TRANSNET ENGINEERING

PRODUCT DEVELOPMENT WAGONS

APPROVED INSPECTION AUTHORITY

TENDER SPECIFICATION

Revision: 01

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PD_PEW_NAT_SPEC_1035

SUMMARY OF REVISION

First issue – 09 December 2020

Document No. PD_PEW_NAT_SPEC_1035

The following revisions have been made in this version:

Change	Description
Rev00-Rev01	Spec was revised

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DEFINITIONS

- ***Rail Tank Car**: Tank Wagon transporting either highly flammable or poisoness, 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.*
- *AIA Pricing Schdelue*
- ***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 Approved Inspection Authority (AIA)services for modifications, repairs, and new built 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 compentent, 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.

2.1.17 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 in Transnet Annexure A_AIA Pricing Schdelue**.**

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.

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.

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, Trichardt and 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). See Transnet Annexure A_AIA Pricing Schdelue.

2.4.2 Inspection and witness of 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 Inspection/witnessing of non-destructive testing on tank wagons when required, and sample test on tank cement wagons.

2.4.6 Review of X-ray films and approval of report.

2.4.7 Post Weld Heat Treatment (Inspection/witnesing of set-up and reviewing of PWHT graph, etc.).

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 with 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.

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 neigbouring 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 AIA must verify and sign off the design and related QCP documents and or changes on them for the new or old wagons, pressure vessel and or related components.

2.5.6 The AIA must verify, aprpove 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 staturay requiremetns as per Government Legislation or PER 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.

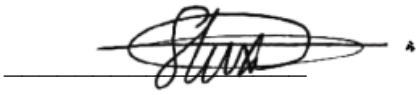
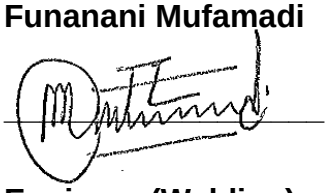
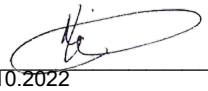
2.6.2 The AIA must provide their own safety equipment, i.e. PPE, and own working equipment needed to perform their inspections and safety file in place as per OHS act requirements.

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 Test

2.7.1 The estimated number of barrel tests required during are indicated in Transnet Annexure A_AIA Pricing Schdelue.

DOCUMENT AUTHORITIES

Complied By:	**Tshuxekani Chauke**
Signature:	
Designation:	**Product Engineer (P&SD Wagons)**
Reviewed By:	**Funanani Mufamadi**
Signature:	
Designation:	**Engineer (Welding)**
Approved By:	**Rabelani Dagada** (0108066)
Signature:	 17.10.2022
Designation:	**Manager (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 _____