

Document Title:

SCOPE OF SERVICES

Project Title: Product Theft Response Equipment

DESIGN, MANUFACTURE, SUPPLY, AND DELIVERY OF FOUR (4) EMERGENCY RESPONSE TRAILER WITH EQUIPMENT FOR TRANSNET PIPELINES WORKSHOP

REVISION 05: FOR APPROVAL

List of Tables

i. List of Tables	3
1. Abbreviations	4
2. Transnet pipelines background.....	5
3. Project Objectives.....	5
4. Description of Scope	5
5. Requirements.....	5
6. Project meeting	6
7. Quality and workmanship	6
8. Spare Parts Availability.....	6
9. Drawing Approvals	7
10. Warranty and Guarantee.....	7
11. Data Pack	7
12. Technical Requirements.....	8-12
13. Annexure.....	133

i. List of Tables

Table 1: Abbreviation	4
Table 2: Emergency Response Trailer Equipment.....	8
Table 4: Emergency Response Trailer Delivery Addresses.....	133

1. Abbreviations

The following abbreviations are used in this document:

Table 1: Abbreviation

Abbreviation	Meaning given to the abbreviation
PPE	Personal Protective Equipment
SANS	South African National Standard
TPL	Transnet Pipelines
LED	Light-emitting diode
CBD	Central Business District
TBA	To be Announced
TBC	To be confirmed
VAC	Voltage Alternating Current
ERT	Emergency Repair Team
V	Voltage
EA	Each
m/mm	Meter/milli-meter
ton	Tonnage
kg	Kilogram
PVC	Polyvinyl chloride
lb	Pounds
km	Kilometre
NB	Nota Bene (Important Note)
ATEX	Atmosphere Explosible
NATIS	National Traffic Information System
VIN	Vehicle Identification Number

2. Transnet Pipelines background

Transnet Pipelines is the largest multi-product pipeline operator in Southern Africa, transporting hydrocarbons and methane-rich gas through a network of 3114 km of petroleum and gas pipeline infrastructure. The pipeline network transverses across 5 different provinces in South Africa (KwaZulu-Natal, Free State, Gauteng, Northwest, and Mpumalanga) ensuring security of supply to the inland market. Along the pipeline are pump stations located on route, block valve chambers and culverts.

3. Project Objectives

The objective of this project is to always have availability of emergency response equipment for emergency repairs and to provide emergency repair teams with adequate response equipment for timeous and safe response to incidents. Also, to improve turnaround times to address emergency response repairs on the pipeline.

4. Description of Scope

- 4.1. Design, manufacture, supply and delivery of the 4x Emergency Response Trailers specified in section 12.
- 4.2. Supply and deliver emergency equipment specified in paragraph 12.1

5. Requirements

5.1 General Requirements.

- 5.1.1 The contractor shall each below equipment with operating and maintenance manual.

Item	Description
1	220v, 7kVA, 5500W Portable diesel generator.25L fuel tank capacity.
2	Water pump (Zoom or similar). 12V DC Submersible Versa-Matic with cables.150 l/m at 1.5m head. 1 1/2" BSP Threaded outlet.
3	Spate pump: capacity 30 m ³ /h, total head: 30,5m. 2,5kW. 1450 rpm
4	12" Axial Blower.EX,220v 50HZ.HAZMAT 210mm(h)x210mm (w)x210mm(l).

- 5.1.2 The contractor shall provide each equipment with warranty and guarantee certificates on delivery.
- 5.1.3 The equipment supplied to meet ATEX requirements for hazardous area classification.
- 5.1.4 The Emergency Response Trailer must be delivered to the addresses indicated in the Annexure A.
- 5.1.5 Certificates accredited NRCS, by any manufacturer, importer or builder required to be registered in terms of regulation 38 of the National Road Traffic Act 93/1996.

6. Project meetings

A project meeting must be held for continuous monitoring and clarification.

- 6.1 The kick-off project meeting shall be held before the start of design and manufacturing of the Emergency Response Trailer
- 6.2 The project meetings shall take place at the contractor's office/ workshop for site visit.
- 6.3 The service provider must submit a design of emergency response trailers to accommodate our equipment as per the list in paragraph 12.1
- 6.4 During these meetings, the detailed drawings, 3-D representation if applicable, and design plans shall be signed off by the TPL Project Manager.
- 6.5 Monthly progress reports shall be submitted to the TPL Project Manager.

7. Quality and workmanship

- 7.1 A comprehensive and detailed QCP (Quality Control Plan) shall be prepared before the manufacturing process and painting of Emergency Response Trailer.
- 7.2 The QCP's shall be provided to the TPL Project Manager for approval and sign off before the commencement of the manufacturing process.
- 7.3 The TPL Project Manager will be required to inspect and sign off acceptance of the Emergency Response Trailer at the manufacturing premises before delivery to the TPL workshops.

8. Spare Parts Availability

- 8.1 All critical spares components used in the manufacturing of the Emergency Response Trailer shall be available locally (in south Africa) for a period of the 25-year lifespan.
- 8.2 A critical spare list for equipment on the equipment list in section 12 must be made available locally (South Africa) and the critical spare list shall be provided at the last progress meetings before delivery. Identified equipment for critical spares are as follows:

Item	Description
1	220v, 7kVA, 5500W Portable diesel generator.25L fuel tank capacity.
2	Water pump (Zoom or similar). 12V DC Submersible Versa-Matic with cables.150 l/m at 1.5m head. 1 1/2" BSP Threaded outlet.
3	Spate pump: capacity 30 m ³ /h, total head: 30,5m. 2,5kW. 1450 rpm
4	12" Axial Blower.EX,220v 50HZ.HAZMAT 210mm(h)x210mm (w)x210mm(l).

- 8.3 All consumable spares shall be kept in line with equipment maintenance requirements defined by the Supplier.

9. Drawing Approvals

- 9.1 The drawing of the proposed Emergency Response Trailer shall be prepared and provided to TPL Project Manager for acceptance before manufacturing process begins.
- 9.2 The finalized and accepted drawings shall become part of the contract documents.
- 9.3 These drawings shall indicate the main detail to the product on the offer.

10. Warranty and Guarantee

- 10.1 All possible defects encountered due to poor performance workmanship and manufacturing deficiencies shall be replaced without charge during the warranty period.

Item	Description
1	220v, 7kVA, 5500W Portable diesel generator.25L fuel tank capacity.
2	Water pump (Zoom or similar). 12V DC Submersible Versa-Matic with cables.150 l/m at 1.5m head. 1 1/2" BSP Threaded outlet.
3	Sparte pump: capacity 30 m ³ /h, total head: 30,5m. 2,5kW. 1450 rpm
4	12" Axial Blower.EX,220v 50HZ. HAZMAT 210mm(h)x210mm (w)x210mm(l).

- 10.2 Subject to the limitations and exclusions set forth, the contractor warrants that the Emergency Response Trailer manufactured by the company shall be free from defects in materials and workmanship for a warranty period of twenty-four (24) months.

11. Data Pack

During the manufacturing process, a comprehensive Data Pack shall be compiled for the Emergency Response Trailer. The data pack shall consist of, amongst others, the following detail:

- 11.1 Technical data sheet
- 11.2 Approved drawings
- 11.3 Data plate details
- 11.4 Material data sheet
- 11.5 QCP's (manufacturing & drawings)
- 11.6 Quality checklist and sign off.
- 11.7 Test procedures and results.
- 11.8 Welder Certification
- 11.9 Material testing procedure and results
- 11.10 Certificate of Fitness (COF)

12. Technical Requirements

12.1 Equipment/tools & Accessories

The following equipment and accessories shall be supplied with **each** Emergency response Trailer delivered and all below must be suitable for petrochemical environment. The contractor shall ensure that equipment on the list below is in line with SANS requirements.

Table 2: Emergency Response Trailer Equipment

Item	Description	Compliance	Unit	Quantity
1	220v, 6.5kVA, 6500W Portable silence diesel generator.	SANS 10142-1	ea.	1
2	Flameproof floodlight. 2 FOOT LED LIGHTS 40 watts 6500K.	SANS 60432	Ea.	2
3	Set bonding cables. Single core multi strand copper PVC insulated conductors (welding cable) with a cross-sectional area of 70 mm ² x 25 meters long, both ends fitted with hexagonally crimped 70 x 12 mm lugs.	SANS 10142	Ea.	2
4	Earth spikes - 30mm ⁴ x 1.5m.99.95% pure copper and Q235 low carbon steel,570N/mm ² and 180°C Bent without cracking.	SANS 10142	Ea.	2
5	Water pump (Zoom or similar). 12V DC Submersible Versa-Matic with cables.150 l/m at 1.5m head. 1 1/2" BSP Threaded outlet.	SANS 10299	Ea.	1
6	Spate pump: capacity 30 m ³ /h, total head: 30,5m. 2,5kW. 1450 rpm.	SANS 10400	Ea.	1
7	Safety harness with snap hook and nylon rope. Adjustable chest straps.	SANS 50361	Ea.	2
8	Protective Safety Dust goggles. 26g and Lens center thickness of 2.5 mm.	SANS 1404	Ea.	6
9	Earmuffs. Decibels insulation-H:36dB, M:30dB, L:22dB.	SANS 1451-1	Ea.	6
10	Pairs Leather gloves. Abrasion, blade cut, puncture and tear resistance.	SANS 316	Ea.	6
11	12m Manila rope. Low stretch, abrasion resistant, biodegradable.	SANS 10085	Ea.	1
12	"Excessive Noise" signs.1200mmx1200mm Chromadek Steel.	SANS 10103	Ea.	2
13	Rubber torch – 3 cells. (Flame Proof). Plastic, LED and Lead acid battery	SAN 17065	Ea.	1
14	5-ton Hydraulic jack. Max Height 216mm, Min height 413 mm, 70mm screw extension and 127mm Hydraulic lifting.	SANS 1545	Ea.	1
15	6-ton Lever hoist (Come along). Stamped steel, coated for corrosion Resistance, Hardened Steel load Sharing Gears and Impact resistant.	SANS 1636	Ea.	1
16	Set 13mm – 23mm open/ring spanners. (13-14-15-16-17-18-19-20-21-23). Chrome and vanadium steel.	SANS 10085-1	Set	1
17	Set 24mm – 36mm open/ring spanners. (24-25-26-27-28-29-30-32-34-36). Chrome and vanadium steel.	SANS 10085-1	Set	1
18	Gedore 900mm Bolt cutter or similar specifications. Chrome molybdenum steel.	SANS 1113	Ea.	1

19	1/2" Pneumatic Drive Impact wrench. 19 l/s, 40.2 cfm, 1/2" air inlet thread.	SANS 62841	Ea.	1
20	Air hose for Impact wrench. 100mm (ID) hose.		Ea.	1
21	Set 24mm – 36mm sockets (1/2" drive) (24-25-26-27-28-29-30-32-34-36). Chrome and vanadium steel.	SANS 1112	Ea.	1
22	14" (350mm) Pipe wrench. Forged steel.	SANS 1028X	Ea.	1
23	24" (600mm) Pipe wrench. Forged steel.	SANS 1028	Ea.	1
24	6" (150mm) Shifting spanner. Chrome and vanadium steel.	SANS 1211	Ea.	1
25	12" (300mm) Shifting spanner. Chrome and vanadium steel.	SANS 1211	Ea.	1
26	18" (450mm) Shifting spanner. Chrome vanadium steel.	SANS 1211	Ea.	1
27	Pick with handle. Treated steel, Anti oxidation coating.	SANS 342	Ea.	3
28	Lasher Round Nose Shovel carbon steel shaft or similarly product. Cast steel grip, 230mm Blade width and 600 mm handle length.	SANS 285	Ea.	3
29	Lasher Digging Spade- carbon steel shaft or similarly product. Ceremonial Stainless steel and cast steel grip.	SANS 10400	Ea.	3
30	Roll Danger tape (Red and white stripes) 75 mm x 500 m X50 mic per roll	SANS 10140	Ea.	1
31	Large wooden toolbox. Length 2.1m x breadth 0.850m x weight 1.105m	SANS 1288	Ea.	1
32	Pairs Heat resistant Gloves, Genuine suite leather, 200°C Hands thermal heat protection.	EN 407	Ea.	5
33	450mm orange Reflective Road Cones. Soft gel like rubber and highly visible.	SANS 1519	Ea.	14
34	"Danger Men at Work" Road signs. 6.9 kg and 750 mm x 750 mm.	SANS 1186	Ea.	2
35	"Danger Gas Leak" Road signs. 750 mm x 750 mm.	SANS 1186	Ea.	2
36	First Aid Kit Regulation 7 in a metal box. 450 mm x 350 mm x 120 mm.	SANS 50149	Ea.	1
37	20 Liter water containers, Adventure water tank (780x35.5x10.5) mm.	SANS 1731	Ea.	2
38	Orange Rotary lamp with cigarette lighter fitting. 118X118X80mm -10-30V DC magnetic base.	SANS 7812	Ea.	1
39	Jack Hammer Drill Bit Set: 16inch x 1 inch (25x400mm), 1-1/8 in. hex shank, fit 1-1/8" size for jack hammer, premium material.	SANS 3001	Set	1
40	Roll Orange fencing (Snow fencing) steel pecks. 4'x100'+1.75"x1.75" mesh	SANS 10400	Ea.	1
41	Four (4) lb. Copper Hammer. 99.98% pure copper, 300mm rubber handle	SANS 388	Ea.	1
42	Dry Powder fire extinguisher 9,4kg, 550mm(h)x 160mm(d).	SANS 10105	Ea.	2
43	12" Axial Blower. EX, 220v 50HZ. HAZMAT 210mm(h)x210mm(w)x210mm(l).	SANS 121	Ea.	1
44	PVC sheets (Black). 1000mm(b)x2000mm(l)x1mm(t).	SANS 16422	Ea.	5
45	Emergency Air Horn Canister 135ml. non-flammable-nontoxic 250– environmentally friendly and 250 m hearing distance.	SANS 10400	Ea.	1
46	Basket Stretcher – Plastic with lifting Bridle. 2190mm(l)x640mm(w)x180mm(d). Maximum load of 300kg.	EN 1865	Ea.	1

47	20 Liter Gasoline container for petrol and diesel. Steel Chemical resistance, approved and tested by nationally recognized testing.	SANS 10087	Ea.	2
48	Multi-Purpose Folded step ladder Aluminum – Heavy duty-12 Step Dual Extender. Maximum load of 150 kg and 300 mm spacing between rungs.	SANS 50131	Ea.	1
49	Chemical suits for petroleum industry (Disposable overall). Teflon, heavy PVC or rubber and Tyvek Anti- abrasive, crack proof and puncture proof.	SANS 10089	Ea.	6
50	Angle Grinders (cutting and grinding discs) 1900W GW 19-125 CI. No load speed 1100 rpm, disc diameter 125 mm and electrical voltage 230V.	SANS 10400	Ea.	2
51	20m 2,5mm extension cord.16-amp heavy duty black extension cord.	SANS 60799	Ea.	1
52	Planer tools – Cordless, industry use. 18V, brushless motor, lithium-ion battery, 1500 rpm no load speed.	SANS 10400	Ea.	2
53	Disposal overalls for oil and gas industry - Garment shall be constructed of Dupont Tyvek 400--a Patent flash-spun Polyethylene fabric, be white colour with respirator fit hood coverall design and serge seams.	SANS 10089	Ea.	20

12.2 Road Traffic Act 1996 (ACT 93 OF 1996)

- 12.2.1 The Emergency Response Trailer and equipment shall comply with the above acts in every aspect, where applicable.
- 12.2.2 The Emergency Response Trailer shall display the following in a conspicuous place on the lefthand side of the trailer, in letters and figures at least 40mm high:
- 12.2.2.1 The tare of such trailer in kg (denoted as T)
- 12.2.2.2 The permissible maximum trailer mass in kg (denoted as V)
- 12.2.3 The Emergency Response Trailer offered in this specification shall be provided with a stamped plate or pressed plate with particular thereon, placed at conspicuous place in terms of Regulation 369 of the Road Traffic Act.
- 12.2.4 The completed Emergency Response Trailer shall be registered in the appropriate category.
- 12.2.5 The Emergency Response Trailer shall be licensed, and the relevant license disc and number plate shall be fixed to the trailer.

12.3 Homologation

- 12.3.1 The completed Emergency Response Trailer shall be homologated and shall be issued with the necessary NATIS number.

12.4 Performance Test -Road

- 12.4.1 A road test shall be conducted with the Emergency Response Trailer, once the manufacturing process is complete, fully loaded, and a continuous run of no less than twenty (20) kilometres.
- 12.4.2 During that time the Emergency Response Trailer shall show stability within the 100km/h speed range. The unit shall also show stability during braking operations and the Emergency Response Trailer shall brake effectively and efficiently.

12.5 Labels, Data Plates, Instructions & Tyre Pressure

The following labels and data plates shall be provided and affixed to the Emergency Response Trailer at the necessary points.

- 12.5.1 Tyre pressure labels above each set of tyres indicate the operating pressure of the tyre.
- 12.5.2 Trailer data plate detailing the necessary trailer information.
- 12.5.3 Instruction plates where required.
- 12.5.4 Identification labels for all switches and controls.
- 12.5.5 Safety/ Caution detail where necessary
- 12.5.6 Transnet name
- 12.5.7 Transnet Pipeline Logo

12.6 Trailer Description

Emergency Response Trailer specifications.

Four-wheel tandem double axel heavy-duty

Feature	Description
Deck Dimensions	3m Long x 2m Wide x (height not exceeding) 2,5m
Chassis Material	100mm x 50mm x 6mm thick hot rolled channel iron sections
Drawbar Material	100mm x 50mm x 6mm thick hot rolled channel iron sections
Payload	2500 kg
Tyres	15" All-terrain tyres

- 12.6.1 Two white reflections must be placed on each side of front of trailer within 150mm of the sides.
- 12.6.2 At least 60% of each side must be visible strip of SABS approved reflective tape.
- 12.6.3 Rear of trailer must have 2 red reflectors positioned within 150mm from the side of the trailer. The bumper must also have a full length of reflective tape. Chevron board must be fitted.
- 12.6.4 Electricals – Stop, indicator and taillight functions must be working and clearly visible. Number plate lights should be on each side of number plate.
- 12.6.5 Registration – V.I.N plate (markers plate), number plate and licence disc must be present and valid. Roadworthy Certificate must be included.
- 12.6.6 V.I.N markings on chassis – ensure the trailers' VIN has been clearly hard stamped on the chassis, preferably near the V.I.N. plate.
- 12.6.7 Mud flaps – The gap between ground and bottom of mud flap must be less than 200mm. the width of mud flap must exceed overall tyre width by at least 300mm.
- 12.6.8 The trailer must be fitted with 15" wheels all terrain tyres.
- 12.6.9 The trailer must be fitted with a spare wheel that can be secured with a padlock.
- 12.6.10 All metal parts to be protected with a durable weatherproof coating.
- 12.6.11 The Trailer must be completely waterproof when closed.
- 12.6.12 A drain plug must be fitted.
- 12.6.13 The trailer must be with two gasoline cans (capacity 20L) in a lockable bracket on the exterior on the trailer.
- 12.6.14 The lid must be split into a front halve and a rear halve that opens to the front and the rear halve. At the top of the lid's reflectors must be fitted -red on the rear halve and white on the front halve.
- 12.6.15 Mechanical override and park system on axle with auto reverse release mechanism as per SABS.
- 12.6.16 SABS approved number plate brackets shall be provided and fitted at the rear. The bracket shall be fitted with licence plate light that shall comply with SABS standards.
- 12.6.17 The trailer must be fitted with 4 off LED orange flasher lights that will flash when the lights of the towing vehicles is switched on. There will be a bypass switch on the inside of the trailer to switch the lights off.
- 12.6.18 The emergency response trailer needs to fit all listed equipment in paragraph 12.1, also that the emergency response trailer will be pulled by single/double cab 4x4 vehicle.

13. Annexure

13.1 Annexure A:

Delivery Addresses of the Emergency Response Trailer to Transnet Pipelines workshops.

Table 3: Emergency Response Trailer Delivery Addresses

Transnet Workshops	Addresses
Alrode	3 Akasia road, General Alberts Park, Alberton. 1449.
Jameson Park	Cnr R42 Nigel Road and Poortjie road, Jameson Park.
Ladysmith	7 Hamilton Road, Ladysmith. 3770.
Pinetown	10 kirk road, Pinetown CBD, Pinetown, 3620.