PROPOSAL

CITY OF GRAND ISLAND

Working Together for a Better Tomorrow. Today.

SUPPLY AND DELIVERY OF POWDER ACTIVATED CARBON

Term: May 1, 2023 through April 30, 2026

REQUEST FOR PROPOSAL

C132420

Proposals due

Thursday, April 13, 2023 @ 4:00 p.m. (local time)
City of Grand Island, City Hall
100 East 1st Street, P.O. Box 1968
Grand Island, NE 68802-1968

Contact Information

City of Grand Island Utilities Department
Tylor Robinson, Plant Superintendent
Platte Generating Station
Grand Island, NE 68801
O: 308-385-5496

Issued: March 27, 2023

ADVERTISEMENT FOR PROPOSALS
SUPPLY AND DELIVERY OF POWDER ACTIVATED CARBON
FOR
CITY OF GRAND ISLAND, NEBRASKA

Proposals will be received at the office of the City Clerk, 100 E. First Street, P.O. Box 1968, Grand Island, Nebraska 68802, until Thursday, April 13, 2023 at 4:00 p.m. local time for the above Proposal, FOB the City of Grand Island. Site inspections can be arranged by contacting Tylor Robinson (308) 385-5495 for an appointment.

Proposals received after the specified time will be returned unopened to sender. Proposals shall include the following on the *outside* of the envelope: "**Proposal for Supply and Delivery of Powder Activated Carbon**". All proposals must be signed and dated in order to be accepted. **Four complete copies of the** proposal shall be submitted for evaluation purposes if submitting by mail. Proposal package and any Addendas is also available on-line at http://www.grand-island.com/business/bids-and-request-for-proposals/bid-calendar under the bid opening date and "Click here for bid document link" through QuestCDN for a fee. Submitting through QuestCDN requires one original document of the bid to be uploaded.

Proposals will be evaluated by the Purchaser based on Contractor's response to the proposal, experience of the company and project personnel, commercial terms, and pricing to perform the project required. All Proposals shall be valid for at least 30 days after the Proposal deadline for evaluation purposes.

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

RaNae Edwards, City Clerk

Advertised

INSTRUCTIONS TO BIDDERS - PROPOSAL

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 and/or Detailed Specifications.

3. PREPARATION/SUBMISSION OF PROPOSAL.

   All Proposals must be submitted intact not later than the time prescribed, at the place, and in the manner set forth in the ADVERTISEMENT FOR BIDS. Proposals must be made on the Company's official letterhead, and must be signed and dated to be accepted. Each Proposal 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.

   Proposal package and any Addenda is also available on-line at http://www.grand-island.com/business/bids-and-request-for-proposals/bid-calendar under the bid opening date and "Click here for bid document link" through QuestCDN for a fee. Submitting through QuestCDN requires one original document of the bid to be uploaded (no zip files). Any Proposal received after the specified date will not be considered. No verbal Proposal will be considered.

   The Bidder shall acknowledge receipt of all addenda. Proposals received without acknowledgement or without the Addendum enclosed will be considered informal.

   If exceptions and/or clarifications are noted to the proposal, those exceptions must be fully explained on a separate sheet, clearly marked, and included with the Proposal. Any changes that are found made to the original specification, other than Owner generated Addendums, could result in your bid not being considered.

   The City reserves the right to reject any or all proposals and to select the proposal, which is deemed to be in the City's best interest, at its sole discretion.

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

4. BASIS OF AWARD
   The award will be made by the OWNER on the basis of the Proposal from the lowest responsive, responsible Bidder which, in the OWNER's sole and absolute judgment will best serve the interest of the OWNER.

   All Proposals will be considered on the following basis:

   - Bid price
   - Cost of installation
   - Suitability to project requirements
   - Conformance with the terms of the Bid Documents
   - Delivery Time
   - Responsibility and qualification of Bidder

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

5. TIME OF COMPLETION.

The time of completion of the Work to be performed under this Contract is the essence of the Contract. Proposals should submit a timeline for completion of the Work unless otherwise state in the Detailed Specification.

6. 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.

7. 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.

REQUEST FOR PROPOSALS

GENERAL SPECIFICATIONS

The Proposal shall be in accordance with the following and with the attached DETAILED SPECIFICATIONS.

All prices are to be F.O.B. 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.**

Proposals shall include the following on the **outside** of the mailing envelope: "**Proposal for Supply and Delivery of Powder Activated Carbon".** All proposals must be signed and dated to be accepted. Proposals shall be addressed to the attention of Tylor Robinson, Plant Superintendent. All proposals submitted by mail must include **four (4) complete copies.** The specification is also available at http://www.grand-island.com/business/bids-and-request-for-proposals/bid-calendar under the specified opening date and "Click here for bid document link" through QuestCDN for a $42.00 fee. If submitting through QuestCDN, **one** original document of the proposal and supporting materials is required to be uploaded. All proposals shall be submitted until **Thursday, April 13, 2023 at 4:00 p.m.** local time for evaluation purposes to the following:

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

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

Any Proposal received after the specified date will not be considered. No verbal Proposal will be considered.

Proposals will be evaluated by the Purchaser based on Contractor's response to the proposal, experience of the company and project personnel, commercial terms, and pricing to perform the project required.

The successful contractor 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 City reserves the right to reject any or all proposals and to select the proposal, which is deemed to be in the City's best interest, at its sole discretion.

The invoice for Contractor's services will be paid after approval at the next regularly scheduled City 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 at billing@giud.com well in advance of City Council date to allow evaluation and processing time.

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

All Proposals must be signed and dated to be accepted. If exceptions and/or clarifications are noted to the bid, those exceptions must be fully explained on a separate sheet, clearly marked, and included with the Proposal. Any changes that are found made to the original specifications, other than Owner generated Addendums, would result in your bid not being considered. Please contact Tylor Robinson at 308-385-5495, for questions concerning this specification.

POWDER ACTIVATED CARBON

Table of Contents-Detailed Specification

POWDER ACTIVATED CARBON 2023-2026
Platte Generating Station

Grand Island Utilities Department - Detailed Specification

1.0 PROJECT DECRIPTION

The Grand Island Utilities Department at Platte Generating Station is soliciting proposals for the supply and delivery of Powdered Activated Carbon (PAC) for its flue gas mercury removal system. This ADA Environmental Systems PAC injection system was installed at the Platte Generating Station (PGS) as one component of a MATs compliance project.

1.1 BACKGROUND

The Platte Generating Station Unit 1 steam generator produces 765,000 lb./hr. Maximum Continuous Rate (MCR) of steam at 1000˚ F and 1800 psi which is delivered to a 100,000 kw steam turbine. Powder River Basin coal is the fuel source for the boiler. In coal-fired utility PAC is used for mercury removal.

At Platte Generating Station, the boiler flue gas flows through a hot side precipitator, air heater, ID fan, SDA, Fabric Filter, ID Booster fan and out the stack. The PAC is injected into the flue gas through injection lances between the ID fan outlet and the SDA inlet. The PAC is removed from the flue gas with a fabric filter. Design injection rates based on a corresponding brominated PAC specification have proven to be capable of producing less than .5 #/Tbtu Hg in the exit gas and are as follows:

Design PAC Feed rates	**lbs/hour**	**Boiler Operational Hours**	**Total Product Requirement (LBS)**
105 % BMCR			
PAC usage	45	24	1,080
100 % BMCR			
PAC usage	43	24	1,032
77 % BMCR			
PAC usage	33	24	792
55 % BMCR			
PAC usage	26	24	624
30 % BMCR			
PAC usage	17	24	408

1.2 LOCATION

The Platte Generating Station is located at 1035 W. Wildwood Drive, two (2) miles south of Grand Island, Nebraska. The plant entrance is located two (2) miles south of U.S. Highway 34 and 1 ½ miles east of U.S. Highway 281.

1.3 CONTACT

Question regarding this specification may be directed to:

Tylor Robinson
Platte Generating Station
1035 W. Wildwood Dr.
Grand Island, NE 68801
Ph. (308) 385-5495
trobinson@giud.com

2.0 SCOPE

The City of Grand Island, Nebraska is soliciting proposals for the supply and delivery of Powdered Activated Carbon (PAC) for its mercury removal system under contract from May 1, 2023 through April 30, 2026.

2.1 MATERIAL SPECIFICATIONS

The system is designed to operate using a commercially available powder activated carbon with properties that fall within the following ranges.

Parameter	Acceptable Range	Test Method
Material Origin	100% virgin	Manufacturer certification
Deflagration Index (Kst)	≤120 bar m/s	ASTM E1226-12
Moisture, % as packed	2 to 12	ASTM 2867
Mesh Size: % less than 325 mesh	95 min.	ASTM D5158-93, AirJet Sieve
Particle Size, Volume % finer	D95 < 60 µm	Optical laser size, surfactant media
	D50< 30 µm	Optical laser size, surfactant media
	D5 < 3 µm	Optical laser size, surfactant media
Bulk Density, tapped, g/ml	0.45 - 0.7	ASTM B527-06 tap density tester
Bulk Density, tapped, lb/ft3	28 - 40	ASTM B527-06 tap density tester
Lignite based PAC		
Iodine Number	550-1100	ASTM D4607
Ash Content (%)	< 35	ASTM D2866
BET surface area, m2/gm	550 min.	Nitrogen adsorption isotherm
Brominated PAC		
Bromination level, % by weight	4 - 8 as Br	Neutron Activation Analysis or XRF

The specifications for the PAC material that are used for the operation of the system, and subsequently were required to meet system performance guarantees, are generally as follows:

Parameter	**Acceptable Range**
Material Origin	100% virgin
Moisture, % as packed	12% max
Mesh Size: % less than 325 mesh	95% min.
Bulk Density, tapped, g/ml	.6 g/ml
Lignite based PAC	
Iodine Number, mg/g	500 mg/g
BET surface area, m2/gm	550 min.
Total Sulfur (%)	1.2 %
Ignition Temperature, °C	400 °C
Brominated PAC	
Bromination level, % by weight	4% weight
Bromination Volatility Temperature, °F	1400 °F

Past PGS experience has shown that a PAC with these specified properties is capable of producing Hg results of less than .5 lb/Tbtu. Whereas the Owner has successfully operated the system with the PAC meeting the overall design parameters listed above, such material is basis of the PAC procurement specification for this system.

2.2 ANNUAL PRODUCTION, COAL AND Hg

Year	Mwhrs	Coal Burned, tons	Avg Hg,ppm
2019	511,382	360,041	.094 (.063-.128)
2020	362,800	253,657	.087 (.079-.120)
2021	428,372	284,998	.093 (.066-.116)
2022	451,779	293,936	.100 (.063-.136)

2.3 CONTRACT QUANTITY

There are many factors that can influence, and have influenced, the actual demand for PAC. PGS anticipates PAC consumption between 100,000-300,000 lbs/year based on historical operation and loading of the PGS unit, the design mass balances for the system as provided by PAC system design parameters and use of a Brominated PAC that meets the typical design specifications as provided herein.

Flexibility in the Contract Quantity requirements will be required. Proposals shall be based on an 'All Requirements' basis in which there are no defined minimum or maximum quantities but where PGS agrees to procure all PAC required during the contract period from the Proposer.

2.4 CONTRACT PERIOD

The Proposal shall provide pricing for a base three (3) year contract from May 1, 2023 through April 30, 2026. Options for annual contract extensions or longer contract periods can be provided only if a Base Proposal for the three-year period has been submitted. Such optional contract offerings will be considered at the sole discretion of the City.

2.5 CONTRACT PRICING

All proposals shall include the data sheet included with this request to provide the pricing structure for delivery of the material FOB, City of Grand Island, Platte Generating Station, on a cost per pound basis including all transportation, taxes and other related costs.

2.6 MATERIAL ORIGIN

The proposal shall provide detailed information on the material origin including, but not limited to, source of supply, mining operation, ownership and/or control of supply from the source, source production capabilities and current levels of production and commitment.

2.7 PRODUCTION FACILITY

The proposal shall provide detailed information on the PAC Production facility including, but not limited to, ownership and/or control of production facility, description of PAC production processes and equipment, PAC production capabilities and current levels of production and commitment.

2.8 QUALITY

The proposal shall provide information on all QA/QC processes that will be utilized to assure the manufacture and delivery of a compliant product. Data and information shall be provided to PGS personnel with each shipment as verification that each load meets the required, contractual PAC material specifications.

At a minimum, this shall include finished product test results including:

Batch number, production date, Iodine Number, Moisture, Ash, Bulk Density, % passing 325, D95, D50, D5, Additive analysis results

A separate sample shall be taken for each load being delivered to PGS as the material is loaded into the tanker. This sample shall be held for no less than 6 months. Upon request by PGS, this sample shall be analyzed to confirm the batch product test results provided with the delivery of the load.

Prior to loading a bulk tanker, the tanker shall be inspected to assure it is clean of all foreign materials, that all hatches and seals are watertight and that all equipment required for unloading is clean and in good working condition.

2.9 DELIVERY

The proposal shall provide a full description of the PAC delivery process from the production, or storage facility, to PGS. If there are alternate backup sources of product and/or delivery routes and methods, such alternates shall also be fully described in the proposal.

The proposer shall deliver all PAC material to the PGS station by truck for off-loading into the PGS PAC storage silo by way of pneumatic conveying. The trucks used to deliver the PAC material shall have the required blowers and related equipment to convey the PAC from the delivery truck via a 4" connection to the new conveying line that runs directly to the top of the PGS silo. This 12' dia X 44' height silo will store approximately 60,000 lbs. of material at a bulk density of 32 lb./ft3.

The design for PAC delivery from the truck is a dense phase process at 5 PSIG with an expected 20,000 lbs/hr delivery and a maximum air flow of 1000 SCFM through the silo's bin vent filter for a maximum 2 minutes after the truck is emptied. Actual unloading times have varied depending on the truck's equipment and the trucker's use of that equipment. Past unloading has exceeded 3 hours at times.

2.10 SUPPORT SERVICES

The proposal shall provide information on Supplier's ability to provide support services in the utilization of the PAC material in the PGS process. Such services may include consultation and assistance in the resolution of operational problems, evaluation of system performance, optimization of material usage, evaluation, and recommendation of alternative PAC products that the proposer may offer and testing of alternative products in the PGS system. The cost to PGS for these services shall be included in the proposal.

3.0 PROPOSALS

All proposals are considered confidential as marked and treated as such until awarded by Council. All proposals will be evaluated by PGS representatives. All requested information will be considered in the evaluation. Delivered cost of the product to PGS combined with the proposed injection rates will be the primary consideration but may not be the sole basis of an award. Other factors may include, but not be limited to, degree to which the proposed PAC material meets or exceeds the specifications for system performance, the potential of the product to cause corrosion and the associated costs, strength of the overall supply chain in assuring timely year-round required deliveries to PGS, the experience of the Bidder in the provision and utilization of PAC material for Hg removal in the power production sector, Terms and Conditions and contractual requirements submitted by the Proposer and the degree of contractual flexibility that the Proposer offers PGS in dealing with levels of uncertainty regarding the quantity and delivery of the PAC material.

It is imperative that all information requested in this Request for Proposals be provided with the proposal. Failure to provide a complete proposal may result in rejection of the proposal as non-responsive.

3.1 SITE VISIT

A site visit prior to proposal submittal is **REQUIRED**. All responsive Proposers will be required to visit the plant site to ensure familiarity with the project requirements. Site visits may be arranged via the contact information listed herein. A site visit form shall accompany the bid documents.

3.2 PROPOSED MATERIAL SPECIFICATIONS

A Data Sheet shall be provided with the proposal showing the actual specifications for the material to be supplied by the Proposer covering all of the required specifications. The proposal shall also provide detailed information regarding all additives used and percentage. Where there are deviations from the above specifications, either in acceptable range measurements or test methods, the proposal shall provide the actual range measurements and test methods, as well as adequate supplemental data and information clearly supporting the capability of the proposed material to achieve comparable performance to a material meeting the above specifications.

3.2.1 INJECTION RATES

The proposal shall also provide the injection rates for the proposed product based on analysis of the PGS system and company experience with the product in similar applications. Such injection rates shall be provided at the same design BMCR percentages included herein.

3.3 PRE-AWARD PAC TESTING

PGS does not have the ability to cost effectively test multiple product offerings as part of the evaluation and selection process and will be basing any initial award on the information submitted. The initial selection of a proposal for award will be followed by testing the product in the PGS system at the proposed injection rates. The Proposer shall provide all required equipment to inject their product into the existing PAC distribution header for a 90-day period. The existing PAC silo will

contain an unknown quantity of pre-existing inventory and cannot be used for testing. An agent of the selected proposal will connect to the distribution line outside the silo by removing a section of the distribution line and tying into the header section. A detailed plan on the proposed injection equipment and connection methods shall be provided in the proposal. Upon completion of the test the proposer will be responsible for reinstalling the original distribution piping upon completion of the tests. Testing will begin no earlier than 10:00 am, May 1st. PGS Sorbent traps samples will be taken each day for analysis to verify the effectiveness on the PAC. The proposer shall also provide their own sorbent trap sampling with on-site testing throughout the product testing process.

Satisfactory results will be based on provision of average Hg emissions <.4 #/Tbtu during the test period with no Hg emission excursions >.8#/Tbtu at injection rate at or below the proposed rates. Upon satisfactory testing for the 90-day period, a shipment of the PAC will be loaded into the Silo to allow for a longer test period. Sorbent traps will be pulled by the PGS personnel on a weekly basis during this period and sent off for analysis to Ohio Lumex Co.

The proposal shall provide a full detailed description of the testing plan including all equipment, procedures, sampling with on-site testing, assignment of responsibilities between parties, itemized costs to be borne by the Owner, labor and technical support.

3.3.1 TEST FAILURE

In the event the pre-award test fails to provide the required results, the proposal shall be disqualified. The City shall move on to the next proposal for testing. Proposer shall identify the injection rates and Hg test results to be used as a basis for determining the effectiveness of the product.

3.4 FINAL AWARD

Upon satisfactory test results being achieved, it is the City's intention to award a contract for the provision of all PAC material required by PGS during the contract period, excluding the existing PAC silo inventory at the start, and/or end, of the contract period.

3.4.1 FAILURE TO PERFORM

In the event the proposed product fails to perform at a later date, either by not producing the required mercury reduction or by requiring higher injection rates than proposed, the contract may be terminated at the City's sole discretion and the City may procure another product for use in its system.

3.5 TERMS AND CONDITIONS

Provide any standard terms and conditions which will be in effect during this completion of this scope of work.

3.6 ADDITIONAL INFORMATION REQUIRED

The following information shall be provided with the proposal:

- References with contact information specific to the product(s) proposed
- Time the product has been in use for Hg reduction in the power industry
- Effort dedicated to R&D
- PAC manufacturing capabilities and/or details on source of PAC materials
- Identification of domestic verses foreign sourcing components of the product
- Dedicated resources for ongoing technical support

3.7 EXCEPTIONS

The purpose of this specification is to give detail on conditions under which the new equipment will operate, scope of Contract, quality of equipment required, standards used in determining its acceptability and similar data. Each Proposer shall carefully read all requirements herein set forth and shall offer equipment and services which fully comply with these requirements or shall plainly set forth all points, features, conditions, specifications, etc., wherein the equipment offered does not meet these specifications. Such exceptions as are made shall be listed by section and subsection number and shall be marked in ink in the sections of these specifications. Exceptions shall be explained in detail in a letter accompanying the proposal. References shall not be made to the responsive Proposal for exceptions and supplementary terms. Failure to outline such exceptions will require the successful proposer to comply with these specifications.

The City of Grand Island Utilities Department is NOT tax exempt and is subject to 7.5% sales tax. See the Nebraska Department of Revenue web site at www.revenue.state.ne.us for contractor's tax information.

4.0 QUALIFICATIONS

Proposals will be received only from qualified Contractor. A Contractor will be considered qualified if they are a firm recognized as specializing in the production, supply and distribution of Powder Activate Carbon used in the electrical power production. The firm shall have adequate facilities to ensure a reliable supply of product.

The Contractor shall substantiate its experience through the submittal of three (3) similar procurements' **reference list with the bid**. The Contractor will be expected to perform the work without the assistance of Platte Generating Station personnel or tools and comply with plant safety regulations and equipment lockout/tag out procedures.

If the Contractor defaults or neglects to carry out the work in accordance with the contract documents or fails to perform any provisions of the work described herein the owner may, after seven (7) days written notice to the Contractor and without prejudice to any other remedy, make good the deficiencies by whatever method the Owner may deem necessary. The Purchaser may deduct the cost thereof from the payment, then or thereafter due to the Contractor or, at Owner's option, may terminate Contractor's work under the Contract and take possession of the site and all materials associated with the work scope. The Owner may then by whatever method the Owner may deem expedient remedy the deficiencies. If the unpaid balance of the Contract Sum exceeds the expense of finishing the work, such excess shall be paid to the Contractor. If expenses associated with fulfilling the specified scope of work exceeds such unpaid balance the Contractor shall pay the difference to the Owner. These rights and remedies are in addition to any right to damages or other rights and remedies allowed by law.

Failure to provide this information may, at the option of the purchaser, result in the rejection of the bid.

5.0 SAFETY

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in conjunction with the work. The Contractor shall comply with all safety practices as required by the regulatory agencies governing the Contractor's operations as well as any and all safety requirements of the Contractor's organization and shall submit historical evidence of such compliance. All personnel working on site will be required to participate in the plant's safety orientation prior to performing any work on site at PGS.

The plant has an equipment lockout/tag out procedure to prevent the unauthorized starting of motors and the unauthorized movement of valves and dampers. The Contractor is required to use the procedure and

add its own locks/tags on top of the plant lock/tags if required. *Removal of plant locks/tags is not allowed and is cause for removal from the plant site.*

6.0 INSURANCE

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

7.0 EXECUTION OF AGREEMENT

An agent of the accepted proposal shall, within fifteen (15) days after receiving notice of award, sign and deliver to the Purchaser an acceptable supply and delivery agreement.

8.0 DRAWINGS AND SITE INFORMATION

A selection of drawings has been provided with the request for reference only. Additional drawings are available for review at Platte Generating Station office. The Contractor is responsible for making such pre-submittal site visits as required to obtain additional details for bidding and execution of the work and for clarification of any questions or concerns the bidder may have related to the work scope and site conditions.

ATTACHMENTS:

Data Sheet -PAC 2023

C2082 MB-2.pdf - 105% BMCR Performance Coal

C2082 MB-4.pdf - 55% BMCR Performance Coal

PAC Unloading.pdf

Unload Drawings.pdf

Required Fill In Data Sheets
To be submitted with proposal
Where necessary, provide attachments and reference the attachment in the appropriate data sheet line

DATE: _____

COMPANY NAME: _____

STREET ADDRESS: _____

CITY/STATE/ZIP: _____

CONTACT NAME FOR PROPOSAL EVALUATION: _____

TITLE: _____ TELEPHONE: _____ EMAIL: _____

YEARS IN BUSINESS _____ _____ YEARS OF PROVIDING PRODUCT FOR FLUE GAS Hg REMOVAL

PRODUCT: _____

PRODUCT COST PER LB _____

LBS/LOAD _____

FREIGHT COST PER LB, FOB PGS _____

FUEL SURCHARGE COST PER LB _____

FUEL SURCHARGE INDEX _____

OTHER FEES PER LB _____

DELIVERED COST PER LB _____

DELIVERED COST PER LB W/7.5% NEBRASKA TAX _____

OTHER TAXES _____

DEMURRAGE _____

_____ MINIMUM CONTRACT QUANTITY

_____ MAXIMUM CONTRACT QUANTITY

ORDER AND SCHEDULING REQUIREMENTS _____

TONS PER LOAD _____

MINE LOCATION _____

PRODUCTION CAPACITY _____ CURRENT COMMITMENT _____

METHOD OF DELIVERY TO PRODUCTION FACILITY _____

PRODUCTION FACILITY LOCATION _____

PRODUCTION CAPACITY _____ CURRENT COMMITMENT _____

METHOD OF DELIVERY TO TRUCK TRANSFER _____

TRUCK TRANSFER STATION STORAGE CAPACITY _____

TRUCK LOADING TRANSFER STATION LOCATION _____

TRUCKING COMPANY _____

SIZE OF PAC TRANSPORT FLEET _____ UNLOADING METHOD _____

PRODUCT DATA:	TEST METHOD	Acceptable Range	RESULTS
Material Origin	Manufacturer Certification	100% virgin	
Deflagration Index(kst)	ASTM E1226-12	<=120bar m/s	
IGNITION TEMPERATURE		GREATER THAN 400 °C	

Moisture, % as packed	ASTM 2867	2 to 12	
% less that 325 mesh	ASTM D5158-93	95	
Particle size, volume % finer	Optical Laser, surfactant media	D95<60um	
	Optical Laser, surfactant media	d50<20um	
	Optical Laser, surfactant media	d5<3um	
Bulk tapped density, tapped, g/ml	ASTM B527-06 tap density tester	.45-.64	
Bulk tapped density, tapped, #/ft3	ASTM B527-06 tap density tester	28-40	
Non Lignite based PAC:			
Ash Content (%)	ASTM D2866	10-30	
Iodine number, mg/g	ASTM D4607	550-1100	
BET surface area	nitrogen adsorption isotherm	550	
Bromination, % by weight	neutron activation analysis or XRF	4 TO 8	
Bromination Volitility Temperature, °F		>1399 °F	
Micropore Area, less than 20A	nitrogen adsorption isotherm, t-plot		
Mesopore Area, 20A-500A	nitrogen adsorption isotherm, t-plot		
Macropore Area, (mg/g) >500A	nitrogen adsorption isotherm, t-plot		
Total Pore Volume cc/gm	Nitrogen Porosimeter	>.20	
Micropore to Mesopore Ratio		.9-1.5	

QA/QC COA PROVIDED WITH EACH LOAD

Criteria	Test Method	Requirement/Limits

REQUEST FOR PROPOSAL - SITE CONDITIONS

POWDER ACTIVATED CARBON

Site Visit: Bidders shall visit the site in order to inform themselves of the conditions under which the work is to be performed, concerning the site of the work, the nature of the existing facilities, the obstacles which may be encountered, the sequence of the work, and all other relevant matters concerning the work to be performed. No extra compensation shall be allowed by reason of the failure of such bidder to fully inform themselves of said site conditions prior to the bidding. The Contractor shall employ, so far as possible, such methods and means in the carrying out of their work as will not cause any interruption or interference with the City's operations and any other contractors.

A site visit may be arranged by contacting Tylor Robinson at (308) 385-5495.

Signature of person visiting site: _____

Signature of Utilities personnel witnessing visit: _____

Date of Visit: _____

Platte Generating Station / 1035 W. Wildwood Drive / Box 1968 / Grand Island, Nebraska 68802-1968
Phone (308) 385-5496 / FAX (308) 385-5353

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 not be less than the following:

Bodily Injury & Property Damage	$ 500,000 Combined Single Limit

3. COMPREHENSIVE GENERAL LIABILITY

The comprehensive general liability coverage shall contain no exclusion relative to explosion, collapse, or underground property. The liability limits shall not be 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 thirty (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.**

MET
Marsulex Environmental Technologies

Utility:	**City of Grand Island**	**Drawing:**	**MB-2**
Unit Name:	**Platte Generating Station**	**Date:**	**3/19/2013**
Case:	**105% BMCR - Performance Coal**	**By:**	**MTH**
Contract Number	**C2082**	**Rev:**	**1**

Stream	1	2	3	4	5	6
Component lb/hr	Flue Gas at Boundry	Flue Gas to Spray Dryer	Flue Gas from Spray Dryer	Flue Gas from Fabric Filter	Flue Gas from Booster Fan	PAC Injection
O2, N2, CO2, etc	1,283,406	1,287,842	1,287,697	1,287,700	1,287,700	4,494
SO2	1,265	1,265	246	177	177	0
HCl	13.2	13.2	3.0	2.4	2.4	0.0
H2O	105,946	106,214	165,559	165,559	165,559	267
Particulate	50	95	3,164	12	12	45
Total	1,390,681	1,395,429	1,456,669	1,453,450	1,453,450	4,806
Total (Gas), Dry	1,284,684	1,289,120	1,287,946	1,287,879	1,287,879	4,494
Flow, ACFM	495,697	499,226	424,945	431,182	418,977	1,075
Flow, SCFM	309,664	310,751	331,860	331,853	331,853	1,096
Temp, °F	332	331	165	160	167	51
Pressure, in.w.c.	0.0	-1.8	-5.2	-13.6	1.4	20.0
Pressure, PSIA	13.72	13.66	13.53	13.23	13.77	14.44
Density, lb/ft3	0.047	0.047	0.057	0.056	0.058	0.074
Hg, lb/TBtu	9.03	1.00	1.00	1.00	1.00	0.00
Part, lb/MMBtu	0.043	0.080	2.680	0.010	0.010	0.038
SO2, lb/MMBtu	1.07	1.07	0.21	0.15	0.15	0.00
HCl, lb/MMBtu	0.011	0.011	0.003	0.002	0.002	0.000

MET
Marsulex Environmental Technologies

Utility:	**City of Grand Island**	**Drawing:**	**MB-2**
Unit Name:	**Platte Generating Station**	**Date:**	**3/19/2013**
Case:	**105% BMCR - Performance Coal**	**By:**	**MTH**
Contract Number	**C2082**	**Rev.:**	**1**

Stream	10	11	12	13	14	
Component lb/hr	Lime Feed to Lime Slaker	Lime Slurry Feed Pump Discharge	Lime Slurry Feed Pump Recycle	Lime Slurry to each Atomizer	Atomizer Feed each	
CaO	1,429	0	0	0	0	
Ca(OH)2	0	5,665	3,777	629	629	
Flyash	0	0	0	0	0	
Other Solids	159	0	0	0	0	
TSS	1,588	5,665	3,777	629	629	
H2O	0	32,102	21,401	3,567	19,737	
Total	1,588	37,767	25,178	4,196	20,366	
Flow, GPM	-	69.7	46.5	7.7	40.5	
Specific Gravity	-	1.08	1.08	1.08	1.01	
Temp, °F	51	100-170	100-170	32 - 170	32 - 170	
pH	-	10 - 12.5	10 - 12.5	7 - 12.5	7 - 12.5	
ppm cl	0	35	35	35	35	
TSS, %	100	15	15	15	3	

MET
Marsulex Environmental Technologies

Utility:	**City of Grand Island**	**Drawing:**	**MB-2**
Unit Name:	**Platte Generating Station**	**Date:**	**3/19/2013**
Case:	**105% BMCR - Performance Coal**	**By:**	**MTH**
Contract Number	**C2082**	**Rev:**	**1**

Stream	**19**	**20**	**21**			
Component lb/hr	**Grit to Disposal**	**Spray Dryer Solids Catch**	**Fabric Filter Solids Catch**			
CaO	0	0	0			
Ca(OH)2	0	3	292			
Flyash	0	1	94			
Other Solids	159	28	2,766			
TSS	159	32	3,152			
H2O	2	1	64			
Total	160	33	3,216			
Flow, Ton/hr	-	0.0	1.6			
Specific Gravity	-	-	-			
Temp, °F	116	165	160			
pH	-	-	-			
TSS, %	99.0	98.0	98.0			

MET
Marsulex Environmental Technologies

Utility:	**City of Grand Island**	**Drawing:**	**MB-2**
Unit Name:	**Platte Generating Station**	**Date:**	**3/19/2013**
Case:	**105% BMCR - Performance Coal**	**By:**	**MTH**
Contract Number	**C2082**	**Rev.:**	**1**

Stream	30	31	32	33	34	35
Component lb/hr	Total Make Up Water		Slaker Water Feed		Make Up Water to Absorber	Make Up Water to each Atomizer
CaO	0		0		0	0
Ca(OH)2	0		0		0	0
Flyash	0		0		0	0
Other Solids	0		0		0	0
TSS	0		0		0	0
H2O	59,671		11,161		48,510	16,170
Total	59,671		11,161		48,510	16,170
Flow, GPM	119.3		22.3		97.0	32.3
Specific Gravity	1.00		1.00		1.00	1.00
Temp, °F	61		61		61	61
pH	7.0-8.0		7.0-8.0		7.0-8.0	7.0-8.0
ppm cl	35		35		35	35
TSS, %	0.00		0.00		0.00	0.00

MET
Marsulex Environmental Technologies

Utility:	**City of Grand Island**	**Drawing:**	**MB-4**
Unit Name:	**Platte Generating Station**	**Date:**	**3/19/2013**
Case:	**55% BMCR - Performance Coal - 2 atomizers in service**	**By:**	**MTH**
Contract Number	**C2082**	**Rev:**	**1**

Stream	1	2	3	4	5	6
Component lb/hr	Flue Gas at Boundary	Flue Gas to Spray Dryer	Flue Gas from Spray Dryer	Flue Gas from Fabric Filter	Flue Gas from Booster Fan	PAC Injection
O2, N2, CO2, etc	748,300	752,736	752,663	752,664	752,664	4,494
SO2	678	678	117	84	84	0
HCl	7.0	7.0	1.5	1.1	1.1	0.0
H2O	42,288	42,555	79,868	79,868	79,868	267
Particulate	24	50	1,700	6	6	26
Total	791,273	796,026	834,350	832,623	832,623	4,787
Total (Gas), Dry	748,985	753,421	752,782	752,749	752,749	4,494
Flow, ACFM	285,916	287,900	238,738	240,810	236,313	1,075
Flow, SCFM	175,292	176,378	189,661	189,658	189,658	1,096
Temp, °F	347	346	159	154	159	51
Pressure, in.w.c.	0.0	-0.8	-2.3	-8.5	1.4	20.0
Pressure, PSIA	13.72	13.69	13.64	13.41	13.77	14.44
Density, lb/ft3	0.046	0.046	0.058	0.058	0.059	0.074
Hg, lb/TBtu	11.11	1.00	1.00	1.00	1.00	0.00
Part, lb/MMBtu	0.043	0.088	3.024	0.010	0.010	0.046
SO2, lb/MMBtu	1.21	1.21	0.21	0.15	0.15	0.00
HCl, lb/MMBtu	0.012	0.012	0.003	0.002	0.002	0.000

MET
Marsulex Environmental Technologies

Utility:	**City of Grand Island**	**Drawing:**	**MB-4**
Unit Name:	**Platte Generating Station**	**Date:**	**3/19/2013**
Case:	**55% BMCR - Performance Coal - 2 atomizers in service**	**By:**	**MTH**
Contract Number	**C2082**	**Rev.:**	**1**

Stream	10	11	12	13	14	
Component lb/hr	Lime Feed to Lime Slaker	Lime Slurry Feed Pump Discharge	Lime Slurry Feed Pump Recycle	Lime Slurry to each Atomizer	Atomizer Feed each	
CaO	764	0	0	0	0	
Ca(OH)2	0	3,030	2,020	505	505	
Flyash	0	0	0	0	0	
Other Solids	85	0	0	0	0	
TSS	849	3,030	2,020	505	505	
H2O	0	17,168	11,445	2,861	18,620	
Total	849	20,197	13,465	3,366	19,125	
Flow, GPM	-	37.3	24.9	6.2	38.1	
Specific Gravity	-	1.08	1.08	1.08	1.00	
Temp, °F	51	100-170	100-170	32 - 170	32 - 170	
pH	-	10 - 12.5	10 - 12.5	7 - 12.5	7 - 12.5	
ppm cl	0	35	35	35	35	
TSS, %	100	15	15	15	3	

MET
Marsulex Environmental Technologies

Utility:	**City of Grand Island**	**Drawing:**	**MB-4**
Unit Name:	**Platte Generating Station**	**Date:**	**3/19/2013**
Case:	**55% BMCR - Performance Coal - 2 atomizers in service**	**By:**	**MTH**
Contract Number	**C2082**	**Rev:**	**1**

Stream	**19**	**20**	**21**			
Component lb/hr	**Grit to Disposal**	**Spray Dryer Solids Catch**	**Fabric Filter Solids Catch**			
CaO	0	0	0			
Ca(OH)2	0	2	148			
Flyash	0	0	49			
Other Solids	85	15	1,497			
TSS	85	17	1,694			
H2O	1	0	35			
Total	86	18	1,729			
Flow, Ton/hr	-	0.0	0.9			
Specific Gravity	-	-	-			
Temp, °F	116	159	154			
pH	-	-	-			
TSS, %	99	98	98			

MET
Marsulex Environmental Technologies

Utility:	**City of Grand Island**	**Drawing:**	**MB-4**
Unit Name:	**Platte Generating Station**	**Date:**	**3/19/2013**
Case:	**55% BMCR - Performance Coal - 2 atomizers in service**	**By:**	**MTH**
Contract Number	**C2082**	**Rev.:**	**1**

Stream	30	31	32	33	34	35
Component lb/hr	Total MET Make Up Water		Slaker Water Feed		Make Up Water to Absorber	Make Up Water to each Atomizer
CaO	0		0		0	0
Ca(OH)2	0		0		0	0
Flyash	0		0		0	0
Other Solids	0		0		0	0
TSS	0		0		0	0
H2O	37,487		5,969		31,518	15,759
Total	37,487		5,969		31,518	15,759
Flow, GPM	74.9		11.9		63.0	31.5
Specific Gravity	1.00		1.00		1.00	1.00
Temp, °F	61		61		61	61
pH	7.0-8.0		7.0-8.0		7.0-8.0	7.0-8.0
ppm cl	35		35		35	35
TSS, %	0		0		0	0

7.5 PAC Truck Unloading Procedures

A truck equipped with a blower will be used to refill the silo when the PAC level is low. The procedures outlined below should be followed each time the silo is filled.

1. The truck driver will spot the pneumatic trailer adjacent to the silo filling line.
2. Ensure that there is not an Air Pressure Low alarm, which would be indicated by a light on the truck unloading panel.
3. Ensure that the "Silo Level Low – OK to Fill" light is illuminated on the truck unloading panel indicating that there is enough room in the silo to accept a full load of PAC.
4. Ensure that there is not a high bin vent filter pressure alarm, which would be indicated by a light on the truck unloading panel.
5. Ensure that the bin vent filter enabled light is illuminated at the truck unloading panel. This will enable the bin vent filter to clean the filter cartridges during the filling process. The filter cartridges will be pulse cleaned automatically when the differential pressure across the cartridges reaches the setpoint set on the bin vent filter timer board.
6. The truck driver will connect a 4" flexible hose from the trailer to the silo filling line. Matching Cam-Lok fittings on the trailer and silo will ensure a tight, dust free fit.
7. Once the above steps are completed, the truck driver can start the truck's trailer-mounted blower to initiate PAC transfer.
    a. During filling, observe the discharge from the silo vent filter. Discharge of PAC indicates a leaking or dislocated filter cartridge.
    b. The Silo Level High alarm may be activated before all the PAC has been transferred to the silo as indicated by the light and audible alarm on the truck unloading panel. This is usually due to the PAC fluidizing during filling. Truck unloading should cease until the PAC has settled. Wait about 10 minutes after the high level alarm has been deactivated before resuming filling.
    c. If the bin vent filter pressure high alarm light illuminates during filling. Stop filling operation and allow the cartridges to be cleaned. Resume filling after 10 minutes.
8. Once the truck is empty or the silo is full, the driver will allow the blower to run long enough to blow the fill line clear. Once the fill line is clear, he will turn off the blower.
9. The truck driver will disconnect the transfer line.

JIB CRANE 1A-M713-02 W/ HOIST 1A-M700-02B & TROLLEY 1A-M700-02A

BIN VENT FILTER 1A-M370-02

ROOF LIGHT LTG-700

SILO HIGH LEVEL POINT LEVEL SWITCH 1A-LSH-708A

EXHAUST FAN 1A-M240-02

LADDER & CAGE

JIB CRANE 1A-M713-02 W/ HOIST 1A-M700-02B & TROLLEY 1A-M700-02A

SILO LOW LEVEL SWITCH 1A-LSL-708B

INTERMEDIATE PLATFORM

TRUCK UNLOADING PANEL 1A-M900-06

BIN VENT DIFFERENTIAL PRESSURE TRANSMITTER 1A-PDIT-705

FILL LINE STRAINER

TRUCK UNLOADING PANEL 1A-M900-06

4" FILL LINE, COMPRESSED AIR AND CONDUIT ROUTED TO ROOF USING SAME SUPPORTS

3'-0"x6'-8" DOOR W/ WINDOW AND LOUVER

PRE-ENGINEERED CUT-OUT FOR PIPE AND CONDUIT

11'-7 1/8"

4'-6 7/8"

EAVE

20'-2"

55'-7 1/8"

44'-0"

5'-0"

1" GROUT

EL 1,867'-6"

PAC STORAGE SILO 1A-T430-01

12'-0"Ø

SILO ELEVATION
SCALE 1/8" = 1'-0"

24" MANWAY W/ PRESSURE / VACUUM RELIEF VALVE 1A-PRV-707

12'-0"Ø

0°

45°

65°

90°

180°

210°

225°

270°

315°

36°

PAC STORAGE SILO 1A-T430-01

BIN VENT FILTER 1A-M370-02

SILO LOW LEVEL SWITCH 1A-LSL-708B

3'-0" DOOR

SILO HIGH LEVEL POINT LEVEL SWITCH 1A-LSH-708A

EXTRIOR LIGHT LTG-701

ROOF LIGHT LTG-700

SILO LEVEL TRANSMITTER 1A-LT-706

SILO HIGH LEVEL POINT LEVEL SWITCH 1A-LSH-708A

SILO ROOF PLAN
SCALE 3/8" = 1'-0"

PLANT NORTH

LADDER WITH INTERMEDIATE PLATFORM

BIN VENT FILTER 1A-M370-02

SILO LEVEL TRANSMITTER 1A-LT-706

ROOF LIGHT LTG-700

24" MANWAY W/ PRESSURE / VACUUM RELIEF VALVE 1A-PRV-707

SILO LOW LEVEL SWITCH 1A-LSL-708B

LADDER WITH INTERMEDIATE PLATFORM

EXHAUST FAN 1A-M240-02

EXTERIOR LIGHT LTG-701

3'-0"x6'-8" DOOR W/ WINDOW AND LOUVER

3" PIPE OUTLET SLEEVE

SILO ISOMETRIC
SCALE 3/32"=1'-0"

REV	DATE	BY	REVISION	PEM	CHK'D
1	5.28.14	HIB	AS FABRICATED	MA	NM
0	9.4.13	MLA	FOR CONSTRUCTION	MA	NM
B	6.17.13	MLA	FOR APPROVAL	MA	NM
A	5.28.13	MLA	FOR APPROVAL	MA	NM

MET Marsulex Environmental Technologies

CITY OF GRAND ISLAND UTILITIES
GRAND ISLAND, NEBRASKA
PLATTE STATION UNIT #1
AIR QUALITY CONTROL SYSTEMS UPGRADE

ADA Advancing Cleaner Energy
9135 S. RIDGELINE BLVD. SUITE 200 HIGHLANDS RANCH , CO 80129
PHONE: (303) 734-1727 FAX: (303) 734-0330
www.adaes.com

PROJECT: PLATTE STATION UNIT #1

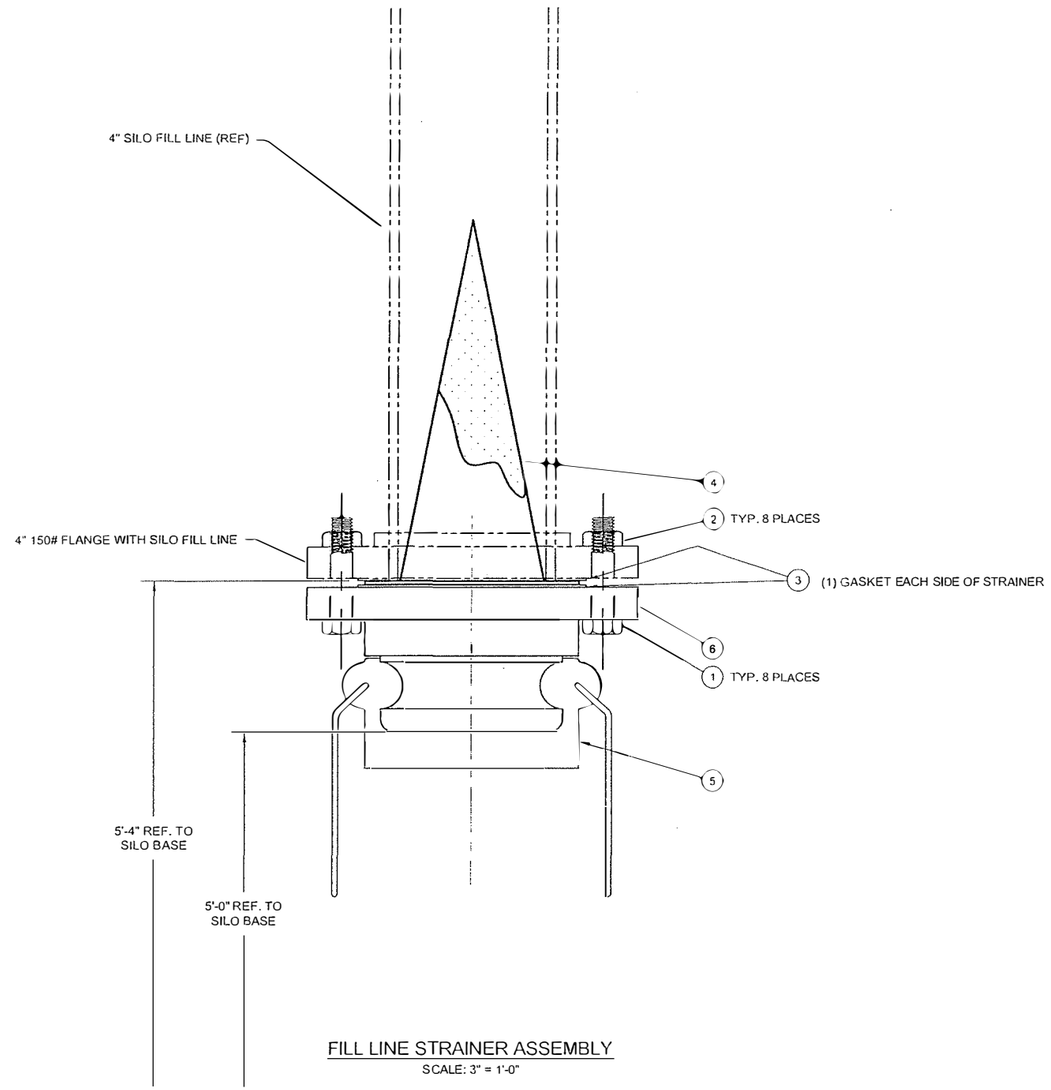
TITLE: ACTIVATED CARBON INJECTION SYSTEM
SILO GENERAL ARRANGEMENT - ROOF PLAN

DRAWN BY:	DATE:	CHK'D:	DRAWING NO:	REV
MLA	5.23.13	CB	3094-13-GA-100	1

SCALE: AS SHOWN

P:\DESIGN GROUP FILES\3094-GRAND ISLAND-COMPAC\007-GA - GENERAL ARRANGEMENT\3094-13-GA-100_REV1_ROOF PLAN.DWG - 06/03/2014 10:58am - MARCEVA

ITEM	QTY	ADA#	MFG#	DESCRIPTION
1	8	100155		BOLT, HH, ZP, 5/8"-11 X 3-1/2" LONG, GR5, FULLY THRD
2	8	100927		NUT, HH, ZP, 5/8"-11, GR5
3	2	100644		GASKET, 4", 150# ANSI FULL FACE ARAMID/BUNA-N
4	1	101030	TYPE CP	STRAINER, 4", FLANGED, 150 #, 150% OPEN SPACE, CS, 1/16" HOLES, NO MESH, 10" LONG
5	1	100008		ADAPTER, 316SS, CAM LOCK, MALE X 4" 150#
6	1	102641		FLANGE, AL, 4" OD CAM & GROOVE, 150#



FILL LINE STRAINER ASSEMBLY

SCALE: 3" = 1'-0"

REV	DATE	BY	REVISION	PEM	CHK'D
0	6.4.14	WLC	FOR CONSTRUCTION	M A	N M

MET Marsulex Environmental Technologies

CITY OF GRAND ISLAND UTILITIES
GRAND ISLAND, NEBRASKA
PLATTE STATION UNIT #1
AIR QUALITY CONTROL SYSTEMS UPGRADE

ADA Advancing Cleaner Energy

9135 S. RIDGELINE BLVD. SUITE 200 HIGHLANDS RANCH , CO 80129
PHONE: (303) 734-1727 FAX: (303) 734-0330
www.adaes.com

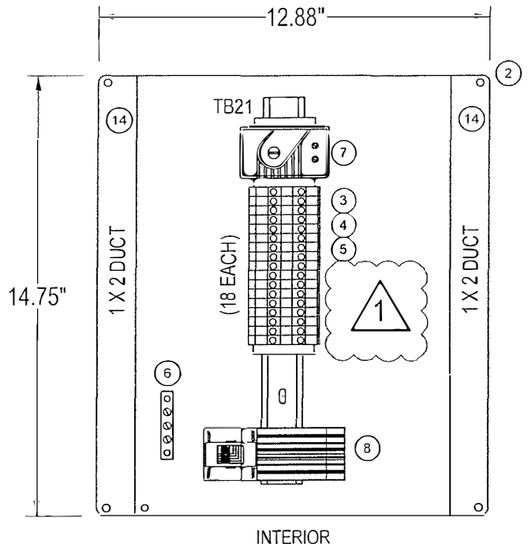
PROJECT: PLATTE STATION UNIT #1

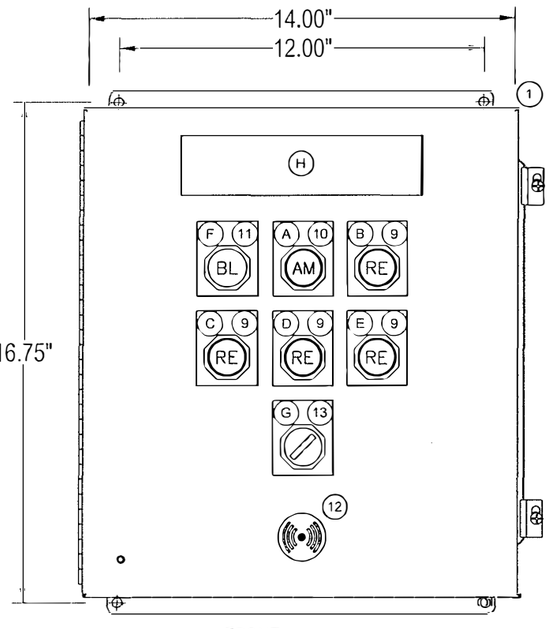
TITLE: ACTIVATED CARBON INJECTION SYSTEM
FILL LINE STRAINER INSTALLATION

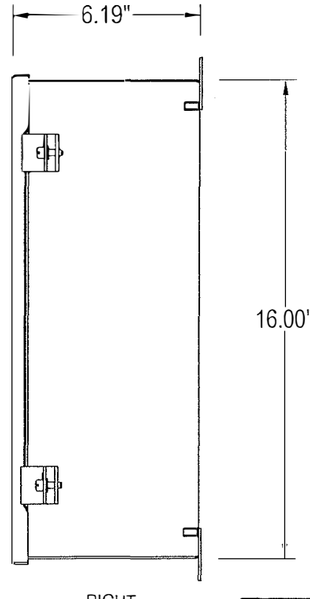
DRAWN BY:	DATE:	CHK'D:	DRAWING NO:	REV
WLC	6.4.14	C B	3094-13-FA-116	0

SCALE: AS SHOWN

P:\DESIGN GROUP FILES\3094-GRAND ISLAND-COMPAC\011-FA - FIELD ASSEMBLY\3094-13-FA-116_REV0_FILL LINE STRAINER INSTALLATION.DWG - 06/04/2014 2:37pm - CHURCWL







NOTES:

1.) DOOR SWING OF PANEL IS 14 INCHES.

2.) CONDUIT ENTRY SHALL BE ON SIDES AND BOTTOM OF ENCLOSURE.

MATERIAL LIST

ITEM	QTY	MANUFACTURER	PART NUMBER	DESCRIPTION
1	1	SAGINAW	SCE-1614CHNFSS	TYPE 4X ENCLOSURE
2	1	SAGINAW	SCE-16P14	BACK PANEL
3	18	ALLEN BRADLEY	1492-J6	FEED THROUGH TERMINAL BLOCK
4	3	ALLEN BRADLEY	1492-EAJ35	END ANCHOR
5	1'-0"	ALLEN BRADLEY	199-DR1	STANDARD DIN RAIL
6	1	ELECTRIC MOTION	EM 4250-3SSO	GROUND BAR
7	1	SAGINAW	SCE-TEMNC	THERMOSTAT
8	1	RITTAL	3105.310	10 WATT HEATER
9	4	ALLEN BRADLEY	800H-PRT16R	PUSH TO TEST RED LT
10	1	ALLEN BRADLEY	800H-PRT16A	PUSH TO TEST AMBER LT
11	1	ALLEN BRADLEY	800H-BR2D1	BLACK PUSH BUTTON
12	1	ALLEN BRADLEY	855P-B10ME22	PANEL MOUNT SOUNDER (LAH-708)
13	1	ALLEN BRADLEY	800H-HR2A	2 POS. SELECTOR SWITCH
14	6'-0"	PANDUIT	G1X2LG6 / C1LG6	1" x 2" WIRE DUCT / COVER
15	1	ALLEN BRADLEY	1492-CJJ8-10	TERMINAL SCREW CENTER JUMPER
16	1	RED LION	CUB5P000	ELECTRONIC 5-DIGIT PROCESS METER
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

NOT SHOWN

NAME PLATE SCHEDULE

ITEM	LINE #1	LINE #2	LINE #3	TAG NUMBER
A	BIN VENT FILTER	TIMER ON INDICATOR	-	RL-704
B	SILO LEVEL	LOW	OK TO FILL INDICATOR	LAL-708B
C	SILO BIN VENT	FILTER DP HIGH	INDICATOR	PDAH-705
D	SILO LEVEL	HIGH	STOP FILL INDICATOR	LAH-708A
E	COMPRESSOR	AIR PRESSURE	LOW INDICATOR	PAL-702
F	UNLOAD	ALARM	ACKNOWLEDGE	HS-708
G	BIN VENT	FILTER	ON - AUTO	HS-704
H	TRUCK UNLOADING PANEL	120VAC, 1Ø, 60Hz, 5FLA	-	1A-M900-06

REV	DATE	BY	REVISION	PEM	CHK'D
1	11.19.13	RL	PANEL SHOP REDLINES	MA	NM
0	9.12.13	DS	FOR CONSTRUCTION	MA	RL

MET Marsulex Environmental Technologies

CITY OF GRAND ISLAND UTILITIES
GRAND ISLAND, NEBRASKA
PLATTE STATION UNIT #1
AIR QUALITY CONTROL SYSTEMS UPGRADE

ADA Advancing Cleaner Energy
9135 S. RIDGELINE BLVD. SUITE 200 HIGHLANDS RANCH , CO 80129
PHONE: (303) 734-1727 FAX: (303) 734-0330
www.adaes.com

PROJECT: PLATTE STATION UNIT #1

TITLE: ACTIVATED CARBON INJECTION SYSTEM
TRUCK UNLOADING PANEL 1A-M900-06

DRAWN BY	DATE	CHK'D	DRAWING NO	REV
DS	6.28.13	RL	3094-13 - EL- 125	1

SCALE: NTS

C:\USERS\RYAN\APPDATA\LOCAL\TEMP\ACPUBLISH_3712\3094-13-EL-125_REV1_TRUCK UNLOADING PANEL.DWG - 11/19/2013 10:30am - RYANL