BID INVITATION No. 018-001

Opening Date: Monday, January 8, 2018
Time: 10:00 a.m.

City of Prattville
Attn: City Clerk
101 West Main Street
Prattville, AL 36067

Pursuant to the Sections 41-16-50 through 41-16-63, *Code of Alabama 1975,* as Amended, sealed bids will be received by the City Clerk's Office of Prattville, Alabama, until the above date and time. Bids will be opened and read aloud at the above referenced address for the following item(s):

12/28/2017
DATE

Bill Gillespie
PURCHASING AGENT

Each sealed bid envelope must include two (2) originals of Bid Invitation, including Bid Specifications, and show the Bid Invitation Number, Date/Time of Bid Opening, and Company's Name and Address on the outside of the envelope. If State Code requires bidder to have a certification/license to complete the bid requirements by either type of work or dollar amount, the bidder shall include a copy of the certification/license with the bid and include the certification/license number on the outside of the sealed bid envelope. Each numbered bid must be in a separate envelope. If the company employs persons in the State of Alabama, include documentation that the company is enrolled in the E-Verify program. Enclose a signed and completed W-9 Request for Taxpayer Identification Number & Certification with bid response. If available, bidders are requested to include an electronic copy of the bid proposal in Adobe PDF format. Bidders are cautioned that failure to submit proposal in the format specified shall be grounds to reject the proposal and remove bid from consideration.

Item	Qty	Description/Specifications **OR EQUIVALENT**
1	(1) or more	**HIGH PRESSURE BREATHING AIR COMPRESSOR SYSTEM**

Length of time the bid price will be honored: _____ days/weeks/months/years **UNIT BID PRICE** $_____

For information or questions regarding this bid invitation, please contact:

Deputy Chief Michael Whaley, Prattville Fire Department 334-595-0305

michael.whaley@prattvilleal.gov

Submit Sealed Bids to: City of Prattville, Attn: City Clerk, 101 West Main Street, Prattville, AL 36067

BID MADE OUT IN PENCIL WILL NOT BE ACCEPTED. Any deviation from the specification(s) provided shall be outlined in writing and submitted with the bid. Brand name, catalog numbers, etc., if shown, are used to indicate levels of quality. If you are unable to furnish an item as specified and desire to offer a substitute, give a full description of the item, including descriptive literature and/or manufacturer's specifications, along with any supplemental information necessary to compare the item bid with the requirements set forth in the bid form, or your bid may be rejected. Any attachment hereto is made and becomes a part of this invitation and must be signed by the bidder. Bid errors may not be corrected after bids are opened. Prices shall not include State, Local or Federal Excise Taxes. Tax exemption certificates will be furnished upon request.

If you cannot furnish any of the items listed, please return this sheet marked "No Bid" and give an explanation of why you did not submit a bid so that we can update your listing in our records. Failure to submit a bid or a "No Bid" response after three (3) bid invitations shall be reason to discontinue future bid notice. City reserves the right to award this bid on all or none basis, or item by item basis, to waive any informality in bids, and also the right to reject any or all bids. Bids may be awarded based on delivery date as well as cost.

I/We agree to furnish the above at the prices shown and guarantee that each item offered will meet or exceed all specifications, conditions and requirements listed for same. Terms of Payment: _____.

In order to comply with the requirements of the Beason-Hammon Alabama Taxpayer and Citizen Protection Act, Act No. 2011-535, and Act 2012-491, bidders must comply with Section 31-13-9, *Code of Alabama, 1975,* as Amended.

If your company employs persons in the State of Alabama, you must provide the City of Prattville with documentation that your company is enrolled in the E-Verify program along with submission of bid. Should your company be awarded this particular bid, the award of the contract is conditioned on your company not knowingly employing, hiring for employment or continuing to employ an unauthorized alien within the State of Alabama. Furthermore, a contracting party found to be in violation of this provision shall be deemed in breach of the agreement and shall be responsible for all damage resulting therefrom.

If State Code requires bidder to have a certification/license to complete the bid requirements by either type of work or dollar amount, the bidder shall include a copy of the certification/license with the bid and include the certification/license number on the outside of the sealed bid envelope.

Each sealed bid envelope must include two (2) originals of Bid Invitation, including Bid Specifications, and show the Bid Invitation Number, Date/Time of Bid Opening, and Company's Name and Address on the outside of the envelope. If available, bidders are requested to include an electronic copy in Adobe PDF format. Enclose a signed and completed W-9 Request for Taxpayer Identification Number & Certification with bid response.

I hereby affirm I have not been in any agreement or collusion among bidders or prospective bidders in restraint of freedom of competition, by agreement to bid at a fixed price, or to refrain from bidding otherwise. [Bid must be notarized.]

Firm: _____ **By:** _____ **Date:** _____

Mailing Address: _____

Phone: _____ **Fax:** _____ **Email:** _____

Sworn to and subscribed before me this ____ day of _____, 20_____

_____
Notary Public

Notary Expires: _____

CITY OF PRATTVILLE
REQUEST FOR PROPOSAL
for
HIGH PRESSURE BREATHING AIR COMPRESSOR SYSTEM

It is the intention of the City of Prattville Fire Department to purchase one (1) or more complete high pressure breathing air systems designed to provide purified air suitable for human respiration and safely fill self-contained breathing apparatus (SCBA) and self-contained underwater breathing apparatus (SCUBA) cylinders. The system shall be complete, including the compressor, primary mover, purification system, approved air storage system, containment fill station, controls, interconnecting piping and wiring. All components shall be new and of current manufacturing design. Used, surplus and discontinued equipment are unacceptable.

Wherever a brand or manufacturer's name is utilized in these specifications, it is included for descriptive purposes and to establish a level of quality. Products that are equivalent to those named may be proposed, providing that full supporting documentation is furnished establishing such equivalency. Simply providing manufacturer's literature **WILL NOT** be considered justification for the substitution. All substitutions must be listed as exceptions for evaluation. The fire department representatives shall be the sole judge if the substitution is acceptable as an equivalent. No prototype or experimental equipment will be accepted.

The manufacturer must be satisfactory to the Fire Department from the standpoint of experience, reliability and demonstrated ability to manufacture equipment, comparable as to size and type as specified for the past five (5) years. A list of fire departments located in the State of Alabama that have purchased the same type of equipment from the bidder over the past five years must be supplied along with the bid for physical evaluation. The fire department reserves the right to reject any and all bids they receive and accept any bid which, in their judgment best serves the interest of the community.

Does your bid comply exactly as written?	YES		NO		Exception	

1.0 CODES AND STANDARDS

Air purity shall meet or exceed the standards of the Compressed Gas Association specification G- 7.1 for grade "E" breathing air and the standards of NFPA 1500.

Pressure vessels shall be designed and fabricated in accordance with either the applicable DOT or ASME codes.

All tubing shall meet NFPA, SAE, JIC and ANSI standards.

All valves shall meet the applicable national codes such as those of the Bureau of Explosives, DOT and CGA.

The entire air system shall meet all requirements established by the Occupational Safety and Health Act, otherwise known as OSHA. Purification systems shall be constructed in accordance with section VIII of the ASME code for unfired pressure vessels.

The compressor system manufacturer shall have an ISO 9000 quality management system standard approval on the design and/or manufacture process.

Does your bid comply exactly as written in 1.0?	YES		NO		Exception	

2.0 SHIPMENT & DELIVERY

Shipment (via motor freight) shall be delivered to:

Prattville Fire Department
Fire Station #3
1904 Briarwood Street
Prattville, AL 36066

Freight charges shall be paid by the vendor. Unloading, moving, and uncrating of the equipment shall be the responsibility of the fire department. Inspection of equipment to assure that the equipment meets specifications of the bid shall be the responsibility of the fire department.

Does your bid comply exactly as written in 2.0?	YES		NO		Exception	

3.0 INSTALLATION, START-UP, & TRAINING

Connection of the power source to the breathing air system shall be the responsibility of the fire department. Installation of the breathing air system shall be the responsibility of the vendor. Start-up and assurance that the breathing air system is operating at peak performance shall be the responsibility of the vendor. Connection of the power source to the breathing air system must be properly completed before start-up and training can be performed.

Training shall take place immediately after the start-up procedure (includes NFPA air test) has been successfully completed. Training shall include instruction on the complete and proper operation of the breathing air system. Training shall also include a review of the operation, maintenance and parts manual that is supplied with the system.

Does your bid comply exactly as written in 3.0?	YES		NO		Exception	

4.0 DISTRIBUTOR/SUPPLIER QUALIFICATIONS

The vendor shall provide with this bid the name and address of the nearest factory authorized distributor. The service center must be factory authorized and certified to perform warranty work, preventative maintenance, and on-going service. Sales offices without factory trained service personnel shall not be considered acceptable. The authorized distributor must show proof of being in the industry of selling and servicing high pressure breathing air equipment for a minimum of five-years. The fire department reserves the right to ask for an authorized document verifying that service personnel have been factory trained.

Does your bid comply exactly as written in 4.0?	YES		NO		Exception	

5.0 SPECIFICATIONS

The (6000psi, 10HP) system shall be supplied on a vertical steel frame designed for both the static and dynamic loads of the system and of sufficient size to adequately accommodate all of the system's components. The arrangement of components on the frame shall permit unrestricted cooling air flow to the compressor and prime mover, and provide access for operation and maintenance.

The system shall be designed for continuous duty operation indoors with room temperatures ranging between 40°F and 115°F[1]. Installation shall not require a special foundation; however, it is the responsibility of the purchaser to ensure the installation site has a solid and level foundation that can support the weight of the system, the availability of a qualified source of air for the intake of the compressor and adequate ventilation.

All piping and tubing shall be properly supported and protected to prevent damage from vibration during shipment, operation, or maintenance. Piping and tubing shall be installed in a neat and orderly arrangement, adapting to the contours of the system. All instrument tubing shall be either 300 series stainless steel or pressure rated hose.

[1] For operating temperatures outside of this range, contact Bauer.

Does your bid comply exactly as written in 5.0?	YES		NO		Exception	

5.1 Compressor

The compressor and the purification chambers must be produced by the same manufacturer.
The compressor shall be an air-cooled, oil lubricated, four stage, three cylinder, reciprocating compressor. The 3rd stage and most importantly the final stage of compression shall be of a single acting design. The crankcase shall be cast of aluminum magnesium alloy and engineered for superior strength, reduced weight, and exceptional heat rejection. In addition, it shall offer a generous 2.96 quart oil capacity. The crankshaft shall be of a single piece forged steel construction and supported in the crankcase by three long-life roller bearings. The connecting rods shall be of single piece design and constructed of a high strength aluminum alloy. Each connecting rod shall incorporate a roller bearing at the crank end and needle bearing at the pin end. The pistons shall be constructed of an aluminum alloy. Piston rings on the second and third stage are of cast iron; first and fourth stage rings shall be of a high strength polymide. The final stage shall incorporate a ringed, free-floating, aluminum piston, which is driven by a guide piston and third stage discharge pressure. The cylinders shall be of cast iron construction with deep cooling fins on the external surface for optimum heat dissipation. The cylinders shall be arranged in a dynamically balanced, "W" configuration with each cylinder located directly in the cooling fan's blast. The cylinders shall be removable from the crankcase. The compressor's flywheel shall be cast iron. A multi-wing, high velocity cooling fan shall be integral to the flywheel – no auxiliary cooling fan(s) shall be necessary.
An intercooler shall be provided after each stage of compression and an aftercooler shall be provided after the final stage of compression. The coolers shall be individually detachable from the compressor, located directly in the cooling fan's blast and made of stainless steel. The aftercooler shall be designed to cool the discharge air to within 18°F of ambient temperature. A cool-down cycle shall not be required prior to stopping the compressor.
A separator shall be supplied after each stage of compression, excluding the first stage, and a coalescing separator shall be supplied at the discharge of the compressor.
The compressor shall be lubricated by a low-pressure lubrication system. The final stage of compression shall be lubricated by a pressurized lubrication circuit. The other stages and the driving gear shall be splash lubricated. The low-pressure lubrication circuit shall include a positive displacement low pressure oil pump, gear driven by the crankshaft, a non-adjustable oil pressure regulator, and full-flow replaceable cartridge type oil filter element. Two highly visible sight glasses shall be included to check the oil level; one on each side of the crankcase. The oil drain for the compressor shall be extended to the outside of the frame to ease fluid draining.
The compressor shall be equipped with an inlet filter with replaceable particulate element.

Does your bid comply exactly as written in 5.1?	YES		NO		Exception	

5.2 Prime Mover and V-Belt Driver

The electric motor shall be of the open drip-proof (ODP) design. The motor voltage is 230 single phase. The compressor and motor shall be mounted on a common frame. The compressor and motor shall be arranged in a vertical design. Power from the motor shall be transmitted to the compressor by a v-belt drive. The v-belt drive shall be designed to tighten the drive belts automatically. Rotation arrows shall be affixed in a conspicuous place on the compressor.

Does your bid comply exactly as written in 5.2?	YES		NO		Exception	

5.3 Electrical Control & Instrumentation

The compressor control panel (CCP) shall include an across-the-line magnetic motor starter, fused transformer and PLC controller. The CCP shall be built in accordance with UL 508A, the standard for Industrial Control Panels and shall be affixed with a UL label.

The PLC compressor control system consists of a programmable logic controller for the monitoring, protection and control of the compressor systems.

Standard features of the CCP include:

- A NEMA type 4 electrical enclosure
- UL electrical panel
- Human Machine Interface (HMI) with 4-Line Back Lit Text Display and Emergency Stop (Optional redundant remote HMI display available)
- Home screen customizable with distributor contact information
- Real Time Clock (time and date)
- Compressor on / off
- Digital Display of Compressor Final Pressure
- Digital Display of Compressor Oil Pressure
- Digital Display of current Compressor Run Time
- Digital Display of Final Separator Cycle Count
- Compressor High Temperature Shutdown and Alarm
- Full support of the optional Automatic Condensate Drain system (interval and duration set points adjustable thru the HMI - password protected)
  - Digital Display of time to next ACD Cycle
  - Condensate Drain Reservoir full alarm
- Full support of CO monitor alarm functions (optional)
- Full support of SECURUS purification system moisture monitor warning and alarm functions (optional)
- Built in overtime timer set at 5 hours - optional times available
- Maintenance Timer (selectable between real time or compressor run time) to give Digital Display of all needed Preventative Maintenance Evolutions
- Motor overload alarm
- Nonresettable hourmeter
- Recoverable Run History (last 5 run periods)
- Recoverable Alarm History (last 5 fault shutdowns)
- Support of up to 5 Languages (to be specified at time of order; includes English, French, Spanish & Portuguese)
- Operator choice of display in BAR or PSI

For ease of Maintenance and Repair:

- PLC has removable Terminal Blocks for all functions
- Diagnostic EEPROM (Electrically Erasable Programmable Read-Only Memory) Capability
- Support of Two (2) Communication Protocols (optional)
  - Ethernet Connection
  - Analog Phone Modem
- Wiring shall be encapsulated within a split corrugated type loom. Each wire end connection shall be machine crimped and numbered.

The HMI shall have 22 adjustable system parameters secured by password protection. The HMI will provide display of all safety / fault shutdowns with a scrolling text of up to three potential causes for the fault / shutdown.

The compressor oil pressure shall be monitored by a pressure transmitter and digitally displayed on the HMI. The compressor shall shut down and a fault will be indicated on the HMI should the compressor's oil pressure drop below the factory preset value during operation. The oil pressure transmitter shall be by-passed during start-up to permit the oil pump to achieve the normal operating pressure.

The low oil pressure and final air pressure transmitters shall be equipped with sealed electrical connectors. The analog pressure sensors for oil pressure and final pressure shall have adjustable set point and dead-band thru the HMI (password protected).

A temperature switch shall be supplied on the head of the final stage of compression. The compressor shall shutdown and a fault will be indicated on the HMI should the final stage temperature exceed the tamper-proof set point during operation.

Does your bid comply exactly as written in 5.3?	YES		NO		Exception	

5.4 Purification System

The purification system shall include an Electronic Moisture Monitor System
The purification system shall purify high pressure air to a quality that meets or exceeds the requirements of CGA Pamphlet G-7, Compressed Air for Human Respiration, ANSI/CGA G-7.1, Commodity Specification for Air, Grade E, and all other recognized standards for breathing air. Purification shall be achieved by mechanical separation of condensed oil and water droplets, adsorption of vaporous water by a desiccant, adsorption of oil vapor and elimination of noxious odors by activated carbon and conversion of carbon monoxide to respirable levels of carbon dioxide by catalyst.

The high pressure purification chamber shall have a working pressure of 6000 PSIG with a 4:1 safety factor. The purification system shall utilize a replaceable cartridge. The purification system shall be designed so that the replacement of the cartridge can be accomplished without disconnecting system piping. The design of the chamber shall preclude the possibility of operating the system without a cartridge installed or with an improperly installed cartridge. A bleed valve shall be provided to vent the purification system to facilitate replacing the cartridge. A pressure maintaining valve and a check valve shall be supplied downstream of the purification system to increase the efficiency of the purification system by maintaining a positive back pressure. A check valve shall be supplied between the coalescing separator on the compressor's discharge line and the purification system to maintain the positive pressure in the purification system when the compressor shuts down.

Does your bid comply exactly as written in 5.4?	YES		NO		Exception	

5.5 Testing and Preparation for Shipment

The system shall be tested by the manufacturer prior to shipment. A copy of the manufacturer's test report shall be available upon request.

A manufacturer's nameplate shall be securely affixed to the inside of the electrical box. The nameplate shall include, at a minimum, manufacturer's name, model number and serial number, compressor block number, voltage, frequency and date of manufacture.

The system shall be suitably prepared for motor freight transport. The system shall be bolted to a wooden pallet, wrapped in sheet plastic, and fully protected by heavy reinforced cardboard. The compressor intake and similar openings shall be suitably covered. Component parts, loose parts or associated spare parts shall be packaged separately and shipped on the same pallet if feasible.

Does your bid comply exactly as written in 5.5?	YES		NO		Exception	

5.6 Documentation

A documentation package shall be supplied with the system. The documentation package shall include, at a minimum, an operation manual, recommended spare parts list, warranty information and a start-up/warranty registration form.
Warranty will be two years on complete system and an additional three years on the compressor block

The Operator's Instruction and Maintenance Manual for the system shall be as detailed as possible, outlining all operation and maintenance instructions. The manual shall include detailed illustrated drawings for the compressor block and all system components along with a complete parts listing for all illustrated components. Warnings and safety precautions shall be identified clearly in the manual.

Standard features on the Compressor System

- Automatic condensate drain system,
- Inter-Stage- Gauges
- Electronic moisture monitoring system
- Electronic CO Monitor with Cal kit and gases

Does your bid comply exactly as written in 5.6?	YES		NO		Exception	

5.7 Air Storage System

The racks shall be designed and equipped with four (4) 6000 psi rated DOT air storage receivers. Each receiver shall be built to accommodate 509 cubic feet of air at maximum pressure. Additionally, each receiver shall include a service valve and burst disc. The rack shall be designed to support the receivers in a secure manner and permit visual inspection of the receivers' external surface. Included will be the high-pressure hose to connect each of the receivers to the cascade panel on the fill station.

Specification for containment fill station to refill self-contained breathing apparatus (SCBA). The fill station shall be designed for a maximum working pressure of 6,000 PSIG. All equipment shall be new and of current design and manufacture. Used or refurbished equipment is unacceptable. Specifications are subject to change without notice.

The fill station shall be built and tested exceeding the current standards as established by **NFPA 1901, 2016 Edition. Additionally, the fill station shall be proof tested utilizing the largest, by volume, 5500 psi SCBA cylinders available at the time of the fill station manufacturers' specification generation.**

The fill station shall be designed for stationary applications. The fill station shall be constructed of formed plate steel and shall be fully enclosed.

The fill station shall be warranted free from defects in material and workmanship for a period of eighteen months from date of shipment or twelve months from date of start-up, whichever expires first.

Does your bid comply exactly as written in 5.7?	YES		NO		Exception	

5.8 Containment Fill Station

The front-loading, two position; containment fill station shall totally enclose the SCBA or SCUBA[2] cylinders during the refilling process.

The fill station's outer enclosure and door assemblies shall be constructed of formed ¼ inch thick plate steel. Venting shall be provided in the bottom of the fill station to allow the rapidly expanding air from a ruptured cylinder to escape from the fill station. The fill station shall be ergonomically designed for maximum operator convenience and safety for refilling cylinders. The fill station door and cylinder holder assembly shall tilt out towards the operator 45 degrees, providing unobstructed access to the cylinder holder to load and unload the cylinders. A handle and heavy-duty gas spring shall be incorporated into

[2] SCUBAs up to 31" maximum overall length including valve, boot and fill yoke.

the design of the fill station to assist the operator in opening and closing the fill station door. It shall take no more than approximately eighteen pounds of effort to open or close the fill station door thereby eliminating operator fatigue.

Each cylinder holder shall consist of a thick walled polymer tube which will surround and cradle the SCBA cylinder during the filling process. This type design shall eliminate the need for SCBA cylinder scuff protection and will allow for concussive flexure in the event of a ruptured cylinder thus maximizing operator protection. Designs that do not cradle the cylinder or allow unsupported pressurized cylinders to hang outside the fill enclosure shall be deemed unacceptable as they expose the operator to greater risk of accidental mishandling of a pressurized cylinder during the disconnection process.

For complete operator protection, the fill station shall include a safety interlock system that will prevent refilling SCBA cylinders unless the fill station door is closed and secured in the locked position. The automatic interlock will require no actuation of secondary latching mechanism on the outside of the fill station.

Two fill hoses shall be located within the fill station. Each fill hose shall be equipped with a bleed valve and SCBA fill adapter of choice. Fill hose retainers shall be provided to anchor the fill hoses when not in use.

Does your bid comply exactly as written in 5.8?	YES		NO		Exception	

5.9 Control Panel

The fill control panel shall be installed on the front of the fill station. The control panel shall be factory piped and designed to fill two SCBA or SCUBA[3] cylinders either independently or simultaneously.

The control panel shall include the following standard features:

- Inlet pressure gauge
- Adjustable pressure regulator
- Regulated pressure gauge
- Two (2) fill control valves
- Two (2) fill pressure gauges
- One (1) relief valve for regulated fill pressure
- Provisions for factory or field modification to allow a different fill pressure at each fill position

All piping and tubing shall be properly supported and protected to prevent damage from vibration during shipment, operation or maintenance. Piping and tubing shall be installed in a neat and orderly arrangement, adapting to the contours of the station. All instrument tubing shall be 300 series stainless steel.

All control panel mounted pressure gauges shall be 2 ½" diameter and be liquid filled. All panel-mounted components shall be labeled with a nameplate.

Does your bid comply exactly as written in 5.9?	YES		NO		Exception	

6.0 INSTALLATION

The fill station shall be provided on its own freestanding base and shall not exceed the following approximate dimensions: 52-1/4" high, 29-1/2" wide, and 21-1/4" deep. The weight with base and side control panel shall not exceed 830#

Does your bid comply exactly as written in 6.0?	YES		NO		Exception	

[3] SCUBAs up to 31" maximum overall length including valve and boot.

7.0 OPTIONAL ACCESSORIES

- Regulated Remote Fill; this option shall include a panel mounted bulkhead fitting, adjustable pressure regulator for up to 6000 PSI service, pressure gauge, isolation valve and quick connect/disconnect fitting- hose not included.

Does your bid comply exactly as written in 7.0?	YES		NO		Exception	

8.0 OPTIONAL CASCADE PANELS

The following factory installed cascade panel offering shall be designed for four bank cascading. Each shall be equipped with one (1) compressor inlet bulkhead fitting, four (4) bank valves and four (4) bank pressure gauges. This cascade panel shall be mounted on top of the fill station.

Top Mount cascade panels shall be designed for installation on top of the fill station. This panel shall increase the height of the fill station 5" inches.

The Single Function cascade panels shall be ideal for smaller facilities that desire a lower cost method of cascade filling. In these facilities, cascade filling from the customers stored air banks to their SCBAs is typically accomplished with the compressor in the off position. When filling is complete, the cascade panel bank valves shall be opened and the compressor turned on and allowed to top off the stored air banks. When direct filling from the compressor to the SCBAs is required, it shall be accomplished by closing all the bank valves on the cascade panel to allow air to proceed directly from the running compressor to the fill positions.

Single Function, Top Mount, Four Bank Cascade Fill Control Panel

Does your bid comply exactly as written in 8.0?	YES		NO		Exception	

Any exception from the specifications/requirements provided must be outlined in writing and submitted with the bid.

Bid includes two (2) original bid proposals with bid number, date and time, and if applicable certification/license number, on the outside of the sealed envelope YES

E-Verify documentation included with bid proposal YES N/A

W-9 Request for Taxpayer Identification Number & Certification included with bid proposal YES

_____

Signature