INVITATION FOR SEALED BID

Bid 01-616

Description: PORTABLE GENERATOR

Department: PUBLIC WORKS

NIGP Commodity Code(s): 285-37-00-000-0

Total pages including this page is 30

NOTE: FAXED BIDS WILL NOT BE ACCEPTED

Important Instruction – Read Carefully:

If you have obtained these bid specifications from either of:
City of Tulsa's Fax-on-Demand (918-596-1171) or
City of Tulsa's Website : http://www.cityoftulsapurchasing.org/

you must notify the buyer Laura Blades of your intent to bid by e-mail lblades@ci.tulsa.ok.us in order to receive addenda. The buyer will always acknowledge your e-mail for your records. All addenda will be posted on fax-on-demand and the website.

TABLE OF CONTENTS

Pay special attention to those pages with a reference to the following notes:

Note #1: Signature of authorized agent required

Note #2: Signature of an authorized agent and notarized required

Your bid response should follow the same format listed above plus any additional format requested in the body of the bid invitation.

INVITATION FOR SEALED BIDS
TO
City of Tulsa

200 CIVIC CENTER, ROOM 109, TULSA, OKLAHOMA 74103

Bid number and date of bid opening must appear on the lower left outside corner of bid envelopes and all related containers.

DATE OF OPENING: June 13, 2002 **BID NUMBER: 01-616**

BID MUST BE IN THE CITY CLERK'S OFFICE AT THE ABOVE ADDRESS BY 5:00 P.M. THE DAY PRECEDING THE "DATE OF OPENING" SHOWN ABOVE.

BIDS WILL BE OPENED AT 8:30 A.M. IN THE CITY COUNCIL ROOM ON THE DAY SPECIFIED UNDER "DATE OF OPENING."

PUBLISHED IN THE TULSA DAILY COMMERCE AND LEGAL NEWS: May 23, 2002

Bid must be accompanied by bidder's bond, cashier's check or certified check in the amount of: **NONE**

PLEASE READ TERMS AND CONDITIONS ON THE NEXT PAGE BEFORE COMPLETING BID DOCUMENTS

********** **THE FOLLOWING SECTION MUST BE COMPLETED BY BIDDER** **********

Delivery will be made in not more than_____ days after receipt of order.

Payment terms _____%_____ days.

City of Tulsa may increase quantity of order at the unit price bid for_____ days. (Bidder to Specify Days) I have examined the terms and specifications and the instructions to bidders herein and agree, provided I am awarded a con - tract, to provide the above described items for the sum shown in accordance with the terms and specifications stated herein. All deviations are in writing and attached hereto.

Enclosed is a [ ] BID BOND ; [ ]CASHIER'S CHECK; [ ] Certified Check in the amount of $_____, which I agree the City of Tulsa may retain as liquidated damages in the event of my failure to comply with the terms of this bid.

MUST BE SIGNED BY AUTHORIZED AGENT TO BE VALID

FIRM NAME _____ **by** _____

STREET _____ **TITLE** _____

CITY STATE_____**ZIP CODE**_____**PHONE NUMBER**_____**DATE**_____

GENERAL TERMS AND CONDITIONS OF BIDS

THESE ITEMS APPLY TO AND BECOME A PART OF THE BID.

NO EXCEPTIONS TO THESE TERMS & CONDITIONS WILL BE CONSIDERED.

1. **BIDS MUST BE SUBMITTED ON THIS FORM ONLY INCLUDING A SIGNATURE OF AN AUTHORIZED AGENT.** Each bid shall be placed in a separate envelope. Be sure envelope is completely and properly identified and sealed, showing the bid number and date in the lower left hand corner. Bids must be time stamped in the office of the City Clerk by 5:00 P.M. on the day before date of opening.

2. No bidder may withdraw his proposal for a period of thirty (30) days after the date and hour set for the opening of bids.

3. All prices shall be quoted F.O.B. Tulsa, Oklahoma, and delivery to City of Tulsa location shall be without additional charge.

4. The bidder shall attach the manufacturer's name of the equipment or material to be furnished, type, model numbers, manufacturer's descriptive bulletins and specifications. All guarantees and warranties should be clearly stated. This data shall be in sufficient detail to describe accurately the equipment or material to be furnished. Manufacturer's specifications, in respect to the successful bidder, shall be considered as part of his contract with the City of Tulsa.

5. The bidder shall show in the proposal both the unit prices and total amount, where required, of each item listed. In the event of error or discrepancy in the mathematics, the unit prices shall prevail.

6. Any exceptions or deviations from written specifications shall be shown in writing and attached to the bid form.

7. Each bidder agrees to comply with the terms of Title 5, Chapter 1, of Tulsa Revised Ordinances relating to equal employment opportunity.

8. **THE ENCLOSED FORMS REGARDING NON-COLLUSION AND FINANCIAL INTEREST MUST BE SIGNED, NOTARIZED, AND RETURNED WITH THE BID.**

9. The City of Tulsa reserves the right to reject any and all bids, to waive any technicalities in the bidding, and to award each item to different bidders or all items to a single bidder.

10. All bids must be accompanied by bidders bond, cash, certified or cashier's check in the amount shown on the face of the bid form. This amount shall be retained by the City of Tulsa as liquidated damages in the event the successful bidder (or bidders) fails to execute a contract, if required. The bidder agrees that said amount is presumed to be the damages sustained by the City due to the impracticability and extreme difficulty in fixing the actual damages. The office of the City Clerk will return the bid deposits to the unsuccessful bidders, after a contract has been awarded or all bids have been rejected.

11. In the event cash discounts are offered by the bidder, the discount date shall begin with the date of invoice, the date of receipt of all material covered by the purchase order, or the date of receipt by the City of Tulsa of the original copy of the purchase order with properly executed Affidavit of Claimant, whichever is the later date.

12. Direct purchase of certain items of equipment or material by the City of Tulsa are exempt from Federal Excise Tax and Oklahoma Sales Tax. In such cases the bidder shall quote prices which do not include Federal Excise Tax and Oklahoma Sales Tax. The City of Tulsa will furnish executed exemption certificates upon presentation by the bidder at the time of purchase.

13. Bid must show number of days required for delivery under normal conditions. Failure to state delivery time obligates bidder to complete delivery in fourteen (14) calendar days. Unrealistically short or long delivery promises may cause bid to be disregarded. Contractor must keep Purchasing Department advised at all times of status of order. Default in promised delivery or failure to meet specifications authorizes the Purchasing Agent to purchase supplies elsewhere and charge full increase of cost and handling to defaulting contractor. Consistent failure to meet delivery promises without valid reason may cause removal from bid list.

14. Bidder agrees to defend and save City of Tulsa from and against all demands, claims, suits, costs, expenses, damages and judgments based upon infringement of any patent relating to goods specified in this order or the ordinary use or operation of such goods by City or use or operation of such goods in accordance with bidders direction.

15. If the bid requires a written contract, the successful bidder shall execute a written contract with the City of Tulsa and return the required bonds and insurance certificates within ten (10) days after submission of contracts to said bidder by the City.

INTEREST AFFIDAVIT

STATE OF _____ }
} ss
COUNTY OF _____ }

_____, of lawful age, being first duly sworn, states that s(he) is the agent authorized by the bidder to submit the attached bid. Affiant further states that no officer or employee of the City of Tulsa either directly or indirectly, owns a twenty-five percent (25%) interest in the bidder's business or such a percentage which constitutes a controlling interest. Affiant further states that the following officers and/or employees of the City of Tulsa have some direct or indirect interest in the bidder's business:

_____

_____

_____

By _____
(Signature)

_____
(Title)

Subscribed and sworn to before me this _____day of _____, 20_____.

_____

NOTARY PUBLIC SIGNATURE

My Commission Expires:

_____

The Interest Affidavit must be completed, signed by an authorized agent, and notarized.

BIDDER AFFIDAVIT - TITLE 74 O.S. (1974 SUPP.) 85.22-85.25

STATE OF _____ COUNTY OF _____

_____, of lawful age, being first duly sworn on oath says
Authorized Agent

1. (s)he is the duly authorized agent of _____, the bidder submitting the competitive bid which is attached to this statement, for the purpose of certifying the facts pertaining to the existence of collusion among bidders and between bidders and municipal officials or employees, as well as facts pertaining to the giving or offering of things of value to government personnel in return for special consideration in the letting of any contract pursuant to the bid to which this statement is attached.

2. (s)he is fully aware of the facts and circumstances surrounding the making of the bid to which this statement is attached and has been personally and directly involved in the proceedings leading to the submission of such bid; and

3. neither the bidder nor anyone subject to the bidder's direction or control has been a party;
   a. to any collusion among bidders in restraint of freedom of competition by agreement to bid at a fixed price or to refrain from bidding,

   b. to any collusion with any municipal official or employee as to quantity, quality or price in the prospective contract, or as to any other terms of such prospective contract, nor

   c. in any discussions between bidders and any municipal official concerning exchange of money or other thing of value for special consideration in the letting of a contract.

_____
SIGNATURE OF AUTHORIZED AGENT

Subscribed and sworn to before me this _____day of _____, 20_____.

_____ _____

Signature of Notary Public **MY COMMISSION EXPIRES**

The Bidder Affidavit must be completed, signed by an authorized agent, and notarized.

CONTRACTOR/BIDDER INFORMATION SHEET

To be completed by all Bidders
For Contracts with the City of Tulsa
(Please print or type)

Project No. or Description _____

_____

Full Name of Bidder _____

Legal Identity
(Corporation, Partnership,
Individual, etc.) _____

Address _____

_____

Telephone No. _____

FAX No. _____

Taxpayer Identification Number _____

Contact Person _____

Phone No. _____

Fax No. _____

E-mail address _____

Webpage Address _____

Price Sheet Summary

Vendor Name:_____ **Signature:**_____
Date:_____

You will be able to obtain a copy of the Bid Summary on the City of Tulsa's Purchase-Net Fax-on-Demand and Website shortly after bid opening.

BID 01-616

BIDDERS SHALL COMPLETE EERY SPACE IN BIDDER'S PROPOSAL COLUMN. THE BIDDER SHALL GIVE A DESCRIPTION OF THE ITEM BEING BID SUCH AS SIZES, CAPACITIES, DIMENSIONS, ETC.

ITEM	QTY.	SPECIFICATIONS (MINIMUM)	BIDDER'S PROPOSAL
1.	1	New Generac Generator Set	$_____
EQUIPMENT		CURRENT YEAR MODEL 10,000 LB. PAYLOAD CAPACITY EQUIPMENT TRAILER TO TRANSPORT A 350 KW BACKUP GENERATOR. MODEL SD 0350 OR ACCEPTABLE EQUAL	_____ _____ _____ MODEL_____ MANUFACTURER_____
CAPACITY		9,000 LB. PAYLOAD	_____
PLATFORM		PLATFORM TO BE 14 FT OVERALL LENGTH.	_____
		OVERALL WIDTH OF 8 FT. AND DECK WIDTH OF 74 IN. STEEL FENDERS FOR TIES.	_____ _____
		DECK HEIGHT OF APPROX. 20.5 INCHES TO INCUDE A 4" HIGH RAIL PLATE AROUND SIDES AND FRONT OF PLATFORM AREA.	_____ _____ _____
		NOMINAL DIAMOND PLATE STEEL DECK.	_____
		MINIMUM OF TWO (2) D-RING TIE DOWNS PER SIDE. ONE (1) TO BE MOUNTED AT FRONT OF PLATFORM AND ONE (1) TO BE MOUNTED APPROXIMATELY 2 FT. FROM THE REAR OF TRAILER ON EACH SIDE.	_____ _____ _____ _____ _____

ITEM	QTY.	SPECIFICATIONS (MINIMUM)	BIDDER'S PROPOSAL
SUSPENSION		TANDEM AXLES AS RQUIRED FOR PAYLOAD WITH SPRING SUSPENSION.	
BRAKES		MINIMUM OF 12" X 2" ELECTRIC BRAKES ON EACH WHEEL.	
ELECTRICAL		12 VOLT STANDARD TRAILER LIGHTS MEETING DOT REQUIREMENTS FOR 24 HOUR HIGHWAY OPERAITON SHALL BE PROVIDED. A 6 WAY STANDARD ELECTRICAL CONNECTION SHALL BE INCLUDED. **ELECTRICAL WIRING SHALL BE IN A WEATHER PROOF HOUSING. TAIL LIGHTS SHALL BE COMPLETELY SEALED AND OF THE WEATHER PROOF TYPE.**	
TIRES AND WHEELS		MANUFACTURER'S STANDARD SINGLE TIRES PER AXLE SIDE.	
		TIRES TO BE 8.00 X 14.5 12 PLY OR AS REQURIEDT O MEET GVWR RATING.	
PARK STANDS		SCREW TYPE,LOAD SUPPORTING WITH SAND PADS FOR GVW OF TRAILER.	
COLOR		MANUFACTURER'S STANDARD WHITE. ALL METAL SHALL BE CLEANED OF ALL MILL SCALE AND SLAG. PRIMER PAINT SHALL BE APPLIED PRIOR TO APPLYING TWO COATS OF PAINT TO ALL PARTS INCLUDING THE UNDERNEATH OF TRAILER.	
TONGUE		A-FRAME STYLE	
		MANUFACTURER'SSTANDARD LENGTH, (APPROX. 5 FT.).	
		10,000 lb. LUNETTE EYE HITCH. TRAILER SHALL HAVE A BREAK-A-WAY SYSTEM UTILIZING TWO CLASS V SAFETY CHAINS WITH HOOKS AS PER THE SPECIFICATION.	
SAFETY		TRAILER SHALL BE EQIPPED WITH ALL REFLECTORS, LIGHTS AND EQUIPMENT AS REQUIED BY STATE OF OKLAHOMA AND FEDERAL LAWS GOVERING HIGHWAY SAFETY.	
ADDITIONAL ITEMS		FULLY UNDERCOATED.	
		3 SETS OF PARTS MANUALS.	
		3 SETS OF SERVICE MANUALS.	
		OKLAHOMA APPLICATION FOR TITLE.	
		MANUFACTURER'S STATEMENT OF ORIGIN.	

BID #01-616
PORTABLE GENERATOR
PUBLIC WORKS DEPARTMENT

INTENT:

It is the intent of this bid to secure, on a competitive basis, a source of supply for furnishing **Portable Generator** to the City of Tulsa, Public Works Department.

GENERAL SPECIFICATIONS:

The intent of these specifications is to set a minimum standard for bidding and is not to limit bidding otherwise.

Inasmuch as some designs of equipment vary among different manufacturers, the City may accept bids on equipment with minor deviations to the written specifications. General, a minor deviation is defined as a deviation which does not: (A) Materially affect the ability of the product to achieve or accomplish a necessary function or task in the manner required by the specifications; (B) Compromise the safety of the user thereof; and, (C) Produce higher latent or patent costs to the City in any of a multiplicity of ways. The City of Tulsa specifically reserves the right to make the final judgment concerning what is or is not a minor deviation and to award the bidder(s) whose bid(s) best suit the City's need for the product being purchased.

Any exception or deviations from the specifications set forth in this bid must be clearly described in the bidders proposal.

PRICING:

Bid prices, unless otherwise specified, must be net, including transportation and handling charges fully prepaid by the supplier to destination and subject only to cash discount for prompt payment of invoice.

PURCHASE ORDERS, INVOICING AND PAYMENT:

The City will issue a Purchase Order to the successful bidder for the subject supplies. the successful bidder must furnish the user department one (1) copy of the itemized delivery ticket.

The original invoice is to be sent directly to the City of Tulsa, Accounts Payable Division, 200 Civic Center, City Hall Building Room 905, Tulsa, Oklahoma 74103.

INVOICES SHALL CONTAIN THE FOLLOWING INFORMATION:

1. Using agency and delivery address.
2. Purchase Order number.
3. Product description.
4. Unit price of product.
5. Bid number 01-616.

BIDDER'S AFFIDAVIT:

Each bidder shall accompany their bid with a fully executed and notarized copy of the attached **Non-Collusion Affidavit** and the **Interest Affidavit**. Failure to do so may be cause for rejection of the bid.

ADDENDA AND INTERPRETATIONS:

If it becomes necessary to revise any part of this bid, a written addendum will be provided to all the bidders. The City of Tulsa is not bound by any oral representations, clarifications or changes made in the written specifications by City of Tulsa employees unless such clarification or change is provided to bidders in written addendum form from the Purchasing Division.

AWARD OF BID:

The bid shall be awarded to the firm whose proposal is responsive to the bid and is most advantageous to the City, considering the factors identified in the bid and Section 406E of Title 6, The Purchasing Ordinance set forth below:

406E. AWARD OF CONTRACT

1. Authority in the Mayor. The Mayor shall have the authority to award contracts within the purview of this chapter.

2. Lowest Secure Bidder. Contracts shall be awarded to the lowest secure bidder meeting specifications. Bid Specifications may include a point system for evaluating the lowest secure bid. In determining "lowest secure bidder", in addition to price, the following factors shall be considered:

   a. The ability, capacity and skill of the bidder to perform the contract or provide the service required;

   b. whether the bidder can perform the contract or provide the service promptly or within the time specified, without delay or interference;

   c. the character, integrity, reputation, judgment, experience and efficiency of the bidder;

   d. the quality of performance of previous contracts or services;

e. the previous and existing compliance by the bidder with laws and ordinances relating to the contract or service;

f. the sufficiency of the financial resources and ability of the bidder to perform the contract or provide the service;

g. the quality, availability and adaptability of the supplies or contractual services to the particular use required;

h. the ability of the bidder to provide future maintenance and service for the use of the subject of the contract;

i. where an earlier delivery date would be of great benefit to the requisitioning agency, the date and terms of delivery may be considered in the bid award, and

j. the number and scope of conditions attached to the bid.

k. if a point system has been utilized in the bid specifications, the number of points earned by the bidder.

DESCRIPTIVE LITERATURE:

Each bidder is required to furnish with their bid, catalog cuts and/or descriptive literature, properly labeled with the bid number and bidder's name, with full illustrations and detailed specifications for each item offered as equal to the brand name specified. In addition, **All differences in specifications from the specifications stated herein must be so marked**. Descriptive literature is required to establish, for the purpose of bid evaluation and award, details of the product(s) the bidder proposes to furnish as to design, materials, method of manufacture, construction, assembly or operation, as appropriate. **Failure to submit the descriptive literature may be cause for rejection of your bid**.

Department contact Jackie Barrett, 596-9792.

SECTION 01000

SCOPE OF WORK

1 GENERAL

This project specification covers a (trailer mounted) transportable diesel powered generator planned for use to supply temporary backup power to individual and separate City of Tulsa water distribution system pump stations. The transportable EGS will be pulled by a City of Tulsa truck from a holding area to individual pump stations as required. The unit shall have all lights and other equipment required for safety requirements for access to public access roads and highways. The TEGS unit output power will be connected to the pump station by a high service, rugged power cord pre-connected to the generator circuit breaker controlled output terminal.

2 SCOPE OF WORK This project consists of a NFPA 110 compliant transportable (trailer mounted), reliable three phase diesel powered (TEGS) Transportable Portable Engine Generator Set. The TEGS shall be rated to supply 350 KW in a standby operating mode. The TEGS shall be rated to supply 320 KW continuously in a prime source operating mode. The prime mode may require 24 hour operation supplying electrical power to individual water pump stations located within the City of Tulsa Water Distribution System.

3 BASIC REQUIREMENTS

A. All equipment, material and workmanship shall meet regulatory requirements listed in this specification.

B. The contractor shall provide all labor, materials, services, and equipment for completion of all work described here-in.

C. Contractor shall have an English-speaking technician, on-site during delivery and testing operations for communication and interpretative purposes. Contractor to verify existing conditions, dimensions, etc. before bidding project and clarify uncertainties with Engineer.

4 DISCREPANCIES

A. In the event discrepancies are discovered between plans and specifications after contractor bids have been submitted to the City of Tulsa, the interpretation of the intended function will be by the designated project engineer.

B. The contractor shall bear all costs of furnishing and installing specified material and labor to provide a complete and working system as described by the specification.

C. Code Requirements

1) The delivered TEGS shall meet applicable City of Tulsa, UL, NEMA, ODOT, OSHA, NEC and EPA codes and requirements in place at the time of the order. Documents and Labels showing applicable compliance shall be provided at the time of delivery.

SECTION 01039

COORDINATION

GENERAL

1. COORDINATION

   A. Coordinate inspection, testing and delivery with the designated engineer.

SECTION 01300

SUBMITTALS

PART 1 GENERAL

1. SECTION INCLUDES:
   - A. Procedures
   - B. Contractor Review
   - C. Shop Drawings.
   - D. Product Data.
   - E. Manufacturer's Operating and Maintenance Manuals.
2. PROCEDURES
   - A. Submit engine – generator – trailer product data sheets with the bid proposal.
   - B. Customer approved submittal data shall be returned to contractor with authority to proceed on the approved items.
   - C. Submit O & M manual at the time of delivery.
3. CONTRACTOR REVIEW
   - A. Review Submittals Prior to Transmittal.

     Stamp and sign or initial each copy of product specification data. Show each label used on the equipment. Contractor to certify compliance with requirements of specification and contract documents. Notify owner in writing at time of submittal of any deviations from requirements of contract documents.
4. PRODUCT DATA
   - A. Mark each copy of supplier data sheet to identify applicable products, models, options and other data; supplement manufacturers' standard data to provide information unique to the work.
   - B. Submit three additional copies of supplier data sheet that will be retained by owner.
5. MANUFACTURER'S INSTRUCTIONS
   - A. Submit manufacturer's printed instructions for delivery, storage, assembly, and installation, adjusting, and finishing, in quantities specified for product data.
   - B. Three (3) sets of Operating and Maintenance (O&M) manuals are required prior to acceptance and final payment.
   - C. Identify conflicts between manufacturer's instructions and contract documents.

D. O&M manuals are to be submitted in rugged service three-ring notebooks or binders, which will include the manufacturer's maintenance recommendations and parts lists for all mechanical and electrical equipment furnished as part of this work. The O&M manual binders shall be properly labeled to identify the contents. The cost of the manuals, notebooks and binders shall be included in the price bid for furnishing equipment. O&M manuals shall be delivered to the Engineer prior to pre-acceptance, start-up tests.

E. Contractor shall prepare an Acceptance Test Procedure listing all tests and a data sheet.

F. The test data sheet shall include

1) Unit under test, model number and serial number.
2) Test location.
3) Test date and time.
4) Supplier test operator, printed and signature
5) Test equipment and calibration date as applicable.
6) Customer Engineer or Inspector witnessing the test.

SECTION 01600
PRODUCT REQUIREMENTS

PART 1 GENERAL

1. SECTION INCLUDES

   A. Products.

   B. Transportation and handling

   C. Product options

   D. Substitutions

2. PRODUCTS

   A. All delivered equipment shall be new material, machinery, components, equipment and fixtures.

   B. Do not use used or reconditioned materials and equipment.

   C. Materials and equipment furnished by the Contractor for this project shall be new and correctly designed to meet the long-term needs of this project. These items shall be of rugged industrial, first grade quality, produced by experienced and expert workmen. ISO 9000 certified suppliers are preferred.

   D. Materials, tools and equipment shall be properly rated and used for the intended function or purpose for which they are offered. Materials or equipment which, in the opinion of the Engineer, are inferior or of a lower grade than indicated, specified or required, will not be accepted. Inferior materials installed on this project shall be removed and replaced with proper material.

   E. No asbestos or other hazardous materials shall be installed or used in the accomplishment of this project. Safeguards shall be employed where needed.

   F. All equipment and appurtenances of the TEGS shall be designed and installed in conformity with the latest and applicable ANSI, ASME, IEEE, NFPA, NEC, NEMA, OSHA, NEPA, ODOT and other generally accepted standards.

   G. Correction of Latent defects discovered during generator use shall be the responsibility of the supplier for 2 years.

   H. The TEGS shall be of rugged construction and of sufficient strength to withstand vibration and mechanical shock produced during transportation from station to station.

   I. The TEGS shall be of rugged construction and of sufficient strength to survive stresses produced during fabrication, testing, transportation, installation, and all conditions of operation. These items shall be designed for appearance as well as utility. Protruding members, joints, corners and the like, shall be finished in appearance and shall not produce a personnel hazard. All exposed welds shall be ground smooth and the corners of structural shapes shall be mitered.

J. All equipment, power cables and connectors shall meet applicable UL and NEC 2002 requirements.

K. Equipment shall be installed so that fuel lines, conduit, electrical connections and auxiliary equipment can be assembled, installed and serviced without requiring major disassembly or revisions to the TEGS unit.

3. TRANSPORTATION AND HANDLING

A. Transport and handle products in accordance with manufacturer's instructions.

B. Promptly inspect shipments to assure that products comply with requirements, quantities are correct and products are undamaged.

C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement or damage.

4. PRODUCT OPTIONS

A. Products specified by reference standards or by description only: Any product meeting those standards or description.

B. Products specified by naming one or more manufacturers: Products of manufacturers named and meeting specifications; submit a request for substitution for any manufacturer not named, unless specifications indicate no substitution allowed.

SECTION 01610

TRAILER REQUIREMENTS

PART 1 GENERAL

1. Trailer shall be used to transport diesel powered emergency engine generator set. Generator assembly shall be mounted on trailer. Diesel fuel tank shall also be mounted on the trailer assembly.
2. The trailer shall be fully capable of tracking the pulling vehicle. The trailer shall pull safely without road or traffic induced oscillations at speeds up to 60 mph on public roads or highways. The Trailer shall operate safely on paved and unimproved roads
3. Trailer Tandem Axel Trailer
    A. Two (2) 7000 pound axles, leaf spring suspension, painted glossy black finish.
    B. 14,000 pound over all capacity.
    C. Electric Breaks shall be rated for multiple stops for full weight. Electric brakes shall connect to truck with Standard Electrical Trailer Connections.
    D. Two (2) Inch Ball Coupler
    E. 25/16 Bulldog coupler with Jack and Foot.
    F. Bed, diamond plate steel, overall width of 8 feet with a minimum deck width of 74 inches steel fenders for tires.
    G. Platform to be 14 feet overall length with 32 inch dovetail.
    H. Tires and wheels
        1) Manufacturers standard single tire per axel side.
        2) Tires to be 8.00 x 14.5, 12 ply or as rated to meet GVWR rating.
    I. Park Stands shall be screw type, load supporting with sand pads for GVW of trailer.
    J. Color shall be manufacturers standard white. All metal surfaces shall have been cleaned of all metal scale and slag prior to primer application. Rust inhibiting primer and two coats high service paint shall be applied to all metal parts including the underneath of the trailer.
4. LIGHTS
    A. DOT lighting (Tail, Turn, Side Markers)

5. SAFETY CHAINS

See Appendix A

A. Safety chain limits shall meet trailer weight requirements.

B. Hooks shall be Crosby grade 8 alloy steel latching clevis hooks meeting NACM and ASTM standards.

C. The chain connecting links shall be anti-fouling and tested at 2.5 times the working load limit and hooks shall be fatigue rated for this trailer load.

D. Chain connecting links shall be equal to Crosby Spectrum 8 alloy Chain. The minimum ultimate load shall be 4 times the working load limit.

E. Weldless Sling Links shall be Crosby forged carbon steel, quenched and tempered. Paint shall be removed before welding to trailer. Links shall be attached by means of a 2.5 inch wide by 12 inch long by 3/8 inch A36 steel strap welded to rear of the trailer. The link ultimate load shall be 6 times the working load limit. These links shall be equal to the Crosby S341.

F. The weldless link holding device shall be 1 inch in diameter. A steel strip shall be heated and formed over a 1.25 inch round bar. The steel strip will then be placed over weldless link and welded on all three sides up to where the steel strip fits over weldless link. The weld strength shall be a minimum 60,000 pounds per square inch. The steel strip dimensions shall be 3/8 inch thick, 8 inches long, and 2 ½ inches wide. The strip shall be grade A36 material.

G. A certificate of Compliance is required at the time of delivery for all trailer chain items listed in section 2 above.

SECTION 01700

CONTRACT CLOSEOUT

PART 1 GENERAL

1. SECTION INCLUDES:
   A. Closeout Procedures.
   B. Adjusting.
   C. Project record documents.
   D. Operation and Maintenance data.
   E. Warranties.
2. CLOSEOUT PROCEDURES
   A. Submit written certification that product has been reviewed, inspected, tested and delivered as required. The supplier shall certify the work is complete in accordance with City of Tulsa contract documents and ready for owner's acceptance.
   B. Provide submittals to owner that is required by governing or other authorities.
   C. Submit releases, waivers, and other data in accordance with general conditions as they apply.
   D. Submit final application for payment identifying total adjusted contract sum, previous payments and sum remaining due.
3. ADJUSTING
   A. Adjust operating products and equipment to ensure smooth and unhindered operation.
4. PROJECT RECORD DOCUMENTS
   A. Submit documents to owner with final application for payment, and a transmittal letter containing date, project, contractor's name and address, list of documents and signature of contractor.
5. OPERATION AND MAINTENANCE DATA
   A. Submit three sets concurrent with final inspection, bound in 8-1/2 x 11-inch text pages, three D side ring binders with durable hardback covers. Sets are for Users (2) and Engineering (1).
   B. Prepare binder covers with printed title "OPERATION AND MAINTENANCE INSTRUCTIONS", title of project and subject matter of binder when multiple binders are required.
   C. Internally subdivide the binder contents with permanent page dividers, logically organized as described below, with tab titling clearly printed under reinforced laminated plastic tabs.

D. Contents: Prepare a Table of Contents for each volume.

1) Part 1: Directory, listing names, addresses and telephone numbers of contractor, subcontractor and major equipment suppliers.

2) Part 2: Operation and maintenance instructions, arranged by specification section. For each category, identify names, addresses, and telephone numbers of subcontractors and supplier. Identify the following:

a) Operating performance ratings.

b) List of equipment.

c) Recommended spare parts list.

d) Operating instructions.

e) Maintenance instructions for equipment.

f) Maintenance instructions for finish, including recommended cleaning methods, materials, and special precautions identifying detrimental agents.

3) Part 3: Project documents and certificates, including the following:

a) Shop drawings, electrical diagram.

b) Product Data: including manufacturer, product number, color and any other information required for ordering special manufactured products.

c) Certificates.

d) Photocopies of warranties and bonds.

E. Submit one copy of completed volumes in final form with final inspection.

F. Submit final volumes revised, within ten days after final inspection.

6. WARRANTIES

A. Provide duplicate notarized copies.

B. Execute and assemble documents from subcontractors, supplies and manufacturers.

C. Provide Table of Contents and assemble in binder with durable hardback cover.

D. Submit prior to final application for payment.

7. PAYMENT

A. Payment for the engine generator set, appurtenances, electrical modifications, preventive maintenance and all phases of the work performed shall be made in accordance with the contract document.

SECTION 16000

ELECTRICAL and ENGINE REQUIREMENTS

PART 1 GENERAL

1. SECTION INCLUDES
    A. Requirements
    B. Scope
    C. Codes
    D. Coordination
    E. Installation and arrangement
    F. Submittals
    G. Record Drawings
    H. Electrical Workmanship
    I. Field Quality Control
    J. Operational Training for the City of Tulsa
    K. Safety
    L. Engine Generator Set
    M. TEGS Unit
    N. Generator
    O. Engine
    P. Control Panels
    Q. Power Cable
    R. TEGS Tests
    S. TEGS Equipment Grounding
    T. Auxiliary Power

2. REQUIREMENTS
    A. This portion of the work is a part of total project and all provisions of the project general requirements, conditions of the contract, supplemental conditions and all other contract documents shall apply to this section of the project.

3. SCOPE

   A. Contractor labor, material, services and skilled supervision shall be utilized as necessary for completion of the project in a first class manner.

   B. Provide complete grounding system per specification and NEC 2002.

   C. Failure to mention any specific items necessary for a complete system upgrade shall not excuse the contractor from furnishing, installing and testing same.

4. CODES

   A. All materials and workmanship shall comply with all applicable codes, specifications, local ordinances, industry standards, latest Edition of NEC, and utility company regulations. In no case will work or materials inferior to those specified be accepted even if permitted by code.

5. INSTALLATION AND ARRANGEMENT

   A. The contractor shall install (Deliver and Test) the electrical equipment as defined by this specification.

6. RECORD DRAWINGS.

   A. The contractor shall furnish to the owner record (as built) drawings of the delivered hardware.

   B. Record drawings shall be complete and accurate showing sufficient detail to permit service and restoration operations if required. Information contained in maintenance manual may be acceptable.

7. ELECTRICAL WORKMANSHIP

   A. Whenever equipment requiring electrical connection is specified, all workmanship and materials shall conform to City of Tulsa Electrical Code, NEC 2002 requirements and industry standards for 600 VAC class equipment.

8. FIELD QUALITY CONTROL

   A. Perform pre-acceptance visual inspection and operational tests for compliance with Specification. Check for application of UL LISTED Label.

   B. Perform unit and acceptance system tests.

9. OPERATIONAL TRAINING FOR CITY OF TULSA

   A. The contractor shall instruct designated operating personnel of the City of Tulsa in the proper operation and maintenance of all elements of the delivered TEGS. A knowledgeable representative of the contractor shall spend not less than 1 hour and not more than 4 hours with normal instructions as required to fully prepare the City of Tulsa to operate and maintain the TEGS.

10. ENGINE GENERATOR SET (EGS)

A. The TEGS shall be rated to operate at an elevation 700 feet above sea level with an operating ambient temperature range of -10 degrees to 120 degrees F.

B. The Contractor shall furnish a diesel fueled Engine Generator Set to supply Three Phase (Backup) Power for various water pump stations. The TEGS shall be rated at 350 KW at a 0.8 power factor. The TEGS shall be capable of supplying balanced voltage three phase power for the duration of normal purchased power interruption. The EGS shall be configured to supply operating voltages at 277/480 VAC WYE or an alternate of 240 VAC phase to phase. The TGES shall provide three phase, four wire power at a frequency of 60-hertz.

C. TEGS diesel fuel shall be stored in a 200 to 400 gallon minimum, rugged trailer mounted fuel tank on the same trailer with the TEGS. The fuel tank fill port shall be located for easy and safe refilling.

D. The TEGS fuel line shall be flexible with metal fittings, treated for corrosion prevention. Galvanized fuel lines or fittings shall not be used. The TEGS fuel line shall be protected against accidental damage.

E. Fuel Delivery System.

1.) The fuel tank shall be a double walled diesel fuel tank. The atmospheric tank shall have welded seams and shall be tested to 5 PSI.

2.) The fuel tank shall be UL 142 LISTED with leak detector.

3.) Additional fuel connections shall be provided on the fuel tank to provide the capability of adding a threaded 1” inlet fuel pipe for auxiliary fuel supply.

4.) The fuel tanks shall have a 2” capped opening for local filling, vent, drain with valve, and level float switches used for pump start and stop controls.

5.) Fuel control system shall include a float switch to show a low fuel condition. The low fuel condition shall be indicated with a red Low Fuel alarm. The Low Fuel alarm shall stop the diesel engine.

6.) The interior and exterior of the fuel tank shall be coated to prevent corrosion. This coating shall be compatible with diesel fuel. The outside of the fuel tank shall be primed and painted.

11. TEGS Unit.

A. The selected TEGS manufacturer shall be regularly engaged in TEGS manufacturing with experienced personnel in the production, assembly and test of a complete line of engine generator sets. Preferred types of TEGS power units are listed below.

1.) Generac SD0350
2.) Kohler Model 350REOZD
3.) Caterpillar Model 3406

B. The TEGS manufacturer shall support the contractor in any TEGS operational problem discovered during the installation, acceptance test and initial operation process.

C. The TEGS power unit shall be mounted on a structural steel skid base and enclosed in a protective weather resistant metal enclosure with stainless hinges, key locks and fastening hardware. The enclosure shall provide room for maintenance operations. Access doors shall be lockable. All metal parts shall be treated for long-term corrosion prevention. The base shall include a rugged non-corrosive material battery tray. The TEGS with skid base shall be set on a dampening pad placed at anchor bolt locations. Dampening pads such as Korfund Company model EV42 or equal shall be used. Bird and rodent proofing measures shall be included.

12. GENERATOR

A. Generator / engine shall be controlled by a NFPA-110, Level 1 Controller.

B. The 3 phase 277/480 VAC; 240 VAC generator shall meet the requirements for a synchronous, four pole, revolving field, drip-proof construction, single lubricated sealed bearing. The generator radiator shall be air cooled by a blower fan.

C. The rotor shall be dynamically balanced direct coupled to the engine by a flexible drive disk. The exciter shall be brushless, three phase with full wave diodes with surge suppressors connected in parallel with the field winding.

D. Class H insulation shall be used in all components.

E. The voltage regulator shall obtain excitation power from a permanent magnet generator (PMG) that will isolate it from voltage distortions caused by UPS or SCR controlled loads. The short circuit current rating shall be 300% of rated generator current for 10 seconds. The voltage regulator shall be temperature compensated solid-state design and shall be equipped with three phase RMS sensing. The regulator shall provide a linear rise in voltage, prevent overshoot and shutdown the regulator output on a sustained over voltage of one second duration. Over excitation protection shall shutdown regulator output if overloads exceed ten seconds duration. The generator shall stop and require reset due to an over voltage and over excitation protection. The regulator shall include frequency change compensation to use the maximum available engine torque. Voltage regulation shall be plus or minus 0.5% of rated voltage for any constant load between no load and rated load. Frequency regulation shall be isochronal from steady state no load to steady state rated load.

F. A three phase main circuit breaker, shall be installed on the TEGS control panel. The circuit breakers shall be a terminal magnetic type rated the specified power, 3 pole, and 600 volts.

G. The TEGS Neutral shall be solidly interconnected to the interface connector. The neutral conductor shall be of equal size as the power conductors.

H. The TEGS Equipment (Chassis) Grounding shall provide a connection for being solidly connected to an earth ground at the pump site.

13. ENGINE

A. The diesel engine shall be designed and manufactured to provide long-term reliable operation. The engine shall be capable of driving the generator continuously during interruption of commercial power. The engine shall be cooled by a unit mounted radiator system with fan, pump and thermostat temperature control. The cooling system shall be rated for full load at 120 degrees F ambient inlet temperature. Prototype tests shall have been made available prior to shipment from the factory to the local dealer. The equipment supplier shall provide a cooling system filled with an environmentally approved antifreeze water mixture, including a rust inhibitor and pump lubricant suitable for operating and storage at –10 degrees to 120 degrees F. All rotating parts shall have guards.

B. The engine shall be protected with an AC interlock to prevent starter re-engagement with the engine running.

C. The diesel powered engine shall include the following accessories:

1.) An electric starter capable of three cranking cycles without overheating and before shutdown.

2.) Positive displacement engine driven fuel pump capable of pumping fuel from the day tank to the engine.

3.) Positive displacement lubrication oil pump, full flow oil filters with replaceable elements and dipstick oil level indicator.

4.) Dry air cleaner.

5.) An exhaust muffler for a total noise reduction of 18 to 25 dB.

6.) Engine mounted battery charging alternator, 45-ampere minimum and solid-state voltage regulator. The charger shall be a float type battery charger. The battery charger shall be accessible for maintenance purposes.

7.) If pre-start supplemental engine heat is required, the engine shall be equipped with electrically powered water jacket heaters thermostatically controlled to maintain a normal starting engine temperature.

8.) Engine supplemental heat shall be powered by a 115 VAC auxiliary power line fed from a separate pump site power source. Supplemental heat shall provide easy starting at specified low temperatures.

9.) Lead Acid battery charger shall be powered by the same auxiliary power line fed from the engine supplemental heat circuit.

10.) The lead acid starting batteries shall be configured for 24 VDC operations. The batteries shall not be of the maintenance free variety. The lead acid batteries shall have been designed and tested by the battery vendor for long-term storage duty, having high current performance at all specified operating conditions. Suitable connectors shall be supplied with protective corrosion resistant pads. Proper sized flexible copper conductor battery interconnect cables shall be supplied as required.

11.) An emergency accessible portable fire extinguisher, (40 B: C rating, 6 pound weight) shall be provided in a suitable weather resistant enclosure mounted on the TGES overall enclosure.

14. CONTROL PANELS

A. The controls shall provide a cycle cranking unit with an indicator for over crank shutdown. The controls shall shutdown and lockout for low oil pressure, high engine temperature, over-speed and remote stop.

B. The TEGS control panel shall provide a non-resetting engine running time meter showing a minimum 999.9 hours, 0.1-hour resolution.

C. The TEGS control panel shall have a switch provided for reset and test of all the lamps. Lamp indications shall include but not be limited to:

1.) Overspend shutdown – red

2.) Low oil pressure shutdown – red

3.) High engine temperature shutdown – red

4.) High engine temperature warning – yellow

5.) Low oil pressure warning – yellow

6.) Low coolant temperature warning – yellow

7.) Low fuel pressure warning – yellow

8.) Run – green

9.) Spare – as required for remote alarm annunciator

10.) Over crank shutdown – red.

D. The TEGS control panel shall be securely mounted for reliable operation. The control panel shall be located for easy viewing and easy access.

E. The engine monitor panel shall receive power from the starting batteries. Over voltage surge suppression shall protect all TEGS solid-state components. The TEGS control panel shall provide a ganged three phase continuous load circuit breaker rated at for the 911-generator output. The circuit breaker shall be rated for short circuit current at the generator output control panel. See NEC 2002.

F. The control panel shall be protected from the weather, mounted on the TEGS with vibration isolators. The front of the panel shall have an illumination lamp and switch. As a minimum the indicating meters and devices shall include but not be limited to engine oil pressure gauge PSIG; coolant temperature gauge, degrees F; DC voltmeter; running time meter, hours; voltage adjusting rheostat, plus or minus 5% from rated value; analog AC voltmeter, 2% accuracy; analog AC ammeter; analog frequency – RPM, 90 degree scale, plus or minus 0.6 Hz accuracy; and phase selector switch, seven position with OFF position.

15. TEGS TESTS

A. The contractor shall provide documented results for equipment tests as follows:

1.) Factory Final Tests. The EGS to be furnished shall be factory or dealer tested at rated load at one hour at an operating power factor of not less than 0.8 for performance and proper functioning of controls and circuits.

2.) Field Acceptance Test. The contractor shall provide at least one day for the representative of the TEGS manufacturer to instruct operating personnel and conduct a field acceptance tests. The tests shall include a cold start test, a two-hour full load test, a one step load pickup test in accordance with NFPA 110 requirements. The full load test may be performed using a dealer resistive load bank and temporary connections. The Engineer shall be advised at least 24 hours prior to the time when these tests will occur.

CITY OF TULSA STANDARD NO. 000085

Appendix 701-A

Trailer Safety Chain Specifications by Part

Hook Detail
All hooks will be Crosby Grade 8 Alloy Steel Latching Clevis Hooks, (heat treated), which meets the new NACM and proposed ASTM and Euronorm Standards for Grade 8 Chain fittings. The hooks are anti-fouling due to carefully designed contours and are individually Proof Tested at 2 1/2 times the Working Load Limit, with certification, packed with each hook. These hooks are also fatigue rated. The Ultimate Load is 4 times the Working Load Limit. Crosby Part #S314A. (Domestic Only, Crosby or Equal and Certificate of Compliance Required).

Chain Detail
All Chain will be equal to Crosby Spectrum 8 Alloy Chain. Proof loaded a 2 1/2 times Working Load Limit, and a minimum Ultimate Load of 4 times the Working Load Limit. Purchasing information, (Domestic Only, Crosby or Equal and Certificate of Compliance Required).

Connecting Link Detail

Crosby Lok-A-Loy Alloy Connecting Link, Quenched and Tempered are individually Proof Tested Forged Alloy Steel. The Ultimate Load is 4 times the Working Load Limit. Purchasing information, (Domestic Only, Crosby or Equal and Certificate of Compliance Required).

Weldless Sling Links

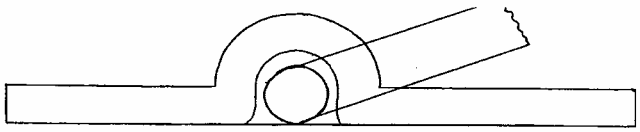
Crosby Forged Carbon Steel, Quenched and Tempered. The Ultimate Load is 6 times the Working Load Limit. These links must be equal to the Crosby S341. Purchasing information (Domestic Only, Crosby or Equal and Certificate of Compliance Required).

Containment Unit for Weldless Links
The steel strips which will be made in accordance with Attachment "I" will contain the Weldless Sling Links to the trailer and pulling vehicle.

Weldless Link Holding Device

The weldless link is 1 inch in diameter. A steel strip will be heated and formed over a 1-1/4 inch round bar. The steel strip will then be placed over weldless link and welded on all three sides up to where the steel strip fits over weldless link. The weld strength should be a minimum of 60,000 pounds per square inch. The steel strip dimensions will be : 3/8 inch thick, 8 inches long and 2-1/2 inches wide and should be Grade: A36 material.

I



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