

CNG REFUELING STATION BID SPECIFICATIONS
City of Norman
1301 Da Vinci, Norman, OK 73069
Scope of Work

1. Basic Responses

Each proposal should include the following:

- a. Submittal of cost proposal page with total price for complete system plus maintenance of that system for 1-5 years and 6-10 years.
- b. A cover letter briefly describing the system and the equipment being proposed including complete pricing and delivery information.
- c. A detail description of the system to be supplied for both the time fill system and the fast fill system. This should include the functional capabilities of the equipment as it relates to the bid specifications. Include a list of the individual equipment components, their size and performance ratings. Each bidder should include preliminary drawings or plans of the CNG station along with brochures or cut sheets of the equipment they intend to supply as part of the station.
- d. Define the system components life expectancy and how they affect system reliability (i.e. compressors rated for 3000 hours between overhauls).
- e. Description of the bidders' experience in maintaining CNG stations on a daily basis for the last three years.
- f. A detailed description on how the project will be managed to insure meeting a deadline of June 30, 2010 required of the funding grants.

2. Instructions to Bidders

A mandatory job walk will be held on June 25, 2009 at 10 AM to discuss this specification at the maintenance yard of the City of Norman, which is located at 1301 Da Vinci, Norman, OK 73069

The City of Norman, Oklahoma will open sealed bids in the Conference Room of Building C, City of Norman on the below listed item at 2:00 P.M. on Thursday, July 23, 2009.

CNG Refueling Station Bid Specifications

All bids **must** be in the Office of the Purchasing Division, 201-C West Gray St., Norman, Oklahoma, 73069, **BEFORE THE FINAL CLOSING HOUR** as shown on the Invitation to Bid. If bid is mailed, to be considered it **should** be addressed as follows: Attention: Purchasing Division, Opening of Bids, City of Norman, P.O. Box 370, Norman, Oklahoma, 73070. In addition, the bid envelope **should** be plainly marked on both sides indication the bid number.

The unit price **must be stated** on all items and all totals extended, if required. **BIDDER GUARANTEES UNIT PRICE TO BE CORRECT.** To receive consideration, bids **must** be submitted on the City of Norman "Form for Bidders" and "Bidders Proposal" (if applicable), which are hereby made part of this Invitation to Bid.

Alternate bids may be considered. If bidding an alternate, so state on the face of the Form for Bidders and fully describe the merchandise and include Manufacturer's literature. Unless the bidder identifies on the Form for Bidders that an alternate is being bid, the vendor **will be expected** to deliver merchandise as specified. Alternate bids **shall not** be submitted to circumvent the specifications.

The Affairs of the City of Norman, whether in the conduct of its governmental or proprietary functions, involve the health, safety, and welfare of the public; and because the item(s) specified are necessary and proper for the conduct of said affairs, any delay in the delivery of the item(s) being bid can jeopardize the health, safety, and welfare of the public, and can result in the incurring of additional expenses to the City. For these reasons, it is understood by the bidder the date of delivery of the item(s) being bid herein is considered to be an integral part of this bid and may be considered in awarding the contract.

Discount and delivery date **must** be plainly stated on the Form for Bidders and Bidders Proposal. Use ink pen or typewriter in filling in quotation and initial any corrections. Bid and Affidavit **must** be signed in ink by an authorized representative of the company making the bid. Bidders **should** submit one original and three duplicate Form for Bidders and Proposals. All bids **will** be awarded by Section of Sections whichever is in the best interest of the City. Any bidder who fails to return the third consecutive invitation **will be removed** from the bid list. If the above procedures are not followed, bids may be disqualified. The right is reserved by the City to reject any or all bids or parts of bids. All bids are public records and are available during regular business hours.

Each proposer must include 3 copies of their proposal plus the original, with cover sheet on top.

The successful bidder shall provide a complete turnkey operation, one that will include all PE stamped drawings, plans and permits relating to the specifications and the actual construction of the Compressed Natural Gas (CNG) refueling station. The successful bidder will specifically be responsible for all functions of the project installation including the designing, permitting and construction to meet the City of Norman's attached specifications. The successful bidder must demonstrate experience and reliability in operating CNG stations continuously. The successful bidder must possess a current Contractor's A license in order to be eligible for the award. A list should be provided of those stations where the bidder has successfully maintained CNG stations without any loss days of operation over the last 3 years. .

All bidders must possess and must provide a site safety plan acceptable to the City upon notice of award.

Upon award, each bidder shall supply a detailed task related scope of work as well as a detail construction/installation schedule of work to be completed.

Each bidder should also include preliminary dimensional drawings or plans of the CNG station along with brochures or cut sheets of the equipment they intend to supply as part of the station. In addition, based upon the internal security of this facility, a list of employees who you anticipate will perform work on this project shall be supplied to the City.

Criterion or weighted factors to be used in evaluating proposals will be as follows:

- i. How each bidder addressed system design and the integration of equipment proposed in their bids along with planned maintenance required of the equipment (20%).
- ii. A list of all jobs completed in last 5 years along with the experiences of those installations as the turnkey contractor, both favorable and unfavorable, along with problems encountered and corrective action taken (10%).
- iii. The number of existing stations they each currently maintain along with the financial strength of the Company (7.5%).
- iv. The job tasks and related timeline identified (7.5%).
- v. Site safety and quality control plan (5%).
- vi. The cost factor as it pertains to the spec. (50%)

It is the contractor's responsibility to verify all Gas and Electrical requirements and supply needs. For purposes of your bid, you may assume that a gas supply line with adequate pressure (14 to 17 psi) is available within approximately one thousand [1000] feet of the equipment mounting location from the rear of the building at 1301 Da Vinci, Norman, OK. Also for purposes of this specification, the contractor may assume that existing electrical supply panels provides an 800 amperage service, needed to supply a 480 volt, 3 phase service circuit, at the location within approximately two hundred and fifty [250] feet of the equipment mounting location. Otherwise this will be supplied by the City of Norman.

The contractor will be responsible for proving to the satisfaction of the City and the local fire marshal that the minimum specifications for the CNG facility have been met. The City will require the execution of various inspections and tests, including the documentation of same, prior to accepting the CNG facility as being complete and in compliance with these specifications, codes, and requirements. Such inspections and tests shall be based upon recommendations by the contractor, the City, as well as the main manufacturers/vendors and accepted industry standards. If the City determines that such tests and inspections are not adequate, the City has the right to require additional inspections and tests, as it may deem necessary and proper. Neither inspections, witnessing of tests, nor waiving of any such procedure by the City, shall release the contractor, component/systems contractor, main vendor or other vendors from full responsibility for compliance with equipment, materials and functional performance requirements according to this specification and the local fire marshal.

The winning contractor/installer shall warrant the equipment to be free from defects in design, installation, workmanship and construction for a period of one year after startup. The contractor shall also warrant that all workmanship, components, systems and materials supplied in the

construction of the facility be free from defects in design and manufacture for a period of one year commencing with the acceptance of the CNG facility by the City of Norman as being complete.

All bidders must submit written proof to the City with their bid that they hold a current authorization from the equipment manufacturer to sell, install and service the specified brand and model of natural gas compression equipment included in the contractors bid. The City will not accept separate bids from unrelated vendor/contractors for equipment and equipment installation services.

All warranties are extended beyond the initial year should be rolled into the maintenance pricing as quoted on cover page of this pricing proposal. Please include prices to maintain the station for the first through fifth years and sixth through the ten years as shown on the cover page.

All bids must be in compliance with the attached purchasing requirements found in Appendix A.

3. System Design - Equipment Specifications

The system must consist of all new equipment throughout. The system will be made up of dual or redundant gas compressors capable of working in parallel and capable of both time filling as well as fast filling CNG vehicles in conjunction with (3) 10,000 scf ASME storage vessels or spheres acting as a cascade system to support the rapid filling of vehicles on the fast fill dispenser. The fast fill system/dispenser must be capable of delivering 3.5/gpm through a Sherex type refueling nozzle, temperature compensated at 3,600 psi in the first ten minutes of demand with both the compressors and storage vessels working in combination with each other. After the initial 10 minutes the fast fill system should maintain a fill rate from either of two hoses off the fast fill dispenser throughout the day of 150 gallons per hour. The time fill system must be capable of refueling vehicles at night from 15 single hose/dispensers positioned in the current parking stalls for overnight refueling as shown on the attached preliminary drawing. The use of K-rail is not permitted for the mounting of the time fill posts for this application because of the width limitations of the parking area. Consequently the time fill posts must be protected with either bollards or mounted in a cement casing to properly protect it from being hit. Also the use of vehicle stops will be employed by the City to further protect the CNG refueling system, which will be supplied by the City of Norman. The time fill system should be capable of dispensing up to 900 dge over night in a 6 hour window from 9 PM to 3AM. The system shall incorporate a time clock to control the fueling event at night to take advantage of off-peak electric rates with a by-pass during the day to allow the use of the fast fill dispenser for emergency refueling or to handle other fleets utilizing the public access station. The compressors should be electric motor driven and operate at 1200 rpm to minimize wear and tear on the electric motors. Both fast fill hoses must be able to work simultaneously together.

The time fill posts should be designed for a discharge pressure, temperature compensated, of 3,600 pounds per square inch (PSI) and mounted with a maximum hose length of 25 feet and include the recoil or retractable pulley arrangement to prevent the hose from lying on the ground and being run over.

The noise level of the compressor skid and auxiliary equipment mounted on the skid should be no more than 85 dbA ten feet from the skid. The compressors and all related equipment should be housed in an enclosure and ventilated properly for the high heat conditions of the summers.

Bidder must supply and install one [1] fast-fill dispenser arrangement with a minimum of two hoses capable of providing fuel up to 3600 psi temperature compensated on a new fueling island to be constructed in the location as shown on the preliminary drawing. The fast fill dispenser shall have a hose with a minimum length of 12 feet and incorporate retractable pulleys to prevent the hose from lying on the ground. Specifically all hoses should be incorporated with breakaway fittings into the dispensers to avoid inadvertent drive away accidents. The fast fill dispenser, which must be a weights and measures approved type dispenser also shall be mounted on its own fueling island and protected by cement filled 6" protective bollards and painted all in accordance with NFPA -52 safety standards. The dispenser must provide the price as reported in gasoline gallon equivalents (gge) and how much fuel each transaction dispensed. A card reader can either be remotely connected or integrated into the dispenser for third party control.

Access to the fast fill dispenser will be provided via a card reader and phone line that will be located adjacent to the dispenser if remotely connected as shown on the attached drawing. The card reader must accept all the major credit cards that the users might potentially have like Visa and MasterCard. It should use some sort of fuel monitoring system like Multiforce or equal so it can tie into the fuel management system that the City of Norman fleet vehicles are currently using with their fast fill system on petroleum fuels. At a minimum it must record mileage, pin number and pump number from each user. The fast fill dispenser is to be supplied from a combination of the cascade storage system and the dual compressors working in tandem together

Fuel quality: Shall meet or exceed SAE J1616 in water vapor and oil vapor content at the fuel dispenser nozzles.

Site code requirements: Title 8, NFPA 52 latest edition, Oklahoma Fire Code, Piping ANSI B 31.3, Uniform Plumbing Codes and all electrical equipment must comply with NFPA 70 National Electric Code and shall be NEC 1996 or newer rated Class 1, Group D, Division including the deburring of all electrical conduit lines and no more than 360 degree bends in a single run. All applicable local and State of Oklahoma Codes apply. All equipment including the dual compressor skid, gas dryer, CNG ASME storage vessels and any auxiliary equipment including control panel should be mounted in an area no larger than 60 feet by 40 feet and located north of the parking area designated for the heavy duty vehicles as shown on the preliminary drawing. The fast fill dispenser will be mounted on the opposite side south of the compressor skid in the area outside of the maintenance center's property with a cut out for public access area that prevents users from entering the maintenance facility.

The contractor will be responsible for erecting a temporary construction fences covering the entire construction area and plates to cover any open trenches during construction.

Mandatory safety equipment required in accordance with the Uniform Fire Code include portable fire extinguishers at dispensing area, an alarm system including lights for a proper warning

system and appropriate signage, along with emergency manual shutdown devices every 75 feet at all dispensing locations including both fast and slow fill posts.

Install sufficient pressure safety relief devices in accordance with NFPA 52 to allow each relief device to be individually isolated for testing or maintenance while maintaining the required pressure relieving capacity.

Supply and install desiccant gas dryer tower on the suction side gas line before the compressors. The media used to absorb moisture shall not remove the gas line odorant. Dryer shall be a Xebec or equal and be sized upon the requirements of the system. The local utility will provide gas service at the meter set assembly at the property line with a pressure range of 14 to 17 psi. It is the responsibility of the winning Bidder to coordinate all utility side installations, connections and inspections with the appropriate Utility, City and Fire Marshal Inspectors and to insure the pressure to be provided by the local gas utility necessary to operate their equipment.

Install proper filtration including both a 3 angstrom mole sieve and coalescing filter on the inlet side of the compressors as well as particulate 0.9 micron absolute filter on the outlet side to eliminate or reduce oil carryover and other particulate matter from the compressors.

Supply both low pressure and high pressure piping in accordance with all applicable local and State of Oklahoma Codes. The size of the piping must accommodate the long runs associated with both the fast fill location and the time fill dispensers in relationship to the compressor skid (estimated to be about 300 feet in both cases) to minimize the pressure drop. Install all necessary compressor low-pressure gas supply lines, of proper size and pressure downstream from the gas meter, including any pressure regulators, and attachments per manufactures instructions as necessary, to include any secondary pressure regulators required to regulate any and all appliances which are supplied by the low pressure gas line/meter source. Contractor shall also supply and install one [1] Rootes type digital gas meter between the Utility meter/regulator set if not installed by the Gas Co as part of their MSA. Underground suction side gas supply lines shall be PE, 2" diameter, and buttwelded. All exposed iron gas pipe shall be painted safety yellow and protected by unistrut or other acceptable method. Plumbing installation shall meet 2008 or newer Uniform Plumbing Code. All underground piping and electric conduits shall be placed in trenches at a minimum cover of 24" unless otherwise allowed by code. The contractor shall exercise caution in trenching to ensure that the disruption it causes is kept at a minimum. Trench plates or other acceptable temporary trench covering devices may be required at contractor expense, since this is an active site with vehicles coming and going out of the public works yard all day long.

A layer of clean sand at least 3" thick will be placed in the bottom of the trench. A second layer of 3" sand shall be placed over the gas pipe and or conduit prior to backfilling or using a slurry mix. Clean dirt free from rocks and debris should be used to backfill. It may be placed in the trench and compacted to a compaction level of 90% prior to repaving to original conditions. Hot patch method can be utilized if asphalt is used or cement slurry if cementing surface. Underground PE gas pipes shall have a 14ga. wire taped to it for future identification and a yellow gas line caution tape rolled out the length of the trench, 12" below grade.

Supply and install all necessary high-pressure plumbing lines from the compressors to the fueling dispensers. These lines shall be of stainless steel, 3/8" diameter with a .039 wall thickness rated for 4500 psi working pressure. They shall incorporate one [1] high pressure line isolation valve at the dispensers, and further, the line supplying the dispenser shall have one [1] isolation valve, and one [1] bleed valve. **All high-pressure plumbing shall be protected from impact by use of unistrut channel or other acceptable means.** High-pressure tubing and fittings can be Hoke or equivalent brand.

Supply and install all necessary compressed natural gas refueling safety signage per NFPA 52 2008 edition. Contractor shall furnish the following signage: No Smoking, Stop Motor/Ignition Off, Emergency Shut Off, and Gas Isolation Valve. Plus any other safety signage the City or County fire code shall deem necessary.

Supply and install gas isolation valve at connection to main gas line, and before inline gas dryer towers. Gas dryer towers shall also have an isolation Bypass valve, which will allow Compressors to continue operation while gas dryer may be off line for servicing. Gas dryer should be sized to accept supply gas with a minimum pressure drop. Contractor shall determine the size regulator necessary for each compressor and supply and install same.

Contractor is responsible for furnishing a list of all personnel that will be involved with construction of the CNG station including name and personnel of all subcontractors used in the construction process. The Contractor will also be responsible to insure that each has the necessary tools and equipment to complete the job, including forklifts, tube bending equipment, safety equipment, gas detectors during startup and any other necessary equipment required to complete the job.

During construction, please stub out for future growth, not only at the fast fill island, but also at the compressor skid as well as along the fueling posts for time filling.

4. Storage system

The storage vessels should be three spheres or equal and mounted next to the compressor skid. They should be approximately 48" in diameter, rated for 5000 psi ASME service with a capacity of 10,000 scf each and act as a cascade storage system to supplement the compressor system during the fast fill mode.

- Minimum of 5,000 psi design pressure shall be incorporated for each CNG storage vessels and shall be so stamped.
- The storage vessels must be new and meet vessel specification as laid out in ASME guidelines Section VIII, Division I.
- The vessels should be equipped with lockable isolation ball valve.
- Storage is to be equipped and orientated for proper drainage of the vessels.
- Safety relief valves are to be equipped with a lockable service isolation valve on each and vent stack discharging at a safe distance and height.

- All storage vessels shall have a vertical discharge at minimum of ten feet above ground level and shall be equipped with rain caps, drip pockets, and drain valves.
- Hazardous locations surrounding all equipment shall not encroach upon existing equipment or buildings structures.

BID BOND

Bond No. _____

Premium _____

(10% of aggregate amount of bid)
(Not required if cash, cashier's or certified check
in the required amount accompanies bid.)

KNOW ALL PERSONS BY THESE PRESENTS: That we, _____, as
Principal and _____, as Surety, are held and firmly bound unto the City of
Norman, the sum of ten percent of the aggregate amount of the bid, the payment of which we
hereby bind ourselves, our successors, heirs, executors, and administrators, jointly and severally,
firmly by these presents.

That the Surety's office is located at _____, Telephone No.
(____)_____ and the Surety is licensed to do business in the State of _____, and
the resident agent for Surety is located at _____, license No. _____

The condition of the foregoing obligation is such that, whereas the above principal is about to
submit to the City of Norman a bid or proposal for the performance of the work therein
mentioned, in compliance with the plans and specifications there, pursuant to published notice
inviting bids:

Now, if the bid or proposal of the principal is accepted and the work awarded to the principal by
the City Council, and if the principal shall fail or neglect to enter into a contract in accordance
with the provisions of said bid or proposal and the accompanying Instructions and Information
for Bidders, and to execute adequate faithful performance and labor and material surety bonds to
the satisfaction of the City of Norman, then the sum guaranteed by this bond is forfeited to the
City of Norman.

Witness our hands and seals this _____ day of _____ 20

_____ **Principal**

By: _____

_____ Surety

VENDOR LIST

ANGI International

Attn: Andy Grimmer, Vice President of Sales and Business Development
15 Plumb Street
Milton, WI 53563
Phone: (608) 868.4626 Ex #235; (800) 955-4626 Ex #235
Fax: (608) 868-2723
Cell: (608) 436-9825
agrimmer@angiinternational.com

Clean Energy

Attn: Jim Harger
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Suite 200
Seal Beach, CA 90740
jharger@cleanenergyfuels.com

EFS WEST

Attn: Bob Golden
14823 Califa Street
Van Nuys CA, 91411
Phone: (818) 267-2400
Fax: (818) 786-5440

EXTERRAN

Corporate Offices
Attn: Stephen A. Snider
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Phone: (281) 836-7000
stephen.snider@exterran.com

Gas Equipment Systems, Inc.

Attn: Larry Ozier
8930 Center Avenue
Rancho Cucamonga, CA 91729
Phone: (909) 466-6920
fuelstms@aol.com

Greenfield Compressors, Inc.

Attn: JARED HIGHTOWER
909 Bowser Road.
Richardson, TX 75081
Phone: (972) 889-2400
Fax: (972) 234-4829
jared.hightower@us.atlascopco.com

IMW Industries, Ltd.

Attn: Roger Conyers
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Phone: 801-773-2575
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Oklahoma Natural Gas

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PO Box 401
Oklahoma City, OK 73101-0401
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bballard@ong.com

Pinnacle CNG

Attn: Drew Diggins
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Midland, TX 79702
432-686-5900
ddiggins@pinnaclecng.com

Pressure Solutions, LLC

Attn: Marc Bumgardner
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PO Box 1077
Tuttle, OK 73089-1077
Phone: (405) 381-4733
pressuresolutions@sbcglobal.net

City of Norman

CNG REFUELING STATION
BID NO. 0910-02

Tulsa Gas Technologies

Attn: Tom Sewell

4809 S. 101st East Avenue

Tulsa, OK 74146

Phone: (918) 665-2641

Fax: (918) 665-2657

tsewell@tulsagastech.com