

ADVERTISEMENT FOR BIDS  
FOR  
**Substation Transformer Testing Services**

Sealed bids will be received at the **Office of the City Clerk, 100 East First Street, Grand Island, NE 68801, until 2:00 pm. (Local Time), September 18, 2012** for testing twenty-six (26) power transformers, FOB the City of Grand Island. Quotes will be publicly opened at this time at the Office of the City Clerk, 100 East First Street, Grand Island, NE. Bids received after the specified time will be returned unopened to sender.

Specifications are on file in the office of the Purchasing Division. Bids shall be submitted on forms that will be furnished by the City.

Each bidder shall submit with their bid a certified check, cashiers check, or bid bond payable to the City Treasurer in an amount not less than five percent (5%) of the bid price which shall guarantee good faith on the part of the bidder and the entering into a contract within 14 days, at the bid price, if accepted by the City. **Your certified check, cashiers check or bid bond must be submitted in a separate envelope attached to the outside of the envelope containing the bid.** Each envelope must be clearly marked indicating its contents. Failure to submit the necessary qualifying information in clearly marked and separate envelopes will result in your bid not being opened or considered. Bid bonds must be issued by surety companies authorized to do business in the State of Nebraska.

Bids will be evaluated by the purchaser based on price, delivery, quality, and adherence to specifications. Each bidder shall supply four (4) copies of equipment specifications. The Purchaser reserves the right to reject any or all bids, to waive technicalities, and to accept whichever bid that may be in the best interest of the City.

No Company may withdraw its bid for a period of 30 days after date of bid opening.

RaNae Edwards,  
City Clerk

Issue Date: \_\_\_\_\_

**GENERAL SPECIFICATIONS AND BID SHEET FOR**  
**Testing Twenty-six (26) Substation Power Transformers**  
**CITY OF GRAND ISLAND, NEBRASKA**

Sealed bids will be **received at the office of the City Clerk**, 100 East First St., Grand Island, NE 68801 or P. O. Box 1968, Grand Island, Nebraska, until 2:00 pm (Local Time) on September 18<sup>th</sup>, 2012, for testing Twenty-six (26) Substation Power Transformers as specified in these bidding documents, FOB Grand Island, NE.

**Exceptions to Specifications** - Any bidder who has exceptions to any specifications and requirements listed in the bidding documents must so state in the space provided below. Exceptions should also be noted in the blanks provided in the detailed specifications. It is the bidder's responsibility to clearly outline any exceptions. Failure by bidder to outline exceptions will require the successful bidder to comply with the specifications.

**Exceptions to specifications:**

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Attached are detailed minimum specifications. The following general specifications also apply to this bid.

<b>Bid Bond</b>	Each bidder shall submit with their bid a certified check, cashiers check or bid bond payable to the City Treasurer in an amount not less than five percent (5%) of the bid price which shall guarantee good faith on the part of the bidder and the entering into a contract within 14 days, at the bid price, if accepted by the City. <b><u>Your certified check, cashiers check or bid bond must be submitted in a separate envelope attached to the outside of the envelope containing the bid.</u></b> Each envelope must be clearly marked indicating its contents. Failure to submit the necessary qualifying information in clearly marked and separate envelopes will result in your bid not being opened or considered. Bid bonds must be issued by surety companies authorized to do business in the State of Nebraska.
<b>Bid Submittal</b>	All envelopes submitted by Bidder must state "Substation Transformer Testing, Opening September 18 <sup>th</sup> " on the face of envelope. A minimum of three (3) copies of the bid should be included.
<b>Descriptive Literature</b>	The bidder shall attach hereto, and it shall be made part of this bid, regularly printed literature as published by the factory which sets out and fully describes the equipment to be utilized during testing. This literature or other supplemental information shall clearly indicate compliance with each and every item of these Specifications. Failure to indicate compliance may be cause for rejection of bid.
<b>Optional Testing</b>	The general and detailed specifications are the minimum requirements. Bidder may include optional testing if desired. Optional testing should be noted as such.
<b>OSHA &amp; ANSI Requirements</b>	In addition to other specified requirements, the equipment shall meet all current Occupational Safety and Health Administration and American National Standards Institute requirement specifications.

<b>Award</b>	Upon approval by the Grand Island City Council, a City of Grand Island Utilities Department Purchase Order shall be issued to the successful bidder.
<b>Testing Date</b>	Each bidder shall state in his bid a realistic testing date for this equipment. Award winning bidder must deliver within quoted delivery time.
<b>Payment</b>	The invoice will be paid after approval at the next regularly scheduled Council meeting occurring after departmental approval of invoice; the City Council typically meets the second and fourth Tuesday of each month. Invoices must be received well in advance of Council date to allow evaluation and processing time.

**Fair Employment Practices** - Each bidder agrees that he/she will not discriminate against any employee or applicant for employment because of age, race, color, religious creed, ancestry, handicap, sex or political affiliation.

**Fair Labor Practices** - Each bidder agrees to file a statement with the City, if not already on file, that they are complying with, and will continue to comply with, fair labor standards in the pursuit of their business and also comply with such in the execution of the contract on which they are bidding.

**Data Privacy** - Bidder agrees to abide by all applicable Local, State, and Federal laws and regulations concerning the handling and disclosure of private and confidential information concerning individuals and corporations as to inventions, patents and patent rights. The bidder agrees to hold the City harmless from any claims resulting from the bidder's unlawful disclosure or use of private or confidential information.

**Independent Price Determination** - By signing and submitting bid, the bidder certifies that: the prices in the bid have been arrived at independently, without consultation, communication or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor.

**Clarification of Specification Documents** - Vendors shall promptly notify Travis Spiehs at (308) 385-5462 of any ambiguity, inconsistency or error that they may discover upon examination of the specifications. Interpretations, corrections and changes made to the specifications will be made by written addenda. Oral interpretations or changes to the specifications made in any other manner will not be binding on the City; and bidders shall not rely upon such interpretations or changes.

**Gratuities and Kickbacks** - City Code states that it is unethical for any person to offer, give, or agree to give any City employee or former City employee, or for any City employee or former City employee to solicit, demand, accept, or agree to accept from another person, a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, or preparation of any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter, pertaining to any program requirement or a contract or subcontract, or to any solicitation or proposal therefore. It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor or higher tier subcontractor or any person associated there within, as an inducement for the award of a subcontract or order.

## **INSURANCE**

The Contractor shall purchase and maintain at their expense as a minimum insurance coverage of such types and in such amounts as are specified herein to protect Contractor and the interest of Owner and others from claims which may arise out of or result from Contractor's operations under the Contract Documents, whether such operations be by Contractor or by any subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be legally liable. Failure of Contractor to maintain proper insurance coverage shall not relieve him of any contractual responsibility or obligation.

### **1. WORKERS COMPENSATION AND EMPLOYER'S LIABILITY**

This insurance shall protect the Bidder against all claims under applicable State workers compensation laws. This insurance shall provide coverage in every state in which work for this project might be conducted. The liability limits shall not be less than the following:

Workers Compensation	Statutory Limits
Employers Liability	\$100,000 each accident
	\$100,000 each employee
	\$500,000 policy limit

### **2. BUSINESS AUTOMOBILE LIABILITY**

This insurance shall be written in comprehensive form and shall protect the Bidder, Bidder's employees, or subcontractors from claims due to the ownership, maintenance, or use of a motor vehicle. The liability limits shall be not less than the following:

Bodily Injury & Property Damage	\$ 500,000 Combined Single Limit
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### **3. COMPREHENSIVE GENERAL LIABILITY**

The comprehensive general liability coverage shall contain no exclusion relative to explosion, collapse, or underground property. The liability limits shall be not less than the following:

Bodily Injury & Property Damage	\$ 500,000 each occurrence
	\$1,000,000 aggregate

### **4. UMBRELLA LIABILITY INSURANCE**

This insurance shall protect the Bidder against claims in excess of the limits provided under employer's liability, comprehensive automobile liability, and commercial general liability policies. The umbrella policy shall follow the form of the primary insurance, including the application of the primary limits. The liability limits shall not be less than the following:

Bodily Injury & Property Damage	\$1,000,000 each occurrence
	\$1,000,000 general aggregate

### **5. ADDITIONAL REQUIREMENTS**

The City may require insurance covering a Bidder or subcontractor more or less than the standard requirements set forth herein depending upon the character and extent of the work to be performed by such Bidder or subcontractor.

Insurance as herein required shall be maintained in force until the City releases the Bidder of all obligations under the Contract.

The Bidder shall provide and carry any additional insurance as may be required by special provisions of these specifications.

## **6. CERTIFICATE OF INSURANCE**

Satisfactory certificates of insurance shall be filed with the City prior to starting any work on this Contract. **The certificates shall show the City as an additional insured on all coverage except Workers Compensation. The certificate shall state that thirty (30) days written notice shall be given to the City before any policy is cancelled (strike the "endeavor to" wording often shown on certificate forms). If the bidder cannot have the "endeavor to" language stricken, the bidder may elect to provide a new certificate of insurance every 30 days during the contract. Bidder shall immediately notify the City if there is any reduction of coverage because of revised limits or claims paid which affect the aggregate of any policy.**

**BID FORM**  
**CITY OF GRAND ISLAND, NEBRASKA**  
(All bids must be submitted on this form)

TO THE CITY COUNCIL, CITY OF GRAND ISLAND, GRAND ISLAND, NE

The Undersigned bidder, having examined all specifications and other bidding documents, and all addenda thereto, and being acquainted with and fully understanding all conditions relative to the furnishing of the specified equipment to the City of Grand Island, NE hereby proposes to furnish and deliver such services FOB Grand Island, NE, at the following price:

<u>ITEM DESCRIPTION:</u>	<u>COST</u>
Total Base Bid:	\$ _____
7% Nebraska Sales Tax	\$ _____
<b>TOTAL BID PRICE *</b>	<b>\$ _____</b>

The City of Grand Island, Utilities Department **does** pay sales tax. If bidder fails to include sales tax in the bid price or takes exception to including sales tax in the bid price, the City will add a 7% figure to the bid price for evaluation purposes; however, the City will only pay actual sales tax due.

If awarded the contract, the undersigned bidder agrees to test the specified equipment within \_\_\_\_\_ days from date of order.

To allow for City processing time, terms shall be Net 30.

Bidder acknowledges receipt of Addendum Number(s) \_\_\_\_\_ and has considered addendum information in bid preparation.

Attached to the bid is all supplementary information requested in the bidding documents.

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Bidder Company Name \_\_\_\_\_ Date \_\_\_\_\_

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Company Address \_\_\_\_\_

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Name of Person Completing Bid (please print)/Signature \_\_\_\_\_

Telephone #: \_\_\_\_\_ Fax #: \_\_\_\_\_

CITY OF GRAND ISLAND RESERVES THE RIGHT TO ACCEPT OR REJECT ANY OR ALL BIDS.

**Note: Any exceptions to specifications must be noted in the space provided on Page 1 of General Specifications.**

# Substation Transformer Testing Services

## DETAILED SPECIFICATIONS

### SCOPE

The Grand Island Electric Department is soliciting Bids for the following testing services of up to twenty-six (26) power transformers ranging in size from 1 MVA to 75 MVA and one 750 MCM 740 foot 3-phase underground cable. Such tests shall include:

1. Power Factor Tests of Transformers and bushings.
2. Transformer Turns Ratio Test (TTR) (where applicable).
3. Sweep Frequency Response Analysis.
4. DC Winding Resistance.
5. Insulation Resistance Test.

The contractor will be responsible for performing all tests on each transformer. The contractor will be responsible for supplying all minor hardware, cleaning supplies, etc. that may be needed during the execution of this project. The City of Grand Island will provide one employee to assist the contractor with de-energizing auxiliary equipment, disconnecting electrical leads, performing transformer electrical tests, etc. All testing should be performed according to IEEE Std 62-1995 where applicable.

### OVERVIEW

The Grand Island Electric Department is a municipally owned electric utility, with a summer peak demand of in excess of 167 MW. The Electric Department serves its load with local generation and distribution substations on a 115 kV transmission loop. A single-line drawing of the electric system Power Supply is included with these specifications. The most pertinent transformer nameplate data is also included, as well as recent DGA and PCB test results.

The Electric Department intends to test as many transformers as possible in a single, uninterrupted sequential, project. All substation transformers will be tested. Some power plant transformers may be unavailable for testing; these may be omitted from the project. A price for testing the entire lot of 26 transformers is requested, with an individual "per transformer" adjustment for omission of unavailable transformers.

A price for up to three trips to Grand Island shall be included to test transformers that may be unavailable during the initial visit. The three trips shall be used for the following:

- 1) One trip for mobilization.
- 2) One trip can be charged to weather related work stoppage.
- 3) One trip can be used for coordination by the City.

In the event that additional trips are necessary due to weather or other projects being conducted by the contractor shall be at the contractor's expense.

## PROJECT COMPONENT DESCRIPTION

### **Power Factor Tests**

Each transformer and the underground tie shall be power factor tested using industry standardized procedures, equipment and reporting. All transformer high side bushings shall be power factor tested in accordance with recommended procedures. The most recent power factor test results will be supplied to the contractor for comparison purposes.

### **Ratio Test**

Each transformer will be ratio tested and results verified with nameplate information. This shall include each step of the Load Tap Changer where applicable.

### **Frequency Response Analysis**

Each transformer winding shall be analyzed using sweep frequency response analysis. The sweep should include a minimum range of 15Hz to 15kHz.

### **DC Winding Resistance**

Each transformer shall be tested for problematic circuits and connections using a DC winding resistance test. The test equipment manufacturer's requirements for the safe performance of DC resistance testing are to be strictly enforced and followed.

### **Insulation Resistance Test**

Non-destructive transformer insulation tests to ground shall be performed as applicable with an appropriate test device. The test equipment manufacturer's requirements for the safe performance of insulation resistance testing are to be strictly enforced and followed.

### **Report**

The contractor will compile all of the findings in a Report. Three bound copies of the report will be furnished along with three copies furnished on CD. Data formats, for documentation, will be limited to MS Word and Excel. Raw data should also be included in a universal format when available.

## PROJECT EXECUTION

The above mentioned tests are a minimum to be performed. If the bidder feels that additional tests are necessary to properly analyze the condition of a transformer, those tests, justification and itemized cost shall be clearly stated in the bid.

The City of Grand Island will be responsible for removing from service and disconnecting each transformer prior to testing and inspection. A maximum of four hours may be required to completely remove from service any given transformer. In most cases, only one transformer shall be out of service at any one time. Normal working hours are Monday through Friday, 8:00 am to 5:00 pm. Any switching activities shall be completed during normal working hours.

Switching and testing of substation transformers will be coordinated through Travis Spiehs at Phelps Control Center, (308) 385-5460. The Electric Department will furnish one Substation Technician to assist the contractor with testing substation transformers. This Substation Technician will not normally work overtime. The Substation Technician will have available ladders and hand tools. A trailer mounted 750



gallon oil tank and a Velcon Model MCP5E two stage oil filtration system will also be available for use by the Contactor.

Switching and testing of Burdick Station and Platte Generating Station (PGS) related transformers will be coordinated through Lynn Mayhew at (308) 385-5492. A PGS fall outage is tentatively scheduled for September 27<sup>th</sup> through November 8<sup>th</sup>. PGS will also be having another outage during the spring of 2013. Burdick Station is usually off-line so little coordination will be needed. PGS will provide one electrician to assist in testing power plant transformers.

### QUALIFICATIONS

The contractor shall have education, training and experience in the maintenance, testing and inspection of power transformers as described in these specifications. Identification of the primary personnel (those who will be performing the testing), the test equipment that will be used on site, and a statement of their qualifications shall be included with the Bid.

Individualized Transformer Testing Price Sheet:

Name	Function / Voltages	City Number	Manufacturer	Rating (KVA)	Testing Cost
Burdick #2 Step-up	115,000/13,800	6715	General Electric	22,500	
Burdick #3 Step-up	115,000/13,800	6716	General Electric	46,500	
Burdick #3 Normal Supply	13,800/2,400	6717	General Electric	3,750	
Burdick Cranking	13,800/480	11188NX	Pauwels	1000	
Burdick Pumping Station	13,800/480	6714	Allis Chalmers	1000	
Sub H South Distribution	115,000/13,800	6706	General Electric	22,500	
Sub H North Distribution	115,000/13,800	6708	General Electric	22,500	
Sub G - Sub H Tie	115,000/13,800	6710	General Electric	22,500	
Sub G - Sub H Tie	Zigzag Grounding	6712	Westinghouse		
Burdick #3 Reserve Supply	115,000/2,400	6713	General Electric	3,150	
GT2 Step-up	115,000/13,800	10427N	Waukesha	42,000	
GT3 Step-up	115,000/13,800	10428N	Waukesha	42,000	
PGS #1 Step-up	115,000/13,800	8899	ABB	75,000	
PGS Reserve Supply	115,000/4,160	6719	Westinghouse	15,000	
PGS Normal Supply	13,800/4,160	6720	Westinghouse	12,000	
Substation "A"	115,000/13,800	6685	General Electric	22,500	
Substation "B" South	115,000/13,800	6687	Westinghouse	22,500	
Substation "B" North	115,000/13,800	6689	Westinghouse	22,500	
Substation "C" West	115,000/13,800	6691	Westinghouse	22,500	
Substation "C" East	115,000/13,800	6726	McGraw Edison	22,500	
Spare Sub (PGS)	115,000/13,800	6724	McGraw Edison	22,500	
Spare PGS #1 Step-up	115,000/13,800	6718	Westinghouse	67,000	
Substation "E" East	115,000/13,800	8900N	Waukesha	22,500	
Substation "E" West	115,000/13,800	11544N	Siemens	22,500	
Substation "F" South	115,000/13,800	8902N	Waukesha	22,500	
Substation "F" North	115,000/13,800	11546N	Siemens	22,500	