

Attachment C: Specifications

SWC 212 – IMS Gases

Event #32110-9618

1. Purpose

The State of Tennessee currently maintains a statewide contract for Industrial Medical and Specialty Gases (Statewide Contract #212). The State of Tennessee is seeking through this Invitation to Bid (ITB) to establish a statewide contract for Industrial, Medical and Specialty Gases for all State agencies, local governmental units within the geographic limits of the State of Tennessee, and any private nonprofit institution of higher education chartered in Tennessee. The resulting contract will be open to these governments unless a letter is attached to your bid, requesting exemption to this allowance. The awarded Supplier agrees to extend services under this contract to all authorized contract users at the same price and under the same terms and conditions offered in this bid.

2. Scope and Standards

The State of Tennessee uses IMS gases for various applications including but not limited to cutting and welding, calibration, environmental protection, firefighting, fire suppression, food processing and packaging, laboratory and instrumentation, medical treatment, water treatment, and lifting.

Supplier(s) responding to this ITB must be able to provide all services and products in all of the regions designated in this ITB. Attachment B: Bid Workbook lists the required gases, catalog discounts, and special delivery fees requested. The scope of services is further described in this document.

IMS gases, gas products, and accessories shall conform to all applicable standards and regulations of the following:

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO)

- ISO 11625:2007 - Gas cylinders -- Safe handling
- ISO 9001:2000 – Quality Management Systems Requirements
- ISO/IEC 17025:2005 - General Requirements for the Competence of Testing and Calibration Laboratories

(Further information about these requirements is available online at <https://www.iso.org/home.html>)

AMERICAN SECTION OF THE INTERNATIONAL ASSOCIATION FOR TESTING MATERIALS (ASTM)

- ASTM E29 - Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications
- ASTM F307 - Standard Practice for Sampling Pressurized Gas for Gas Analysis

- ASTM F310 Standard Practice for Sampling Cryogenic Aerospace Fluids
(Further information about these requirements is available online at <http://www.astm.org>)

COMPRESSED GAS ASSOCIATION (CGA)

- CGA G-4.3 Commodity Specification for Oxygen
- CGA P-15 Filling of Industrial and Medical Nonflammable Compressed Gas Cylinders
(Further information about these requirements is available online at <http://www.cganet.com>)

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)

- 29 CFR 1952.10 – State of Tennessee Occupational Safety and Health Standards
- 29 CFR 1910 – Federal Occupational Safety and Health Standards for Compressed Gas and Equipment
(Further information about these requirements is available online at <https://www.osha.gov/>)

ENVIRONMENTAL PROTECTION AGENCY (EPA)

- 40 CFR Part 72.2 Traceability Protocol for Gaseous Calibration Standards
- Clean Air Act
(Further information about these requirements is available online at <https://www.epa.gov/>)

U.S. DEPARTMENT OF TRANSPORTATION (DOT)

- DOT Standard 49 CFR Part 172 Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, Training Requirements, and Security Plans
- DOT Standard 49 CFR Part 173 Shippers - General Requirements for Shipments and Packagings
(Further information about these requirements is available online at <https://www.gpo.gov>)

Standards, rules and regulations, set by the following organizations regarding the production, use, and transportation and handling of IMS gases, are applicable and form a part of this document.

3. Quality of Workmanship and Materials

Unit price responses are requested on products or services that equal or exceed the specifications, unless the specifications limit the dimensions, brands, or model of goods or services. The absence of detailed specifications or the omission of detailed descriptions shall mean that only the best commercial practices and only first quality goods and workmanship shall be supplied.

4. Contract Manager

The awarded Supplier shall designate a Contract Manager for the Contract. The Contract Manager will be a single point of contact for the State Contract Administrator and be responsible for addressing broad contract issues and requests brought to them by the State Contract Administrator. The Contract Manager should have the authority and competence to address and correct any issues related to the implementation of the Contract. The Supplier shall notify the State Contract Administrator in writing within three (3) business days of assigning a new Contract Manager. The State reserves the right to reject the newly assigned Contract Manager and/or request a new Contract Manager at any time as may be required.

5. Delivery, Installation, De-Installations, and Transitional Services

The Supplier is to complete all installations for the Customers. The installation will be scheduled with the Customers at times requested by Customers. Customers may have different requirements for installations specific to their institutions and safety compliance.

- a. Provide and Maintain Storage Tanks:
 - i) Upon award, Supplier agrees to provide and maintain storage tanks where needed, guaranteed to meet or exceed the specifications set forth below in the specifications for the liquid nitrogen/helium service. Supplier is to respond to calls within thirty (30) minutes via telephone and onsite service within one (1) hour of request of Customer when needed.
 - ii) Supplier to retain ownership and provide necessary maintenance of all piping, valves, fittings and piping that are and shall remain a permanent part of each building/facility at the storage site. Note: At the time of new installation, all welds using flux must be done with an inert gas flow to prevent contamination of plumbing to the Customer/owners valves and piping.
- b. Storage Vessels and Storage Vessel Sites:
 - i) Vertical standing storage vessels of suitable capacity to be located at each of the sites as specified by Members. The performance of each vessel shall be such that the loss of liquid from evaporation will not exceed 0.5% of the vessel's full capacity per twenty-four (24) hours. The pressure of the boil-off gas for each vessel shall be adjustable to a maximum pressure of 100 psig normal operating pressure will be 25 psig. Plumbing of the boil off gas must be structured so that the gas can be captured and used heat exchangers shall be provided to maintain the set pressure in the tanks, and to warm the nitrogen gas during periods of heavy withdrawal.
 - ii) Provisions shall be made for attachment to the users' existing vacuum jacketed lines for liquid withdrawal from the tank. The Supplier will install each storage unit and make liquid and gas connections to Customers' systems for the distribution of product, maintain each storage unit within a reasonable time after the termination of the contract.

6. Service Requirements

The Supplier shall provide for and supply cylinder related services as described below.

- a. A delivery ticket must be supplied to Customer's upon each delivery and pickup of cylinders. The delivery ticket shall be legible. Full cylinders or partial cylinders returned to the Supplier will not be given credit, but can be returned to remove from further rental.
- b. All costs associated with the transportation and delivery of the gas cylinders identified in this Contract, including risk of loss during transit and relocations of the Supplier owned cylinders at member sites shall be borne by the Supplier.
- c. The Supplier's employees, agents, and representatives shall hold valid commercial driver's licenses (CDL) specific to the delivery contents and rated for the shipment and delivery of the gas cylinders and related hard goods to Customers.

- d. Destination addresses will be specified in each order. Relocation of cylinders by the Supplier's personnel from laboratory to laboratory throughout the Customer's location as required.
- e. The Supplier shall provide technical support both before and after product selection and throughout the term of the Contract
- f. Connection of the cylinders to the Customer's gas delivery systems in accordance with end user requirements.
- g. All services associated with implementation and administration of the cylinder management program including the maintenance of a written reporting system for tracking cylinder inventory and status in conjunction with the Customer's requirements for each of its end users.

7. Service Timeframes

The State expects that the awarded Supplier will work to minimize operational downtime and as such the Supplier shall give the State the highest possible priority in scheduling and performance of services. All rental services shall be performed within thirty (30) minutes of a scheduled appointment time. When appointments are made for rental delivery, the State shall be sure that the end user or State authorized representative secures and keeps appointments.

8. Cylinder Management Program

The Supplier will be responsible for establishing and maintaining a cylinder management program, which will be responsible for accounting for and assisting with auditing and managing cylinders at Customer sites.

9. Courtesy Safety Inspection

The Supplier shall be handling gas cylinders, valves, and regulators and shall perform a courtesy safety inspection of the following items at no additional cost:

- a. Monitoring of cylinder lifespan
- b. Check expirations dates prior to filling
- c. Ensure regulators, regulator gauges, and valves are functioning properly

10. Supplier Cylinder Ownership and Specifications

Service provider shall provide a checklist of the inspection with notes as to any defects noted when the cylinder or dewar is picked up upon completion of service/repair.

- a. All cylinders are to be smooth (not pitted), freshly painted and clean.
- b. The Supplier is responsible for hydrostatically testing all supplier owned cylinders in accordance with applicable federal law.
- c. All cylinder gases must be in compliance with the U.S. Department of Transportation labeling requirements.
- d. The Supplier will bear all cost for cylinders lost or damaged while in its control.
- e. Three-part, perforated tags placed on each cylinder delivered to the Customer that bears the notation "FULL/IN USE/EMPLTY"
- f. Cylinders that are Supplier owned must be returned to the Supplier by the Customer. If a Customer loses a supplier cylinder, then the Customer is responsible for the cost of the cylinder.

- g. If any property is lost, destroyed, or damaged, the Supplier shall immediately notify the Customer and the Central Procurement Office in writing and shall take all reasonable steps to protect the property from further damage.
- h. The Supplier shall notify the Customer and/or designated location of the number of cylinders that must be sent in for testing, along with the date the cylinder will be filled and returned. There shall be no additional charges assessed for cylinder testing.

11. Customer Owned Cylinders

- a. The Supplier will not be allowed to change the type of gas in a cylinder or repaint the cylinder without the express written permission of the Customer end users.
- b. All customer-owned gas cylinders must be filled and returned to the designated location within ten (10) calendar days unless other arrangements are made with the Customer at the beginning of the contract.
- c. The Supplier will notify Customer if Customer-owned cylinders are due for re-certification and the Customer will be responsible for all costs for the re-certification.
- d. Supplier(s)-owned cylinders will not be exchanged for Customer-owned cylinders except in the case of emergencies or written consent by the Customer.

12. Inspection

All materials, equipment, and products are subject to inspection and testing. Items that do not meet specifications will be rejected. Failure to reject upon receipt does not relieve the vendor/contractor of liability. When subsequent tests after receipt are conducted and when such tests reveal damage or failure to meet specifications, the state may seek damages regardless of whether a part or all of the merchandise has been consumed. Rejected items will be returned to the Supplier for corrective action. All corrective actions shall be performed at no additional charge to the State.

13. Qualified Personnel

All work will be performed by qualified service personnel trained and authorized to do the work. The Supplier must have a gas metal arc (GMA/MIG) welder and technician trained in proper welding techniques.

14. End of Contract Transition

The Supplier shall establish end of contract transition protocol ninety (90) days prior to contract expiration. The Contractor shall surrender to the Customer all property of the Customer prior to settlement upon completion, termination, or cancellation of this contract.