



# City of Pigeon Forge Fire Department

Tony L. Watson, Chief



## Notice of Bid

The City of Pigeon Forge is requesting bids from qualified vendors on **Self-Contained Breathing Apparatus (SCBA)** for the City of Pigeon Forge Fire Department. Bid specifications are enclosed or may be obtained at the Pigeon Forge Fire Department Monday through Friday between the hours of 8:00 am to 4:30 pm. Proposals not meeting the requirements will be rejected.

The City of Pigeon Forge reserves the right to reject any or all bids or to accept the deemed most favorable to the city. We also reserve the right to accept any portion or all of a bid.

Bids must be good through **June 30, 2018** with the option to extend the bid price for an additional year.

Bidder agrees by placing bid that no bills will be submitted to the Pigeon Forge Fire Department until all items on order are received and accepted by the Pigeon Forge Fire Department as correct.

Bids will be received by the City of Pigeon Forge until **1:30 pm (Eastern Time) September 28, 2017** at which time they will be opened and read aloud at Pigeon Forge Fire Department.

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 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.

Bid specs can be found online at [www.cityofpigeonforge.com](http://www.cityofpigeonforge.com)

Any question on any item listed, please call Pigeon Forge Fire Department at (865) 429-7381.

All bids must be dated, signed and words "**Self-Contained Breathing Apparatus**" shall be prominently displayed on the outside of the envelope.

Address all bids to:  
Pigeon Forge Fire Department  
Attn: Tony L. Watson  
P.O. Box 1350  
Pigeon Forge, TN 37868-1350



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## LEGAL RIGHT TO SPECIFY

The Pigeon Forge Fire Department (for the remainder of this section referred to as the “specifier”) chooses to exercise its legal right to specify as determined by the U.S. Supreme Court’s affirmation of the decision handed down in the case of Whiten Corp. vs. Paddock. by the U.S. District Court of Massachusetts, the First Federal District Court, which in effect states:

- 1) That as trained professionals; specifiers make informed judgments on products that they feel best serve their needs. Also, that proprietary specifications (if chosen) **DO NOT** violate any antitrust laws. technically, very few brands of material or equipment are exactly alike, and if the specifier wants to limit the specifications to one source, he has the right to do so and enforce it.
- 2) Only the specifier has the responsibility and judgment for determining whether a proposed Substitution an “or equal”.
- 3) That from start to finish in the purchasing process, only the specifier can ultimately decide if another desirable product is available in lieu of the specification.
- 4) Finally, that the courts conclude “the burden is on the supplier or manufacturer, who has **NOT** been specified, to convince the specifier that their product is equal for the purpose of a particular project”.

The specifier has determined that this product specification shall represent the product to which all offerings shall be compared. Due to the fact that fire firefighting is an **ULTRAHAZARDOUS, UNAVOIDABLY DANGEROUS** activity, only trained Fire Department personnel with specific knowledge in the area shall be allowed to make the final determining decision on the selection of the appropriate product to serve the Pigeon Forge Fire Department’s needs.



# City of Pigeon Forge Fire Department

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

Facepiece	Meets	Does Not Meet	Exception
<ul style="list-style-type: none"> <li>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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The full facepiece assembly shall fit persons of varying facial shapes and sizes with minimal visual interference.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The full facepiece assembly shall be available in three sizes marked "S" for small, "M" for Medium and "L" for large.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The facepiece sizes shall be easily identifiable through a color-coding scheme.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The facepiece assembly, including head harness, shall be latex free.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The facepiece series shall have a faceséal that is secured to the lens by a U-shaped channel</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



# City of Pigeon Forge Fire Department

Tony L. Watson, Chief



<ul style="list-style-type: none"> <li>The face seal shall be a reverse reflex design for enhanced fit and comfort.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The facepiece shall contain inhalation valves that are readily visible to enable quick visual inspection.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The lens shall be a single, replaceable, modified cone configuration constructed of a non-shatter type polycarbonate material.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>In accordance with NIOSH 42 CFR part 84, the facepiece meets penetration and impact requirements, including compliance with ANSI Z87.1 – 2010. 2013 edition.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The lens shall have a coating to resist abrasion and chemical attack and meet the requirements of NFPA-1981, for lens abrasion.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The lens shall have an internal anti-fog coating to reduce fogging of the lens.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>Multi-directional voicemitters shall be mounted on both sides of the facepiece and ducted directly to an integral silicone noseclip to enhance voice transmission.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The facepiece assembly shall be able to incorporate multiple electronic communications options (amplification, radio interface, wireless, etc) without affecting NIOSH approvals or NFPA/CBRN approvals where applicable.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The facepiece shall enable the installation of communications bracket on either the right or left side.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Mask-Mounted Regulator	Meets	Does Not Meet	Exception
<ul style="list-style-type: none"> <li>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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The breathing regulator shall maintain positive pressure during flows of up to 500 standard liters per minute.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The regulator shall also meet or exceed a dynamic flow requirement of remaining positive while supplying a minute volume of 160 liters.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



# City of Pigeon Forge Fire Department

**Tony L. Watson, Chief**



<ul style="list-style-type: none"> <li>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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The low-pressure hose shall be equipped with a swivel attachment at the facepiece mounted regulator.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The regulator shall connect to the facepiece by way of a quarter (1/4) turn coupling.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The user shall hear an audible sound when the regulator is attached correctly to the facepiece.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The regulator shall be equipped with a doughnut-shaped gasket which provides a seal against the mating surface of the facepiece.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The regulator cover shall be fabricated of a flame resistant, high impact plastic.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The breathing regulator shall have a demand valve to deliver air to the user, activated by a diaphragm responsive to respiration.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The demand valve shall use an extended temperature range dynamic O- ring seal composed of a fluorosilicone elastomer.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The diaphragm shall include the system exhalation valve and shall be constructed from a high strength butyl elastomer.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>A purge valve shall be situated at the inlet of the breathing regulator and shall be capable of delivering airflow of between 125 and 225 standard liters per minute.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The breathing regulator shall be designed to direct the incoming air through a spray bar and over the inner surface of the facepiece lens for defogging purposes.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The components of the breathing regulator shall be constructed of materials that are not vulnerable to corrosion.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The flame resistant cover shall contain an air saver switch and pressure demand bias mechanism.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The regulator shall reactivate and supply air only in the positive pressure mode when the wearer affects a face seal and inhales.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



# City of Pigeon Forge Fire Department

Tony L. Watson, Chief



<ul style="list-style-type: none"> <li>• This device shall not affect the breathing flow through the system while in operation.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<i>Pressure Reducer</i>	Meets	Does Not Meet	Exception
<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• The back-up pressure reducing valve shall also be the means of activating the low-pressure alarm devices in the facepiece-mounted breathing regulator.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• A press-to-test valve shall be included to allow bench testing of the back-up reducing valve.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• The pressure-reducing regulator shall have extended temperature range dynamic O-ring seals composed of fluorosilicone elastomer.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• The back-up pressure reducing valve shall also be the means of activating the low-pressure alarm devices in the facepiece-mounted breathing regulator.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



# City of Pigeon Forge Fire Department

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



# City of Pigeon Forge Fire Department

Tony L. Watson, Chief



<ul style="list-style-type: none"> <li>• The HUD shall have a low battery indication that is distinct and distinguishable from the bottle pressure indications.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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<i>Harness and Backframe Assembly</i>	Meets	Does Not Meet	Exception
<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• The backframe shall be a solid, one-piece black powder-coated aluminum alloy frame that is contoured to follow the shape of the user's back.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• The backframe shall include a mounting for the pressure reducer.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• The harness assembly shall consist of a one size black para-aramid strap with a yellow stripe.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• This harness shall include box-stitched construction with no screws or bolts.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• The harness assembly shall incorporate parachute-type, quick-release buckles and shall include shoulder and hip pads. Optional spring (alligator) clips shall also be available.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• The harness shall include a seat-belt type waist attachment.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• 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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>• The one-piece aluminum backframe should include integrated donning/carry handles.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





# City of Pigeon Forge Fire Department

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<ul style="list-style-type: none"> <li>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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The backframe shall include accommodation and a mounting area suitable for installation of a distress alarm integrated with the SCBA.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The mounting area shall permit installation of a distress alarm sensor module in an area between the cylinder hanger locking mechanism and the backframe.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Rapid Intervention Crew / Universal Air Connection (RIC/UAC)	Meets	Does Not Meet	Exception
<ul style="list-style-type: none"> <li>The SCBA shall incorporate a RIC/UAC fitting to be compliant with the 2013 edition of the NFPA 1981 Self-Contained Breathing Apparatus standard.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The RIC/UAC shall be an integral part of the high-pressure hose that attaches the cylinder valve to the first stage pressure reducer.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The RIC/UAC inlet connection shall be within 4” (4-inches) of the tip of the CGA threads of the cylinder valve.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The self-resetting relief valve shall be color-coded to identify pressure rating of the SCBA.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The RIC/UAC shall have a check valve to prevent the loss of air when the high-pressure air source has been disconnected.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Cylinder	Meets	Does Not Meet	Exception
<ul style="list-style-type: none"> <li>The cylinder threads shall be straight with an O-ring or quad-ring gasket type seal.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>It shall contain an upper and lower seat such that the pressure will seal the stem on the upper seat, thus preventing leakage past the stem.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



# City of Pigeon Forge Fire Department

Tony L. Watson, Chief



<ul style="list-style-type: none"> <li>No adjustment shall be necessary during the life of the valve.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The cylinder valve outlet shall be a modification of the Compressed Gas Association (CGA) standard threaded connection CGA 347 for 4500 system with a tri-lobe ergonomically designed hand-wheel.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The valve shall be constructed such that damage will not occur if the coupling is over-torqued by hand.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>Each cylinder and valve assembly shall be equipped with a hanger bracket for positive locking attachment of the assembly to the backframe.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The SCBA shall maintain all NIOSH and NFPA standards with any of the following types of cylinders listed as provided by the SCBA manufacturer.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Carbon-Wrapped			
<ul style="list-style-type: none"> <li>The cylinder shall be manufactured in accordance with DOT specifications and meet the Transport Canada requirements with working pressures of 4500 psig.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The cylinder shall be available in a 45-minute duration based on the NIOSH breathing rate of 40 liters per minute (lpm).</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The cylinder shall be available in an approved 30-year life design as defined by the DOT Special Permit 14232.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



# City of Pigeon Forge Fire Department

Tony L. Watson, Chief



<i>Warranty</i>	Meets	Does Not Meet	Exception
<ul style="list-style-type: none"> <li>The unit shall be covered by a warranty providing protection against defects in materials or workmanship.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>Electronic components shall be warranted for 5 years.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<i>Personal Alert Safety System with Firefighter Locator</i>	Meets	Does Not Meet	Exception
<ul style="list-style-type: none"> <li>The PASS Device shall be compliant to the NFPA 1982, 2013 Edition Standard on Personal Alert Safety Systems.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>Operation of this distress alarm shall be initiated with the opening of the valve of an SCBA charged cylinder.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>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-alarm mode.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The system shall operate from a single power source containing six “AA” batteries.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The battery life of the SCBA with PASS only shall be no less than 200 hours.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The system shall have a battery check function that provides an LED indication of battery status while the SCBA is not pressurized.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>When the PASS is manually activated, the locator system shall immediately emit a 2.4 GHz signal to be received by a separate hand-held receiver.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>When the PASS is activated due to lack of motion, the locator system shall have a ten second delay prior to emitting a 2.4 GHz signal to be received by a separate hand-held receiver.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The system shall utilize a 2.4 GHz signal to provide the best path to a “downed” firefighter.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



# City of Pigeon Forge Fire Department

Tony L. Watson, Chief



<ul style="list-style-type: none"> <li>The locating system shall be programmable with eight alpha-numeric characters to provide identification information.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The PASS device shall contain two components: a Console and a Sensor Module.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Console	Meets	Does Not Meet	Exception
<ul style="list-style-type: none"> <li>The console shall be located on the user's right shoulder harness.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The console shall contain an integral edge lit mechanical pressure gauge that is automatically turned on by opening the cylinder valve.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>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.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The console shall contain a photo sensing diode to dim and brighten the HUD as the ambient lighting changes.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The console shall contain push buttons for user interface.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The push buttons shall be designed to minimize accidental activation.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>A yellow color-coded push button shall permit system re-set.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>A red color-coded push button shall permit manual activation of the full alarm mode.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



# City of Pigeon Forge Fire Department

Tony L. Watson, Chief



Sensor Module	Meets	Does Not Meet	Exception
<ul style="list-style-type: none"> <li>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.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The sensor module shall contain a motion sensor that is sensitive to user hip movement to reduce false activations.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The sensor module shall contain redundant, dual sound emitters for the audible alarm and dual visual “buddy” indicators.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The sensor module sound emitters shall be oriented in multi-directions for optimal sound projection.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The visual indicators on the backframe mounted sensor module shall flash green during normal operation.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The visual indicators shall flash red 1) when the device is in pre-alarm; and 2) when the device is in full-alarm.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The visual indicators shall flash a combination of red, green, and white when the SCBA has reached one-third bottle pressure.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

<i>Emergency Breathing Support System “Buddy Breathing”</i>	Meets	Does Not Meet	Exception
<ul style="list-style-type: none"> <li>The Optional Dual Emergency Breathing Support System (EBSS) shall be approved to NIOSH 42CFR, Part 84 and NFPA 1981, 2013 Edition.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The Dual EBSS shall have one of each of the following requirements; (1) a manifold with one each of a female socket and male plug, both of which have check valves, (2) 40” minimum low- pressure hose, (3) a pouch for storing the hose, and (4) a dust cap for the female socket and male plug.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The Dual EBSS shall be positioned on the wearer’s left side and shall be capable of allowing for six feet of hose between like systems.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The manifold shall be made of aluminum and be anodized black.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



# City of Pigeon Forge Fire Department

Tony L. Watson, Chief



<ul style="list-style-type: none"> <li>The female socket and male plug shall have spacing, no less than 15° off-center.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The female socket shall have a double action to disengage, noted as a “push-in/pull-back”.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The female socket shall have an internal check valve.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The male plug shall have an external check valve.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The hose shall be made of high temperature rubber capable of sustaining a maximum 250 psig of pressure.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The containment system shall include a pouch and shall be made of para-aramid materials and shall be capable of storing 36” of hose.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The pouch shall be attached to the SCBA by snap fasteners.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The Dual EBSS shall have provision for connection of a supplied airline for extended duration use while reserving the cylinder supply for egress.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The Dual EBSS shall connect to a supplied airline using an extended duration airline adapter.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The extended duration airline adapter shall have a female quick connect fitting on one end to connect to the Dual EBSS.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The extended duration airline adapter shall have a male quick connect fitting on one end to connect to a supplied airline. The adapter shall be able to accommodate Hansen, Foster, Hansen HK, or Schrader.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The extended duration airline adapter shall have a check valve to prevent the accidental loss of air when the adapter is disconnected from the supplied airline.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



# City of Pigeon Forge Fire Department

Tony L. Watson, Chief



<i>Electronic Voice Amplifier</i>	Meets	Does Not Meet	Exception
<ul style="list-style-type: none"> <li>The respirator shall have an optional facepiece-mounted voice amplification device to electronically project the user's voice.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The voice amplification device shall be mounted to the facepiece by means of a bracket that is secured around the voicemitter of the facepiece.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The device shall contain a bayonet-style mounting fixture that enables the user to insert the voice amplifier into the bracket and secure it with a quarter-turn counter-clockwise when it shall lock into place.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The device shall contain a thumb latch to permit removal when it is pressed and the device is rotated a quarter-turn clockwise.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The thumb latch shall contain a captive screw that enables the user to prevent removal.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The device shall weigh no more than 7 ounces 225 (grams) and its size shall not exceed the following dimensions: Length: 3.50 inches; (8.89 cm); width: 2.0 inches (5.08 cm); depth (extension from voice emitter): 1.75 inches (4.44 cm).</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The device shall contain a momentary on/off switch with a tactile indication and audible click when depressed.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The switch shall be covered with a sheath made of a silicone material.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The device shall contain an LED which illuminates green when the device is activated and flashes once per second when a low battery condition (approximately 10% of battery life remaining) is present.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The device shall provide audible tones to indicate that the system has been energized, de-energized and to provide a low battery indication.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The device shall be powered by three AAA alkaline batteries, which shall provide no less than 50 hours of continuous operation with fully-charged batteries.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



# City of Pigeon Forge Fire Department

Tony L. Watson, Chief



<ul style="list-style-type: none"> <li>The batteries shall be contained in a gasket sealed compartment secured in place by means of a fastener.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The batteries shall be contained in a gasket sealed compartment secured in place by means of a fastener.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The batteries shall be contained in a gasket sealed compartment secured in place by means of a fastener.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The door of the battery compartment shall be user-replaceable.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>The device shall contain an automatic shutdown function that de-energizes the voice amplifier approximately 20 minutes after the last time the user speaks.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<ul style="list-style-type: none"> <li>Designed to conserve battery life when a user forgets to turn off the voice amplifier, the voice amplifier shall be reactivated after shutdown by pressing the on/off switch.</li> </ul>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





# City of Pigeon Forge Fire Department

Tony L. Watson, Chief



## SHIPPING and DELIVERY

- The bid pricing shall include all shipping and handling charges.

*Does Your Bid Comply With All Aspects of This Section.*

Yes

No

- The bid shall allow for 100% delivery before items are paid for.

*Does Your Bid Comply With All Aspects of This Section.*

Yes

No

- The bid shall guarantee pricing until June 30, 2018

*Does Your Bid Comply With All Aspects of This Section.*

Yes

No

## BID SHEET

Company Name:

\_\_\_\_\_

Address:

\_\_\_\_\_

Contact: \_\_\_\_\_ Phone: \_\_\_\_\_

**Bid Packet Checklist:**

\_\_\_\_ Specifications

\_\_\_\_ Proposal

\_\_\_\_ Bid Sheet

**BID OPENING**  
**September 28, 2017**



# City of Pigeon Forge Fire Department

Tony L. Watson, Chief



### Percentage Specifications Compliance Calculation

	Total Number of “Yes / No” Questions		
	Total Number of <b>Yes</b> Answers		
	Total Number of <b>No</b> Answers		
$\% \text{ Specification Compliance } [(Total \text{ Yes Answers}) / (Total \text{ Answers})] \times 100\%$			<b>%</b>
Each “ <b>No</b> ” answer requires a full written explanation.  Each “ <b>Yes/No</b> ” questions not checked where provided will be considered a “ <b>No</b> ” answer.			



# City of Pigeon Forge Fire Department

Tony L. Watson, Chief



## COMPARATIVE BID ANALYSIS

City of Pigeon Forge Fire Department

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Vendor:

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Description of items	Quantity	Unit Price	Total price
Freight			
GRAND TOTAL:			