

BID SPECIFICATIONS

AIR-PAK 75 SCBA, 2013 Compliant

General Self-Contained Breathing Apparatus Requirements

The purpose of this bid specification is to establish the minimum requirements for an open-circuit self-contained breathing apparatus (SCBA). The SCBA shall consist of the following major sub-assemblies: (1) full facepiece assembly; (2) a removable, facepiece-mounted, positive pressure breathing regulator with air-saver switch; (3) an automatic dual path redundant pressure reducing regulator; (4) end-of-service time indicators; (5) a harness and backframe assembly for supporting the equipment on the body of the wearer; (6) a shoulder strap mounted, remote gauge indicating cylinder pressure; (7) a rapid intervention crew/universal air connection (RIC/UAC); and (8) cylinder and valve assembly for storing breathing air under pressure.

The successful bidder agrees to provide, at their own expense, a factory trained instructor for such time as the respirator user shall require complete instruction in the operation and maintenance of the respirator. Any exceptions to these specifications must be detailed in a separate attachment. Failure to do so will automatically disqualify the bidder.

The successful bidder must be a sales distributor, authorized by the manufacturer, to sell the equipment specified herein. A signed document from the manufacture confirming this must be included with the bid.

The SCBA shall maintain all NIOSH standards with any of the following types of cylinders listed as provided by the SCBA manufacturer.

Approvals	Product:		
	Meets	Does Not Meet	Exception
<ul style="list-style-type: none"> The SCBA shall be approved to NIOSH 42 CFR, Part 84 for chemical, biological, radiological and nuclear protection (CBRN). 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The SCBA shall be compliant to the NFPA 1981, 2013 Edition, Standard on Open-Circuit Self-Contained Breathing Apparatus for Emergency Services. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The SCBA shall be compliant to the NFPA 1982, 2013 Edition (if including optional PASS Device), Standard on Personal Alert Safety Systems. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> If the SCBA is to include an optional integrated self-rescue device, the device shall be compliant to the NFPA 1983, 2012 Edition, Standard on Life Safety Rope and Equipment for Emergency Services. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> All electronic components shall be approved for Intrinsic Safety under the 6th edition of UL 913 Class I, Groups C, D, E, F and G, Hazardous locations. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Required Components	Product:		
	Meets	Does Not Meet	Exception
<i>Facepiece</i>			
<ul style="list-style-type: none"> The facepiece shall have a large diameter inlet serving as the female half of a quarter (1/4) turn coupling which mates with the positive pressure breathing regulator. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The facepiece shall be approved for use with multiple respiratory applications to enable the same user to switch from one application to another without the use of tools and without doffing the facepiece. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The full facepiece assembly shall fit persons of varying facial shapes and sizes with minimal visual interference. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The full facepiece assembly shall be available in three sizes marked "S" for small, "M" for Medium and "L" for large. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The facepiece sizes shall be easily identifiable through a color-coding scheme. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The facepiece assembly, including head harness, shall be latex free. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The facepiece series shall have a faceseal that is secured to the lens by a U-shaped channel frame that is retained to the lens using two fasteners. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The faceseal shall be a reverse reflex design for enhanced fit and comfort. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The facepiece shall contain inhalation valves that are readily visible to enable quick visual inspection. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The lens shall be a single, replaceable, modified cone configuration constructed of a non-shatter type polycarbonate material. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> In accordance with NIOSH 42 CFR part 84, the facepiece meets penetration and impact requirements, including compliance with ANSI Z87.1 - 2010. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The lens shall have a coating to resist abrasion and chemical attack and meet the requirements of NFPA-1981, for lens abrasion. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The lens shall have an internal anti-fog coating to reduce fogging of the lens. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Multi-directional voicemitters shall be mounted on both sides of the facepiece and ducted directly to an integral silicone noseclip to enhance voice transmission. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The facepiece assembly shall be able to incorporate multiple Scott electronic communications options (amplification, radio interface, wireless, etc) without affecting NIOSH approvals or NFPA/CBRN approvals where applicable. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The facepiece shall enable the installation of communications bracket on either the right or left side. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The head harness shall be a five-point suspension made in the fashion of a net hood to minimize interference between securing of the facepiece and the wearing of head protection, and be constructed of a para-aramid material for fire, first responder and CBRN applications. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<i>Mask-Mounted Regulator</i>	Product:		
	Meets	Does Not Meet	Exception
<ul style="list-style-type: none"> The facepiece-mounted positive pressure-breathing regulator shall supply and maintain air to the facepiece to satisfy the needs of the user at a pressure greater than atmospheric by no more than 1.5 inches of water pressure static. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The breathing regulator shall maintain positive pressure during flows of up to 500 standard liters per minute. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The regulator shall also meet or exceed a dynamic flow requirement of remaining positive while supplying a minute volume of 160 liters. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The breathing regulator shall have attached a low pressure hose which shall be threaded through the left shoulder strap to couple to the pressure reducing regulator mounted on the backframe. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> As an option, the regulator shall be available with a quick connect coupling in line for use with the optional outlet manifold and accessory hose to allow the breathing regulator to be disconnected from the unit and reconnected to the auxiliary hose of a second unit in the event rescue is required. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The quick connect coupling shall be easily connected and disconnected by trained individuals with a gloved hand and/or in low light conditions. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The quick connect coupling shall not allow the air hose to be connected without the HUD connection. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The coupling shall also be guarded against inadvertent disconnect during use of the equipment. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The low-pressure hose shall be equipped with a swivel attachment at the facepiece mounted regulator. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The regulator shall connect to the facepiece by way of a quarter (1/4) turn coupling. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The user shall hear an audible sound when the regulator is attached correctly to the facepiece. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The regulator shall be equipped with a doughnut-shaped gasket which provides a seal against the mating surface of the facepiece. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The regulator cover shall be fabricated of a flame resistant, high impact plastic. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The breathing regulator shall have a demand valve to deliver air to the user, activated by a diaphragm responsive to respiration. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<ul style="list-style-type: none"> The demand valve shall use an extended temperature range dynamic O-ring seal composed of a fluorosilicone elastomer. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The diaphragm shall include the system exhalation valve and shall be constructed from a high strength butyl elastomer. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> A purge valve shall be situated at the inlet of the breathing regulator and shall be capable of delivering airflow of between 125 and 175 standard liters per minute. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The breathing regulator shall be arranged to direct the incoming air over the inner surface of the facepiece for defogging purposes. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The components of the breathing regulator shall be constructed of materials that are not vulnerable to corrosion. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The flame resistant cover shall contain an air saver switch and pressure demand bias mechanism. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> It shall reactivate and supply air only in the positive pressure mode when the wearer affects a face seal and inhales. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> This device shall not affect the breathing flow through the system while in operation. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Product:		
<i>Pressure Reducer</i>	Meets	Does Not Meet	Exception
<ul style="list-style-type: none"> The pressure-reducing regulator shall be mounted on the backframe and be coupled to the cylinder valve through a short length of internally armored high pressure hose with a hand coupling for engagement and sealing within the cylinder valve outlet. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> In lieu of a manual by-pass, the pressure-reducing regulator shall include a back-up pressure-reducing valve connected in parallel with the primary pressure reducing valve and an automatic transfer valve for redundant control. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The back-up pressure reducing valve shall also be the means of activating the low-pressure alarm devices in the facepiece-mounted breathing regulator. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> This warning shall denote a switch from the primary reducing valve to the back-up reducing valve whether from a malfunction of the primary reducing valve or from low cylinder supply pressure. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> A press-to-test valve shall be included to allow bench testing of the back-up reducing valve. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The pressure-reducing regulator shall have extended temperature range dynamic O-ring seals composed of fluorosilicone elastomer. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<ul style="list-style-type: none"> The pressure reducing regulator shall have incorporated a reseatable over-pressurization relief valve which shall prevent the attached low pressure hose and facepiece-mounted breathing regulator from being subjected to high pressure. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Product:		
<i>End-of-Service Time Indicator (EOSTI)</i>	Meets	Does Not Meet	Exception
<ul style="list-style-type: none"> The SCBA shall have two end-of-service time indicators (EOSTI). A tactile alarm and a Heads-Up Display (HUD). 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The primary EOSTI shall be the integral low-pressure alarm device that shall combine an audible alarm with simultaneous vibration of the facepiece. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The primary EOSTI shall be located in the Facepiece-Mounted Positive Pressure Regulator. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> This alarm device shall indicate either low cylinder pressure (33% +5%, -0%) or primary first stage regulator failure. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The HUD shall serve as the secondary EOSTI indicator. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The HUD shall be powered by the SCBA's single power supply. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> It shall be mounted in the user's field of vision on the Facepiece-Mounted Positive Pressure Regulator. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> It shall display cylinder pressure in increments of 100%, 75%, 50% and 33%. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The display shall not have a numerical representation of bottle pressure. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> At full bottle pressure, two green Light Emitting Diodes (LED) shall be illuminated. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> At three-quarter bottle pressure, one green LED shall be illuminated. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> At one-half bottle pressure, one "yellow" LED shall be illuminated and flash at a rate not to exceed one (1x) time per second. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> At one-third bottle pressure, one "red" LED shall be illuminated and flash at a rate not to exceed ten (10x) times per second. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The HUD shall have a low battery indication that is distinct and distinguishable from the bottle pressure indications. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<i>Harness and Backframe Assembly</i>	Product:		
	Meets	Does Not Meet	Exception
<ul style="list-style-type: none"> A lightweight, lumbar support style backframe and harness assembly shall be used to carry the cylinder and valve assembly and the pressure reducing regulator assembly. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The backframe shall be a solid, one-piece black powder-coated aluminum frame that is contoured to follow the shape of the user's back. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The backframe shall include a mounting for the pressure reducer. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> This mounting shall contain a slide-type bracket permitting positioning of the pressure reducer to accommodate connection to either an angled or straight-type cylinder valve. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The backframe shall include an over-the-center, adjustable tri-slide fixture, a para-aramid strap and a double-locking latch assembly to secure 30, 45, 60, or 75 minute cylinders. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The harness assembly shall consist of a one size black para-aramid strap with a yellow stripe. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> This harness shall include box-stitched construction with no screws or bolts. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The harness assembly shall incorporate parachute-type, quick-release buckles and shall include shoulder and hip pads. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The harness shall include a seat-belt type waist attachment. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The shoulder strap shall be fitted with a Drag Rescue Loop (DRL) capable of being deployed in an emergency situation to drag a downed firefighter to safety. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The one-piece aluminum backframe should include integrated donning/carry handles. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The handles shall allow the user to easily don the SCBA in the "over-head" style and also allow the user to carry the SCBA. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The backframe shall include accommodation and mounting spaces suitable for installation of a distress alarm integrated with the SCBA. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> These mounting spaces shall permit installation of an alarm sensor module in an area between the cylinder hanger locking mechanism and the backframe. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

	Product:		
<i>Shoulder-Mounted Pressure Gauge (replace this section if requiring a PASS device, see below)</i>	Meets	Does Not Meet	Exception
• The pressure gauge shall be an integral part of the console assembly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• The control console shall come with a mechanical (analog) pressure gauge that is angled at 30°.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• The control console shall contain an edge lit pressure gauge that requires no action by the user to turn on except opening the cylinder valve.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• The control console shall contain a photo sensing diode to dim and brighten the HUD as the environment changes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• The console shall power the HUD with two AA batteries.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Product:		
<i>Rapid Intervention Connection</i>	Meets	Does Not Meet	Exception
• The SCBA shall incorporate a RIC/UAC fitting to be compliant with the 2013 edition of the NFPA 1981 Self-Contained Breathing Apparatus standard.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• The RIC/UAC shall be an integral part of the high-pressure hose that attaches the cylinder valve to the first stage pressure reducer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• The RIC/UAC inlet connection shall be within 4" (4-inches) of the tip of the CGA threads of the cylinder valve.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• The RIC/UAC shall consist of a connection for attaching a high-pressure air source and a self-resetting relief valve allowing a higher pressure than that of the SCBA to be attached to the SCBA.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• The RIC/UAC shall have a check valve to prevent the loss of air when the high-pressure air source has been disconnected.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Product:		
<i>Cylinder</i>	Meets	Does Not Meet	Exception
• The cylinder threads shall be straight with an O-ring or quad-ring gasket type seal.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• The cylinder valve shall be a "fail open" type, constructed of forged aluminum and designed such that no stem packing or packing gland nuts are required.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• It shall contain an upper and lower seat such that the pressure will seal the stem on the upperseat, thus preventing leakage past the stem.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• No adjustment shall be necessary during the life of the valve.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• The cylinder valve outlet shall be a modification of the Compressed Gas Association (CGA) standard threaded connection number 346 for breathing air for 2216 and CGA 347 for 4500 and 5500 systems with a tri-lobe ergonomically designed hand-wheel.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
• The valve shall be constructed such that damage will not occur if the coupling is over-torqued by hand.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<ul style="list-style-type: none"> Each cylinder valve shall consist of the following: 1) a hand activated valve mechanism with a spring-loaded, positive action, ratchet type safety lock and lock-out release for selecting “lock open service” or “non-lock open service”; 2) an upstream connected frangible disc safety relief device; 3) a dual reading pressure gauge indicating cylinder pressure at all times; 4) an elastomeric bumper; 5) an angled outlet. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Each cylinder and valve assembly shall be equipped with a hanger bracket for positive locking attachment of the assembly to the backframe. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The SCBA shall maintain all NIOSH and NFPA standards with any of the following types of cylinders listed as provided by the SCBA manufacturer. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Carbon-Wrapped			
<ul style="list-style-type: none"> The cylinder shall be manufactured in accordance with DOT specifications and meet the Transport Canada requirements with working pressures of 2216, 4500, or 5500 psig. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The cylinder shall be lightweight, composite type cylinder consisting of an aluminum alloy inner shell, with a total overwrap of carbon fiber, fiberglass and an epoxy resin. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The cylinder shall be available in a 30-minute, 45-minute, 60-minute or 75 minute duration based on the NIOSH breathing rate of 40 liters per minute (lpm). 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Product:		
<i>Warranty</i>	Meets	Does Not Meet	Exception
<ul style="list-style-type: none"> The unit shall be covered by a warranty providing protection against defects in materials or workmanship. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> This warranty shall be for a period of 10 years on the SCBA, except for the pressure reducer, which shall be covered for 15 years. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Electronic components shall be warranted for five years. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Optional Components	Product:		
<i>Personal Alert Safety System</i>	Meets	Does Not Meet	Exception
<ul style="list-style-type: none"> The PASS Device shall be compliant to the NFPA 1982, 2013 Edition Standard on Personal Alert Safety Systems. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> Operation of this distress alarm shall be initiated with the opening of the valve of an SCBA charged cylinder. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The system shall feature a “hands-free” re-set capability that may be activated by means of a slight movement of the SCBA when the system is in a pre-alert mode. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The system shall operate from a single power source containing six “AA” batteries. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<ul style="list-style-type: none"> The battery life of the SCBA with PASS only shall be no less than 200 hours. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The system shall have a battery check function that provides an LED indication of battery status while the SCBA is not pressurized. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The PASS System shall be upgradeable to include a 2.4 GHz integrated locator system. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The PASS system shall be upgradeable to include a 2.4 GHz integrated SCBA air / PASS (telemetry) management system. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The PASS device shall contain two components: a Console and a Sensor Module. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Console			
<ul style="list-style-type: none"> The console shall be located on the user's right shoulder strap. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The console shall contain an integral edge lit mechanical pressure gauge that is automatically energized by opening the cylinder valve. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The console shall display to the user the following: Pre-Alarm: alternating red flashing LED's; Full Alarm: dual flashing red LED's and a flashing PASS icon; Low Battery: red flashing LED's; Normal System Operation: flashing green LED. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The console shall contain a photo sensing diode to dim and brighten the HUD as the environment changes. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The console shall contain push buttons for user interface. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The push buttons shall be designed to minimize accidental activation. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> A yellow color-coded push button shall permit system re-set. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> A red color-coded push button shall permit manual activation of the full alarm mode. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sensor Module			
<ul style="list-style-type: none"> The system shall include a sensor module mounted to the SCBA backframe and located in an area between the cylinder and backframe in a manner designed to protect the assembly from damage. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<ul style="list-style-type: none"> The sensor module shall contain a motion sensor that is sensitive to user hip movement to reduce false activations. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The sensor module shall contain redundant, dual sound emitters for the audible alarm and dual visual "buddy" indicators. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The sensor module sound emitters shall be oriented in multi-directions for optimal sound projection. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The visual indicators on the backframe mounted sensor module shall flash green during normal operation. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> The visual indicators shall flash red 1) when the device is in pre-alert; 2) when the device is in full-alert; and 3) when the SCBA has reached one-third bottle pressure. 	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>