

REPORTS

Note: In all cases check against online version for the latest revision prior to use

TECHNICAL SPECIFICATION

Project Name: Port Firefighting Installation Expansion & Upgrade – Phase 1
in the Port of Richards Bay – Package 3

Description of the Supply: Supply, Delivery, Testing and Commissioning of Portable and
Emergency Firefighting Rescue Equipment at the Port of
Richards Bay

Tender Number: TNPA/2022/04/0237/RFP

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SECTION 1

1.1 SCOPE OF WORK

The scope of the works entails the supply, delivery, testing, commissioning and handing over in complete working order ready for immediate use and subsequent maintenance of the following firefighting equipment:

- a) Extrication Equipment
- b) Positive Pressure Ventilator
- c) Rescue Equipment
- d) Gas Detection kits
- e) Binoculars
- f) Suction Hoses and plant
- g) Fire Fighting Water Plant
- h) Thermal Imaging Camera
- i) Flood lighting system
- j) Workshop Plant
- k) Other Fire Equipment: Fire Operations Equipment at Berth 208/209

1.2 Reference specifications and standards

- 1.3 The latest revision of any Specification referred to in this specification, shall be applicable.
- 1.4 In addition to the specifications, the Project will comply with the following relevant Acts and Regulations as listed below:
- 1.4.1 **Occupational Health and Safety Act 85 of 1993;**
 - 1.4.2 **The S.A. National Building Regulations and Building Standards Act. (Act 103 of 1977);**
 - 1.4.3 **South African National Standards and Codes of Practice;**
 - 1.4.4 **IEC Standards and Recommendations;**
 - 1.4.5 **International Standards and Codes – ISO, DIN, BS, ASME, ASCE, ANSI, ASTM, EU, NFPA; and**
 - 1.4.6 **The local, provincial or S.A. Government laws in force at the time.**
- 1.5 The SI (“Le System International d’ Unites”) – Metric System of Units shall apply. Refer to SANS – M33A: The International Metric System: Guide to the use of the SI in South Africa.

1.6 South African National Standards

Standard No.	Description
SANS 10400	The Application of the National Building Regulations
SANS 347:2012	Categorisation and Conformity Assessment Criteria for all Pressure Equipment

SANS 62	Steel pipes - Part 1 and 2
SANS 10142	Code of Practice for the Wiring of Premises
SANS 10044	Welding
SANS 2560	Welding Consumables
SANS 1182	Light Gauge Welded Steel Pipes
SANS 121	Hot Dip Galvanized Coatings on Fabricated Iron and Steel Articles
SANS 10140	Identification Colour Marking
SANS 8501-3	Preparation of Steel Substrates Before Application of Paints and Related products
SANS 10142-1	The Wiring of Premises Part 1: Low Voltage Installations
SANS 1109-1	Pipe Threads Where Pressure-Tight Joints are Made on the Threads

1.7 Other Specifications

Specification No.	Description
API 5L	Welded and Seamless pipe
ASTM A153	Standard Specification for Zinc Coating (Hot Dip) on Iron and Steel Hardware
Government Notice	Pressure Equipment Regulations, 2009
	The General Electrical Specification for the Provincial Administration of the Republic of South Africa Part 2E
	The Municipal by laws and any special requirements of the Supply Activities of the area or district concerned.
	The Occupational Health and Safety Act No 85 of 1993
ISO 9001	Quality Management
ISO 9002	Model for Quality Assurance in Production, Installation and Servicing
ISO 14001	Environmental Management

AD 2000	Code for Pressure Vessels
ASME VIII	Rules for Construction of Pressure Vessels

2. TECHNICAL SPECIFICATION

- 2.1 All Plant shall be accompanied by a valid compliance certificate and shall be tested and approved by the relevant authorities where required for use.
- 2.2 The *Supplier* to provide service for all components in South Africa and be able to provide spares on short notice.
- 2.3 The *Supplier* shall ensure that they limit the number of suppliers and endeavour to procure equipment from a single supplier where possible to provide standardisation and ease of maintenance.

a) Extrication Equipment:

ITEM No.	NAME & MANUFACTURER	DESCRIPTION
1	1 Bar Lifting bag set (Vetter or similar approved)	<ul style="list-style-type: none"> • 1 bar working pressure • Maximum insertion height 4cm • 2 lifting bags, 6050kg lifting capacity per bag • 2 inflation hoses (5m) • 1 pressure reducer (200/300 bar) • 1 repair kit • Complies with EN13731 • Warrantee/Guarantee period to be 12 months
2	10 Bar Mini Lifting bags (Vetter or similar approved)	<ul style="list-style-type: none"> • 10 Bar working pressure • Maximum insertion height 2.5cm • Total lifting capacity of all bags 90tons • 1 by 6 ton lifting bag (aramide reinforced) • 1 by 12 ton lifting bag (aramide reinforced)

		<ul style="list-style-type: none"> • 2 by 22 ton lifting bag (aramide reinforced) • 1 by 28 ton lifting bag (aramide reinforced) • 1 pressure reducer (200/300 bar) • 1 dual deadman controller • 1 yellow air hose (5m) • 1 red air hose (5m) • Complies with EN13731 • Warrantee/Guarantee period to be 12 months
3	Support System 1	<p>Recycled PE blocks for stabilisation of objects:</p> <ul style="list-style-type: none"> • 3 by yellow squares (100 x 100 x 450mm) • 6 by black squares (100 x 100 x 450mm) • 1 by carry bag • Warrantee/Guarantee period to be 12 months
4	Support System 2	<p>Recycled PE elements for stabilisation of objects:</p> <ul style="list-style-type: none"> • 1 by block (230 x 230 x 25mm) • 1 by block (230 x 230 x 50mm) • 2 by wedge (215 x 75 x 80mm) • 2 by chock (640 x 140 x 280mm) • Warrantee/Guarantee period to be 12 months
5	Spreader (Lukas or similar approved)	<ul style="list-style-type: none"> • Spreading force: 62 – 230 KN • Spreading distance: 800mm • Squeezing force: 70,4 KN • Pulling force: 55KN • Warrantee/Guarantee period to be 12 months
6	Chain Set for Spreaders (Lukas or similar approved)	<ul style="list-style-type: none"> • 2 chains, 2m long • Quick-lock locking device on one end and a hook on the other end of each chain • Warrantee/Guarantee period to be 12 months
7	Door Opener and mini cutter set (Lukas or similar approved)	<ul style="list-style-type: none"> • Consists of a mini cutter, door opener, hand pump, a connection hose and a transport case. • Cutting force: 75KN

		<ul style="list-style-type: none"> • Spreading force: 90KN • Blade opening: 40mm • Warrantee/Guarantee period to be 12 months
8	Cutter (Lukas or similar approved)	<ul style="list-style-type: none"> • Cutting force: 642KN • Blade opening: 150mm • NFPA classes A7/B8/C6/D7/E7 • Warrantee/Guarantee period to be 12 months
9	Rescue Ram (Lukas or similar approved)	<ul style="list-style-type: none"> • 360 degree rotational claws • Piston Stroke: 300mm • Lifting force: 135KN • Certification: EN 13204 / NFPA 1936 • Warrantee/Guarantee period to be 12 months
10	Rescue Ram (Lukas or similar approved)	<ul style="list-style-type: none"> • 360 degree rotational claws • Piston Stroke: 500mm • Lifting force: 135KN • Certification: EN 13204 / NFPA 1936 • Warrantee/Guarantee period to be 12 months
11	Rescue Ram (Lukas or similar approved)	<ul style="list-style-type: none"> • 360 degree rotational claws • Piston Stroke: 700mm • Lifting force: 122KN • Certification: EN 13204 / NFPA 1936 • Warrantee/Guarantee period to be 12 months
12	Power unit (Lukas or similar approved)	<ul style="list-style-type: none"> • 4 stroke gasoline engine • Operation: two tools • Power: 4.2 KW • Electric starter • Max Operating Pressure: 700bar • Oil Output rate low pressure: 2 hoses x 3,1 l/min each • Oil Output rate high pressure: 2 hoses x 0,9 l/min each • Turbo function: boost the oil flow in a single hose

		<ul style="list-style-type: none"> • Turbo oil output rate low pressure: 1 hose x 6,05 l/min • Turbo oil output rate high pressure: 1 hose x 1,7 l/min • Usable oil quantity: 4,8 litres • Warrantee/Guarantee period to be 12 months
13	Hand pump (Lukas or similar approved)	<ul style="list-style-type: none"> • Automatic switch over from low to high pressure • Oil output rate, low pressure: 17 cm³ per stroke • Oil output rate, high pressure: 1,7cm³ per stroke • Useful oil quantity: 1,8 litres • Warrantee/Guarantee period to be 12 months
14	Hydraulic oil (Lukas or similar approved)	<ul style="list-style-type: none"> • Biodegradable hydraulic oil • Quantity: 10 litres • Warrantee/Guarantee period to be 12 months
15	Protection covers Set (Lukas or similar approved)	<ul style="list-style-type: none"> • Covers shall be tear-proof, water repellent and washable • Shall prevent sharp edged materials penetrating • Shall be fitted with Velcro and sewn in magnets for easy attachment to vehicles • Cover 1 dimensions: 35 x 30 cm • Cover 2 dimensions: 65 x 65 cm • Cover 3 Dimensions: 165 x 65 cm • Includes water-repellent nylon Carry bag • Warrantee/Guarantee period to be 12 months
16	Tool station (Lukas or similar approved)	<ul style="list-style-type: none"> • Tear-proof, waterproof and dirt repellent material for placing tools on when in the field. • Dimensions: 2,5 x 2 m • Warrantee/Guarantee period to be 12 months

17	Glass management set (Lukas or similar approved)	<ul style="list-style-type: none"> • Equipment necessary for glass removal • Bonding sheet; 0,5 x 100m • Unwinder with adhesive tape • Handsaw • Spring loaded punch with beltcutter • Carpeting remover • Marker • 3 by dust masks • 3m measuring tape • Warrantee/Guarantee period to be 12 months
18	Disaster flame cutting equipment (Rosenbauer, Drager or similar approved)	<ul style="list-style-type: none"> • Complete system with metal tube chassis for easy transport • Dimensions: 670 x 420 x 370 mm • Flame temperature: 3100°C • Weight: 37Kg • 5 l Acetylene Cylinder with pressure reducing valve and cap • 5 l oxygen cylinder with pressure reducing valve and cap • Hoses assembly complete with check valves • Torch handle, shaft diameter 18mm • Cutting insert for cutting material gauges up to 100mm • Pressure reducing valve spanner • Sheet steel box with spare heating and cutting nozzles, spanner, gas lighter, 2 nylon safety goggles and orifice cleaning needles. • Warrantee/Guarantee period to be 12 months
19	Pneumatic impact tools (Rosenbauer or similar approved)	<ul style="list-style-type: none"> • Consists of an airgun with D handle and inline oiler, pressure regulator, air hose, 10" curved metal cutter, 11" bull point chisel, 11" flat chisel, oil, tool kit and goggles in carry case. • 6 litre 300 bar compressed air cylinder • Airgun speed: 600 blows/min • Airgun operating pressure: 2,7 to 14bar • Warrantee/Guarantee period to be 12 months

20	Extrication Tool / Jack 36" (Hi-Lift FR-365 36" or similar approved)	<p>The extrication tool shall comply with the following technical specification:</p> <ul style="list-style-type: none"> • Manufactured from steel cast iron and high strength aluminium • Shall have a removable top clamp-clevis attachment which shall be rated to the full capacity of the jack for winching, clamping and spreading. • Both the main component as well as actuating component shall be powder coated with a durable powder coating product • Shall have a two-piece handle and socket design • Rigid solid pinnable base platform of at least 200 cm² which shall be able to rotate 360 degrees • A notice which indicates the specific rated load details and operating instructions for this specific tool shall be adhered to the lever of the extrication tool. • Warrantee/Guarantee period to be 12 months
21	Extrication Tool / Jack 48" (Hi-Lift FR-485 48" or similar approved)	<p>The extrication tool shall comply with the following technical specification:</p> <ul style="list-style-type: none"> • Manufactured from steel cast iron and high strength aluminium • Shall have a removable top clamp-clevis attachment which shall be rated to the full capacity of the jack for winching, clamping and spreading. • Both the main component as well as actuating component shall be powder coated with a durable powder coating product • Shall have a two-piece handle and socket design • Rigid solid pinnable base platform of at least 200 cm² which shall be able to rotate 360 degrees • A notice which indicates the specific rated load details and operating instructions for this specific tool shall be adhered to the lever of the extrication tool.

		<ul style="list-style-type: none"> Warrantee/Guarantee period to be 12 months
22	Extrication Tool / Jack 60" (Hi-Lift FR-605 60" or similar approved)	<p>The extrication tool shall comply with the following technical specification:</p> <ul style="list-style-type: none"> Manufactured from steel cast iron and high strength aluminium Shall have a removable top clamp-clevis attachment which shall be rated to the full capacity of the jack for winching, clamping and spreading. Both the main component as well as actuating component shall be powder coated with a durable powder coating product Shall have a two-piece handle and socket design Rigid solid pinnable base platform of at least 200 cm² which shall be able to rotate 360 degrees A notice which indicates the specific rated load details and operating instructions for this specific tool shall be adhered to the lever of the extrication tool. Warrantee/Guarantee period to be 12 months
23	Airbag Safe for driver and Passenger (Lukas or similar approved)	<ul style="list-style-type: none"> Driver Airbag Safe: <ul style="list-style-type: none"> Dimensions: 380 x 290 x 100 mm Weight: 1,7 kg Passenger Airbag Safe: <ul style="list-style-type: none"> Dimensions: 750 x 250 x 150 mm Weight: 3,4 kg Warrantee/Guarantee period to be 12 months

b) Positive Pressure Ventilator

ITEM No.	NAME & MANUFACTURER	DESCRIPTION
24	2x Positive pressure ventilator with lighting an	<ul style="list-style-type: none"> Airflow: 36 100 m3/hr Fuel: lead free gasoline > 91 octane

TRANSNET NATIONAL PORTS AUTHORITY

TENDER NUMBER: TNPA/2022/04/0237/RFP

DESCRIPTION OF THE WORKS: SUPPLY, DELIVERY, TESTING AND COMMISSIONING OF PORTABLE AND EMERGENCY

FIREFIGHTING RESCUE EQUIPMENT AT THE PORT OF RICHARDS BAY

Technical Specification

Date:
26/07/2022

	dust cover (Rosenbauer or similar approved)	<ul style="list-style-type: none"> Running time on 1 fuel tank: 110 min at full load Pressure differential Compliance: NFPA 92A Warranty/Guarantee period to be 12 months
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c) Rescue Equipment

ITEM No.	NAME & MANUFACTURER	DESCRIPTION
25	Hand Operated Lifting and Pulling Device (Rosenbauer or similar approved)	<ul style="list-style-type: none"> Fitted with anchor pin so that it can be secured quickly Cable pull: 3,2 ton Supporting tarpaulin PVC 2 x 2m 16mm diameter wire cable with hook suitable to carry 3,2 ton load 3 x round slings for load (e.g. tree protection) 2 x shackle rated to 3,2 ton Metal carry case To be supplied with a compliance certificate Warranty/Guarantee period to be 12 months
26	High-rise rescue set fall protection (Rosenbauer or similar approved)	<ul style="list-style-type: none"> Designed to work at heights up to 30m <p>1. Consists of:</p> <ul style="list-style-type: none"> 1 x full body harness 1 x 60m yellow clad core rope, rated to 20Kn 2 x tape sling, 1,5m, 22 KN 15 x tape sling, 0,8m, 22Kn 15 x Twistlock-carabiner, 22KN, black 1 x triple-lock-carabiner, 24KN, red 1 x Y-lanyard 1 x rope bag, 54 litres 2 x pair of gloves To be supplied with a compliance certificate Warranty/Guarantee period to be 12 months

27	High Rise rescue set-people rescue (Rosenbauer or similar approved)	<ul style="list-style-type: none"> • For effective and simple lifting and lowering of humans • Gear reduction: 4:1 • To be supplied with a compliance certificate <p>Consists of:</p> <ul style="list-style-type: none"> • 1 x full body harness • 1 x triangular cloth (christophorus) • 1 x tape sling, 1,5m, 22KN • 1 x tape sling, 0,8m, 22KN • 1 x grip clamp • 3 x triple-lock-carabiner, 24KN, red • 1 x rope bag, 85 litres • 1 by hoist system <p>Hoist system consists of:</p> <ul style="list-style-type: none"> • 150m black cladded rope rated at 30KN • 1 x moving absorbing/abseiling device • 4 x triple-lock-carabiner, 24KN, red • 2 x AHK-swivel pivot-carabiner, 2,2 daN, black • 2 x Pulley double, orange • Warrantee/Guarantee period to be 12 months
28	2x Safety and rescue set for confined space (ROLLGLISS R350, Drager or similar approved)	<ul style="list-style-type: none"> • Rescue system with raising and lowering functions • Capacity: 2 person (281Kg) • Lifting ratio configuration: 2:1 • Travel length: 60m • Hand winch with 3:1 modification set • Stopping handle with controller • Rescue seat with harness • Aluminium carrier box for rope and equipment • Tripod with 4 anchorage points and 8 height adjustment points from 1,35m to 2,35m • Compliance: CE EN 341 cl A, EN 1496 cl B • To be supplied with a compliance certificate • Warrantee/Guarantee period to be 12 months
29	2x Floating Line	<ul style="list-style-type: none"> • Material: Polyethylene • Diameter: 12mm • Length: 30m

		<ul style="list-style-type: none"> One end adjoined to light alloy karabiner hook Weight: 0,8Kg To be supplied with a compliance certificate Warrantee/Guarantee period to be 12 months
30	2x Working line	<ul style="list-style-type: none"> Material: Polyester Diameter: 12mm Length: 30m One end adjoined to a steel snap 11mm x 120mm, other end bluntly smelted Weight: 3,4Kg To be supplied with a compliance certificate Warrantee/Guarantee period to be 12 months
31	2x Throwline bag set	<ul style="list-style-type: none"> Compliance: NFPA 1983 Length: 30m Diameter: 8mm To be supplied with a compliance certificate Warrantee/Guarantee period to be 12 months
32	4c Storage bag	<ul style="list-style-type: none"> Material: Synthetic fibre With adjustable carrying belt Draw string closable Can be used to store ropes up to 60m length Dimensions: 520mm x 630mm Weight: 0,2Kg Warrantee/Guarantee period to be 12 months

d) Gas Detection Kits

ITEM No.	NAME & MANUFACTURER	DESCRIPTION
33	2 x gas detectors (Drager X-am 5600 or similar approved)	<ul style="list-style-type: none"> 1 to 6 gas detection Water and dustproof to IP67

		<ul style="list-style-type: none"> • Infrared sensors requiring servicing maximum once a year • Suitable for use in Zone 0 areas • Infrared Ex and electrochemical H₂ sensors for reliable measuring of hydrocarbons and hydrogen gases. • Warrantee/Guarantee period to be 12 months
34	Bump test kit with calibration gas (Drager of similar approved, the OEM offered must be the same as the OEM for item 55)	<ul style="list-style-type: none"> • 1 x Bump test kit for 1 to 6 gas detector complete with all accessories • 1 x carry case for bump test kit and all accessories • The bump test kit shall be able to transmit the results to a computer for printing and record purposes. • The equipment required for the interface for the test kit to a computer shall be included. • Warrantee/Guarantee period to be 12 months

e) Binoculars

ITEM No.	NAME & MANUFACTURER	DESCRIPTION
35	4 x Binocular	<ul style="list-style-type: none"> • HD 12 x 50 roof prism binocular • Multicoated, aspherical eyepiece lenses • BaK4 prisms • Central focus knob • Durable, rubber-armoured coating to provide non-slip grip in wet or dry conditions and provide protection • Lead and arsenic-free glass • Warrantee/Guarantee period to be 12 months

f) Suction Hoses and Plant

ITEM No.	NAME & MANUFACTURER	DESCRIPTION
36	4 pairs Suction hose coupling wrench (Angus or similar approved)	<ul style="list-style-type: none"> Coupling spanner size: 3" – 5 1/2" Material: hot dip galvanised steel Weight: 0.57kg Warrantee/Guarantee period to be 12 months
37	1x Cylindrical suction strainer (Angus or similar approved)	<ul style="list-style-type: none"> To prevent obstruction in line Warrantee/Guarantee period to be 12 months
38	Wicker basket for suction strainer (Angus or similar approved)	No off: 1 Warrantee/Guarantee period to be 12 months
39	Swimmer for suction strainer (Angus or similar approved)	No off: 2 Warrantee/Guarantee period to be 12 months
40	10 x Suction Hoses (Angus or similar approved)	<ul style="list-style-type: none"> Material: Steel wire reinforced SBR (Styrol-Butadien-Caoutchouc) Maximum pressure load: 6 bar Maximum vacuum load: 0.8 bar Length: 3m Weight: 10.5kg Warrantee/Guarantee period to be 12 months

g) Fire Fighting Water Plant

ITEM No.	NAME & MANUFACTURER	DESCRIPTION
42	4 x hydroshield nozzles (Angus or similar approved)	<p>Creates a "wall" of water to protect against flames and smoke.</p> <ul style="list-style-type: none"> Throw width at 5 bar: 28m Flow rate at 5 bar: 700 l/min Throw width at 8 bar: 32m Flow rate at 8 bar: 1000 l/min Warrantee/Guarantee period to be 12 months

43	1 x Extinguishing lance (Angus or similar approved)	<p>For fighting fires in coal dumps, hay stacks</p> <ul style="list-style-type: none"> Flow rate at 8 bar: 400 l/min Provided with ball type valve and coupling Warranty/Guarantee period to be 12 months
44	2 x piercing applicator lance (Angus or similar approved)	<ul style="list-style-type: none"> Flow rate at 6 bar: 475 l/min Length : 1.8 m Weight: 5.5kg Provided with Storz lightweight alloy coupling Warranty/Guarantee period to be 12 months
45	4 x Selectable flow nozzle (Angus Falcon or similar approved)	<ul style="list-style-type: none"> Body material: light alloy (hard anodised to prevent corrosion) Contains a flow adjuster to set flow rate. Spray pattern can be separately adjusted by rotating the nozzle Has a flush setting to flush foam or debris Markings are laser etched to prevent fading <p>Dual seat, hard chrome plated metal ball valve operated by a grip hoop for on/off operation.</p> <ul style="list-style-type: none"> Stainless steel inlet screen to prevent debris entering the nozzle Provided with a flow tube for foam application Provided with service kit for servicing of the nozzles (service kit ref no. 1002) Provided with spare parts set as per manufacturer's recommendations for repair and maintenance. Warranty/Guarantee period to be 12 months
46	1 x BS 750 hydrant standpipe. (Angus or similar approved)	<ul style="list-style-type: none"> Material: light-alloy Inlet with 2.5" female BSRT as per BS 750 2 outlets with screw-down valves and 2.5" female couplings as per BS 336 Weight: 6.9kg Warranty/Guarantee period to be 12 months

47	4 x British Standard hydrant key. (Angus or similar approved)	<ul style="list-style-type: none"> Suitable for opening underground hydrant valves Material: light-alloy Length: 1050mm Weight: 2kg Warranty/Guarantee period to be 12 months
48	12 x hydrant x-key (Angus or similar approved)	Brass Warranty/Guarantee period to be 12 months
49	12 x hydrant wheel	Brass, Warranty/Guarantee period to be 12 months
50	2 x Portable Fire Monitors (rosenbauer, Angus or similar approved)	<ul style="list-style-type: none"> Base frame is foldable with carbide tips Stream pattern is continuously adjustable from solid to spray jet Vertical swivel range: 25° to 70° Horizontal swivel range: +/- 90° from the center Throw range: 50m at 1600 l/min / 7 bar Weight: 23 kg Adjustable flow rate range: 1200, 1600, 2000 and 2400 l/min Maximum operating pressure: 14 bar Provided with quad stacked tips to provide 4 orifice options and maximum throw range Provided with foam nozzle with integrated foam admixing system for 1 or 3% and 2.5m long pick up tube for foam compound. The maximum flow at 7 bar is 1900 l/min Warranty/Guarantee period to be 12 months
51	2 x Portable oscillating fire monitors (Angus or similar approved)	<ul style="list-style-type: none"> Water driven turbine allows oscillation at 10°, 15° or 20° on either side of the center. The oscillation can be disengaged Elevation is adjustable between 30° and 60° when unmanned and can be lowered down to 20° when manned Built in pressure gauge Carbide tip spikes for extended wear resistance and stability Minimum flow rate for oscillation: 660 l/min Weight: 13kg

		<ul style="list-style-type: none"> Warrantee/Guarantee period to be 12 months
52	2 x 3 way dividing piece. (Angus or similar approved)	<ul style="list-style-type: none"> Inlet: 1 by 63mm male instantaneous coupling Outlet: 3 by 65mm female instantaneous coupling with twist lugs and washers Material: aluminium casing and handles Warrantee/Guarantee period to be 12 months
53	2 x 2 way dividing piece. (Angus or similar approved)	<ul style="list-style-type: none"> Inlet: 1 by 63mm male instantaneous coupling Outlet: 2 by 65mm female instantaneous coupling with twist lugs and washers Material: aluminium casing and handles Warrantee/Guarantee period to be 12 months
54	63mm Male / Female instantaneous fire hose coupling (AWG BS336 or similar approved)	<p>Fire hose coupling shall comply to the following specification:</p> <ul style="list-style-type: none"> 40 x male couplings to be provided 40 x female couplings to be provided 20 x 38mm double binding kite marked yellow hoses with red and green sock 20 x 63mm double binding kite marked yellow hoses with red and green sock Material: Aluminum Non-symmetrical quick connection coupling Comply with BS336 Nominal diameter shall be 63mm Female part of fitting shall contain spring-loaded plungers which shall grip in the gap of the male part Couplings shall be disconnected by pulling knobs and twisting knobs Couplings shall only be suitable for delivery operation. Warrantee/Guarantee period to be 12 months

h) Thermal Imaging Camera

ITEM No.	NAME & MANUFACTURER	DESCRIPTION
55	2 x thermal imaging camera (Drager UCF 9000 or similar approved)	<ul style="list-style-type: none"> Resolution: 384 x 288 pixels Field of view (horizontal): 57° Laser pointer Snapshot-function Thermal image or real image modes Additional items: <ul style="list-style-type: none"> Transport case Battery charger (can charge battery in camera and additional battery at the same time) Neck strap Vehicle installation kit with bracket and 12-30V connection cable Supplied with calibration certificate valid for 12 months. Warranty/Guarantee period to be 12 months

i) Flood Lighting System

ITEM No.	NAME & MANUFACTURER	DESCRIPTION
56	Dual Halogen Flood Light set	<p>The set includes:</p> <ul style="list-style-type: none"> 2 x halogen floodlights, 1500W, IP55 Search light adapter bridge Tripod stand Cable reel Supplied with protection covers and transport case. Warranty/Guarantee period to be 12 months
57	Rechargeable torch (MAG-LITE or similar approved)	<ul style="list-style-type: none"> Minimum illumination: 1082 lumens Minimum beam range: 458m Multi-function switch: Full power, power save, strobe, S.O.S, momentary and on-off

		<ul style="list-style-type: none"> • Supplied with charging cradle and connection to cigarette lighter 12V • Water resistant • Drop proof: 1m • Colour: black • Supplied with lanyard • Warrantee/Guarantee period to be 12 months
58	Power Generator (rosenbauer RS 9 or similar approved)	<ul style="list-style-type: none"> • Electronic starter • 3-way fuel tap • Output: 9kVA at 400V, 7000W • Voltage: 3 x 230V, 2 x 400V • Voltage stability: +/- 1% • Frequency: 50Hz • Power Factor: 0.8 • Rated Current at 400V: 11.6A • Supplied with tool kit including 1 x spark plug spanner, 1 x test cable with testing tips and 2 x spark plugs. • Warrantee/Guarantee period to be 12 months

j) Workshop Plant

ITEM No.	NAME & MANUFACTURER	DESCRIPTION
59	Hose Vulcaniser (Pronto P10 or similar approved)	<ul style="list-style-type: none"> • Includes automatic temperature control so that overheating is not possible. • Voltage: 230V – 50/60Hz • Power Consumption: 600W • Temperature range: 135 -160°C • Timer: Up to 60 minutes • Heating surface: 175 x 100mm • CE Conformity: EN 292-2-1992/EN and EN60204-1-1993 • Enables holes of up to 5mm diameter and slits of up to 10mm length to be safely repaired. • Service and repairs shall be available locally

		<ul style="list-style-type: none"> Warrantee/Guarantee period to be 12 months
60	Repair Set for Vulcaniser	<p>The set comprises:</p> <ul style="list-style-type: none"> 1 x brush 1 x pair of scissors 1 x empty plastic bottle (for storage of acetone) 1 x Teflon foil 1 x repair manual in English 2 x sheets of vulcanising patches red/white, 10 x 15cm The vulcanising patches shall have a minimum storage life at follows: <ul style="list-style-type: none"> Stored in freezer (-10 to -15°C) – 24 months Stored in refrigerator (up to 10°C) – 12 months Stored at room temperature – 1 month Warrantee/Guarantee period to be 12 months
61	Electric Hose binding Machine (Barth ESB 69-3 or similar approved)	<ul style="list-style-type: none"> Suitable for 38 to 110mm diameter hoses. Warrantee/Guarantee period to be 12 months
62	Manual hose Binding Machine (Delta Fire, Angus or similar approved)	<ul style="list-style-type: none"> For binding on with wire delivery & suction hoses to couplings Complete with one (1) adaptor male and twelve (12) adaptor female For 38mm, 50mm and 63mm delivery hoses, and for 75mm and 100mm suction hoses and a spool for the binding wire heavy duty. Service and repairs shall be available locally Warrantee/Guarantee period to be 12 months
63	Hose Winding Device Angus or similar approved	<ul style="list-style-type: none"> Can be utilised to roll up hose up to 3" diameter Can be utilised with hoses of all coupling types Single roll or double pick up

		<ul style="list-style-type: none"> • Colour: RAL 3000 (red) • Service and repairs shall be available locally • Warrantee/Guarantee period to be 12 months
64	Hose Storage Rack	<ul style="list-style-type: none"> • Single unit hose storage rack • Height: 1.9m • No. of racks: 3 • Material: Aluminium • Capacity: 63 x 2.5" hoses or 81 x 1.5" hoses • Warrantee/Guarantee period to be 12 months
65	Mobile Hose Storage Rack	<ul style="list-style-type: none"> • Single unit hose storage rack with 4 heavy duty casters and brake • Height: 1.79m • No. of racks: 3 • Material: Hot dip Galvanised Steel • Capacity: 21 x 2.5" hoses or 30 x 1.5" hose • Warrantee/Guarantee period to be 12 months
66	Workshop Station	<ul style="list-style-type: none"> • Work table with set of drawers • Comes with set of 2 drawers under table top • Frame Material: Heavy duty stainless Steel • Table top Material: Durable Wood • Length: 2500mm, Width: 1000mm, Height: 800mm • Complete with two (2) mounted heavy duty 200mm table vice on opposite ends of the table top. • Warrantee/Guarantee period to be 12 months
67	Hydrant Flow Meter (Giddens or similar approved)	<ul style="list-style-type: none"> • 300mm flow tube fitted with 65 instantaneous coupling inlet and outlet socket for holding interchangeable orifices. • Highly accurate Class 1 industrial pressure gauge with 100mm dial. Reads low back pressures for maximum sensitivity. Change orifices to suit flow rates.

		<ul style="list-style-type: none"> Static pressure gauge fluid filled 70mm dial, 0 - 1600kPa, mounted on a light alloy blank cap with pressure relief valve NANUK 925 Protective Case is watertight and airtight with foam inner for safe transportation and storage. Performance & Accuracy: 3.3 to 54.0 litres/second 200 to 3240 litres/minute. Testing & standardised manufacturing dimensions the flow tables provided are considered accurate to $\pm 1/2\%$ Measurements: metric. Supplied with valid calibration certificate. Warranty/Guarantee period to be 12 months
68	Drill Press (Ryobi DP-16 or similar approved)	<ul style="list-style-type: none"> Power input: 550W Chuck Capacity: 16mm Chuck type: Morse taper Speed selective: yes No-load speed: 2130 rpm Supplied with 2 x drill bit sets including all sizes up to 16mm for drilling through wood and metal. Warranty/Guarantee period to be 12 months
69	Mobile Spray Booth (COLO or similar approved)	<p>Powder coating cabinet for small items</p> <ul style="list-style-type: none"> Power: 1.5kW External Size (LxWxH): 700 x 600 x 900 mm Internal Size (LxWxH): 500 x 500 x 700 mm Voltage: 380V/220V Certification: SANS Filters: Polyester Filter type: detachable Warranty/Guarantee period to be 12 months
70	4x Intrinsically Safe Torches (Pelican 9415i Flashlight or similar approved)	<ul style="list-style-type: none"> Torch body to be made from materials which is resistant to chemical corrosion and extreme temperatures Body – Anti static Impact resistant

		<ul style="list-style-type: none"> • Lens – Anti static Polycarbonate • Lamp type – LED • Weight with batteries – Not to exceed 1.8 kg • Modes of lighting – High, Low, Flashing • High Lighting mode: minimum of 360 Lumens; minimum battery duration 4 hours; beam range minimum 350m; Light intensity minimum 30 000 cd • Low Lighting mode: minimum of 130 Lumens; minimum battery duration 10 hours; beam range minimum 200m; Light intensity minimum 12 000 cd • Battery type: Ni-MH • Battery level indicator – RGB LED • Battery charger • Battery charger transformer • 12 V vehicle fast battery charger • 1 Replacement battery per torch • Ingress protection rating: IPX4 • Certifications - Intrinsically safe IECEx ia – Class I, Division 1 / Atex – Zone 0 • IP Rating – IPX4 • Carrying strap included • Lifetime warranty against breakage or defects of workmanship • Warrantee/Guarantee period to be 12 months
71	2x Manual Hand Operated Fire Siren (Sireco SSH200C or similar approved)	<ul style="list-style-type: none"> • 120 dB(A) at 1m distance sound output at minimum • 500 Hz sound frequency • Cast aluminium body • Sealed gearbox crank handle with ratchet • Crank handle • Bottom of siren drum to be at least 400 mm above floor level • Warrantee/Guarantee period to be 12 months
72	2x Portable PA (Public Address) System (Samson Expedition XP108W or similar approved)	<p>Portable PA system shall be rated for external use and shall comply with the following technical specification:</p> <ul style="list-style-type: none"> • Speaker <ul style="list-style-type: none"> ○ Shall be rated 200 Watt peak power and 100 Watt continuous power

		<ul style="list-style-type: none"> ○ Portable speaker with telescopic handle and smooth rolling integrated wheels for ease of transport ○ 2 Way speaker system with 8" subwoofer and 1" high frequency driver ○ Built-in 4 channel mixer with 2-band bass and treble equalizer ○ Independent volume control on each ○ Bluetooth connectivity to connect with wireless music sources ○ Internal rechargeable battery with continuous use of minimum 15 hours before charging required ○ Fitted with a class D built in amplifier which shall achieve 200 Watt of Peak sound power output ○ LED lights to indicate battery level, Charging and Power on ○ A single charge event of the speaker battery shall not exceed more than 8 hours. ○ Shall have a 220V, 50 Hz power supply input ○ Microphone clip on side of speaker for wireless microphone mounting ○ Shall include built-in wireless system with a handheld dynamic microphone with a range of minimum of 50m ○ Speaker body shall be made from a good quality, durable polymer. ○ Shall have a 35mm receptacle at the bottom of the cabinet for a standard size speaker stand ○ Speaker cabinet shall not exceed the following dimensions: <ul style="list-style-type: none"> ▪ Length - 300mm ▪ Depth - 300mm ▪ Height - 460 mm ● Microphone <ul style="list-style-type: none"> ○ Shall be made from a durable, quality material
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		<ul style="list-style-type: none"> ○ Shall have an on/off power switch in order to switch transmitter on and off. ○ Shall have an Audio on/off switch which only turns the audio signal on and off and not the entire microphone – the transmitter shall still remain on with this setting and the microphone merely muted. ○ Shall have a level control adjuster on the microphone which shall be used to adjust the input of the transmitter. ○ Shall be furnished with a battery holder <p>2.</p> <ul style="list-style-type: none"> • Speaker Stand <ul style="list-style-type: none"> ○ Shall be of lightweight, telescopic, tripod type ○ Shall be of roadworthy steel construction ○ Shall have black finish <p>3.</p> <ul style="list-style-type: none"> ○ Shall fit with a loose sliding fit into 35 mm receptacle on the speaker cabinet. ○ Shall allow for speaker to be 1.8 meters above ground level. <ul style="list-style-type: none"> • Shall support weight of minimum 55 kg • Warrantee/Guarantee period to be 12 months
73	Nitrogen Gas filling machine for stored pressure fire extinguishers (Cordia, Angus or similar approved)	<ul style="list-style-type: none"> • The machine should be able to automatically fill to the set pressure • The machine shall be provided with all accessories, stands and brackets for the correct and safe operation of the filling process. • 3 spares of all small accessories such as filling connectors shall be provided together with the machine. • The machine shall be supplied together with the appropriate pressure reducer • Warrantee/Guarantee period to be 12 months

k) Other Fire Equipment: Fire Operations Equipment at Berth 208/209

ITEM No.	NAME & MANUFACTURER	DESCRIPTION
1	65mm yellow fire hose	<ul style="list-style-type: none"> Length 30m Color: Yellow Hose Diameter: 65mm Connector: Supplied with 63mm instantaneous coupling Hose to be double binded with stainless steel wire and red sock Hose to be provided with kitemark certification to BS 6391 Type 3
2	Hose boxes	<ul style="list-style-type: none"> Hose box shall be able to store 3 by 65mm 30m lay flat fire hoses and nozzle. Boxes shall be supplied with floor mounting Boxes shall be waterproof and constructed of weatherproof material that is rated for outdoor use (not affected by UV radiation).
3	38 mm yellow fire hoses	<ul style="list-style-type: none"> Length 30m Color: Yellow Hose Diameter: 38mm Connector: Supplied with 63mm instantaneous coupling Hose to be double binded with stainless steel wire and red sock Hose to be provided with kitemark certification to BS 6391 Type 3
4	Mobile Foam Cart	<ul style="list-style-type: none"> Model: SKUM SK140 or similar approved Operation Type: One man operation Fill cap: Large Diameter fill cap Foam Compatibility: Suitable for all foam types Wheels: Solid rubber maintenance free wheels Body material: Corrosion resistant painted steel frame Tank Capacity: 140 litres Tank Material: Chemically resistant polyethylene Flow rate: 400 litres/minute Inductor: Adjustable from 1 to 6 percent accessories: Hose rack complete with two by 38mm lay flat hoses (duraline or similar)

		approved, must be kitemark tested) and medium expansion foam branch. Hoses to be supplied with BSS 336 coupling.
5	Ship to Shore	<p>The Supplier shall verify that the Ship to Shore connector is the same as the one currently utilised on the site before procuring the items.</p> <ul style="list-style-type: none"> • material: brass • Complete with brass hex head bolts, washers, hexagonal brass nuts, and gasket.
6	Extinguisher Boxes	<ul style="list-style-type: none"> • Door: Transparent panel to view inside • Size: Shall be able to fit 9kg DCP extinguisher • Mounting: Supplied with 1.5m height, 50mm width galvanised steel pole with floor mounting base
7	DCP Extinguishers	<ul style="list-style-type: none"> • Material: Stainless Steel • Capacity: 9kg • Medium: DCP • Approval: SANS
8	Foam Extinguishers	<ul style="list-style-type: none"> • Material: Stainless Steel • Capacity: 9L • Medium: Foam • Approval: SANS
9	Anemometer	<ul style="list-style-type: none"> • Shall be capable of measuring wind speed and wind direction • Shall be supplied complete with supports to enable it to be suitable mounted
10	Wind sock	<ul style="list-style-type: none"> • Length: 1m • Colour: Neon Orange • Material: shall be suitable for outdoor use and shall not degrade due to UV radiation • Supplied with 3m length by 50mm galvanised steel pole with floor mounting base and fixtures.
11	medical oxygen kits	<p>Kit shall include:</p> <ul style="list-style-type: none"> • 2kg cylinder, filled and provided with valid test certificate • Respirator mask • All valves, fittings and tubing required • Carry bag
12	Supply of photoluminescent safety signs showing different risks	<p>Various signages as per CFO recommendations: EG.</p> <p>Labelling of building and structures</p> <p>Hazard signage for Tanker terminal</p> <p>Safety, Notices and warning signages</p>

TRANSNET NATIONAL PORTS AUTHORITY
TENDER NUMBER: TNPA/2022/04/0237/RFP

DESCRIPTION OF THE WORKS: SUPPLY, DELIVERY, TESTING AND COMMISSIONING OF PORTABLE AND EMERGENCY
FIREFIGHTING RESCUE EQUIPMENT AT THE PORT OF RICHARDS BAY

Technical Specification

Date:
26/07/2022

13	Supply a stainless-steel chain for the valve's locks	2mm stainless steel flexible or braided wire with rubber sleeving and eyes for the use of a padlock.
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TRANSNET RESERVE THE RIGHT TO ACCEPT OR REJECT THE USE OF ANY SUPPLIER EMPLOYED BY THE SUCCESSFUL TENDERER FOR ANY SPECIFIED WORK. TRANSNET WILL BE THE SOLE JUDGE OF THE ACCEPTABLE LIMITS FOR WORKMANSHIP, INSTALLATION, ETC. AND THE SUCCESSFUL TENDERER SHALL, AT NO ADDITIONAL COST TO TRANSNET, REPLACE ANY SUBSUPPLIER FOR ANY SPECIFIED WORK SHOULD THE SUCCESSFUL TENDERER BE DIRECTED TO DO SO BY TRANSNET AT ANY TIME DURING THE DURATION OF THE CONTRACT.