



TRANSNET ENGINEERING

PRODUCT DEVELOPMENT WAGONS

APPROVED INSPECTION AUTHORITY

TENDER SPECIFICATION

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SUMMARY OF REVISION

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The following revisions have been made in this version:

Change	Description
Rev00-Rev01	Section 2.2, 2.4 and 2.7 pricing schedule for one year and five years period replaced by clause "Pricing Schedule as per RFP documents"

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DEFINITIONS

- **Rail Tank Car:** Tank Wagon transporting either highly flammable or poisonous, products, i.e. petrol (leaded and unleaded) or anhydrous ammonia etc.
- **Vessel or pressure vessel:** The barrel or tank part of the rail tank car/wagon.
- **On-site:** On the premises of Transnet Engineering.
- **AAR:** Association of American Railways specification.
- **ASME:** American Society of Mechanical Engineers.
- **NBIC:** National Board Inspection Code.
- **PD 5500:** British specification; Specification for unfired fusion welded pressure vessels.
- **PER:** Pressure Equipment Regulations (PER).
- **OHS Act:** Act 85 of 1993, vessels under pressure act.
- **SANS:** South African National Standards.
- **AIA:** Authorised Inspection Authority, registered with the SA Department of Labour.
- **ISO:** International Standards Organization.
- **Inspection:** Activities such as measuring, examining, testing, etc.
- **Repair:** To restore pressure retaining items to a safe and satisfactory operating condition.
- **EN:** European Standard.
- **Latest:** Latest Specification, Standards or codes.
- **QCP:** Quality Control plan
- **NDT:** Non-Destructive Test
- **PQR:** Procedure Qualification Record
- **WPS:** Welding Procedures Specification
- **WPQR:** Welder performance qualification record
- **SANAS:** South African National Accreditation System

1 INTRODUCTION

1.1 Scope of Specification

1.1.1 This specification covers the requirements for AIA services for modifications, repairs, and new build of tank wagons/vessels, tank containers and pressure equipment for unfired pressure vessels.

2 AIA REQUIREMENTS

2.1 Scope of Work

2.1.1 The service provider will be required to supply competent, suitable, authorized and experienced inspectors and or personnel where required of pressurized equipment to perform inspection services, and to assist Transnet Engineering in the performing of statutory and non-statutory inspections, repairs, maintenance or manufacturing duties of Rail Tank Cars/Wagons, pressure vessels and ISO tank containers.

2.1.2 The service provider must categorically define their field of activity as prescribed by SANS 347/Latest and SANS10227/Latest (SABS 0227:2000/Latest).

2.1.3 All tasks must be conducted in accordance to Annexure C of SANS code. (SANS 10227 and SANS 17020)/Latest.

2.1.4 Regular audits are expected to be performed.

2.1.5 Regular inspection/identification of pressure vessel material or components supplied to Transnet Engineering.

2.1.6 Inspection and witnessing of hydrostatic and pneumatic testing.

2.1.7 Inspection and witnessing of on-site post weld heat treated tank vessel.

2.1.8 Inspection and witnessing of Non Destructive Tests, i.e. MPI, UT, Replica, DP etc.

2.1.9 Final inspection, witnessing of repairs and report writing.

2.1.10 Design verification of designs and data packs (document and drawings register, design report, technical specification)

2.1.11 Approval of all related QCP's and WPQR's.

2.1.12 Witness and create PQR's and WPS documents.

2.1.13 Welders' certification and recertification of welders every two years, in accordance to various manufacturing codes and latest specification/code.

2.1.14 Material verification at suppliers (includes transfer of heat and cast numbers and issuing of report).

2.1.15 External supplier material & component verification and issuing of report

2.1.16 Nation wide site visits to different sites for dispensation of a sample of the Tank wagons and plan a way forward with Transnet based on the condition of the fleet sample.

Ensure full compliance and or provide all the assistance and guidance to comply with legislative and or PER activities or tasks not covered and or mentioned in this specification that might have been omitted during the time of drafting this specification.

2.2 Price Breakdown

The price breakdown must include the following, but not limited to and price break down template on Pricing Schdelue as per RFP documents.

2.2.1 Design verification and approval of Tank Wagon and from time to time ISO Tank Containers (ECSA/Professional Mechanical Engineer).

2.2.2 Competent (on site) personnel cost (at Germiston and Durban Kingsrest).

2.2.3 Inspector of pressurised equipment (IPE) cost.

2.2.4 Recertification (certificates and compilation of inspection logbook).

2.2.5 Dispensation Certificates.

2.2.6 Travelling costs per kilometre and per hour (Country wide toplaces like Coligny, Trichardt, Bloemfontein and Durban Workshops as well as other areas during the dispensation process).

2.2.7 Accommodation costs

2.2.8 AIA approval, with stamps on Data plate and sign off of data pack.

2.2.9 Overtime charges.

2.2.10 Notice period of cancellations and cancellation fee.

2.2.11 Facilities required.

2.2.12 Terms of payment.

2.2.13 Call out fees shall be per call out and should not be billed per welder certification or wagon certification/inspection. For example if 3 wagons are to be certified for the call out, billing should be such that the call out fee is charged only once and not three times for each wagon or welder certification if billing is done per wagon or welder.

2.3 Area of Work

- 2.3.1 The area of work will be at Transnet Engineering (Germiston, Bloemfontein, Kingsrest, Durban, Coligny, Trichardt Secunda as well as travelling to various locations on site during the dispensation process of wagons within South Africa and nabouring countries should it be necessary).
- 2.3.2 In the medium to long term Trichardt will become a testing depot for use by Sasol and possibly Transnet and hence the need to be included in the area of work.

2.4 Description of Current Activities Performed On Existing Rail Wagons

- 2.4.1 Transnet Engineering workshops conduct inspection and tests (hydraulic and pneumatic pressure tests every three yearly cycle). Pricing Schdelue as per RFP documents – Barrel Tests for the number of barrel tests required for one and or the next five years.
- 2.4.2 Do repairs on pressure vessels in accordance to PER, OHS Act, AAR, ASME, and BS, EN, PD5500 and SANS standards/Latest.
- 2.4.3 Re-certification of pressure vessels.
- 2.4.4 Pre-inspection of pressure vessels before any repair work can resume.
- 2.4.5 Perform non-destructive testing on tank wagons, viz. MPI, UT, Replica and DP. See Appendix A – Sample tests for the number of sample tests required within the previous/current financial year
- 2.4.6 X-ray using a contractor.
- 2.4.7 Post weld heat treatment using a contractor.
- 2.4.8 Welder approval in accordance to various manufacturing codes AAR, ASME VIII, EN BS, ISO codes.
- 2.4.9 Welder approval in accordance to various manufacturing codes.
- 2.4.10 Procedure qualification record to various manufacturing codes.

2.5 Description of Service Provider Requirements

- 2.5.1 The AIA services must have experience and be in possession of relevant codes, and these codes must be up to date in accordance to latest amendments of legislation.
- 2.5.2 The AIA must supply inspector of pressurised equipment and or competent person on-site on a full time basis, i.e. from Monday to Friday at Germiston and Durban Kingsrest. For other areas (like Bloemfontein or Durban Workshops etc.) must supply an inspector of pressurised equipment and or competent person to travel and possibly stay for short periods during the inspection period.
- 2.5.3 During dispensation, the AIA must supply an inspector of pressurised equipment and or competent person to travel on site at various locations for the duration of the dispensation process within South Africa and or neighbouring countries as and when required.
- 2.5.4 The AIA must attend site meetings as and when required and the monthly meeting between AIA and Transnet Engineering.
- 2.5.5 The AIAI must verify, approve and sign off the design changes on new or old pressure vessel and or components.
- 2.5.6 The AIA must verify, approve and sign off the completed vessels/wagons data pack/book before releasing into service or (and from time to time possible ISO tank containers) into traffic.
- 2.5.7 The AIA must work closely with appointed Transnet Engineering personnel in handling all the day to day pressure vessel & welding activities including document control and compliance as per the PER and Government Legislation at any given time.
- 2.5.8 The AIA must ensure that Transnet Engineering comply with all the statutory and non statutory requirements as per the PER and or Government Legislation during the contracted period.

2.6 Health and Safety

- 2.6.1 The AIA inspector must have sound knowledge of all the dangers of working in confined spaces. The AIA must have knowledge of confined space standard operating procedure. See the following documents:
- SOP 060 Confined Spaces Management Procedure.(i.e TE provides confined space observer).

- SOP 018 Working at height procedure.
- TE SHE induction to be conducted before commencing with the duties.

2.6.2 The AIA must provide their own safety equipment, i.e. PPE, and own working equipment needed to perform their inspections and safety file in place as per OHS act requirements.

2.6.3 The AIA will be required to have their own safety file in place prior to conducting any physical work.

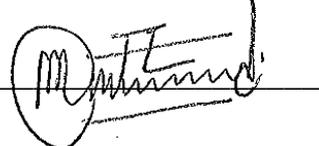
2.7 Barrel and Sample Test

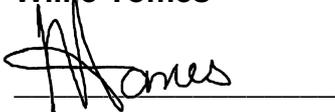
2.7.1 The estimated number of barrel tests required during are indicated in Pricing Schdelue as per RFP documents.

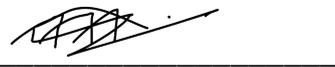
2.7.2 The sample test is done on cement tank wagons. The wagon types differ in configuration and the number of barrels. The sample size required to be tested per wagon type is indicated in Pricing Schdelue as per RFP documents.

DOCUMENT AUTHORITIES

Complied By: Tshuxekani Chauke
Signature: 
Designation: Product Engineer (P&SD Wagons)

Reviewed By: Funanani Mufamadi
Signature: 
Designation: Engineer (Welding)

Reviewed By: Willie Tomes
Signature: 
Designation: Senior Engineer (P & SD Wagons)

Approved By: Mesham Sivnarain
Signature: 
Designation: Principal Enigneer P&SD Wagons

ACKNOWLEDGEMENT AND ACCEPTANCE OF SPECIFICATION

It is hereby, acknowledged that the bidder has read and understood all the contents of this specification. Furthermore, the bidder certifies and guarantees acceptance and compliance with this specification.

SIGNED THIS DAY _____

AT _____

BY _____ (Full name in block letters)

IN MY CAPACITY AS _____ (Official designation)

FOR THE COMPANY _____

SIGNED _____