



INVITATION TO BID

Bid Number: 18-3510 Date Issued: January 9, 2018

Date & Time Bid Opening: Tuesday, January 23, 2018, 10:00 a.m.

Eight (8) Avon Protection ST53 First Responder Kits for the North Little Rock Police Department's Special Weapons and Tactics Team

Specifications Attached.

Total Bid Price:

\$ _____

Please direct technical questions to Sgt. Larry Behnke at larry.behnke@nlrpolice.org.

Please direct bid procedure questions to the Commerce Department at 501-975-8881.

Unless otherwise stated, the use of a manufacturer's name and product number are for descriptive purposes and establishing general quality levels only. They are not intended to be restrictive. Bidders are required to state exactly what they intend to furnish, otherwise, it is fully understood that they shall furnish all items stated.

If you are obtaining this bid from our website, please be reminded that addendums may occur. It is therefore advisable that you review our listings (www.nlr.ar.gov) for attachments including any changes to the bid.

The City of North Little Rock encourages participation of small, minority, and woman own business enterprises in the procurement of goods, services, professional services, and construction, either as a general contractor or sub-contractor. It is further requested that whenever possible, majority contractors who require sub-contractors, seek qualified small, minority, and woman businesses to partner with them.

EXECUTION OF BID

Upon signing this page, the organization certifies that they have read and agree to the requirements set forth in this bid including conditions set forth and pertinent information requests.

Name of Firm: _____ Phone No.: _____

Tax Identification No.: _____

Business Address: _____

Avon Protection ST53 First Responder Kit

Quantity: 8

No Substitutions

North Little Rock Police Department
Special Weapons and Tactics Team

POC: Sgt Larry K. Behnke

Larry.Behnke@nlrpolice.org

Technical Specification for Multi-Functional Respiratory Protective Equipment (RPE) System

Description

The multi-role Respiratory Protective Equipment (RPE) CBRN SCBA (self contained breathing apparatus) system is required to address the operational needs of the CBRN first responder, specialist or tactical user.

It must provide high levels of protection against all known chemical and biological warfare agents, as well as radiological and Toxic Industrial Materials when fitted with an appropriate filter canister, PAPR (powered air purifying respirator) or low profile demand valve with 40mm threaded fitting to either mask port. The facemask must be able to operate in both positive and negative pressure modes via a simple variable rate exhalation valve assembly. The transition between negative and positive pressure modes must be achieved without the need for any additional components while the mask is being worn and without the loss of protection by exposing the user to the environment. It must be suitable for use in a wide variety of operational scenarios, including response to terrorist incidents involving WMD (Weapons of Mass Destruction), public order operations, chemical accidents, narcotics enforcement and counter-terrorism/counter-insurgency operations.

Filtered air should be available through a single DIN 40mm canister or via an optional PAPR assembly, incorporating twin filters with single speed control. A range of filters must be available to address differing requirements, to include protection from chemical, biological, or radiological agents; riot control agents; and Toxic Industrial Materials.

Effectiveness in Use

The RPE system should provide protection to the face, eyes and gastro-intestinal tract of the wearer against all known chemical and biological agents in aerosol, liquid and vapour form including:

Nerve agents	Bllster agents	Blood agents	Riot Control agents/irritants	Biological Agents	Particulates
"G" series	Mustard	Hydrogen Cyanide	CS	Virus	Dusts, mists and fumes
"V" series	Lewisite	Cyanogen Chloride	CN	Bacteria	Fibers
Any thickened form of agent	Any thickened form of agent		OC (pepper spray) Chloropicrin	Fungal spores	Radioactive particles

The apparatus should meet the live agent permeation requirements when tested on the US SMARTMAN system for both GB and HD agents when tested for a period of at least six hours. Both peak and cumulative agent penetration should be as low as possible and well below the maximum permitted.

When fitted with a suitable filter, both the mask and the system will, in addition to the above, give

effective protection against Toxic Industrial Chemicals (TICs) including, but not limited to: sulfur dioxide, hydrogen sulfide, chlorine, hydrogen chloride, ammonia, phosgene, phosphine, organic vapours with a boiling point above 65°C, formaldehyde and nitrogen dioxide.

The mask must be a NIOSH CBRN approved APR device with a protection factor exceeding 2,000 when correctly fitted, used and maintained in accordance with instructions.

Breathing Performance

SCBA Mode

Maintain positive pressure at the air flow demand rates up to 103 l/pm

PAPR Mode

Provide constant airflow of at least 130 l/pm and a battery life of at least 6 hours utilizing a 10 year storage life LiSO₂ battery.

General Construction

Face Mask

The mask should have to following features to meet the needs of the modern day first responder:

- Single or Twin filter canister ports with standard 40mm thread connections, with a blanking plug provided for the redundant port, such that the filter can be mounted on left or right side for different users. Single filter canister variant to provide soft cheek feature to allow for optimum cheek to stock for weapons sighting
- Face piece must accept new generation conformal 40mm threaded filters
- The face piece manufactured from a chlorobutyl/silicone blend that provides protection against known liquid chemical warfare agents. Provides features to fit a low profile second skin and CBRN hood for additional head and shoulder protection
- Available in 4 sizes (XS, S, M and L) to accommodate the maximum size range of male and female users.
- Interchangeable size nose cups that do not require inlet valves to provide air management within the mask
- Double exhalation valve unit that allows mask to function as a negative or positive pressure system without the need for additional parts. Integrated lever to provide wearer the ability to change from negative to positive pressure modes while wearing the mask in safe environments
- Integrated low profile Voice Projection Unit that can be removed from mask
- Secondary electrical pass through connection, with provision for internal microphone, external connection of communication devices or voice projection/amplification unit
- A 6-point head harness constructed from an elasticized fabric (Lycra style). When donning the user shall only need to adjust 2 straps to fit the mask successfully in under 9 seconds. Straps shall be low profile with Velcro style pads used for straps located under helmets and locking buckles at the temples.

- Single flexible eyepiece/visor incorporating impact protection. Eyepiece shall integrate successfully with common weapon sights and night vision goggles for unimpeded weapon firing
- Additional user fitted optically correct external outserts to provide options for ballistic, UV/sunlight and laser sight protection with further option for blue light filtering with enhanced weapon sighting
- Standard drinking capability including mouthpiece, external drinking tube for attachment to canteens/hydration bladders and include 2 safety valves.
- Ability to fit corrective lenses without modification to the face piece. Optical correction should accommodate lenses from -8 to +10 Dioptres with adjustable vertical movement

SCBA System

The SCBA should have to following features to meet the needs of the modern day first responder:

- The SCBA system should have an air cylinder mounted on a back frame and should contain all pneumatic components, so as to allow for better maneuverability, reduced harness clutter and the chance of the user becoming entangled.
- Single composite back frame assembly with dual carry handles, universal cylinder band and locking security handle to accommodate a variety of cylinder sizes.
- Accommodate a 2216 psi (200 bar) in a 30 minute duration air cylinder or 4500 psi (300 bar) in 30, 45 and 60 minute durations variants and be constructed of wrapped aluminum, carbon fiber type with valve to EN144 standard. The cylinder should be black in color or a black Nomex/Kevlar cylinder bag should be provided as standard.
- A two stage pneumatic system: 1st stage pressure reducer and second stage to be a low profile demand valve with first breath and reset capability.
- The 1st stage sealed pressure reducer shall attach directly to the cylinder valve, eliminating a high pressure hose.
- The 1st stage pressure reducer shall be constructed from nickel plated brass and shall be a piston type, with single spring and shall require no adjustment. It shall incorporate a self-seating pressure relief valve to prevent high-pressure air from entering the low-pressure side of the assembly and shall require no adjustment. The 1st stage pressure reducer shall be capable of working at full input cylinder pressure of either 200 Bar or 300 Bar with no modification or adjustment.
- All hoses shall attach to the 1st stage pressure reducer by means of "U" clips with "O" ring seals. High pressure and low-pressure hoses shall be of different sizes so they can only be fitted in their respective positions.
- All high pressure hoses to be stainless steel inner shell with a polyethylene outer wrap.
- The pneumatics shall be designed such that should the gauge hose become severed, air loss through the severed hose shall not exceed 25 Liters per minute at 200 Bar or 2970 psi.
- The harness straps should be manufactured from Kevlar, with adjustable shoulder and waist buckles, padded for extra user comfort on the shoulder straps and waist area. The waist buckle must be of the quick "single button" release type. The harness assembly should also be quickly removable from the back frame for ease or servicing.
- An analogue pressure gauge should be provided and mounted on the right shoulder strap to indicate cylinder contents and should have an integral whistle for low contents/end of use warning (less than 60 Bar) The gauge should be in Bar and be visible in low light conditions.
- The facemask must be quickly attached to the harness airline by means of a quick release adapter, while the demand valve should connect to the mask by way of a DIN 40mm screw-in attachment.
- The SCBA system should be covert in design, with all reflective parts covered in black material or black anodized, so as to prevent wearer detection in conditions of low light or

darkness.

- The SCBA system should be certified to NIOSH 42 CFR 84 and should meet the live agent permeation requirements when tested on the US SMARTMAN system for both GB and HD agents when tested for a period of at least six hours. Both peak and cumulative agent penetration should be as low as possible and well below the maximum permitted.
- An optional PAPR assembly should be made available to allow powered, filtered air to supply the facemask. The PAPR unit must include a demand valve capability enabling the supply of positive pressure SCBA air through a single PAPR hose to the mask. This PAPR assembly should accept two standard or low profile filter canisters, be powered by its own internal batteries and include a remote power switch located at or near the face mask connector and be capable of being operated by a gloved hand. PAPR shall be supplied with suitable harness to allow for close fit integration with SCBA equipment
- A suitable hard or soft carry case should be available to store the complete system in a condition for immediate use.
- A list of optional mask and system accessories must be included with any offer.

Environmental

The materials used and the method of construction of the mask and SCBA should be designed for operation and storage in accordance with NIOSH criteria. When stored in manufacturers recommended packaging the mask and SCBA must retain its operational effectiveness and efficiency with no degradation to its performance under the following environmental storage conditions:

Temperature	32°C-71°C
Humidity range	0-88RH

Detailed Material/Performance Specifications



Penetration	<p>The mask face piece must be manufactured in a chloro-butyl/silicone rubber blend to provide protection against penetration by all liquids, aerosols or vapour chemical and biological agents, as well as enhanced comfort over traditional compounds. The time for penetration of liquid chemical warfare agents (including HD and VX) must exceed 24 hours. In addition, the compound must also provide excellent tear strength, be resistant to ozone and compression set properties.</p> <p>The nose cup/airguide must be manufactured in silicone rubber for enhanced comfort, with a polyisoprene valve for both inhalation and exhalation ports.</p>
Vision	<p>The visor must be of the low profile, cast polyurethane lens type, with enhanced impact and scratch resistance. The visor must be compatible with optical devices such as weapons sights for most in service law enforcement equipment while offering enhanced vision over twin eyepiece designs. Visor must not yellow, delaminate from face piece or lose optical clarity (haze) when stored.</p> <p>The internal air-flow design should ensure good anti-misting characteristics.</p> <p>Four optional tinted outsert lenses should be available which can be fitted to the outside of the respirator for additional protection against flash, sunlight or laser. Outserts must be quickly removed or attached by hand.</p> <p>A folding sight correction assembly must be available which can be fitted completely inside the mask for those who require prescription lenses.</p>
Speech	<p>Clear communication must be assured by the use of a front mounted exhale valve assembly. Voice amplification available by use of a clip-on Voice Projection/amplification unit, which should be used in conjunction with an internal microphone, and connected by an electrical pass-through.</p>
Equipment Integration	<p>The mask design must be compatible with a wide range of user equipment already in service, e.g. the close contour brow and cheek design permits excellent compatibility with ballistic helmets or weapon stocks</p> <p>The visor must be optimized for use with night vision goggles, sights, binoculars etc, while retaining the provision for internal sight correction.</p> <p>SCBA connections shall allow for interoperability with PAPR module and short duration tanks</p>
Usability	<p>The mask must be of lightweight design and slim profile, and offer very low breathing resistance to ensure a high level of wearer comfort and confidence.</p> <p>Minimum replaceable parts should be required to maintain the mask or SCBA</p> <p>Mask and SCBA must be suitably identified by a serial number for inventory management purposes</p>
Sizing	<p>The mask must be available in 4 sizes to ensure the correct fit for a range of wearers. A fitting gauge must be supplied to assist in the correct sizing of individuals. SCBA harness and back frame to accommodate 95% of sized wearer population</p>
Weight	<p>Total weight of the mask should be no more than 500 grams. Total Weight of SCBA system must not exceed 26kgs without optional PAPR</p>
Drinking	<p>The mask must be fitted with a high flow, fail-safe drinking device that enables the wearer to drink up to 250 ml/min of water without having to remove the respirator in a contaminated environment. A dedicated canteen cap attachment must be available to fit either a standard canteen water bottle or existing in-service water bottles/hydration bladders.</p>

Shelf Life	The mask and SCBA must have a minimum shelf life of 10 years when correctly stored in accordance with manufacturers recommendations
Certification	The system must be NIOSH 42 CFR 84 certified

Other Requirements:

Mask Communication (microphone /external comm port) must be compatible with agencies existing Atlantic Tactical headset/gas mask interface cables. Agency does not desire to support multiple communication systems.

Successful bidder must provide a minimum of 4 on-site training sessions to be conducted on site at North Little Rock Police Department Training Facility or a named office – these training sessions will be coordinated by NLR Training Department and will be held 1 per quarter beginning with initial system training at time of receipt of equipment. These training sessions must be conducted by factory trained authorized personnel from the manufacture.

Each mask must include 1 each of the following:

Avon FM5450 Twin Port Mask (size to be determined XS, S, M, L)

Clear Outsert Assembly

Blu Blocker Outsert Assembly

CBRN Canister – must be conformal

Riot Agent Canister – must be conformal

Universal Carrier (leg / molle attachment)

Storage Face Form

Signature of Authorized Person: _____

Title: _____ Date: _____ UNSIGNED BID

COVER SHEET WILL BE REJECTED.