City of Minot Specifications

SCBA

The unit described under these specifications shall be the manufacturer's latest SCBA and meet the following minimum specifications. Any deviations from the following minimum bid specification must be noted and may be accepted if approved by the Fire Chief. Bidder shall provide brochure showing minimum specifications. Any deviations from the specification shall be clearly explained and attached to the bid proposal. All warranty information must be provided with the bid.

Comply Y/N

_____ Apparatus shall be approved by the National Institute for Occupational Safety and Health (NIOSH), under 42 CFR, Part 84 for chemical, biological, radiological, and nuclear protection (CBRN) with 45 minute-rated service life and compliant with all requirements of the National Fire Protection Association's 2013 Edition of NFPA-1981 Standard on Open-Circuit Self Contained Breathing Apparatus.

_____ Units equipped with integrated PASS device must meet requirements of NFPA 1982.

_____ Bid shall be for 50 Harness', 100 bottles, and 50 masks.

Specific Requirements

Facepiece

_____ Facepiece shall have separate, removable exhalation and inhalation check valves to prevent air from being rebreathed and/or creating cross contamination in the second stage regulator. If facepiece does not have these, a separate second stage regulator with quick disconnect hose shall be provided with each mask.

_____ Facepiece shall provide means to display to user with visual indicators for HUD.

_____ Facepiece shall be available in three sizes (small, medium, large)

_____ Lens shall be hard-coated on outside and anti-fog coated on inside.

_____ Facepiece shall have optional flame/heat-resistant fabric or rubber neck strap to carry facepiece in ready position for quick donning.

_____ Facepiece head harness shall be mesh or fabric material.

_____ If the facepiece has an exhalation valve it shall be serviceable without special tools.

_____ Facepiece shall be capable of water submersion for cleaning and disinfection.

Mask-Mounted Regulator (Demand Valve):

_____ When doffing regulator, regulator disengagement shall simultaneously stop air flow and release regulator.

_____ Regulator shall be equipped with variable flow bypass.

_____ Regulator shall not have exposed wiring in order to prevent snags and increase product durability.

_____ Regulator must prevent permeation of CBRN agents.

Heads-Ups Display (HUD)

_____ HUD shall be powered from central power system.

_____ HUD System shall eliminate cross-talk among firefighters.

_____ HUD System shall be immune to radio frequency interference (RFI) and must function properly in close proximity to fire service hand-held radios.

_____ HUD system shall provide user with remaining cylinder air volume through LEDs.

_____ Buddy lights shall be visible from outside of firefighter's facepiece.

_____ HUD system shall allow user to select modes of operation

1) Continuous pressure mode that shall always have pressure LEDs on.
2) Mixed pressure mode.

Universal Air Connection (UAC)

_____ System shall be cable of

1) Refill within immediately dangerous to life or health (IDLH) atmospheres.

2) Transfilling between two SCBA wearers (connection allows for donation and receipt of air), providing emergency breathing system (EBS) while maintaining NIOSH approvals.

3) Quickly refilling (approximately one-minute duration) SCBA cylinder from mobile compressor, cascade system or RIT pack.

4) Extending wearer's air supply over longer duration when remote cascade system or other compressed gas source is located within remote area.

_____ Primary UAC shall be illuminated when supply pressure reaches Low Pressure Warning Alarm or can be configured to optional medium pressure warning alarm.

_____ SCBA shall have secondary options for UAC to be mounted on users' waist.

Presser Reducer (First-Stage Regulator) with Primary Low Pressure Warning Device.

_____ Pressure reducer shall incorporate an alarm mechanism.

_____ Alarm mechanism shall be air-actuated, continuous audible warning alarm, automatically operating when supply cylinder air pressure reaches approximately 35% of rated service time.

_____ Alarm mechanism shall cover multiple levels of frequencies to cover all hearing level.

_____ Alarm mechanism shall be user-accessible while wearing SCBA.

_____ Presser reducer reduces cylinder pressure to outlet pressure not to exceed 115 psi; outlet presser must be adjustable.

_____ Presser reducer shall have flow capacity of 700 liters per minute at full pressure.

_____ Pressure reducer shall have cylinder connections type: Quick connect.

_____ Quick-Connect connection shall not be removable from cylinder while under pressure.

_____ Pressure reducer shall be sealed system that does not allow moisture to enter valve components.

_____ Pressure reducer may have two accessory ports, one medium pressure and one high pressure.

Cylinders

_____ Cylinders with 4500 psig operating pressure must be available in 45 minute duration.

_____ Cylinders shall be constructed of deep drawn, seamless aluminum liner that is fully wound over entire surface (except for thick neck area) with high-strength carbon fiber filaments impregnated with epoxy resin.

_____ Cylinder shall contain valve that shall incorporate pressure gauge to indicate cylinder pressure at all times. Pressure gauge face shall be luminescent. Hand wheel shall be placed at 90 degree angle form cylinder.

_____ Cylinder valve shall incorporate flow control insert to limit air flow over hand wheel's first half rotation, minimizing propulsion thrust in event that cylinder is mishandled.

_____ Cylinder valve shall incorporate CGA thread that can be converted to quick-connect cylinder without special tools.

PASS Devise

_____ PASS device shall contain power, control and battery modules.

_____ Battery module shall be powered by six C-Cell batteries or one lithium ion rechargeable battery.

_____ Expected battery service life shall be 4-6 months on average.

_____ PASS device shall be designed for battery level check.

_____ Control module shall have analog and digital display for added redundancy.

_____ Control module shall have alarm button to activate full alarm.

_____ Power module shall be equipped with dual sound emitters; sound emitters shall perform at minimum 100 dBa in room temperature.

_____ PASS device shall be immune to radio frequency interference (RFI) and must function properly in close proximity of fire service hand-held radios.

_____ PASS device shall employ gasket perimeter seal to provide highest protection level against water ingress, while providing ability to upgrade or repair electronics.

_____ Control module shall incorporate rubber boot for added protection and is to be replaceable.

Speaker Module/Voice Amp

_____ Speaker module/voice amp shall provide amplified speech that removes inhalation breath noise.

_____ Speaker module/voice amp shall provide at minimum, 70 dBa output.

_____ Speaker module/voice amp shall be capable of passing NFPA heat and immersion leakage test (not NFPA-required).

_____ Speaker module/voice amp shall easily be attached and removed without special tools.

_____ Speaker module/voice amp shall have light to indicate that devise is powered on.

_____ Speaker module/voice amp shall have on/off button to allow user to manually power off as needed.

_____ SCBA will have Bluetooth and shall be Bluetooth compatible with Motorola APX 6000XP.

Emergency Escape Breathing Support System

_____ Emergency escape breathing support system must be accommodated by SCBA

_____ System must be available with common SCBA quick-disconnect fitting.

_____ System shall connect to intermediate pressure side of SCBA, downstream of pressure reducer.

_____ System shall have both male and female connections.

_____ Storage bag must be provided and mounted to unit.

Carrier and Harness

_____ Shoulder harness shall have separate left and right pads for easier and less costly replacement.

_____ Shoulder harness shall have retro-reflective markings for better visibility in low light conditions.

_____ Shoulder harness shall have localized friction pads on shoulders to prevent slippage.

_____ Shoulder harness shall have improved color stability up to 600 degrees Fahrenheit.

_____ Shoulder harness shall be capable of washing at least 40 times while maintaining color fastness.

_____ Shoulder harness shall have a chest strap.

_____ Waist pad shall be swiveling, either fixed or adjustable.

_____ Backplate shall have two side handles and one top handle that are accessible with gloved hand.

_____ Backplate side handles shall be capable of 500 lbs of force.

_____ Backplate top handles shall be capable of 1000 lbs of force.

_____ Waist straps shall be double-pull forward design.

_____ Harness design shall have regulator keeper for storage that can be attached to waist or chest strap.

_____ Regulator keeper shall allow regulator to be connected at any angle.

Training

_____ In house training for 3 service techs and 3 days of training on use of the SCBA (1 day for each Battalion) to be provided by the bidder.

Options

_____ Department reserves the right to purchase up to 15 extra masks, voice amps, and regulators with quick connect at bid price.