports.

3.2 Monthly Authority Reports.

3.3 Quarterly reports (Internal and authority)

3.4 Produce two Annual reports (Authority and Internal) that must include information for the year under review. 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:

- (a) Results of dust fallout monitoring;
- (b) Description of major upgrades projects (i.e. abatement equipment or process equipment); and
- (c) 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).

- 3.5 Monthly review of the progress of the terminal as compared with legislative requirements.
- 3.6 Ambient Air Quality Monitoring Report
- 3.7 Quarterly reviews of the terminal dust management system.
- 3.8 Installed and functional devices that will measure dust against legislative requirements and SANS standards, if applicable (you will have to indicate what the monitoring system will do and why, to comply with what).
- 3.9 Maintenance of the meteorological station as per industry standard.
- 3.10 Maintenance plan of the equipment for 1 year.
- 3.11 Maintain an existing statistical database of results.
- 3.12 Provide continuous sound and practical advice and monthly reports on innovative solutions/ technologies with the aim of reducing dust emission levels including as assessment on cargo migration and handing methods in the terminal.
- 3.13 Fugitive Dust Management Plan
- 3.14 Annual Isokinetic Reports
- 3.15 Audit Report

4 TRANSNET PORT TERMINALS OBLIGATIONS

- 4.1 TPT will provide adequate security of the sampling units.
- 4.2 TPT will provide power to the sampling units if required.

ANNEXURE A: PRICING SCHEDULE FOR THE 24 MONTH CONTRACT FOR DUST MONITORING AND MANAGEMENT

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	PRELIMINARY AND GENERAL				
1	Contractual requirements	Item	1		
2	Travel and Disbursements (Attach detailed table of disbursements cost)	Item	24		
3	Other (List all other cost not listed in pricing schedule) --Description--				
	PROFESSIONAL FEES	UNIT	QTY	RATE	AMOUNT
4	Professional consulting fees for the project (Attach detailed breakdown including hourly rate for senior consultants, junior consultants, specialist, etc)	Month	24		
	MONITORING & MANAGEMENT	UNIT	QTY	RATE	AMOUNT
5	Dust fallout monitoring and reporting as per 3.1 & 3.2	Month	24		
6	Quarterly reports as per 3.3 (Internal and External)	Item	8		
7	Annual report as per 3.4 (Internal and External)	Item	3		
8	Annual Isokinetic Reports as per 2.18	Item	2		
9	Gravimetric and Metal analysis as per 2.5	(ad hoc)	312		
10	Soluble and Insoluble analysis as per 2.6	(ad hoc)	312		
11	Evaluation and reporting on ambient air quality as per 2.7	Item	1		
12	Transport, diagnostics and repair of PM units as per 2.10	Item	4		
13	AEL Conditions Audit as per 2.19	Item	1		

SCOPE OF WORK

	MAINTENANCE	UNIT	QTY	RATE	AMOUNT
14	Maintenance of emissions inventory as per 2.14	Month	24		
15	Conduct fugitive emissions survey and Fugitive Dust Management Plan as per 2.15	Item	2		
16	Ad hoc Update on Fugitive Dust Management Plan	Item (Ad hoc)	4		
17	NAEIS submission as per 2.17	Item	2		
18	Provide Input to Dust Monitoring Plan as per 2.4, 2.13 & 2.16	Month	1		
19	Maintenance of analysers, meteorological station, dust buckets (including stands), tools and equipment as per 2.9	Month	24		
20	Calibration of Topaz Samplers as per 2.12	Item	4		
	SUPPLY OF INSTRUMENTS				
21	Provision for an additional 2 x instances of Topas, Total Particulate Monitor refurbishment/repair, including transport and diagnostics. 2.10	Per Item (Ad hoc)	2		
22	Supply and install 8 x new dust bucket stands in pre-determined locations as per 2.11	Per stand (Ad hoc)	8		
	SUBTOTAL 1				
	Add VAT at 15%				
	SUBTOTAL 2				