



**Working Together for a
Better Tomorrow. Today.**

SPECIFICATION PACKAGE

for

CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS)

Bid Opening Date/Time

**TUESDAY, MARCH 13, 2012 @ 2:00 P.M.
City of Grand Island, City Hall
100 East 1st Street, P.O. Box 1968
Grand Island, NE 68802-1968**

Contact

**City of Grand Island – Utilities Department
Platte Generating Station
308/385-5496**

Date issued: February 24, 2012

**ADVERTISEMENT TO BIDDERS
FOR
CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS)
FOR
CITY OF GRAND ISLAND, NEBRASKA**

Sealed bids will be received at the office of the City Clerk, 100 E. First Street, P.O. Box 1968, Grand Island, Nebraska 68802, until Tuesday, March 13, 2012 at 2:00 p.m. local time for Continuous Emissions Monitoring System (CEMS), FOB the City of Grand Island, freight prepaid. Bids will be publicly opened at this time in the Grand Island City Hall Council Conference Room #1 located on 1st floor of City Hall. Submit an original and three copies. Bid proposal package is also available on-line at www.grand-island.com under Business-Bid Calendars. Bids received after the specified time will be returned unopened to sender.

The successful bidder will be required to comply with fair labor standards as required by Nebraska R.R.S.73-102 and comply with Nebraska R.R.S. 48-657 pertaining to contributions to the Unemployment Compensation Fund of the State of Nebraska. Successful bidder shall maintain a drug free workplace policy. Every public contractor and his, her or its subcontractors who are awarded a contract by the City for the physical performance of services within the State of Nebraska shall register with and use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska.

Each bidder shall submit with the bid a certified check, a cashiers check, or bid bond payable to the City Treasurer in an amount no 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 fourteen (14) days at the bid price if accepted by the City. **Your certified check, cashier's 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.** Surety companies authorized to do business in the State of Nebraska must issue bid bonds.

Bids will be evaluated by the Purchaser based on price, schedule, quality, adherence to schedule, plan and specifications, economy and efficiency of operation, experience and reputation of the bidder, ability, capacity, and skill of the bidder to perform contract required and adaptability of the particular items to the specific use intended.

The Purchaser reserves the right to reject any or all bids, to waive irregularities therein, and to accept whichever bid that may be in the best interest of the City, at its sole discretion.

No bidder may withdraw his bid for a period of thirty (30) days after date of bid opening.

RaNae Edwards, City Clerk

Advertised
Grand Island Independent

CHECKLIST FOR BID SUBMISSION
FOR
CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS)

Bids must be received by the City Clerk before 2:00 p.m. on Tuesday, March 13, 2012.

The following items must be completed for your bid to be considered.

- A signed original and three copies of the bidding documents.
- A reference list of at least three projects of similar scope and complexity.
- A summary of the experience of the service supervisor proposed for this project.
- Firm lump sum pricing; firm unit pricing in case adjustments are necessary, and breakout of sales tax pricing.
- A proposed construction/test schedule.
- A description of the system proposed, including equipment, controls, alarms and operation.
- Selection of Nebraska Sales Tax Option.
- Acknowledgment of Addenda Number(s) _____.
- Bidders must complete and sign the Bid Data Form provided in these Documents. All blank spaces must be filled in. Bidders shall acknowledge receipt of any Addenda information on the Bid Data Form.
- A certified check, cashiers check or bid bond 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.

Please check off each item as completed.

Company

Signature

Telephone No. _____

Fax No. _____

CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS)
BID DATA FORM

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 specified materials and equipment, hereby proposes to provide such equipment FOB the City of Grand Island, freight prepaid, at the following price:

<u>ITEM DESCRIPTION</u>	<u>EXTENDED COST</u>
Base Bid:	
Material	\$ _____
Labor	\$ _____
Applicable Sales tax*	\$ _____
Total Base Bid	\$ _____

*** If bidder fails to include sales tax in their bid price or takes exception to including sales tax in their bid price, the City will add a 7.0% figure to the bid price for evaluation purposes; however, the City will only pay actual sales tax due.**

- By checking this box, Bidder acknowledges that Addenda Number(s) _____ were received and considered in Bid preparation.
- By checking this box, Bidder acknowledges the specified completion date of the project is **November 1th, 2012.**

According to Nebraska Sales and Use Tax Requirements, Section 1-017, Contractors, check which option you have selected to file with the Nebraska Department of Revenue:

Nebraska law provides a sales and use tax exemption on contractor labor charges for the construction, repair, or annexation of any structure used for the generation, transmission, or distribution of electricity. Separately stated contractor labor would be exempt, all materials are taxable according to the contractor's option.

Option 1 (Section 1-017.05)_____ Option 2 (Section 1-017.06)_____ Option 3 (Section 1-017.07)_____

If the Nebraska sales and use tax election is not filed or noted above, the contractor will be treated as a retailer under Option 1 for sales and use tax purposes.

 Bidder Company Name Date

 Company Address City State Zip

 Print Name of Person Completing Bid Signature

Telephone No. _____ Fax No. _____

By checking this box, Bidder acknowledges there are Exceptions noted to the bid.
NOTE: Any exceptions to specifications must be fully explained on a separate sheet attached to bid.

INSTRUCTIONS TO BIDDERS

1. GENERAL INFORMATION.

The following instructions outline the procedure for preparing and submitting Bids. Bidders must fulfill all requirements as specified in these Documents.

2. TYPE OF BID.

Bidders shall be required to submit prices for all items listed in the Bid Data Form.

3. PREPARATION OF BIDS.

Bidders shall use only the Bid Data Form provided in these Documents. All blank spaces in the Bid Data Form, must be filled in, preferably in BLACK ink, in both words and figures where required. No changes to the wording or content of the forms is permitted. Written amounts shall govern in case of discrepancy between the amounts stated in writing and the amounts stated in figures.

Prices stated shall be f.o.b. with freight and full insurance paid by Bidder, to the job site located in Grand Island.

The Bidder shall acknowledge receipt of all addenda in the Bid Data Form. Bids received without acknowledgement or without the Addendum enclosed will be considered informal.

4. SUBMISSION OF BIDS.

All Bids must be submitted intact not later than the time prescribed, at the place, and in the manner set forth in the ADVERTISEMENT FOR BIDS. Bids must be made on the Bid Data Form provided here in. Each Bid must be submitted intact in a sealed envelope, so marked as to indicate its contents without being opened, and delivered in person or addressed and mailed in conformance with the instructions in the ADVERTISEMENT FOR BIDS.

5. BID SECURITY.

Bids must be accompanied by cash, a certified check, or cashier's check drawn on a bank which is insured by the Federal Deposit Insurance Corporation, or a bid bond issued by a Surety authorized to issue such bonds in the state where the Work is located, in the amount of 5 percent of the bid amount payable to OWNER. This bid security shall be given as a guarantee that the Bidder will not withdraw his Bid for a period of 30 days after bid opening, and that if awarded the Contract, the successful Bidder will execute the attached Contract and furnish a properly executed Performance Bond and Payment Bond each in the full amount of the Contract price within the time specified.

The Attorney-in-Fact that executes this bond in behalf of the Surety must attach a notarized copy of his power of attorney as evidence of his authority to bind the Surety on the date of execution of the bond. Where State Statute requires, certification by a resident agent shall also be provided.

6. RETURN OF BID SECURITY.

Within 15 days after the award of the Contract, the OWNER will return the bid securities to all Bidders whose Bids are not to be further considered in awarding the contract. All other retained bid securities will be held until the Contract has been finally executed, after which all bid securities, other than Bidders' bonds and guarantees which have been fortified, will be returned to the respective Bidders whose Bids they accompanied.

7. BASIS OF AWARD.

The award will be made by the OWNER on the basis of the Bid from the lowest responsive, responsible Bidder which, in the OWNER's sole and absolute judgment will best serve the interest of the OWNER. All Bids will be considered on the following basis:

Conformance with the terms of the Bid Documents.

Bid price.
Cost of installation.

Suitability to project requirements.
Delivery time.

Responsibility and qualification of Bidder.

The OWNER reserves the right to reject all Bids, or any Bid not in conformance with the intent of the Bid Documents, and to waive any informalities and irregularities in said Bids.

8. EXECUTION OF CONTRACT.

The successful Bidder shall, within 15 days after receiving notice of award, sign and deliver to the OWNER the Contract hereto attached together with the acceptable bonds as required in these Bid Documents. Within 15 days after receiving the signed Contract with acceptable bond(s) from the successful Bidder, the OWNER's authorized agent will sign the Contract. Signature by both parties constitutes execution of the Contract.

9. PERFORMANCE AND PAYMENT BONDS.

The successful Bidder shall file with the OWNER Performance and Payment Bonds in the full amount (100 percent) of the Contract price, as security for the faithful performance of the Contract and the payment of all persons supplying labor and materials for the Work under this Contract, and to cover all guarantees against defective workmanship or materials, or both, for a period of 1 year after the date of final acceptance of the Work by the OWNER. The Surety furnishing these bonds shall have a record of service satisfactory to the OWNER, be authorized to do business in the State where the OWNER's project is located and shall be named on the current list of approved Surety Companies, acceptable on Federal bonds as published by the Audit Staff, Bureau of Accounts, U.S. Treasury Department.

The Attorney-in-Fact (Resident Agent) who executes these bonds on behalf of the Surety must attach a notarized copy of his power-of-attorney as evidence of his authority to bind the Surety on the date of execution of the bond.

10. TIME OF COMPLETION.

The time of completion of the Work to be performed under this Contract is the essence of the Contract. The time allowed for the completion of the Work is stated in the Bid Data Form.

11. 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 therefor. 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 therewith, as an inducement for the award of a subcontract or order.

12. FISCAL YEAR.

The City of Grand Island, Nebraska operates on a fiscal year beginning October 1st and ending on the following September 30th. It is understood and agreed that any portion of this agreement which will be performed in a future fiscal year is contingent upon the City Council adopting budget statements and appropriations sufficient to fund such performance.

CONTRACT AGREEMENT

THIS AGREEMENT made and entered into by and between **[SUCCESSFUL BIDDER]**, hereinafter called the Contractor, and the **CITY OF GRAND ISLAND, NEBRASKA**, hereinafter called the City.

WITNESSETH:

THAT, WHEREAS, in accordance with law, the City has caused contract documents to be prepared and an advertisement calling for bids to be published for *CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS)*; and

WHEREAS, the City, in the manner prescribed by law, has publicly opened, examined, and canvassed the bids submitted, and has determined the aforesaid Contractor to be the lowest responsive and responsible bidder, and has duly awarded to the said Contractor a contract therefore, for the sum or sums named in the Contractor's bid, a copy thereof being attached to and made a part of this contract;

NOW, THEREFORE, in consideration of the compensation to be paid to the Contractor and of the mutual agreements herein contained, the parties have agreed and hereby agree, the City for itself and its successors, and the Contractor for itself, himself, or themselves, and its, his, or their successors, as follows:

ARTICLE I. That the following documents shall comprise the Contract, and shall together be referred to as the "Agreement" or the "Contract Documents";

1. This Contract Agreement.
2. City of Grand Island's Specification for this project.
3. **[NAME OF SUCCESSFUL BIDDER]** bid signed and dated **[DATE OF BID]**.

In the event of any conflict between the terms of the Contract Documents, the provisions of the document first listed shall prevail.

ARTICLE II. That the contractor shall (a) furnish all tools, equipment, superintendence, transportation, and other construction materials, services and facilities; (b) furnish, as agent for the City, all materials, supplies and equipment specified and required to be incorporated in and form a permanent part of the completed work; (c) provide and perform all necessary labor; and (d) in a good substantial and workmanlike manner and in accordance with the requirements, stipulations, provisions, and conditions of the contract documents as listed in the attached General Specifications, said documents forming the contract and being as fully a part thereof as if repeated verbatim herein, perform, execute, construct and complete all work included in and covered by the City's official award of this contract to the said Contractor, such award being based on the acceptance by the City of the Contractor's bid;

ARTICLE III. That the City shall pay to the Contractor for the performance of the work embraced in this contract and the Contractor will accept as full compensation therefore the sum (subject to adjustment as provided by the contract) of **[DOLLAR AMOUNT] (\$00.00)** for all services, materials, and work covered by and included in the contract award and designated in the foregoing Article II; payments thereof to be made in cash or its equivalent in the manner provided in the General Specifications.

The total cost of the Contract includes:

Base Bid:	\$.00
Sales Tax on Materials/Equipment:	\$.00
Sales Tax on Labor:	\$ <u>.00</u>
Total	\$.00

The City of Grand Island, Nebraska operates on a fiscal year beginning October 1st and ending on the following September 30th. It is understood and agreed that any portion of this agreement which will be performed in a future fiscal year is contingent upon the City Council adopting budget statements and appropriations sufficient to fund such performance.

ARTICLE IV. The Contractor hereby agrees to act as agent for the City in purchasing materials and supplies for the City for this project. The City shall be obligated to the vendor of the materials and supplies for the purchase price, but the Contractor shall handle all payments hereunder on behalf of the City. The vendor shall make demand or claim for payment of the purchase price from the City by submitting an invoice to the Contractor. Title to all materials and supplies purchased hereunder shall vest in the City directly from the vendor. Regardless of the method of payment, title shall vest immediately in the City. The Contractor shall not acquire title to any materials and supplies incorporated into the project. All invoices shall bear the Contractor's name as agent for the City. This paragraph will apply only to these materials and supplies actually incorporated into and becoming a part of the finished product of the CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS).

ARTICLE V. That the Contractor shall start work as soon as possible after the contract is signed and the required bonds and insurance are approved, and that the Contractor shall deliver the equipment, tools, supplies, and materials F.O.B. Platte Generating Station, and complete the work on or before **November 1th, 2012.**

ARTICLE VI. The Contractor agrees to comply with all applicable State fair labor standards in the execution of this contract as required by Section 73-102, R.R.S. 1943. The Contractor further agrees to comply with the provisions of Section 48-657, R.R.S. 1943, pertaining to contributions to the Unemployment Compensation Fund of the State of Nebraska. During the performance of this contract, the Contractor and all subcontractors agree not to discriminate in hiring or any other employment practice on the basis, of race, color, religion, sex, national origin, age or disability. The Contractor agrees to comply with all applicable Local, State and Federal rules and regulations. The Contractor agrees to maintain a drug-free workplace policy and will provide a copy of the policy to the City upon request. Every public contractor and his, her or its subcontractors who are awarded a contract by the City for the physical performance of services within the State of Nebraska shall register with and use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska.

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 therefor. 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 therewith, as an inducement for the award of a subcontract or order.

[SUCCESSFUL BIDDER]

By _____ Date _____

Title _____

CITY OF GRAND ISLAND, NEBRASKA

By _____ Date _____
Mayor

Attest: _____
City Clerk

The contract is in due form according to law and hereby approved.

Attorney for the City Date _____

DRAFT



*Working Together for a
Better Tomorrow, Today.*

REQUEST FOR BIDS - GENERAL SPECIFICATIONS

The Bid shall be in accordance with the following and with all attached BID DATA and DETAILED SPECIFICATIONS.

All prices are to be furnished and installed FOB, Grand Island, Nebraska. **All prices shall be firm, and shall include all sales and use taxes as lawfully assessed under laws and regulations of the State of Nebraska.** * If bidder fails to include sales tax in their bid price or takes exception to including sales tax in their bid price, the City will add a 7.0% figure to the bid price for evaluation purposes; however, the City will only pay actual sales tax due.

Bids shall include the following on the **outside** of the mailing envelope: “**Continuous Emissions Monitoring System (CEMS)**”. All sealed bids are due no later than **Tuesday, March 13, 2012 at 2:00 p.m. local time**. Submit **an original and three copies** of the bid to:

Mailing Address: City Clerk
City Hall
P. O. Box 1968
Grand Island, NE 68802

Street Address: City Clerk
City Hall
100 E. First Street
Grand Island, NE 68801

Bids will be opened at this time in the City Hall Council Conference Room #1 located on 1st floor of City Hall. Any bid received after the specified date will not be considered. No verbal bid will be considered.

Bids will be evaluated by the Purchaser based on price, schedule, quality, adherence to schedule, plan and specifications, economy and efficiency of operation, experience and reputation of the bidder, ability, capacity, and skill of the bidder to perform contract required and adaptability of the particular items to the specific use intended.

The successful bidder will be required to comply with fair labor standards as required by Nebraska R.R.S.73-102 and comply with Nebraska R.R.S. 48-657 pertaining to contributions to the Unemployment Compensation Fund of the State of Nebraska. Contractor shall maintain a drug free workplace policy. Every public contractor and his, her or its subcontractors who are awarded a contract by the City for the physical performance of services within the State of Nebraska shall register with and use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska.

The equipment and materials must be new, the latest make or model, unless otherwise specified. Prior to approving the invoice for payment, the City reserves the right to thoroughly inspect and test the equipment to confirm compliance with specifications. Any equipment or material which does not meet the City's requirements will be returned at vendor's expense for correction. The invoice will be paid after approval at the next regularly scheduled Council meeting and 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.

Each bidder shall submit with the bid a certified check, a cashiers check, or bid bond payable to the City Treasurer in an amount no 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 fourteen (14) days at the bid price if accepted by the City. **Your certified check, cashier's 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.** Surety companies authorized to do business in the State of Nebraska must issue bid bonds.

Successful bidder shall comply with the City's insurance requirements; performance and payment bonds are required for this project as outlined in the Detailed Specifications and Instructions to Bidders.

All bids shall be valid for at least thirty (30) working days after the bid deadline for evaluation purposes.

All bids must be on the bid form and must be signed and dated to be accepted. Please contact Emily Muth at 308-385-5495, for questions concerning this specification.

CONTINUOUS EMISSIONS MONITORING SYSTEM (CEMS) DETAILED SPECIFICATION

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1.0 GENERAL

This specification covers the technical requirements for the design, manufacture and calibration of the Continuous Emissions Monitoring Systems (CEMS) that will be installed to monitor the exhaust stack at Platte Generating Station. Platte Generating Station is located at 1035 W. Wildwood Drive, approximately two miles south of U.S. Highway 34 and 1 ½ miles east of U.S. Highway 281. This facility is located at an elevation of 1868 ft. above MSL. The site ambient temperature range is -28° F to +110°F.

The system shall consist of one (1) CEMS package to be tied into an existing CEMS and Data Acquisition and Handling System (DAHS) located at the plant.

The preliminary design is due April 30th, 2012. The system is to be installed during a planned outage currently scheduled for September 27th through November 8th, 2012.

2.0 DEFINITION OF TERMS

Definitions

Owner: City of Grand Island

Bidder: Firm proposing to supply the subject equipment

Seller: Firm awarded the order for subject equipment

Acronyms and Abbreviations

CEMS - Continuous Emission Monitoring System

CGA - Cylinder Gas Audit

CO - Carbon Monoxide

CFR - U.S. Code of Federal Regulations

DAHS - Data Acquisition and Handling System (also know as Data Acquisition System or Data Acquisition and Reporting System)

EDR - Electronic Data Report

FAT - Factory Acceptance Test

LAN - Local Area Network

MMBtu/hr - Million British Thermal Units per hour

PLC - Programmable Logic Controller

RATA - Relative Accuracy Test Audit

3.0 CODES AND STANDARDS

The CEMS shall be designed, constructed and tested in accordance with the applicable sections of the following Codes and Standards:

U.S. Environmental Protection Agency (EPA), 40 CFR Part 60 & Part 75

NE State DEQ Regulations: Title 129

All applicable Federal, State, County, or Municipal Codes, Laws, or Ordinances of the place of installation.

It shall be the Seller and/or Manufacturer's responsibility to be, or to become, knowledgeable of the requirements of these Codes and Standards. Any changes or alterations to the equipment to meet the Codes and Standards requirements shall be at the expense of the Seller.

Whenever the CEMS, proposed by the Bidder, cannot fully meet the requirements of this specification, such exceptions must be clearly stated by the Bidder.

4.0 SCOPE OF SUPPLY

Provide one (1) CEMS package, comprised of the following as a minimum:

4.1.1 Base Equipment:

A. Sensing, Control and Monitoring Equipment

1. Heated sample extraction probe with mounting hardware and continuous length of heated umbilical.
2. Sample conditioning system, as required, to condition and prepare samples for analysis.
3. Complete set of analyzers to measure the concentration of CO.
4. All calibration gas components (excluding gas cylinders) but including cylinder regulators, supply manifolds and auxiliary devices necessary to perform daily system calibration drift tests and quarterly quality assurance tests (CGA/LTA).

B. Instrument cabinets designed to house and protect the system's sample conditioning system, analyzers and the control unit (CEMS controller).

C. Startup and commissioning spare parts, if required, defined as parts and consumables that may reasonably be expected to require replacement during the period starting from the shipping date and ending on the date that the CEMS successfully passes initial certification testing.

4.2 System Integration

4.2.1 The Seller shall be responsible for designing and integrating the complete CEMS package for integration into customer's existing CEM system.

4.2.2 Seller shall startup and commission the system and correct all deficiencies discovered during the period starting from the shipping date and ending on the date that the CEMS successfully passes initial certification testing.

4.3 Documentation - The Seller shall provide system documentation for all Seller and sub-vendor supplied equipment in the form of the following:

4.3.1 Engineering Data consisting of but not limited to, descriptive scope of supply, drawings, equipment makes and models, equipment data sheets, and miscellaneous design based information.

4.3.2 Operation and maintenance manuals

4.3.3 Updated Customer Provided Quality assurance manual

4.4.4 Test reports

4.3.4 Spare Parts List

4.4 Services: The Seller shall provide the following services:

- 4.4.1 Support services for functional testing (FAT) of the total integrated system at Seller's facility prior to shipment.
- 4.4.2 Startup and commissioning services at the project site to render the CEMS operational.
- 4.4.3 Certification testing support at the site to demonstrate compliant system operation (Buyer to supply local test crew).
- 4.4.4 Training of plant technical personnel in the operation and maintenance of the CEMS.

5.0 SUPPLIED BY OTHERS

- 5.1 The Buyer will provide the following plant utilities for the CEMS:
 - 5.1.1 One (1) 120/220 VAC, 60 Hz, single-phase electrical power supply.
 - 5.1.2 Oil and monitored pollutant free instrument air will be available at 90 psig (range = 80 to 125 psig) with a dew point of minus 40 deg Fahrenheit or less.
- 5.2 The Buyer will provide the following equipment and materials:
 - 5.2.1 Condensate drain for CEMS.
 - 5.2.2 Exhaust stack sample ports (nozzles).
 - 5.2.3 Umbilical anchoring system on exhaust stack.
 - 5.2.4 Field conduit, wiring, and tubing (other than the heated umbilical) beyond the terminal points of the CEMS shelter.
 - 5.2.5 The Buyer shall provide the necessary calibration gas cylinders charged with appropriate calibration gases. All necessary calibration gas cylinders for initial start-up and certification of the CEMS will be supplied. Gases supplied shall meet the requirements for the quantities necessary for daily calibration and linearity/CGA's.
 - A. Calibration gases shall be vendor-certified to be within 1.0 percent of the required concentration specified on the cylinder label. In addition, calibration gases for any application must be certified in accordance with the appropriate EPA Traceability Protocol.
 - B. Calibration gas mixtures shall only be supplied and used in mixtures that remain chemically inactive.
 - C. Calibration gases shall not be supplied nor used for system calibrations beyond their identified expiration date.
 - D. Seller shall supply specifications for calibration gas requirements.
- 5.3 The Buyer will be responsible for performing all tasks associated with construction labor. These tasks shall include:
 - 5.3.1 Unloading and storage of all CEMS equipment.

- 5.3.2 Placement and mounting of the CEMS cabinet in the existing shelter.
- 5.3.3 Installing conduit, signal cables, probe/ sensors, heated umbilical, and condensate drains beyond Seller's termination points at the CEMS cabinet. Tie-ins to electrical supplies and calibration gas supplies will be performed with guidance of the Seller.
- 5.3.4 Installing hardware in the form of scaffolding, ladders, platforms, and all structural components necessary to install and service the CEMS equipment.
- 5.3.5 Installing other associated support equipment (as necessary) for permanent support and operation of the CEMS.

6.0 STACK CONDITIONS

6.1 Plant Exhaust Gas Configuration

- 6.1.1 The CEMS shall be monitoring the exhaust gases generated from a 1,048 MMBtu/hr Boiler, capable of firing powder river basin coal.

6.2 Stack Physical Data (typical for each stack)

- 6.2.1 The on-stack equipment shall be located at an elevation of approximately 12 ft. above grade on a horizontal section of duct work just prior to the stack. A 5' x 15' work platform installed will provide access to CEMS ports. The work platform consists of non-enclosed grating and a handrail. Access to the platforms shall be by way of stairs.
- 6.2.2 The duct dimensions and nozzle (ports) locations are as follows:
 - A. Duct Dimensions: 114"- 119" (inside diameter)
 - B. Main CEMS Platform Top of Grating (TOG): 1880' elevation
 - C. Top of Stack: 412 feet.
- 6.2.3 Vibration will be found in the stack. Seller shall ensure that vibrations experienced due to power plant operations do not affect the equipment's ability to meet functional requirements.
- 6.2.4 Flue Gas Characteristics are identified in the Air Permit and available upon request.
- 6.2.5 The CEMS shelter is located at grade and approximately 90' from the duct.

7.0 DESIGN REQUIREMENTS

7.1 General

- 7.1.1 The CEMS hardware, equipment and components shall be designed to tie into the existing CEMS and function as an integrated system. The CEMS will be guaranteed to function together as a unit.
- 7.1.2 Unless specified otherwise, equipment and materials furnished under this Specification shall be suitable for this installation and all operating conditions.

- A. Indoor mounted equipment shall be suitable for operation in dry locations in a temperature controlled environment.
 - B. Outdoor mounted equipment shall be suitable for the extreme temperature and climatic data called out in the above referenced specification, including operation in direct sunlight and under rain, snow and ice conditions.
 - C. All equipment shall meet the structural criteria identified in the above referenced specification, including seismic qualifications.
 - D. Stack-mounted equipment may be subjected to large transient voltages and currents due to lightning. Include appropriate suppression and limiting protective devices as required for this type of installation.
- 7.1.3 The CEMS shall provide for complete control, monitoring, data storage and reporting of the exhaust gas constituents exiting the stack.
- 7.1.4 The CEMS shall make its measurements using fully extractive sampling technology.
- 7.2 Monitoring Requirements and Regulations.
- 7.2.1 The CEMS shall satisfy applicable performance specifications and other requirements contained in the following documents:
- A. 40 CFR Part 52, Appendix E
 - B. 40 CFR Part 60, Appendices B and F
 - C. 40 CFR Part 75, Appendices A and B
 - D. Additional State requirements as identified in the Construction Air Permit currently under negotiation.
- 7.2.2 The emission parameters to be measured and their sampling locations are as follows:
- | | |
|-----------|-----------------|
| Parameter | Sample Location |
| CO | Duct |
- 7.3 Sample Extraction Probe
- 7.3.1 All probe parts exposed to the flue gas shall be constructed of materials that are corrosion-resistant and chemically inert with respect to the process gases being sampled.
- 7.3.2 To ensure that representative samples are obtained for analysis, the probe must extend into the flue gas stream no less than 1.0 meter, as measured from the stack inside wall. When determining probe length, Seller needs to account for flanges, stack wall thickness, and inside wall insulation {approximately 12" additional length}

- 7.3.3 Probes shall be equipped with a filtering element(s) to remove entrained particulate from the sample. Porosity size of the filters shall be engineered to maximize removal of particulate matter without restricting sample flow.
 - 7.3.4 The integrated filtering media along with the sample probe shall be heated to maintain a temperature that prevents condensation of moisture.
 - 7.3.5 The probe and associated filter assembly shall be designed such that cleaning can be achieved by instrument air blow-back (purging) at programmed intervals or on-demand.
 - 7.3.6 The probe and associated filter assembly shall be designed such that they may be easily and safely removed from the gas stream for service.
 - 7.3.7 Probe design shall provide for injection of calibration gases as close as practical to the probe inlet. To the extent possible, calibration gases must follow the same path within the system as the flue gas follows during sampling mode.
 - 7.3.8 Sample probe components mounted externally to the stack shall be completely enclosed within an enclosure suitable for protection from the outdoor environment. The enclosure shall be sized to facilitate maintenance and to prevent overheating of electrical elements.
 - 7.3.9 Sample umbilical shall connect to the sample probe with standard tubing fittings, either compression type or quick-disconnect.
- 7.4 Sample Umbilical
- 7.4.1 The Seller shall provide pre-insulated and heat-traced sample line bundles (umbilicals) connecting the sample extraction probe to the sample conditioning system.
 - 7.4.2 Sample and calibration lines shall be Teflon and sized to provide the sample flow rate required by the analyzers and to minimize pressure loss.
 - 7.4.3 All tubing and wiring within the umbilical shall be continuous.
 - 7.4.4 All valves and fittings in contact with sample gas either before or after any sample conditioner shall be compatible with the sample line material and chemically inert with respect to the process gases being sampled.
 - 7.4.5 Heat tracing shall incorporate a heating element designed to accommodate climatic conditions at the site. Heating shall be consistent with temperature limitations of the sample line's tube materials.
 - 7.4.6 If a temperature sensor is required to monitor or control the umbilical temperature, the Seller shall supply it.
 - 7.4.7 The Bidder shall include the entire length of umbilical in the base bid and provide add/delete unit pricing for the umbilical. Seller's proposal shall identify the umbilical length used for establishing the base bid price. (approximately 90')

7.5 Sample Conditioning System

- 7.5.1 The sample conditioning system shall include all necessary tubing, valves, pumps, coolers, drains, filters, etc., required to efficiently condition the raw sample to a state suitable for introduction into the gas analyzers. Consideration must be provided to appropriately adjust or control the sample gases for the following:
 - A. Pressure
 - B. Temperature
 - C. Sample Flow Rate
 - D. Particulate Concentration
 - E. Moisture Content
- 7.5.2 All system components shall be fabricated from materials that are corrosion-resistant and chemically inert with respect to gases in the sample stream.
- 7.5.3 Components in the sample conditioning system shall be located in such a way as to allow easy access for maintenance.
- 7.5.4 Sample dew points must be lowered to a temperature that adequately removes excess moisture, subsequently preventing carryover to the analyzers.
- 7.5.5 The sample conditioning system shall have the capability to condition and control calibration gases identical to the manner in which sample gas is conditioned.
- 7.5.6 The system shall include a moisture slip alarm.
- 7.5.7 Sample condensate shall be drained into a header for connection to the Buyer's drainage system.

7.6 Gas Analyzers

- 7.6.1 Analyzers shall respond in accordance with required sample cycles (i.e., at a minimum, one complete set of sample measurements for constituent gases being monitored must be completed within 15 minutes or less.)
- 7.6.2 Analyzer detectors shall be tolerant to interfering components. A twofold concentration change of any single or combination of interfering constituents in the sample gas stream shall not affect the analyzer reading.
- 7.6.3 Analyzers shall be ranged appropriately to ensure that average readings of the gas being analyzed falls within 30 to 70% of the instrument's range and within the design criteria for analyzer scale determination as defined in 40 CFR Part 60, Appendix B and 40 CFR Part 75, Appendix A.
- 7.6.4 CO analyzers shall meet the following specific requirements:
 - A. EPA Approved, Compliant with 40 CFR 60, Appendix B, Performance Specification 4 (PS 4A applies where a fully-calibrated, dual range measurement is required).

- B. Gas Filter Correlation Infrared method of sample analysis.
- C. Thermo Environmental Model 48i or equivalent.
- D. Capable of providing dual-range output.

7.7 Calibration Gas System

- 7.7.1 The Seller shall work with the buyer to configure the system for tie-in to existing cal gas arrangement, including recommendations for blended bottles, new bottles, and any additional hardware required to perform daily zero/span and quarterly linearity audits of the CEMS under this Specification.
- 7.7.2 The Seller shall include all hardware necessary to accomplish daily and quarterly calibrations of the CO CEMS with the exception of the calibration gas cylinders (Buyer supplied).
- 7.7.3 The calibration gas system shall be capable of performing automatic zero and span checks at user-editable intervals and times. A manual override feature shall also be provided. The system shall be designed to complete daily calibration checks without loss of valid, hourly data.
- 7.7.4 If additional regulators are required, pressure regulation of calibration gases from cylinders shall be performed using single stage tank mounted regulators. Regulators will have either stainless steel or brass bodies and internals as required by the composition of the gas.
- 7.7.5 Calibration gases shall be plumbed from the regulator to the bulkhead of the instrument cabinet. All calibration gas tubing, fittings, and components shall be of the required type and pressure rating for the service conditions as required by typical industrial, local, and state requirements.

7.8 System Controller

- 7.8.1 The CEMS will tie into existing DAS system. The Seller shall supply a common terminal strip where all signals can be landed for integration with existing DAS and Datalogger. The signals shall allow for:
 - A. Monitor the analog and digital I/O from the CEMS and transmit this information to the DAHS.
 - B. Control automatic and manually initiated calibration of the gas analyzers and sample probe purging.
 - C. Provide probe, sample conditioning system, and analyzer alarming functions.
- 7.8.2 Alarms shall be generated to indicate the following as a minimum. Any additional alarm requirements, which result from CEMS hardware design, shall also be incorporated. The alarm system shall record the time the alarm occurred.
 - A. Failure of probe heater.
 - B. Failure of sample line heater.
 - C. Sample conditioning system malfunction (excessive moisture in sample).

7.9 Instrument Cabinets

7.9.1 An instrument cabinet shall be provided to house analyzers and conditioning equipment. Cabinet configuration shall provide for complete access to all components.

7.9.2 All analyzers and other instruments in the cabinet shall be mounted such that they are easily accessible to maintain and repair.

7.9.3 Instrument cabinet shall be designed to maintain environmental conditions consistent with the environmental specifications of the analyzers.

7.9.4 Instrument cabinet will be placed near existing CEMS equipment in a temperature controlled environment and shall be finished per the Seller's standard, meeting the structural requirements as defined in section 7.1 of this specification.

7.9.5 Cabinet shall be NEMA 1 as a minimum.

7.10 Data Acquisition and Handling System (DAHS)

7.10.1 The Buyer's DAHS shall interface with the CEMS and provide complete data acquisition, data storage, and reporting functions along with interfacing to the plant's DCS.

8.0 PERFORMANCE REQUIREMENTS

8.1 Monitor Availability and Maintenance

8.1.1 The CEMS shall achieve data availability of at least 95 percent on a quarterly basis, excluding periods of source outages.

8.1.2 The CEMS shall require no more than one hour of maintenance per week, with the exception of routine daily inspections.

8.2 System Performance/Certification

8.2.1 The CEM system shall pass all applicable initial certification tests in 40 CFR Parts 60 and 75.

8.2.2 The CEMS shall achieve the Relative Accuracy Test Frequency Incentive System criteria of 40 CFR Part 75, Appendix B.

8.2.3 In the event that the system fails to attain certification, or meet the availability or maintenance specifications, the Seller shall bear the costs associated with modifying the system as necessary to meet certification requirements and to bear the expenses to witness any re-testing that may be required.

9.0 SERVICES

9.1 Factory Acceptance Test (FAT)

9.1.1 The Seller shall provide technical support for a factory acceptance test of the integrated system at CEMS hardware and instrumentation supplier's facility prior to final equipment shipment. This checkout shall be performed per a written procedure, which shall be developed by the

Seller. The factory acceptance procedure shall be submitted to the Buyer for review 30 days prior to the test.

9.1.2 The Seller shall furnish all equipment as needed to support the factory acceptance test.

9.1.3 The Buyer's/Owner's representative shall be notified at least 10 days prior to the time when the equipment will be complete and ready for packaging and shipment. The Buyer's/Owner's representative shall have the prerogative of witnessing and/or participating in the FAT of the equipment prior to shipment.

9.1.4 At the conclusion of the FAT, Buyer and Seller shall develop a list of items to be resolved. These items will be resolved to the Buyer's satisfaction before shipment of system.

9.2 9.2 Start-up Support

9.2.1 The Seller shall furnish the services of a qualified field engineer(s) to start up the CEMS following installation of the equipment. Start-up support shall include the following, as a minimum:

- A. An installation checklist shall be reviewed and a walk-down performed to ensure that all equipment is ready for activation.
- B. Power up the system and perform a thorough test of all system functions per a site-specific checklist.
- C. Monitor on-line operation and calibration drift over a two-day period.
- D. Check DAHS software to ensure proper data reduction, calculations, display, and reporting functions.

9.2.2 The price for start-up support shall include on-site time as well as travel time and expenses.

9.3 Certification Testing

9.3.1 The Seller shall be responsible for performing the following certification tests:

- A. 7-day drift test (Seller can monitor test remotely if desired and does not need to stay on site for the entire 7 days).
- B. Cycle response time test
- C. Linearity test
- D. Missing data substitution
- E. Formula verification

9.3.2 Certification tests shall be performed in accordance with 40 CFR Part 60 and Part 75 requirements and the air permit.

9.3.3 The Buyer will contract the services of an Independent and qualified emissions testing firm to perform the RATA and bias tests. This firm will also be responsible for preparing the CEMS certification application. Within 21 days following completion of certification testing, the Seller shall provide draft test results and any additional information needed by the testing firm to produce a report that is suitable for submittal to the appropriate regulatory agencies.

- 9.3.4 A report summarizing the results of RATA testing will be written by this Independent emission-testing firm. The Seller shall provide certification test results and any additional information needed by the Independent emission-testing firm to produce a report that is suitable for submittal to the appropriate regulatory agencies.
- 9.3.5 The Seller's field engineer shall be present for all relative accuracy testing, including re-testing conducted due to the inability of the CEMS to pass initial test. The Seller's field engineer(s) shall:
 - A. Assure proper operation of the CEMS during testing.
 - B. Make any necessary modifications or repairs needed in the event that the CEMS is unable to pass the relative accuracy test.
- 9.3.6 The price for certification testing shall include on-site time as well as travel time and expenses.

9.4 Training

- 9.4.1 The Seller shall provide a complete, standard training program for the Owner's operating and maintenance personnel that meets the following minimum requirements:
 - A. The Seller's training program shall consist of classroom as well as hands-on sessions designed to train plant personnel in proper operation and maintenance of all equipment furnished by the Seller, including equipment provided by sub-vendors.
 - B. The training program will be given at the job site.
- 9.4.2 The price for training shall include on-site time as well as travel time and expenses.

10.0 OPTIONAL EQUIPMENT/PRICING

The Contractor shall provide a firm lump sum price for the manufacture, shipping and supervised installation of the specified equipment. Option pricing for additional equipment recommended by bidder shall be included with each Bidder's bid.

The Platte Generating Station is NOT tax exempt and is subject to 7.0% sales tax. See the Nebraska Department of Revenue web site at www.revenue.state.ne.us for contractor's tax information.

11.0 SCHEDULE

Work shall commence after awarded by the City Council and the Contract is issued. The Contractor shall coordinate with the City of Grand Island relative to scheduling work. All work shall be completed by **November 1th, 2012**.

The Contractor shall include with the bid a material delivery schedule and a preliminary contraction schedule. The Contractor shall furnish the City with a detailed schedule showing the activities, job duration, job start and finish dates, and manpower prior to mobilization.

Any delay, additional work, or extra cost to the Contractor caused by existing installations shall not constitute a claim for extra work, additional payment or damages.

12.0 PROJECT SUPERVISION

The General Contractor shall be required at all times during construction activities to have a designated Project Supervisor at the Work site. The Project Supervisor shall be experienced in all aspects of the project and will be responsible for on-site, day-to-day management of the project.

The Project Supervisor shall have:

- Practical written and verbal communication skills of the English language.
- Ability to read, understand and accurately interpret the contract documents and specifications for the project.
- Skilled knowledge of construction techniques.
- Ability to supervise the entire construction crew, including subcontractors.
- The experience and ability to identify existing and predictable hazards in the surrounding or working conditions, and the authority to take prompt corrective measures to resolve problems and/or eliminate them.
- A set of specifications and quotation documents at the work site.

If the Contractor's Project Supervisor is not at the work site, the Contractor's office shall notify the City Representative and all construction activities shall cease until such time as a qualified replacement arrives on site. No claims for financial adjustment due to inadequate project supervision shall be permitted by the City.

13.0 INSURANCE

The Contractor shall comply with the attached City's insurance requirements.

14.0 SAFETY

The Contractor shall follow all OSHA regulations and plant safety regulations. All personnel working on site will be required to view the plant's safety presentation.

There is no separate contractor entrance at the Platte Generating Station. There is one gate with a card access security system and the Contractor may request to use an access card rather than request entry and exit each trip. There is a \$25.00 charge for all access cards that are not returned when the job is completed.

15.0 CLEAN-UP

During the course of work, the Contractor shall daily clean up all debris, remove unnecessary scaffolding, equipment, and surplus material. Upon completion, the Contractor shall leave the premises in a neat and clean condition with respect to his own operation. Removal of all protective coverings erected by the Contractor is mandatory. The Contractor is responsible to collect and dispose of any abrasive blasting materials and properly dispose of material in landfill.

16.0 CONTACT

Questions regarding this specification may be directed to Emily Muth at the Platte Generating Station, telephone (308) 385-5495.

MINIMUM INSURANCE REQUIREMENTS
CITY OF GRAND ISLAND, NEBRASKA

The successful bidder shall obtain insurance from companies authorized to do business in Nebraska of such types and in such amounts as may be necessary to protect the bidder and the interests of the City against hazards or risks of loss as hereinafter specified. This insurance shall cover all aspects of the Bidder's operations and completed operations. Failure to maintain adequate coverage shall not relieve bidder of any contractual responsibility or obligation. Minimum insurance coverage shall be the amounts stated herein or the amounts required by applicable law, whichever are greater.

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.**