



**SCOPE OF WORK FOR MAINTENANCE OF THE OF WATER
TREATMENT SYSTEM FOR A PERIOD OF THREE YEARS, AT
PROPERTY NO 49 & 50 MOOILANDE AH AND 198 ROSE ROAD,
MOOILANDE, MIDVAAL-GAUTENG PROVINCE**

1. PURPOSE

Transnet Pipelines (TPL) requires the service provider that will undertake the maintenance of an automated water treatment system, located at property number 49 & 50 Mooilande AH and 198 Rose Road, Midvaal. The objective is to ensure that the system is operating effectively in such that the water is suitable for the intended use (i.e. domestic use and irrigation).

2. SCOPE OF WORK

- 2.1. The maintenance shall be performed by a "fully qualified" service representative or service technician. Preventive maintenance visits shall include complete inspection and testing of all equipment and shall conform to Original Equipment Manufacturer (OEM) specifications. The contractor shall clean, adjust, and lubricate equipment, determine the nature and extent of any trouble, and restore the system to satisfactory service by repairing or replacing defective parts or components. Any calibration procedures or adjustments necessary to assure accurate and reliable equipment operation shall be performed at this time. Sufficient time shall be allowed to permit a thorough inspection and test of each device comprising the overall system.
- 2.2. The maintenance should be undertaken once in every two months and during emergency faults on an as when required basis. Maintenance of the water filtration system once every two months which entails the followings.
- I. Check ozone generator operation and clean venturi when required.
 - II. Manually backwash Granular Activated Carbon vessel and confirm their operation.
 - III. Check water meter and record meter reading.
 - IV. Check AP3 pneumatic pump operation. Do maintenance on pumps when required. This requires them to be pulled and needle valves adjusted for best performance.
 - V. Check and maintain compressor. Drain reservoir and change oil when required
 - VI. Check levels in irrigation tanks and confirm they are full.
 - VII. Check and top up SMS module when required.
 - VIII. Check oil water separator, clean coalescing filter regularly.
 - IX. Check operation of safety devices and level switches in tanks.

- X. Drain bund tank of rainwater.
 - XI. Check backwash pond level and water quality of backwash water.
 - XII. Make edits to PLC program if required.
 - XIII. Record kW hours used by the system.
 - XIV. Check the valves, fittings and pipes to ensure that there are no leaks and replace them if they are leaking.
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- 2.3. Replacement of the Granular Activated Carbon (GAC) media in the filters as and when required. This is usually due to breakthrough and picked up in the analysis done on the water.
 - 2.4. Undertake the emergency repairs as and when required. The appointed service provider must be accessible on weekends and holidays to attend to emergency repairs or fault rectification of the system.
 - 2.5. Ensure that the replacement of parts that are faulty are undertaken in consultation with Transnet Pipelines project manager prior to replacement being affected.
 - 2.6. Prepare maintenance reports which must be accompanied by pictures of the faults identified and parts replaced.

3. EMERGENCY SERVICE

- 3.1. For each emergency service visit, initiated at the request of the Project Manager, the Contractor shall furnish all labour, material, repair parts and travel necessary to correct any equipment malfunctions and return equipment to operational condition. The Contractor shall guarantee that at the conclusion of any emergency maintenance performed that the equipment will meet manufacturer's factory specifications.
- 3.2. After each service call, the Contractor shall submit the service report for repairs and identify each part that was used for the emergency service.
- 3.3. Emergency service shall be provided during the week and weekends if there is a system failure.
- 3.4. Two (2) hours response time is required. Response time is defined as time the contractor is first notified until time contractor arrives on station.

- 3.5. All repair and/or replacement cost proposals shall be submitted in writing to the Project Manager (PM). The proposal shall be approved in writing by the PM prior to commencement of the work. Any additional work performed by the contractor without the prior written approval of the PM will be performed by the contractor at no additional cost to Transnet Pipelines.

4. OTHER REQUIREMENTS

- 4.1. The system should be maintained to ensure that it can treat hydrocarbon contaminants to the World Health Organisation (WHO) standards for drinking water.
- 4.2. The system onsite is equipped with a programmable logical controller (PLC) that is capable to send an automated error report to the operator remotely by phone call, SMS or email. As such, the appointed service provider must have capability to operate the PLC.
- 4.3. The appointed service provider must have experience in the maintenance of the water treatment plants for domestic usage.
- 4.4. The appointed service provider must understand the granular activated carbon system operations and have a knowledge background of environmental water quality treatment.
- 4.5. The travelling distance from the appointed service provider to the site must not exceed 210 kilometre round trip.
- 4.6. Ensure that invoices are accompanied by maintenance reports.
- 4.7. The contractor shall maintain sufficient stock of all parts that meet or exceed the original manufacturer's design, and specification to ensure that equipment downtime will not be increased due to non-availability or slow delivery of parts. Parts shall be made available within 2 days calendar days to make necessary repairs