CITY OF GRAND ISLAND

Working Together for a Better Tomorrow. Today.

BID SPECIFICATION PACKAGE

for

BOILER INSPECTION AND REPAIR FALL 2022 OUTAGE

C 131699

Bid Opening Date/Time

Tuesday, August 23, 2022 at 2:15 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

Tylor Robinson
City of Grand Island – Utilities Department
Platte Generating Station
Email: trobinson@giud.com
Phone: 308/385-5496

Date issued: August 2, 2022

ADVERTISEMENT TO BIDDERS
FOR
BOILER INSPECTION AND REPAIR - FALL 2022 OUTAGE
FOR
CITY OF GRAND ISLAND, NEBRASKA

Sealed bids for Boiler Inspection and Repair -Fall 2022 Outage will be received at the office of the City Clerk, 100 E. First Street, P.O. Box 1968, Grand Island, Nebraska 68802, until **Tuesday, August 23, 2022 at 2:15 p.m. local time,** FOB the City of Grand Island, freight prepaid. Bids will be publicly opened at this time in the Grand Island City Hall City Clerk's Office located on 1st floor of City Hall. **Submit an original and three copies if submitting by mail.** Bid package and any Addendas are also available on-line at www.grand-island.com under Business-Bids and Request for Proposals-Bid Calendar under the bid opening date. Bidding documents, plans and specifications for use in preparing bids may be downloaded from the QuestCDN website www.QuestCDN.com for a small fee. Submitting through QuestCDN requires one original document of the bid to be uploaded. **Bids received after the specified time will not be considered**.

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 of Grand Island 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 fifteen (15) days at the bid price if accepted by the City. **Your certified check, cashiers check or bid bond must be submitted in a separate envelope attached to the outside of the envelope containing the bid. Each envelope must be clearly marked indicating its contents. Failure to submit the necessary qualifying information and correct number of copies in clearly marked and separate envelopes will result in your bid not being opened or considered.** Only surety companies authorized to do business in the State of Nebraska may 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/her bid for a period of thirty (30) days after date of bid opening.

RaNae Edwards, City Clerk

Advertised

(All bids must be submitted on this form)

BOILER INSPECTION AND REPAIR - FALL 2022 OUTAGE
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 labor, equipment, materials and supervision on a time and material basis to support the inspection and repair of generator components and auxiliary equipment as needed during the Fall Outage 2022 at Platte Generating Station FOB the City of Grand Island, freight prepaid, at the following price:

ITEM DESCRIPTION	EXTENDED COST
Base Bid:	
Mobilization/Demobilization	$ _____
Feedwater Valve Installation (Firm price)	$ _____
Labor (T&M)	$ _____
Applicable Sales tax*	$ _____
Total Base Bid	**$ _____**

☐ **Exceptions Noted -** Bidder acknowledges there are *Exceptions* and/or *Clarifications* noted to the above bid, and those exceptions are fully explained on a separate sheet, clearly marked, and included with the Bid.

_____
Bidder Company Name Date

_____
Company Address City State Zip

_____
Print Name of Person Completing Bid Signature

Email:_____ Telephone No._____

*** 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 7.5% figure to the bid price for evaluation purposes; however, the City will only pay actual sales tax due.**

The State of Nebraska Department of Revenue has determined that building cleaning and maintenance services are taxable on both materials and labor.

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.

☐ By checking this box, Bidder acknowledges the specified completion date of the project is **October 15, 2022.**

☐ By checking this box, Bidder acknowledges that Addenda Number(s) _____ were received and considered in Bid preparation.

Note: If Bidder supplies individual unit pricing information as supplemental pricing to the base material and labor cost above, said individual pricing is proprietary information and should not be released under a public records request. The total base bid is not considered proprietary information and will be released pursuant to City Procurement Code.

Any exceptions the bidder wishes to take regarding the Owners specifications and/or contract documents must be submitted with the bid, and noted above under “Exceptions Noted”. Time is of the essence in the evaluation of proposals, the execution of contract documents for the execution of the work. Submittal of proposals that include terms and conditions unacceptable to the Owner, or that lack the information and clarity required by these specifications may be subject to rejection at the sole discretion of the Owner.

CHECKLIST FOR BID SUBMISSION

FOR

BOILER INSPECTION AND REPAIR – FALL 2022 OUTAGE

Bids must be received by the City Clerk before *2:15 p.m. on Tuesday, August 23, 2022.*

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

- ❑ Submittal of bid documents:
  - ❑ **Option 1 – Mailing**: A signed original and three (3) copies of the bidding documents. Failure to submit the correct number of copies may result in your bid not being considered.
    - ❑ Note: Your certified check, cashiers check or bid bond should be clearly marked in a separate envelope attached to the signed original bid.

  - ❑ **Option 2 – QuestCDN (online)**: Purchase the bid specification through QuestCDN. Upload the signed original of the Bid Data Form, along with any supporting material required to meet the bid specification through QuestCDN. Upload your bid bond online through QuestCDN. *Bidders using Certified check or Cashiers' Check must mail said check to the office of the City Clerk no later than the scheduled bid opening date and time and clearly marked with the project name.*

- ❑ 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 original 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.
- ❑ Selection of Nebraska Sales Tax Option. If the Nebraska sales and use tax election is not filed or noted above, the Contractor will be treated as a retailed under Option 1 for sales and use tax purposes.
- ❑ A reference list of at least three (3) projects of similar scope and complexity including a description, name and phone contact.
- ❑ A summary of the experience of the Superintendent proposed for this project.
- ❑ A List of subcontractor's names and references.
- ❑ Copy of Contractor's ASME "R" Stamp.
- ❑ Firm lump sum pricing; firm unit pricing in case adjustments are necessary, and breakout of sales tax pricing.
- ❑ A proposed schedule and sample timesheet.
- ❑ A description of the standard terms and conditions which will be in effect during the project.
- ❑ Exceptions to the specification or Owner's Contract Document must be submitted with the bid and noted on the Bid Data Form as time is of the essence.
- ❑ Acknowledgment of Addenda Number(s) _____.

Please check off each item as completed to ensure compliance. If you have any questions, please feel free to contact our office prior to the bid opening date/time.

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, Nebraska.

   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.

   Individual unit pricing as listed on the Bid Data Form or supplied as supplemental information may be deemed proprietary information and not be released under a public records request. The total amount of the bid is not considered proprietary information and will be released pursuant to City Procurement Code.

4. SUBMISSION OF BIDS.

   All Bids must be submitted intact with the correct number of copies no 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 herein. Each Bid mailed 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 their Bid for a period of thirty (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 on behalf of the Surety must attach a notarized copy of his/her power of attorney as evidence of his/her authority to bind the Surety on the date of execution of the bond. Where State Statue requires, certification by a resident agent shall also be provided.

6. RETURN OF BID SECURITY.

   Within fifteen (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:

- Delivery time
- Bid price
- Cost of installation
- Suitability to project requirements
- Conformance with the terms of the Bid Documents
- 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 fifteen (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 fifteen (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 one (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/her power-of-attorney as evidence of his/her 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 BOILER INSPECTION AND REPAIR - FALL 2022 OUTAGE*;* 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 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/herself, or themselves, and its, his/her, 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:

Mobilization/Demobilization	$ _____
Feedwater Value Installation (Firm Price)	$ _____
Labor (T&M)	$ _____
Applicable Sales tax*	$ _____
Total Base Bid	$ _____

Contractor Option ____

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 BOILER INSPECTION AND REPAIR-FALL 2022 OUTAGE.

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 ***October 15, 2022.***

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.

ARTICLE VII. 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.

_____ Date _____
Attorney for the City

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 7.5% figure to the bid price for evaluation purposes; however, the City will only pay actual sales tax due.

Mailed bids shall include the following on the **outside** of the mailing envelope: **"Boiler Inspection and Repair-Fall 2022 Outage".** All bids submitted by mail must include **an original and three copies** of the bid. The bid specification and on-line bidding forms are also available 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. If submitting through QuestCDN, **one** original document of the bid is required to be uploaded. No verbal bids will be considered. All sealed bids are due no later than Tuesday, **August 23, 2022 at 2:15 p.m. local time**. to:

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

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 City Clerk's Office located on 1st floor of City Hall. Any bid received after the specified date will not 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 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 well in advance of Council date to allow evaluation and processing time.

Each bidder shall submit with the bid a certified check, a cashier's check, or bid bond payable to the City of Grand Island 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 fifteen (15) 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 and correct number of copies in clearly marked and separate envelopes will result in your bid not being opened or considered.** Only surety companies authorized to do business in the State of Nebraska may 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. 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 Bid. Any changes that are found made to the original bid specification, 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.

BOILER INSPECTION AND REPAIR

Fall 2022 Outage
Grand Island Utilities Department - Detailed Specification

Contents

BOILER INSPECTION AND REPAIR

Fall 2022 Outage
Grand Island Utilities Department - Detailed Specification

1.0 PROJECT DECRIPTION

1.1 Background

The Unit 1 steam generator at Platte Generating Station is a tangential fired, natural circulation, superheat/reheat, pulverized coal-fired boiler manufactured by ABB-CE (CE Contract No. 13477). The steam generator produces 765,000 lb/hr (MCR) of steam at 1000 F and 1800 psi which is delivered to a 100,000 kW steam turbine. The unit uses Powder River Basin Coal from various mines in the basin.

Steam generator auxiliary equipment includes a vertical rotor, Ljungstrom regenerative air heater (type 27-VI-90), a United Conveyor water impounded "W" type bottom ash storage hopper, and four CE-Raymond pulverizers (type 683 RS).

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

2.1 GENERAL

This work will generally consist of providing labor, equipment, materials and supervision on a time and material basis to support the inspection and repair of steam generator components and auxiliary's equipment as needed during the Platte Generating Station Spring 2022 Outage, currently scheduled for September 22, 2022 through October 8, 2022.

In addition to outage support the Contractor will replace the boiler feedwater control valve (CV-152). The original control valve is a Bailey regulating valve with 8" upstream and 8" downstream pipe connections. The replacement control valve is a Fisher regulating valve with 6" upstream and 6" downstream connections. The contractor will be required to install 8" to 6" concentric reducers at the inlet and outlet of the valve to adapt the new valve to the existing piping. Pipe material is ASTM A106, Grade B, SCH 160. Fitting shall be ASTM A234, Grade WPB, Butt Welding SCH 160.

Such work may consist of:

- Hydro testing of the boiler with inspection for tube leaks
- Boiler tube repairs
- Boiler tube surface preparation for UT inspection
- Installation of tube shields
- Repair of boiler tube alignment attachments
- Weld repair of cracks in boiler plate steel
- Weld repair of cracks in flue gas ductwork
- Repair of Boiler Refractory
- Feedwater Control Valve Replacement

The Contractor shall cooperate with the Owner's representatives and other contractors on site in maintaining individual work areas, laydown and staging areas, break areas and parking areas as to minimize interference with one another's work efforts. The Contractor shall attend periodic joint scheduling meetings to enhance communications and coordination amongst the various Contractors on site.

The Owner anticipates locating tooling and equipment for boiler work under this specification on the ground level below the boiler inside the plant and throughout all levels of the main boiler and adjacent platforms. A staging and laydown area will be provided at the ground level immediately outside the southeast corner of the unit. A break area will be provided.

The City shall provide the materials mentioned, including all tubing, tube shields and clips, electrical power and electrical connections, and a drinking water source. The Owner shall provide temporary, portable restroom facilities.

The Contractor shall provide required hand tools, hoists, chain falls, cutting torches and gases, welding machines, welding leads and consumables, and all other equipment and materials necessary to completely perform the work.

2.2 BOILER INSPECTION

Routine inspections of furnace wall tubes, drum, and headers should be made during semi-annual outages.

During the inspection drums should be opened and hand hole plates removed from headers. The condition of the drum internals should be checked, and internal surfaces inspected for deposits. Tubes should be spot checked, and the tube ends inspected internally for deposits. Where required deposits should be removed, and headers, drums and tubes flushed out with clean water.

Furnace tubes should be examined externally for blistering, burning, corrosion, erosion and cracking. Pay close attention to areas surrounding soot blowers as they are susceptible to erosion.

All Inspections shall be thorough and comprehensive. They shall be made by competent personnel, familiar with boiler operation and maintenance. A record of the inspection shall be kept in a uniform manner so that the results of any change can be compared with former conditions.

Inspections of tubes, as a result of tube failures or conditions expected to lead to failures, should be even more thorough.

2.2.1 Pressure Components

The Contractor shall perform inspections on the steam generators pressure components as soon as possible so that any problem areas discovered can be evaluated and repaired as required. Inspection process shall consist of but not be limited to:

- Apply a Hydrostatic test in accordance with plant procedures and Boiler Code requirements.
- A visual inspection of boiler tubing. Specifically identify soot blower and ash erosion damage in the 1st, 2nd, 3rd, and 4th tubes in from each soot blower to such extent as feasible.
- Conduct tube thickness testing on the tubes around each soot blower wall opening (four tests, one at each point of the compass) and on every unshielded tube along soot blower paths (one test, in the middle of the path unless a more polished area is observed), including the economizer but not including the horizontal superheater. Review the results with the City to identify any repairs needed immediately and document the results for the City in a report.
- Check elements for alignment and evidence of warping or bulging of unit tubing.

In addition, a firm price shall be provided for replacing a 6" Chrome Moly Steel blowdown line as shown in the attached drawings, and the replacement of four (4) coal tips on level "A", the four (4) CCOFA tips, and two (2) aux air tips.

2.2.2 Non-Pressure Components

The Contractor shall complete inspections of the steam generators non-pressure components essential to performance and reliability. These duties shall include, but not be limited to:

- Check supports, spacers, alignment bars, and seal plates for proper location and condition.
- Inspect the refractory in all the nose arch, soot blower openings, observation doors, and man way doors.
- Inspect tube shield conditions and document tube shields that need replaced.
- Inspect the refractory and screens in the bottom ash hopper.
- Inspect the Penthouse and all dead air spaces for casing cracks.

2.2.3 Boiler Steam Drum

The contractor shall perform a thorough inspection of the boiler steam drum. The drum inspection shall consist of a visual inspection, checking the drum for corrosion, pitting, or solids carryover. The Contractor shall verify the condition and arrangement of the drum internals.

2.2.4 Soot Blower Inspection

The Contractor shall check for misalignment of the soot blowers, check the depth and travel of all wall blowers and adjust any soot blowers that are out of specification.

2.2.5 Deaerator

The Contractor shall perform routine visual and NDE inspections on the deaerator working components and vessels. Ensure that trays are securely held down and that spray nozzles

have adequate tension and are not plugged. Verify that steam box doors swing freely and look for cracks in the steam box.

2.2.6 Steam Air Heater

The Contractor shall pressure test and visually inspect the steam coil air heater for the existence of leaks in the tubes, headers, and connections, and for the accumulation of foreign matter on the finned surfaces.

2.3 BOILER REPAIRS

All repairs shall be done by competent and qualified personnel and all welding shall be in accordance with applicable codes and standards relating to repairing power boilers and pressure vessels.

The Contractor will receive approval from the City's representative for these repairs prior to starting, shall track all repairs and hours, and report status and hours to the City representative daily. Fully document before and after repairs.

2.3.1 Pressure Components

Contractor shall review all recommendations for pressure part repairs with the Owner's Representative. Those repairs authorized by the Owner will be performed by the Contractor and are expected to generally consist of pad welding and partial tube replacements. Those repairs authorized by the Owner will be performed by the Contractor who shall track all repairs and hours, and report status and hours to the City representative daily, fully document before and after repairs.

2.3.2 Non-Pressure Components

Review all repair recommendations with the Owner's representative to determine scopes of repair based on inspection results. Contractor shall perform all repairs authorized by the Owner, including but not limited to:

1. Replace tube shields that are missing. Tube shields will be furnished by the City.
2. Repair damaged alignment bars.
3. Repair dislodged spacer bars.
4. Repair casing cracks in the penthouse and dead air spaces.
5. All other non-pressure component repairs identified and authorized by the Owner.

2.3.3 Boiler Refractory

The contractor shall repair boiler refractory in sootblower openings, observation doors, and man way doors. The Contractor shall repair the refractory dam at the upper end of the nose arch, and in the bottom ash hoppers. Refractory shall be furnished by the contractor.

2.3.4 Steam Air Heater

The Contractor shall isolate and remove faulty sections of the steam coil air heater and transport faulty sections to the onsite warehouse for shipment to a repair facility.

2.4 DUCTWORK REPAIRS

The Contractor shall be responsible for making weld repairs to the ductwork as required to prevent air in leakage. Ductwork repairs may include welding, patching, and replacing gaskets. The plant has seen an increase in the air in leakage at the precipitator.

The Contractor will be responsible for removing and reinstalling a known broken expansion joint below the air heater inlet.

2.5 WELDING

All welding work performed shall be of the highest class and performed in a workmanlike manner. All welders employed on the work shall be thoroughly experienced in welding pressure piping systems. All welding performed shall be in strict accordance with:

- Section 6, Chapters 4 and 5 of the ANSIB31 1 Code for pressure piping as applicable to this work.
- Section IX of the ASME Pressure Vessel Code:
  - Part 1, for procedure qualification
  - Part 2, for operator qualification.
- Appendix, covering the submission of procedure specifications of ASME Boiler Construction Code.

Prior to starting work the Contractor shall establish the procedure for welding which may be used in this work. Such procedures shall meet the approval of the Owner and the Engineer. Complete data on welding process and procedures for each class of work, reports of qualification test of welders, etc., shall be submitted to the Engineer for approval before the work is started.

If a Contractor prequalifies its metal arc welding operators according to the standard qualification procedure of the American Welding Society and certifies to the Engineer and Owner that and operator has been prequalified within 12 months previous to the beginning of the work on this project, such operator shall be considered qualified. The certificates shall state that such operator shall have been doing satisfactory welding of the required type within the 3-month period previous to the subject work. A certification shall be submitted for each operator and for each project. If a welder does not meet the above criteria, they shall be tested by a recognized agency which is staffed and equipped for such purpose.

Any welding work under the jurisdiction of the ASME Boiler Construction Code, shall comply with all provisions of the code.

The welding shall be done by the manual shield arc metal welding (SMAW) process, the automatic submerged arc welding (SAW) process or the manual gas tungsten arc welding (GTAW) root pass followed by manual SMAW process or automatic SAW process. The Contractor shall clearly describe the welding processes to be used in the welding procedures and submit this information for approval.

All pipe shall have butt weld end preparations which conform to ANSI B16.25 and PFI Standard ES-1. All electrodes and filler materials shall be compatible with the base metal and shall be specified by ASME or AWS classification and chemical composition. All welds shall be cleaned by the use of wire brushing, grinding, pneumatic deslagging or hand tools and necessary to remove oxidation, slag and flux between passes. All defects such as cracks, porosity, slag entrapment and undercutting shall be removed down to solid weld metal or base metal prior to applying subsequent passes.

All welded joints shall be heat treated as required by the Power Piping Code ANSI B31.1. The heat treatment shall be heat treated as required by the Power Piping Code ANSI B31.1. The heat treatment shall be by the use of full furnace heat treatment or local induction or resistance heating. Automatic temperature controls and recording devices shall be used in post heat treatment of welds. These records shall be kept on file by the contractor and shall be available to the Owner. After completion of the work, the records shall become part of the permanent plant records.

All field welds on or attached to Lines ST-1, ST-2, ST-3, BF-2, BF-3, BF-4 original Contract drawings and welds on turbine piping shall be 100% inspected with x-ray or Gamma ray radiography. All other piping system welds shall be tested as required by Table 136.4 of ANSI B31.1 of latest revision.

All radiographi9c examination shall be done in accordance with the latest revision of ANSI B31.1, ASTM E-94, and/or the ASME Boiler and Pressure Code.

An accepted method of weld identification and film location markers shall be used. At least two location markers shall be visible on each radiograph to identify the area being examined.

Radiograph exposure records shall be kept for each weld radiographed showing date, location, area, angulation, film number, serial number, film combination, source film distance and other pertinent information. A summary of each radiograph exposure along with an expert interpretation shall be submitted in report form for each weld to the Owner for approval. Imperfect welds must be repaired and re-radiographed.

Certified copies of material, chemical and physical tests shall be submitted to the Owner. These shall include steel heat numbers and any steel mill test report.

The Contractor shall submit for approval all welding procedures, qualifications of all welders, heat treatment procedures, radiographic inspection procedures, radiographic test reports, ultrasonic test procedures and material test reports.

2.6 FEEDWATER CONTROL VALVE (CV-152)

The Contractor will replace the boiler feedwater control valve (CV-152). The original control valve is a Bailey regulating valve with 8” upstream and 8” downstream pipe connections. The replacement control valve is a Fisher regulating valve with 6” upstream and 6” downstream connections. The contractor will be required to install 8” to 6” concentric reducers at the inlet and outlet of the valve to adapt the new valve to the existing piping. Pipe material is ASTM A106, Grade B, SCH 160. Fitting shall be ASTM A234, Grade WPB, Butt Welding SCH 160. Pipe, Valve, and fittings shall be supplied by the Owner.

The Contractor shall provide a welding and weld inspection procedure as described in Section 2.5.

3.0 BIDDING

The Contractor shall include in his bid a lump sum not-to-exceed estimate of all costs associated with the scope of work herein. This includes, but is not limited to all expenses, equipment, labor, mobilization and demobilization, and subcontractors. Please ensure that all bids contain the following as a minimum:

Bids will be evaluated by the Owner based on price, schedule, quality, economy of operation, experience of contractor, and adherence to specification. The primary evaluation factor will be the lump sum price. The owner reserves the right to reject any or all bids or waive informalities and to accept whichever bid that may be in the best interest of owner, at its sole discretion. Bids must be received by 2:15 P.M. Tuesday, August 23, 2022.

Bidder is solely responsible for obtaining any clarifications to this specification as may be required for the Bidder to submit an accurate and complete bid proposal.

3.1 MOBILIZATION

The bid shall include a firm price for all Mobilization, Demobilization, Tools, Equipment, Supplies, PPE, Expendables, Supervision, and Project Management, Overhead, Fixed Costs, and Expenses.

3.2 SUPERINTENDENT

The bid shall include a lump sum T&M cost of labor for a Site Superintendent to be available on site 6-days/week, 10 hours per day from September 22nd – October 8th, 2022. The Superintendent shall be responsible for compiling a report of boiler conditions as described in the scope of work. Actual dates may vary based on outage start date.

3.3 INSPECTION AND REPAIR

The bid shall include a lump sum T&M cost of labor for an inspection and repair crew consisting of 1 BM General Foreman and 2 BM Journeymen to be available on site 6-days/week, 10 hours per day from September 22nd – October 8th, 2022.

3.4 FEEDWATER CONTROL VALVE REPLACEMENT

The bid shall include a firm lump sum price to replace the Feedwater Control Valve (CV-152) as described in Section 2.6. The contract shall provide with the bid a full welding and inspection procedure.

3.5 RATES

The Bid shall include, as a separate T&M rate attachment, firm unit pricing for all labor, equipment, sundries **and expenses reflecting the charges to be used in billing the T&M portions of the work as well as for making any** adjustments that may be required for new work scope additions, additional services other than what is required in this specification or reductions in the same. All travel time and per diems shall be included in the hourly labor rates. The City of Grand Island will not be responsible for travel expenses to and from plant site. The City of Grand Island will not be responsible for any associated overnight expenses.

3.6.1 Terms and Conditions

Provide all other proposed terms and conditions which will be in effect during the performance of the work as a separate attachment **with the bid**. Any exceptions the bidder wishes to take regarding the Owners specifications and contract documents must be submitted **with the bid**.

Time is of the essence in the evaluation of proposals, the execution of contract documents and/or issuance of a Purchase Order for the execution of the work. Submittal of bids that include terms and conditions unacceptable to the Owner, or that lack the information and clarity required by these specifications may be subject to rejection at the sole discretion of the Owner.

A single contract will be awarded for all work included in this specification.

3.6.2 Time and Material Accounting

Contractor shall be required to maintain accurate job logs describing work performed by each crew throughout each day and daily time sheets detailing all work performed and expenses incurred **in the same format as the bid detail submittal**. Daily time sheets shall identify all individuals by name, craft and all hours worked on each portion of the work. Such job logs and time sheets shall accurately account for all man-hours with clear separation and identification of time, equipment and material as required accounting for the actual service

hours and expenses. A sample timesheet shall be included in the bid to be approved by the owner's designated representative.

The timesheets/logs shall clearly detail the specific work that was accomplished during the shift. These sheets shall be presented to the Owner's representative on a daily basis for review with the Contractor's superintendent. Any presentation of timesheets/logs deferred more than 48 hrs. before being presented to the Owner's representative shall be null and void. The Owners representative will sign and date these documents as a record of receipt and review. Any corrections that need to be made to such signed documents shall be implemented upon the discovery of the error and both parties shall initial the change made on the form. These records will then serve as record of the work performed and a basis for determining the final billing.

3.6 SUBMITTALS

Contractor shall submit the following documentation for review with the bid:

- References for at least three (3) projects of a similar scope and for a similar size unit, including a description, name, and phone contact.
- Subcontractor's names and reference lists.
- Copy of Contractor's R stamp.
- Superintendent's experience summary.
- Pricing
- Daily T&M Accounting Sheets
- Safety Documentation

2.7 CHANGE ORDERS

If any extra and/or additional work is to be done or any change in the plans and specifications is deemed necessary, the Purchaser may issue the Contractor a written change order directing that such extra work be done or that such change be made, and the Contract shall be modified accordingly. No claim for extra costs shall be allowed in the absence of a written change order. The Contractor shall give prompt written notice of any matter which they believe to involve extra cost. In the absence of such notice by the Contractor on account thereof his right to such claim shall be deemed to have been waived. Compensation to the Contractor will be calculated as an addition to or deduction from the Contract Price, based upon such written terms as may be established between the parties, either (a) by an acceptable lump sum proposal of the Contractor, or (b) on a cost-plus limited basis not to exceed a specified limit, or (c) on a basis of the unit prices as stated in these specifications where such unit prices apply. In the event that none of the foregoing methods are agreed upon with the Contractor, the Purchaser may perform the work. The Purchaser shall be the sole judge of such action and procedure. Determination of cost-plus work shall be based upon actual cost of labor and material plus a maximum of 20% of actual Contractor cost for overhead, profit,

The Contractor shall submit a formal process for addressing work that may arise but is not described herein. All change orders shall be addressed with a detailed scope of work and approved before proceeding with scope of extra work.

Contractor shall be required to maintain accurate job logs describing work performed by each crew throughout each day and daily time sheets detailing all work performed and expenses incurred **in the same format as the bid detail submittal**. Daily time sheets shall identify all individuals by name, craft and all hours worked on each portion of the work. Such job logs and time sheets shall

accurately account for all man-hours with clear separation and identification of Time, equipment and Material as required accounting for the actual service hours and expenses. A sample timesheet shall be included in the bid to be approved by the owner's designated representative.

2.8 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 bidder 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 bid. References shall not be made to the bidder's Proposal foe exceptions and supplementary terms. Failure to outline such exceptions will require the successful bidder to comply with these specifications.

The Platte Generating Station 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

The Contractor shall be a firm specializing in the installation, overhaul, repair, and maintenance of steam generating equipment used in the power generation industry. The Contractor shall be capable of fully performing the work without the assistance of City personnel, except as required for the City to identify specific repair locations. A reference list of projects of similar scope and complexity shall be provided with the bid. The Contractor shall possess a valid ASME "R" stamp and valid welding procedures as typical for utility boilers and as specifically required for welds required in these specifications. All welders shall be certified as required for the work performed and the certification documents shall be available to review at the job site. Prior to award, the Contractor shall submit procedures for all welding required in this specification to the City for review.

4.1 SUPERINTENDENT

The Contractor shall provide well qualified Job Superintendent who will fully direct all field operations for the duration of the project, serve as liaison to the Owner's designated representatives, be fully authorized to make any and all decisions affecting the work in the field and coordinate activities between the Contractor and its subcontractors, if any. The Superintendent shall be thoroughly familiar with Combustion Engineering tangential boilers and auxiliary equipment and have had previous experience with projects of similar scope. A summary of the experience of the Superintendent proposed for this project shall be **provided with the bid**.

5.0 SAFETY

The Contractor shall be responsible for compliance with all safety practices as required by the regulatory agencies governing the Contractor's operations as well as any 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 PERFORMANCE AND PAYMENT BOND

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.

8.0 DRAWINGS AND SITE INFORMATION

A selection of drawings has been provided with the bid package for reference only. Additional drawings are available for review at Platte Generating Station office. The Contractor is responsible for making such pre-bid 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:

D-183702	Boiler Right Side Elevation
13477-4C-1292	Boiler Tube Material Diagram
13477-4C-1291	Boiler Tube Material Diagram
13477-4C-1290	Boiler Tube Material Diagram
77-8-P4	Flow Diagram BF- Boiler Feedwater
L-5	Line Description
L-65	Pipe - Material Specification
L-68	Valve – Material Specification
L-70	Fittings – Material Specification
180-01	Existing Valve Specifications

Replacement Valve Specifications

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

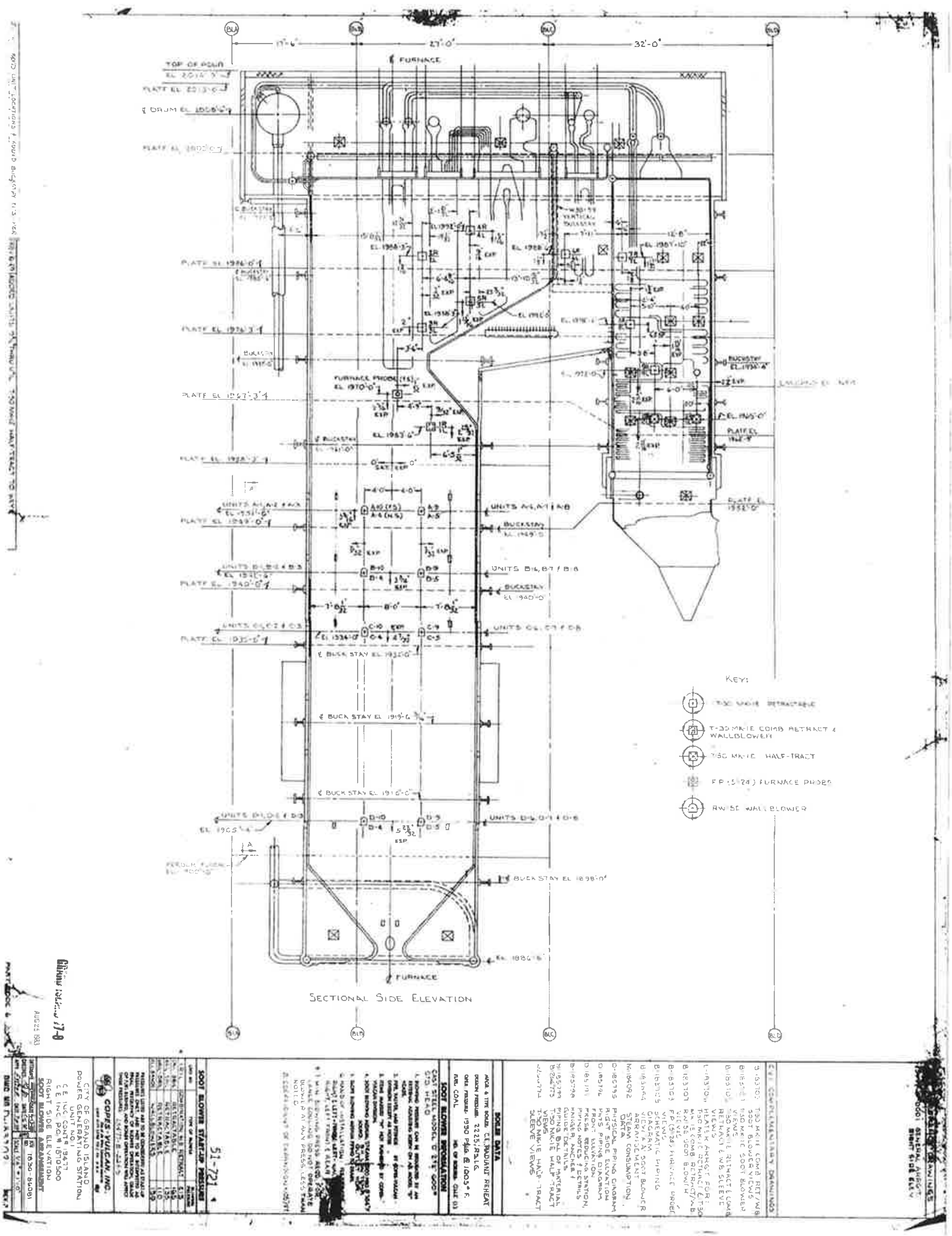
The City may require insurance covering a Bidder or subcontractor more or less than the standard requirements set forth herein depending upon the character and extent of the work to be performed by such Bidder or subcontractor.

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

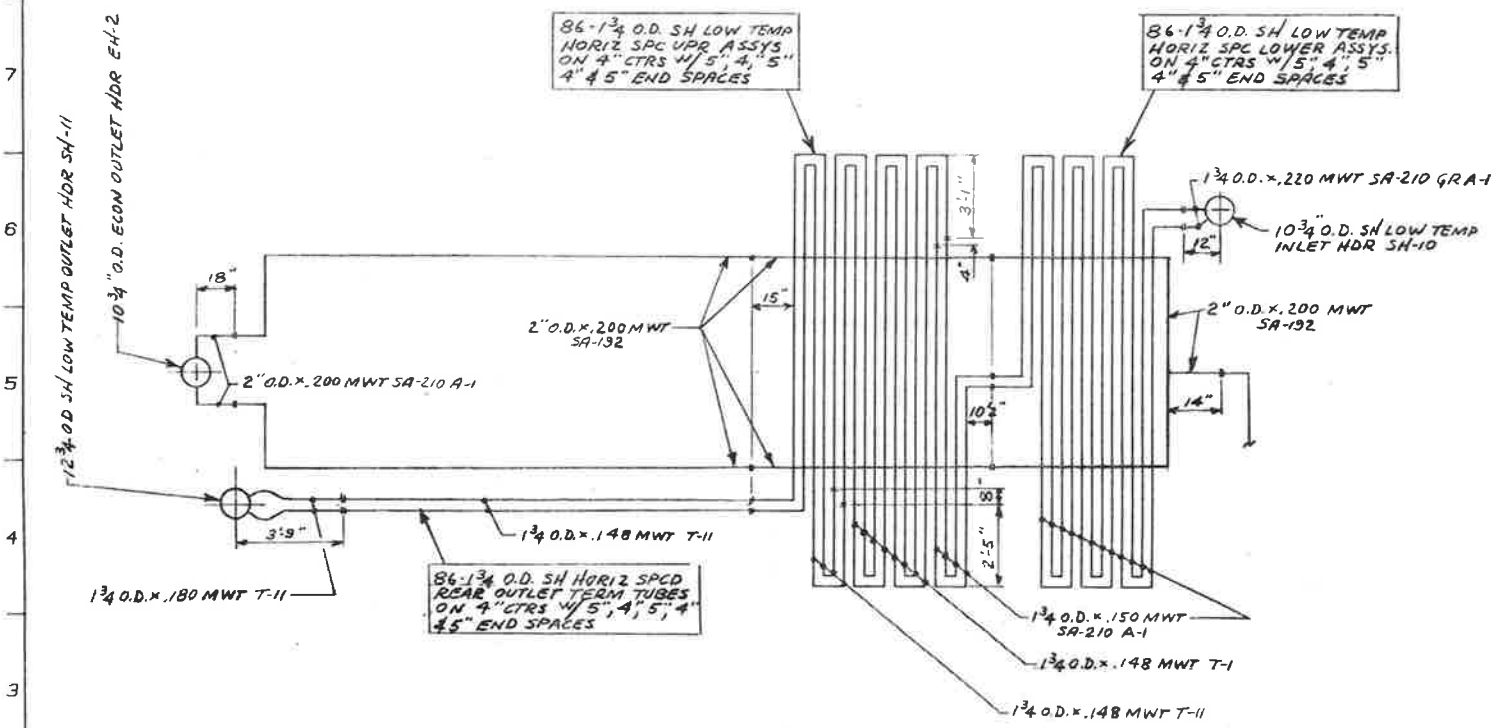
The Bidder shall provide and carry any additional insurance as may be required by special provisions of these specifications.

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.**


TOP OF ROOF
℄ DRUM
℄ FURNACE
KEY:
T-30 MK-IE RETRACTABLE
T-30 MK-IE COMB RETRACT & WALLBLOWER
T-30 MK-IE HALF-TRACT
FP (5-24) FURNACE PROBES
RW-SE WALL BLOWER
SECTIONAL SIDE ELEVATION
COPES-VULCAN, INC.
CITY OF GRAND ISLAND
POWER GENERATING STATION
UNIT NO. 1
RIGHT SIDE ELEVATION
SOOT BLOWER ARRANGEMENT

13477-4C-1292 REVISIONS



MATERIAL SPECIFICATIONS PER SI-17-64 INDEX SI-14.2:
SA-192 = CARBON STEEL SPEC. SA-192.
SA-210 = CARBON STEEL SPEC. SA-210.
T-1 = CARBON MOLY SPEC. SA-209 GR. T-1.
T-11 = 1.25% Cr. - .5% Mo. SPEC. SA-213 GR. T-11.
~~T-22 = 2.25% Cr. - 1.0% Mo. SPEC. SA-213 GR. T-22.~~
~~T-9 = 9.0 Cr. - 1.0 Mo. SPEC. SA-213 GR. T-9.~~
~~304H = 18.0 Cr. - 8.0 Ni. SPEC. SA-213 GR. TP-304H.~~
~~347H = 18.0 Cr. - 8.0 Ni. - Cb SPEC. SA-213 GR. TP-347H.~~

MATL IT # 245
247
255
257

MATL TO BE WELDED	CE WELD PROCEDURE
SA-192 TO SA-192	SMA 1.1V-300
SA-192 TO SA-210 A-1	SMA 1.1V-300
SA-210 A-1 TO SA-210 A-1	SMA 1.1V-300
SA-210 A-1 TO T-1	SMA 1.3V-300
T-1 TO T-1	SMA 3.3 V-300
T-1 TO T-11	SMA 3.4V-300
T-11 TO T-11	SMA 4.4V-300

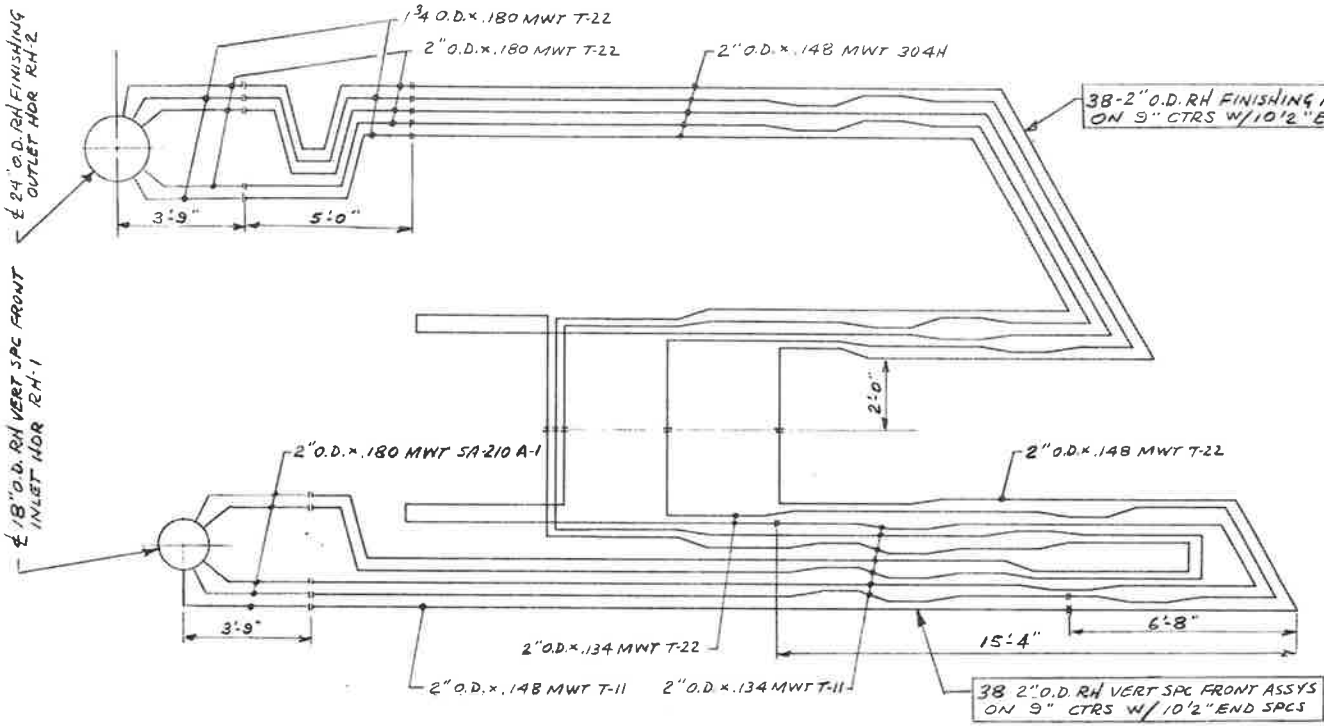
-+- CHANGE POINT OF O.D., MAT'L., THICKNESS OR FIELD WELD. ALL DIMENSIONS LOCATING THESE POINTS ARE APPROXIMATE. WITH (SMA) OR (GTA-SMA) PROCEDURES, HALF THE ELECTRODE REQUIREMENTS SHOULD BE FURNISHED IN 3/32" DIA., THE REST IN 1/8" DIA. SPECIFY THE AWS-ASME CLASS WITH SUFFIX DENOTING CHEMICAL ANALYSIS AND CARBON LIMITATIONS.

UNIT MATERIAL DIAGRAM
CITY OF GRAND ISLAND
PLATTE GENERATING STATION - UNIT #1
GRAND ISLAND, NEBRASKA

POWER SYSTEMS
COMBUSTION ENGINEERING, INC.
THIS DRAWING IS THE PROPERTY OF C-E POWER SYSTEMS COMBUSTION ENGINEERING, INC. WINDSOR, CONNECTICUT 06095 AND IS NOT TO BE REPRODUCED OR USED TO FURNISH ANY INFORMATION FOR WORK OF OTHERS OR APPARATUS EXCEPT WHEN FURNISHED FOR BY AGREEMENT WITH SAID COMPANY.

SCALE .
DRWN BY . R B EAGLE DATE . 6-18-79
CHECKED BY . R L W DATE . 6-18-79
APPROVED BY . DATE .
COMP. CODE .
DRAWING NO. 13477-4C-1292 REV. 0

13477-4C-1291 REVISION



MAT'L TO BE WELDED			CE WELD PROCEDURE
SA-210	TO	SA-210	SMA 1.1V -300
SA-210	TO	T-11	SMA 1.4V - 300
T-11	TO	T-11	SMA 4.4V -300
T-11	TO	T-22	SMA 4.5V- 300
T-22	TO	T-22	SMA 5.5V- 300
T-11	TO	304H	SMA 4.8V - 300
T-22	TO	304H	SMA 5.8V - 300
304H	TO	304H	SMA 8.8V - 300

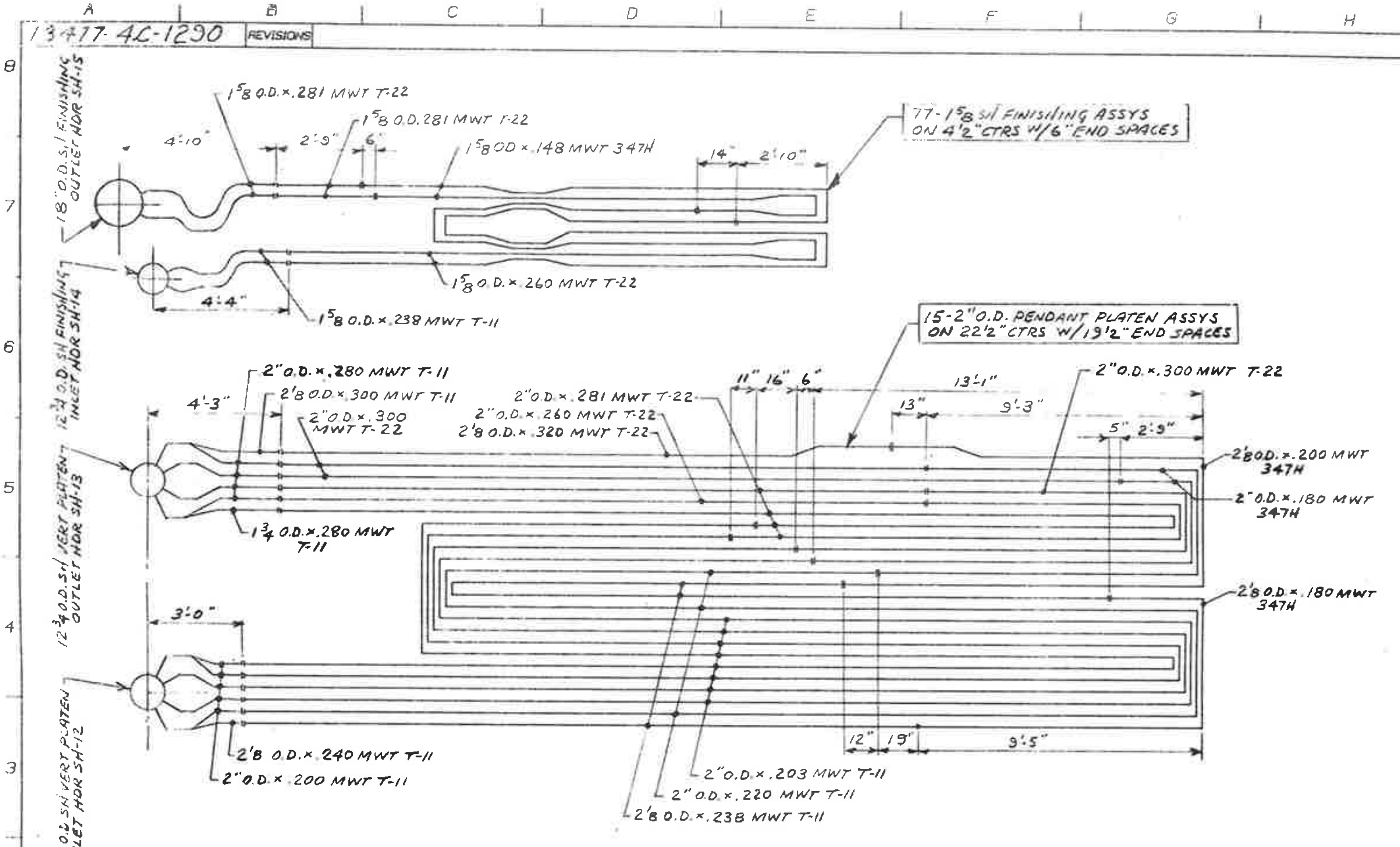
MATERIAL SPECIFICATIONS PER SI-17-64 INDEX SI-14.2:
~~SA-192 = CARBON STEEL SPEC. SA-192.~~
SA-210 = CARBON STEEL SPEC. SA-210. MAT'L IT #247
~~T-1 = CARBON MOLY SPEC. SA-209 GR T-1.~~
T-11 = 1.25% Cr. - .5% Mo. SPEC. SA-213 GR. T-11. #257
T-22 = 2.25% Cr. - 1% Mo. SPEC. SA-213 GR. T-22. #258
~~T-9 = 9% Cr - 1% Mo. SPEC. SA-213 GR. T-9.~~ #266
304H = 18% Cr - 8% Ni. SPEC. SA-213 GR. TP-304H.
~~347H = 18% Cr - 8% Ni - Cb SPEC. SA-213 GR. TP-347H.~~

-⊕- CHANGE POINT OF O.D., MAT'L., THICKNESS OR FIELD WELD. ALL DIMENSIONS LOCATING THESE POINTS ARE APPROXIMATE. WITH (SMA) OR (GTA-SMA) PROCEDURES, HALF THE ELECTRODE REQUIREMENTS SHOULD BE FURNISHED IN 3/32" DIA., THE REST IN 1/8" DIA. SPECIFY THE AWS-ASME CLASS WITH SUFFIX DENOTING CHEMICAL ANALYSIS AND CARBON LIMITATIONS.

UNIT MATERIAL DIAGRAM
CITY OF GRAND ISLAND
PLATTE GENERATING STATION-UNIT #1
GRAND ISLAND, NEBRASKA

POWER SYSTEMS
COMBUSTION ENGINEERING, INC.

SCALE:
DRAWN BY: R B EAGLE DATED: 6-18-79
CHECKED BY: RLW DATED: 6-19-79
APPROVED DATED:
COMPONENT CODE:
DRAWING NO. 13477-4C-1291 REV. 09



MATERIAL SPECIFICATIONS PER SI-17-64 INDEX SI-14.2:

~~SA-192 = CARBON STEEL SPEC. SA-192.~~
~~SA-210 = CARBON STEEL SPEC. SA-210.~~
~~T-1 = CARBON-MOLY SPEC. SA-209 GR. T-1.~~
T-11 = 1.25% Cr. -.5% Mo. SPEC. SA-213 GR. T-11. MATL IT #257
T-22 = 2.25% Cr. -1.% Mo. SPEC. SA-213 GR. T-22. #258
~~T-9 = 9.% Cr.-1.% Mo SPEC. SA-213 GR. T-9.~~
~~304H = 18.% Cr. - 8.% Ni SPEC. SA-213 GR. TP-304H.~~
347H = 18.% Cr. - 8.% Ni.-Cb SPEC. SA-213 GR. TP-347H. #268

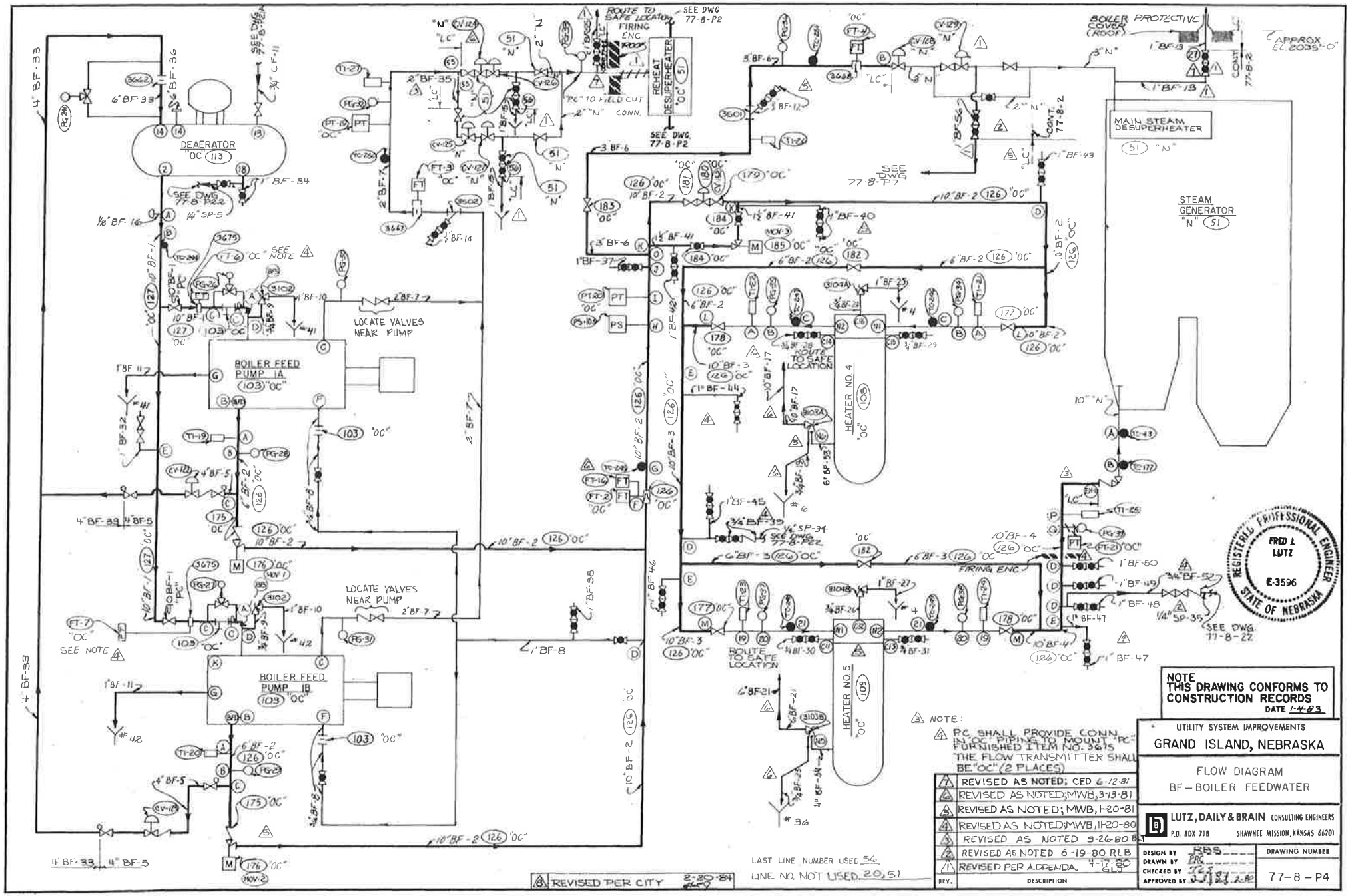
✣ CHANGE POINT OF O.D., MAT'L., THICKNESS OR FIELD WELD.
ALL DIMENSIONS LOCATING THESE POINTS ARE APPROXIMATE.
WITH (SMA) OR (GTA-SMA) PROCEDURES, HALF THE ELECTRODE REQUIREMENTS SHOULD BE FURNISHED IN 3/32" DIA., THE REST IN 1/8" DIA. SPECIFY THE AWS-ASME CLASS WITH SUFFIX DENOTING CHEMICAL ANALYSIS AND CARBON LIMITATIONS.

MATL TO BE WELDED	CE WELD PROCEDURE
T-11 TO T-11	SMA 4.4V-300
T-11 TO T-22	SMA 4.5V-300
T-22 TO T-22	SMA 5.5V-300
T-11 TO 347H	SMA 4.8V-300
T-22 TO 347H	SMA 5.8V-300
347H TO 347H	SMA 8.8V-301

UNIT MATERIAL DIAGRAM
CITY OF GRAND ISLAND
PLATTE GENERATING STATION-UNIT #1
GRAND ISLAND, NEBRASKA

C-E POWER SYSTEMS
COMBUSTION ENGINEERING, INC.

SCALE:
DRAWN BY R.B.EAGLE DATE 6-18-79
CHECKED BY RLW DATE 6-19-79
APPROVED BY DATE
CONN. CODE
DRAWING NO. 13477-4C-1290 REV. 0.0


DEAERATOR
BOILER FEED PUMP 1A
BOILER FEED PUMP 1B
REHEAT DESUPERHEATER
MAIN STEAM DESUPERHEATER
STEAM GENERATOR
HEATER NO. 4
HEATER NO. 5
BOILER PROTECTIVE COVER (ROOF)
LOCATE VALVES NEAR PUMP
ROUTE TO SAFE LOCATION
FIRING ENC.
NOTE
THIS DRAWING CONFORMS TO CONSTRUCTION RECORDS
DATE 1-4-83
FRED J. LUTZ
E-3596
REGISTERED PROFESSIONAL ENGINEER
STATE OF NEBRASKA
UTILITY SYSTEM IMPROVEMENTS
GRAND ISLAND, NEBRASKA
FLOW DIAGRAM
BF – BOILER FEEDWATER
LUTZ, DAILY & BRAIN CONSULTING ENGINEERS
P.O. BOX 718 SHAWNEE MISSION, KANSAS 66201
DESIGN BY RBS
DRAWN BY PRC
CHECKED BY
APPROVED BY
DRAWING NUMBER
77-8-P4
REVISED PER CITY 2-20-84
LAST LINE NUMBER USED 56
LINE NO. NOT USED 20, 51
NOTE
4 P.C. SHALL PROVIDE CONN. IN "OC" PIPING TO MOUNT "PC" FURNISHED ITEM NO. 3675. THE FLOW TRANSMITTER SHALL BE "OC" (2 PLACES)
7 REVISED AS NOTED; CED 6-12-81
6 REVISED AS NOTED; MWB, 3-13-81
5 REVISED AS NOTED; MWB, 1-20-81
4 REVISED AS NOTED; MWB, 11-20-80
3 REVISED AS NOTED 9-26-80 RLT
2 REVISED AS NOTED 6-19-80 RLB
1 REVISED PER ADDENDA 4-17-80 GLJ
REV. DESCRIPTION

PIPESPEC 06-AUG-81 13:39:46

LINE DESCRIPTION	PRESSURE(PSIG) OPER	PRESSURE(PSIG) DESIGN	TEMP(F) OPER	TEMP(F) DESIGN	MATERIAL SPECIFICATIONS PIPE	VALVES	FITTING	FLANGES	BOLTING	GASKET	INSULATION
BF, BOILER FEEDWATER, DWG 77-8-P4											
1,DEAERATOR CONN 2 TO BOILER FEED PUMPS 1A & 1B CONN D (PIPE,VALVES,FITTINGS,FLANGES,BOLTS & GASKETS BY OTHERS - INSTALLED BY PIPING CONTRACTOR)	90	90	325	325	P-28	V-33	FI-28	FL-18	B-4	G-4	IN-10
2,BOILER FEED PUMPS 1A & 1B CONN BFD TO HP HEATER 4 CONN N1 AND TO LINE BF-3 (PIPE,VALVES,FITTINGS,FLANGES,BOLTS & GASKETS BY OTHERS - INSTALLED BY PIPING CONTRACTOR)	2865	2865	325	350	P-22	V-27	FI-22	FL-14	B-3	G-3	IN-10
3,HP HEATER 4 CONN N2 AND LINE BF-2 TO HP HEATER 5 CONN N1 AND LINE BF-4 (PIPE,VALVES,FITTINGS,FLANGES,BOLTS & GASKETS BY OTHERS - INSTALLED BY PIPING CONTRACTOR)	2865	2865	475	475	P-22	V-27	FI-22	FL-14	B-3	G-3	IN-9
4,HP HEATER 5 CONN N2 AND LINE BF-3 TO BOILER ECONOMIZER INLET CONN EH-1 (PIPE,VALVES,FITTINGS,FLANGES,BOLTS & GASKETS BY OTHERS - INSTALLED BY PIPING CONTRACTOR)	2865	2865	475	475	P-22	V-27	FI-22	FL-14	B-3	G-3	IN-9
5,LINE BF-2 TO LINE BF-33 (2 REQD)	2865	2865	325	350	P-21	V-27	FI-21	FL-14	B-3	G-3	IN-10
6,LINE BF-2 TO BOILER STEAM DESUPERHTR CONN B	2865	2865	325	350	P-21	V-27	FI-21	FL-14	B-3	G-3	IN-10
7,BOILER FEED PUMPS 1A & 1B CONN C TO BOILER REHEAT DESUPERHEATER	650	700	325	350	P-28	V-31	FI-28	FL-16	B-3	G-4	IN-10
8,LINE BF-2 TO BOILER FEED PUMPS 1A & 1B CONN F (WARMUP RECIRCULATION) (2 REQD)	2865	2865	325	350	P-21	V-27	FI-21	FL-14	B-3	G-3	IN-10
9,LINE BF-1 TO RELIEF VALVE 3102 (2 REQ)	90	90	325	325	P-28	V-34	FI-28	FL-19	B-4	G-4	IN-10
10,RELIEF VALVE 3102 TO DRAINS #41 & 42 (2 REQD)	90	90	325	325	P-28	V-34	FI-28	FL-19	B-4	G-4	
11,BOILER FEED PUMPS 1A & 1B CONN G TO DRAINS #41 & 42 (2 REQD)	0	100	100	212	P-32	V-33	FI-31	FL-18	B-4	G-4	
12,LINE BF-6 TO STRAINER 3501 BLOWDOWN	2865	2865	475	475	P-21	V-27	FI-21	FL-14	B-3	G-3	IN-14
13,BOILER SH DESUPERHEATER STATION TEST LINE	2865	2865	475	475	P-21	V-27	FI-21	FL-14	B-3	G-3	IN-14
14,LINE BF-7 STRAINER 3502 BLOWDOWN	650	700	475	475	P-28	V-31	FI-28	FL-16	B-3	G-3	IN-14
15,BOILER RH DESUPERHEATER STATION TEST LINE (2 REQ)	650	700	475	475	P-28	V-31	FI-28	FL-16	B-3	G-3	IN-14
16,LINE BF-1 CONNECTION A CAPPED	90	90	325	325	P-28	V-33	FI-28	FL-18	B-4	G-5	IN-13
17,HEATER NO 4 SHELL SAFETY VALVE 3103A TO DRIP PAN	2	200	200	500	P-28	V-33	FI-28	FL-18	B-4	G-5	IN-14
18,DRIP PAN TO SAFE LOCATION INSIDE PLANT	0	100	150	150	P-28	V-34	FI-28	FL-19	B-4	G-5	
19,HEATER NO 4 SHELL SAFETY VALVE 3103A DRAINS AND DRIP PAN TO DRAIN #6	200	200	790	790	P-20	V-22	FI-20	FL-12	B-3	G-3	

REV.	DESCRIPTION	REV.	DESCRIPTION
1	REV. PER ATTACHMENT #1 OF LETTER NO. 1215 8-7-81		

LUTZ, DAILY & BRAIN
CONSULTING ENGINEERS

GRAND ISLAND, NEBRASKA
PLATTE GENERATING STATION
UNIT NO. 1

LINE DESCRIPTION

PAGE NO. L-5

P-22 SEAMLESS CARBON STEEL, ASTM A106, GRADE B — SCH 160

P-23 SEAMLESS CARBON STEEL, ASTM A106, GRADE B

8 IN & LARGER	SCH 140
6 IN & SMALLER	SCH 160

P-24 SEAMLESS CARBON STEEL, ASTM A106, GRADE B

4 IN & LARGER	SCH 120
3 IN & SMALLER	SCH 160

P-25 SEAMLESS CARBON STEEL, ASTM A106 GRADE B

8 IN & LARGER	SCH 100
2 1/2 IN THRU 6 IN	SCH 80
2 IN & SMALLER	SCH 160

P-26 SEAMLESS CARBON STEEL, ASTM A106, GRADE B — SCH 80

P-27 SEAMLESS CARBON STEEL, ASTM A106, GRADE B

8 IN & LARGER	SCH 60
2 1/2 IN THRU 6 IN	SCH 40
2 IN & SMALLER	SCH 80

P-28 SEAMLESS CARBON STEEL, ASTM A106 GRADE B

2 1/2 IN THRU 20 IN	STD WT
2 IN & SMALLER	SCH 80

P-29 NUMBER NOT USED

P-30 NUMBER NOT USED

P-31 NUMBER NOT USED

P-32 SEAMLESS CARBON STEEL, ASTM A53, GRADE A

2 1/2 IN & LARGER	STD WT
2 IN & SMALLER	SCH 80

P-33

10 IN & SMALLER	SEAMLESS CARBON STEEL, ASTM A53 GRADE A, SCH 40.
12 IN THRU 66 IN	FUSION WELDED CARBON STEEL ASTM A134 OR A139.

3/8 IN WALL FOR 48 IN OUTSIDE DIAMETER.
1/2 IN WALL FOR 66 IN OUTSIDE DIAMETER.

P-34 COPPER PIPE, ASTM B88 HARD TEMPER TYPE K.

P-35 SOFT ANNEALED COPPER TUBING, ASTM B75 3/4 IN AND SMALLER TUBING WITH MIN WALL 0.0375 IN.

P-36 ANNEALED SEAMLESS CARBON STEEL TUBING, ASTM A179

3/4 IN	12 BWG
5/8 IN	14 BWG
1/2 IN	16 BWG
3/8 IN	18 BWG
1/4 IN	20 BWG

P-37 ANNEALED SEAMLESS STNLS STEEL TUBING, ASTM A376, GR TP 304 H 3/4 IN AND SMALLER TUBING WITH MIN WALL 0.0375 IN.

P-38 CAST IRON ASTM A377, ANSI 21.6, 21.8 & 21.12 MECHANICAL JOINT STANDARD 150# CLASS.

P-39 GALVANIZED CARBON STEEL PIPE, STD WT ASTM 120

2 1/2 IN & LARGER	SCH 40
2 IN THRU 1 IN,	SCH 80

P-40 (UNUSED)

P-41 UNPLASTICIZED POLYVINYL CHLORIDE, NORMAL IMPACT, SOLVENT WELDED, ASTM D-1785

6 IN & LARGER	SCH 40
5 IN & SMALLER	SCH 80

P-42 VITRIFIED CLAY PIPE, EXTRA STRONG, ASTM C-700, PIPE TO BE INSTALLED PER ASTM C-12 WITH RESILIANT PLASTIC JOINT MATERIAL PER ASTM C-425.

P-43 125# FLANGED CAST IRON PIPE, ANSI A21.6

P-44 1/2 IN & SMALLER, SEAMLESS STAINLESS STEEL TUBING, ASTM A376, GRADE TP304H, 0.049 IN WALL THICKNESS

P-45 RUBBER LINED BLACK STEEL PIPE, STD WT ASTM A120, RUBBER LINING TO MEET ASTM D530 & ASTM D413, METAL SURFACES TO BE COVERED OR SANDBLASTED BEFORE APPLICATION OF RUBBER LINING.

P-46 FIBERCAST CL-2030 VINYL ESTER FIBERGLASS

V-26	1500# MSS CARBON STEEL, STELLITE FACING, ASTM A216 GRADE WCB, A105.	
	2 1/2 IN & LARGER	BUTT WELDING, PRESSURE SEAL OR WELDED SEAL BONNET.
	2 IN & SMALLER	SOCKET WELDING, NO BONNET.
V-27	1500# CARBON STEEL, STELLITE FACING, ASTM A216 GRADE WCB, A105.	
	2 1/2 IN & LARGER	BUTT WELDING, PRESSURE SEAL OR WELDED SEAL BONNET.
	2 IN & SMALLER	SOCKET WELDING, NO BONNET.
V-28	900# MSS CARBON STEEL, STELLITE FACING, ASTM A216 GRADE WCB, A105.	
	2 1/2 IN & LARGER	BUTT WELDING, PRESSURE SEAL OR WELDED SEAL BONNET.
	1500# MSS CARBON STEEL, STELLITE FACING, ASTM A216 GRADE WCB, A105.	
	2 IN & SMALLER	SOCKET WELDING, NO BONNET.
V-29	900# CARBON STEEL, STELLITE FACING, ASTM A216 GRADE WCB, A105.	
	2 1/2 IN & LARGER	BUTT WELDING, PRESSURE SEAL OR WELDED SEAL BONNET.
	1500# CARBON STEEL, STELLITE FACING, ASTM A216 GRADE WCB, A105.	
	2 IN & SMALLER	SOCKET WELDING, NO BONNET.
V-30	600# MSS CARBON STEEL, STELLITE FACING, ASTM A216 GRADE WCB, A105.	
	2 1/2 IN & LARGER	BUTT WELDING, PRESSURE SEAL OR WELDED SEAL BONNET.
	2 IN & SMALLER	SOCKET WELDING, NO BONNET.
V-31	600# CARBON STEEL, STELLITE FACING, ASTM A216, GRADE WCB, A105.	
	2 1/2 IN & LARGER	BUTT WELD OR RAISED FACE FLANGED AS SHOWN ON PLANS.
	1500# CARBON STEEL, STELLITE OR STEEL FACING ASTM A216, GRADE WCB, A105. 500 BRINNELL STAINLESS	
	2 IN & SMALLER	SOCKET WELDING, BOLTED BONNET.
V-32	300# CARBON STEEL ASTM A216, GRADE WCB, A105.	
	2 1/2 IN & LARGER	BUTT WELD OR RAISED FACE FLANGES, AS SHOWN ON PLANS.
	2 IN & SMALLER	SOCKET WELDING, BOLTED BONNET.
V-33	150# CARBON STEEL, ASTM A216, GRADE WCB, A105.	
	2 1/2 IN & LARGER	BUTT WELD OR RAISED FACE FLANGES, AS SHOWN ON PLANS.
	2 IN & SMALLER	SOCKET WELDING, BOLTED BONNET.
V-34	2 1/2 IN & LARGER	FLANGED 125#, IBBM, ASTM A126, CLASS A.
	2 IN & SMALLER	SCREWED 150# BRONZE, RISING STEM, ASTM B62.
V-35	2 1/2 IN & LARGER	FLANGED 125#, IBBM, ASTM A126, CLASS A.
	2 IN & SMALLER	SCREWED 150# BRONZE, RISING STEM, ASTM B62.
V-36	2 1/2 IN & LARGER	FLANGED 175# CAST IRON TAPER LUBRICATED PLUG.
	2 IN & SMALLER	SCREWED 175# CAST IRON TAPER LUBRICATED PLUG.
V-37	1 IN & SMALLER	2500# 416 STAINLESS STEEL, SCREWED NEEDLE TYPE GLOBE VALVE.
V-38	2 1/2 IN & LARGER	FLANGED 150# CARBON STEEL, TAPER LUBRICATED PLUG.
	2 IN & SMALLER	SCREWED ANSI 300# CARBON STEEL, TAPER LUBRICATED PLUG EXCEPT AS NOTED.
V-39	150# CAST BRONZE B62	
	2 1/2 IN THRU 8 IN	FLANGED TYPE
	2 IN & SMALLER	SOLDER TYPE
V-40	125# UNPLASTICIZED POLY-VINYL CHLORIDE, SOCKET WELD, SAUNDERS TYPE WITH TEFLON DIAPHRAM.	
V-41	2500# 316 STAINLESS STEEL	
	1 IN & SMALLER	SCREWED NEEDLE TYPE VALVE. GLOBE TYPE NEEDLE VALVE.

FI-20 ASTM A234 GRADE WP11, ASTM A217, GRADE WC6.
2 1/2 IN & LARGER — BUTT WELDING
2 1/2 IN & LARGER — STD WT
2 IN & SMALLER — 3000# SOCKET WELDING

FI-21 ASTM A234, GRADE WPB.
2 1/2 IN & LARGER — BUTT WELDING
8 IN & LARGER — SPECIAL SELECTION
6 IN & SMALLER — XXS
2 IN & SMALLER — 9000# SOCKET WELDING

FI-22 ASTM A234, GRADE WPB.
2 1/2 IN & LARGER — BUTT WELDING SCH 160
2 IN & SMALLER — 6000# SOCKET WELDING

FI-23 ASTM A234, GRADE WPB.
2 1/2 IN & LARGER — BUTT WELDING
8 IN & LARGER — SCH 140
2 1/2 IN THRU 6 IN — SCH 160
2 IN & SMALLER — 6000# SOCKET WELDING

FI-24 ASTM A234, GRADE WPB.
2 1/2 IN & LARGER — BUTT WELDING
4 IN & LARGER — SCH 120
2 1/2 IN THUR 3 IN — SCH 160
2 IN & SMALLER — 3000# SOCKET WELDING

FI-25 ASTM A234, GRADE WPB.
2 1/2 IN & LARGER — BUTT WELDING
8 IN & LARGER, — SCH 100
2 1/2 IN THRU 6 IN — SCH 80
2 IN & SMALLER — 6000# SOCKET WELDING

FI-26 ASTM A234, GRADE WPB.
2 1/2 IN & LARGER — BUTT WELDING SCH 80
2 IN & SMALLER — 3000# SOCKET WELDING

FI-27 ASTM A234, GRADE WPB.
2 1/2 IN & LARGER — BUTT WELDING
8 IN & LARGER — SCH 60
2 1/2 IN THRU 6 IN — SCH 40
2 IN & SMALLER — 3000# SOCKET WELDING

FI-28 ASTM A234, GRADE WPA.
2 1/2 IN & LARGER — BUTT WELDING STD WT
2 IN & SMALLER — 3000# SOCKET WELDING

FI-29 ASTM A234, GRADE WPA.
2 1/2 IN & LARGER — BUTT WELDING
8 IN & LARGER — SCH 60
2 1/2 - 6IN — SCH 40
2 IN & SMALLER — 3000# SOCKET WELDING

FI-30 ASTM A234, GRADE WPA.
2 1/2 IN & LARGER — BUTT WELDING
2 1/2 THRU 20 IN — SCH 40
2 IN & SMALLER — 3000# SOCKET WELDING

FI-31 ASTM A234, GRADE WPA.
2 1/2 IN & LARGER — BUTT WELDING
2 1/2 IN & LARGER — STD WT
2 IN & SMALLER — 3000# SOCKET WELDING

FI-32 ASTM A234, GRADE WPA OF CORRECT THICKNESS FOR PIPE, BUTT WELDING, SEE DETAIL PLANS.

FI-33 BRASS OR WROUGHT COPPER, ANSI B16.18, ASTM B62 OR ASTM B61.

FI-34 3/4 IN & SMALLER — BRASS SWAGELOK COMPRESSION TYPE TUBE FITTING

FI-35 3/4 IN & SMALLER — CADIUM PLATED CARBON STEEL SWAGELOK COMPRESSION TYPE TUBE FITTING.

FI-36 1/2 IN & SMALLER — 316 STAINLESS STEEL SWAGELOK COMPRESSION

FI-37 CAST IRON ANSI A21.10 AND A21.11 MECH. JOINT SHORT BODY 250# CLASS.

FI-38 150# GALVANIZED BENDED, MALLEABLE IRON, SCREWED, GROUND JOINT UNIONS, ASTM A338

FI-39 ASTM A234 WROUGHT IRON, BUTT WELDING.
2 1/2 IN & LARGER — SCH 40
ASTM A234, GRADE WPA
2 IN THRU 1 IN — 3000# SOCKET WELDING

FI-40 UNPLASTICIZED POLY VINYL CHLORIDE, (PVC) ASTM D-2467
6 IN & LARGER — SCH 40
5 IN & SMALLER — SCH 80

FI-41 VITRIFIED CLAY PIPE EXTRA STRONG, ASTM C-700. FITTINGS TO BE INSTALLED PER ASTM C-12 WITH RESILIANT JOINT MATERIAL PER ASTM C-425, PLASTIC.

Type VBC210NOF Style G152C Class D10GON Size 6XJX6

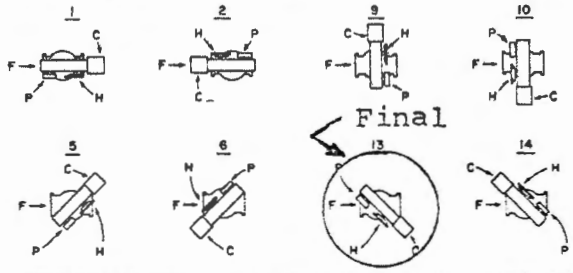
Bailey
a subsidiary of
Babcock & Wilcox, U.S.A.
Bailey Meter Company · Wickliffe, Ohio 44092
Telephone : (216) 943 - 5500 · Telex 980621

CONTROL VALVE SPECIFICATIONS

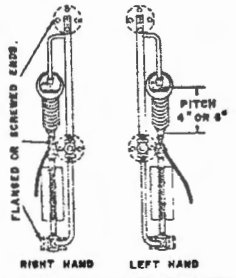
PAGE	1 OF 1
REV. NO.	2 DATE 2-28-[illegible]
ITEM NO.	
PROPOSAL NO.	
S.O. NO.	
PROD. SPEC.	

180-01

				PRICING
	1	QUANTITY: One	CLASS: D10G LINE: 8"	
BODY	2	SIZE: 6xJx6	STYLE: ☒ GLOBE, ☐ ANGLE, ☐	
	3	PRESS. STD: 1500	THREADS: ☐ NONE, ☐ INTEGRAL, ☐ STN. STL.	
	4	MATERIAL: ☐ IRON, ☐ WCB, ☐ WC6, ☐ WC9, ☒ C5, ☐ 316SST, ☐		
	5	ANSI TYPE ENDS: ☐ SCRD, ☐ SOC. WELD, ☐ FF, ☐ RF, ☐ RTJ, *☒ BUTT WELD		
	6	PIPE SCHD: ☐ 40, ☐ 80, ☐ 120, ☒ 160, ☐ XXH, ☐	BACKUP RING: ☐ NO, ☒ YES	
	7	BONNET: ☐ PLAIN, ☐ EXTENSION	PACKING: ☒ STD., ☐ GRAFOIL Taper a	
	8	BOSS SIZE: ☐ STD., ☐ 1¼", ☐ 2-1/8", ☐ 2-13/16", ☐ 3-9/16", ☐ 5", ☐ 7"		
	9	ENDS MATERIAL: ☐ SAME, ☒ C.S. EXTENSION		
INTERNAL	10	NO. OF SEATS: ☐ 1 UNBAL., ☐ 1 BAL., ☒ 2	FLOW ACTION: ☒ OPENS, ☐ CLOSES	
	11	CHARACTERISTIC: ☐ QUICK OPEN, ☐ LINEAR, ☐ EQUAL %, ☒ MOD. LINEAR		
	12	GUIDING: ☒ CAGE, ☐ TOP, ☐ TOP & BOTTOM, ☐ TOP & PORT, ☐ PORT, ☐ BUTTERFLY		
	13	MATERIAL: SEAT 304 SS Stell PLUG/BF DISC 304 SS Stell CAGE 304 SS Stell , GUIDES Stell		
ACTUATOR	14	TYPE: ☐ DIAPHRAGM, ☒ PISTON, DIRECT OPERATED ☐ DIFF., ☐ PRESS.	SIZE CODE: 8x8	
	15	YOKE: ☐ IRON, ☐ STEEL	CTRL. SIGNAL: ☐ 3-15, ☐ 3-27, ☒ 4-20 MODE: ☐ ON-OFF, ☐ MOD.	
	16	VALVE ACTION-AIR TO: ☐ OPEN, ☐ CLOSE X Locked MADC		
	17	CLASS D1 OR E40 PISTON MOUNTING POSITION		



THERMOHYDRAULIC GENERATORS (See Line 28)



△ ACCESSORIES MTD. ON VALVE	18	POSITIONER: ☐ NO, ☐ CHAR., ☒ I/P, ☐ PROP.	AIR SUPPLY: ☒ 40, ☐ 50, ☐ PSIG
	19	HANDWHEEL SAME MAT'L AS YOKE: ☐ NONE, ☐ TOP MTD., ☒ SIDE MTD.	
	20	A.F. LOCK: ☐ NONE, ☒ AUTO RESET, ☐ LOCAL MAN. RESET, ☐ REMOTE MAN. RESET	
	21	LIMIT SWITCHES: ☒ QTY., ☐ MIN., ☐ MAX., SPECIFY CAT. NO. DTE6-2RN	
	22	SOLENOID: ☐ QTY., P/N CLOSES VALVE: ☐ ENERD., ☐ DE-ENERD. VOLTAGE: ☐ 125 DC, ☐ 115 AC, ☐	
	23	AIR SET: ☐ QTY.	PNEUM. VALVE FOR TRIPPING OR ON-OFF: ☐ NO, ☐ YES
	24	POS. TMTR: ☐ NONE, ☐ PNEUM., ☐ ELECTRIC DIODE, ☒ ELECTRIC TRANSISTOR	
	25	6614500R10	
	26		
	27		
	28	THERMOHYD. GENERATOR – PITCH: ☐ 4", ☐ 6"; MTG: ☐ RH, ☐ LH CONNECTIONS: ☐ SCRD., ☐ FLGD.; FT COPPER TUBING:	
SPECIAL FEATURES	29		
	30	GRAND ISLAND 77-8	
	31		
FLUID CONDITIONS	32	FLUID: ☐ GAS, ☐ STEAM, ☒ WATER, ☐ OIL	SERVICE: Feedwater Control
	33	CAPACITY: SIZING 765,000 , MIN. 140,000 , UNIT lbs per hour	
	34	INLET PRESS: SIZING 2423 , MAX. 3200 , UNIT PSIG	
	35	FLOW TEMP: SIZING 320 , MAX. , UNIT DEG. F	
	36	PRESS DROP: @ SIZING 140 , @ MIN. CAP. 1100	PA/Cv REQ:
	37	MAX. SHUT-OFF DIFF: 3200 PSIG	SP.GR @ FLOW TEMP: PA/Cv MAX:
	38	VISC. (SSU) @ FLOW TEMP:	LEAKAGE CLASS:
	39	NOISE LIMITATION: ☒ NO, ☐ YES. IF YES, DEFINE:	

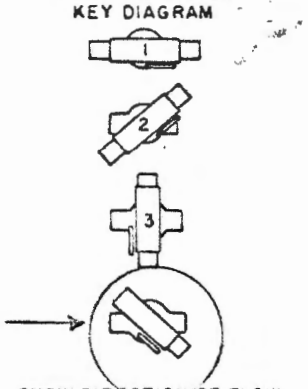
UNIT	
QTY.	X
SUB.	
FRT.	
TOTAL	

*IF SPECIAL BUTT WELD ATTACH SKETCH OR DRAWING.
△ ACCESSORIES ON LINES 20 TO 23 REQUIRE MOUNTING CHARGE. See SK-77-8-005

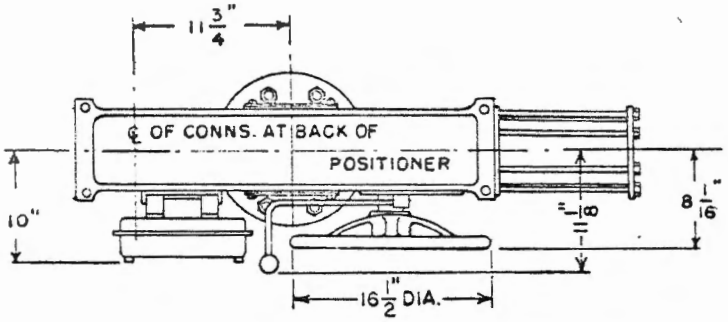
APPROVED BY	COMPANY	DATE

GRAND ISLAND 77-8

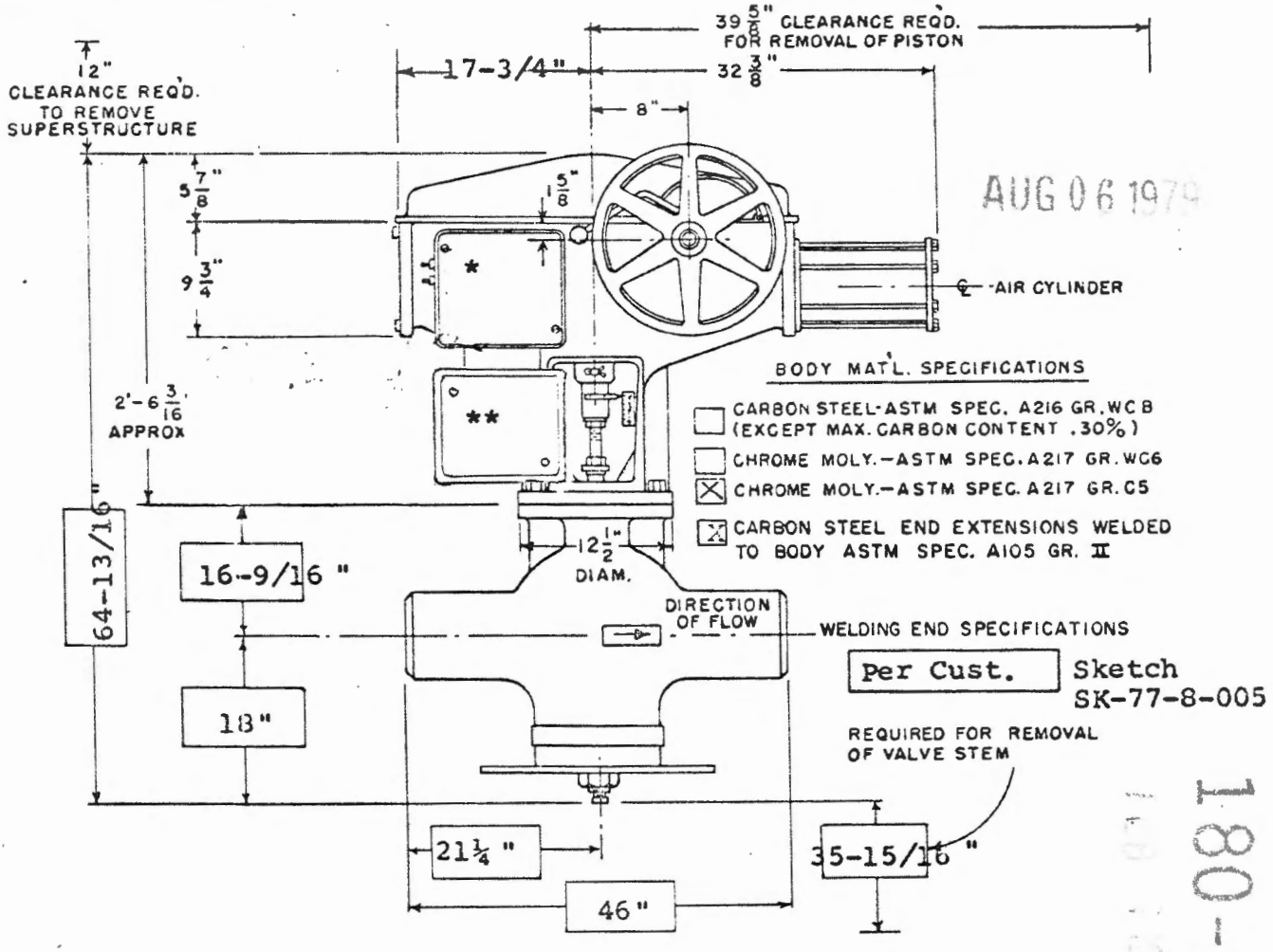
POSITION OF OPERATOR OVER VALVE BODY KEY DIAGRAM



SHOW DIRECTION OF FLOW WITH ARROW
OPERATOR POSITION SHOWN IN MAIN DRAWING IS STANDARD



Approx. Wt of Valve Assy - 2800#



BODY MAT'L. SPECIFICATIONS

- ☐ CARBON STEEL-ASTM SPEC. A216 GR. WCB (EXCEPT MAX. CARBON CONTENT .30%)
- ☐ CHROME MOLY.—ASTM SPEC. A217 GR. WC6
- ☒ CHROME MOLY.—ASTM SPEC. A217 GR. C5
- ☒ CARBON STEEL END EXTENSIONS WELDED TO BODY ASTM SPEC. A105 GR. II

WELDING END SPECIFICATIONS

Per Cust. Sketch SK-77-8-005

BAILEY REGULATING VALVE

TYPE VBJ 2 0 X NO F STYLE G 1 5 2 C CLASS DI 0 G ON

E REV. 3-4-64
D REV. 10-2-63
C REV. 4-24-63
B REV. 11-29-55

BAILEY METER CO.
CLEVELAND, O. 3-23-54
DWG. NO. A701237-E A

PRINTED IN U.S.A. P 85

* AP53210C Pcsitioner (¼" - 18 NPT Air Supply Conn)
** Position Transmitter P/N 6614500-10

180-02

cc: CMO KC

Bailey Meter Company
Wickliffe, Ohio 44092
Telephone: (216) 943-5500
Telex 980621 — Cable: Baileymeter

Bailey
a subsidiary of
Babcock & Wilcox, U.S.A.

DRAWING AND DATA SHEET TRANSMITTAL

DATE: 5-18-79

U. S. Supply Co.
1315 West 12th Street
Kansas City, Missouri 64101

ATTENTION:

ORDER AND/OR CONTRACT NO.
P. O. No. 17681
Contract No. 77-8-20

BMCO. JOB NO.
P-604777

CUSTOMER REFERENCE
City of Grand Island, Nebraska
Platte Generating Station Unit 1

ENCLOSED:

11 Prints

_____ Reproducibles

_____ Data Sheets

☐ For Comments and Approval

☒ For File or Final Distribution

The attached Drawing A701237-EA has been updated to incorporate comments contained in your May 4, 1979 transmittal.

I also wish to confirm that is a 6 inch valve with appropriate carbon steel end to match an 8 inch line. This is in accordance with the sketch describing weld ends which accompanied the July 13, 1978 letter from John W. Brown.

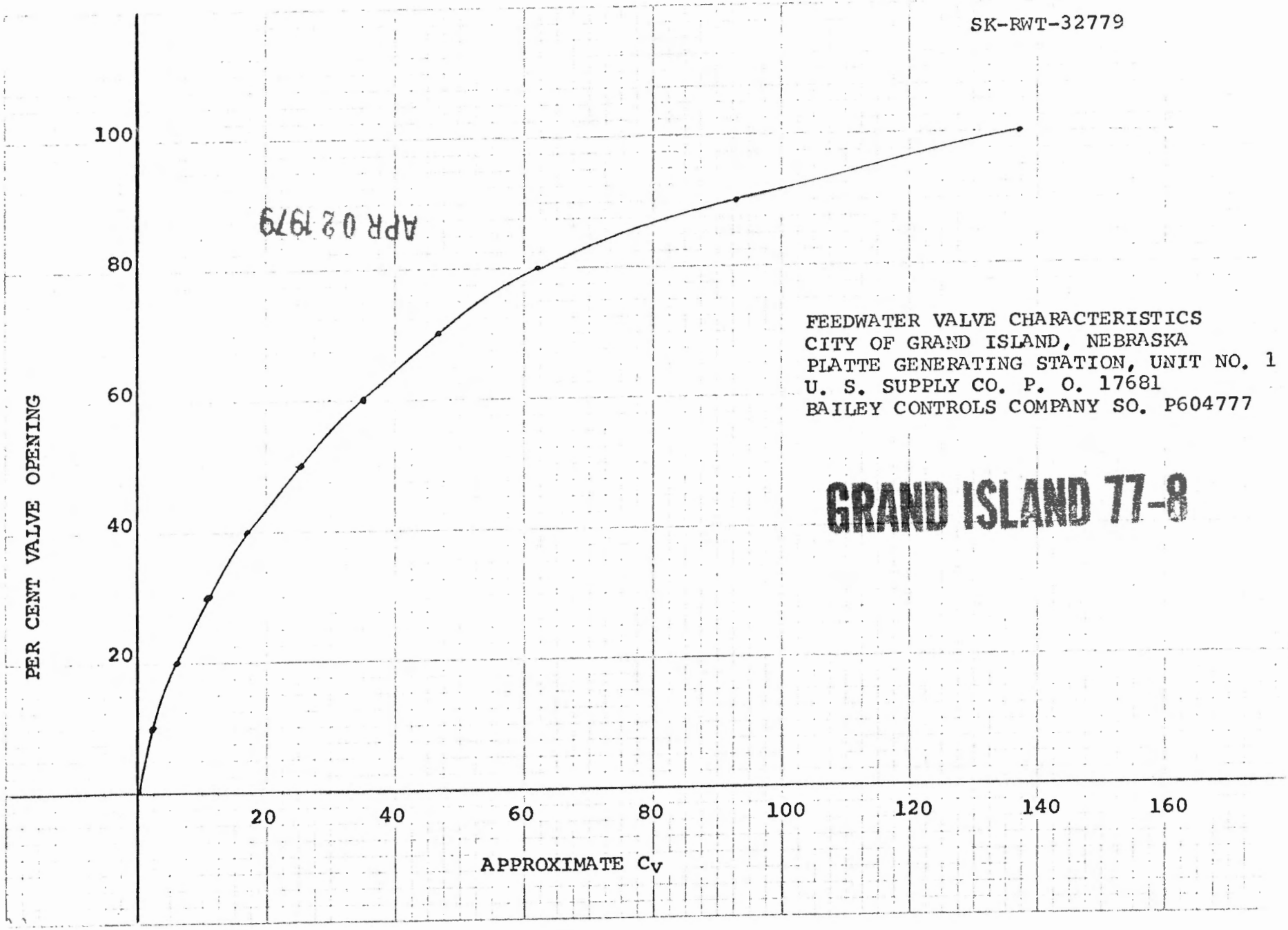
Action being taken on equipment covered by above:

☐ Manufacture held pending approval which is required by _____

☐ Proceeding with manufacture.

BAILEY METER COMPANY,
P. O. Box 8009
Prairie Village, Kansas 66209

SK-RWT-32779



APR 02 1979

FEEDWATER VALVE CHARACTERISTICS
CITY OF GRAND ISLAND, NEBRASKA
PLATTE GENERATING STATION, UNIT NO. 1
U. S. SUPPLY CO. P. O. 17681
BAILEY CONTROLS COMPANY SO. P604777

GRAND ISLAND 77-8

180-03

FEEDWATER VALVE CHARACTERISTICS
CITY OF GRAND ISLAND, NEBRASKA
PLATTE GENERATING STATION, UNIT NO. 1
U.S. SUPPLY CO. P. O. 17681
BAILEY CONTROLS COMPANY S.O. P-604777

Percent Valve Travel	Valve C_v
0	0
10	2.462
*20	5.870
30	10.780
40	17.292
50	25.404
60	35.116
70	46.428
80	62.324
90	93.076
100	137.000

* Calculations indicate approximately 20% valve opening for 140,000 lbs. per hour flow.

FEEDWATER CONTROL

ACTUATOR SIZE	8 X 8	TRAVEL	2.0 INCH
4 TO	20 MADC	ACTUATOR SIGNAL CLOSES PORT	
TYPE	VBJ20XNOF		
STYLE	G152C	CLASS	D10GON
TEMP	320 F	SERVICE	ANSI 1500 W
STEM	304 SS	BODY	C5
SEAT	304 SLG	PLUG	304 SL
SERIAL NO.	H92069	SIZE	6 X 8

BAILEY METER COMPANY
WICKLIFFE, OHIO, U.S.A.
716251A1

FISHER

EMERSON

Sliding Stem Valve Specification

Customer: **GRAND ISLAND UTILITIES CITY OF**		Stover Controls	
Contact: **Dan Nitzel**		Contact: **Ryan Peetz**	
Customer Reference: **Boiler Feedwater Control Valve**		Sales Office Reference:	Lead Time:
Item: **1**	Rev: Qty: **1**	Quote: **029-RDP-180828-0084772**	Rev: **1**
Tags:		Date Last Modified: **12/11/2018**	
Description: **NPS 4 HPT 585C Size 68 DVC6200 377 - Standard 416SST Trim**			
Service Description:			

Service:	
Size and Type:	**NPS 4 HPT**
Body Style:	**Globe**
Design Temp:	**320 deg F**
Design Press:	**3200 psig**
End Connect/In/Out:	**6 CL900/CL1500/BWE Sch 160/BWE Sch 160**
Material:	**WC9 Alloy Steel**
Ports:	**1**
Flow Direction:	**Down**
Trim Number:	**201A**
Cage Matl:	**S17400 SST**
Retainer Matl:	
Bushing Matl:	
Seat Ring Matl:	**S41600 SST**
VALVE PLUG	
Material:	**S41600 SST**
Guiding:	**Cage**
Balance:	**Balanced**
Shutoff Class:	**ANSI CL V**
Port Size:	**3 5/8 Inch**
Characteristic:	**Equal Percent**
Stem Material:	**S20910 SST**
Stem Size:	**3/4 Inch**
Bonnet Style:	**Plain**
Boss Size:	**3 9/16**
Packing:	**Single PTFE**
Access:	**No**
Bolt, Bonnet:	**SA-193-B7 Studs/2H Nuts NCF2**
PackFlg/Bltg:	**SST Pkg Flg, SST Studs & Nuts**
Actuator:	**Piston**
Type/Size:	**585C/68**
Travel:	**1 1/2 Inch**
Bench Set:	
Push Down To:	**PDTC**
Supply:	**Air**
To Actuator:	**75 psig**
Fails Valve:	**Lock**
Handwheel:	**Side Mounted**

Positioner Type:	**DVC6200,HART Communicating-HC**
Input Signal:	**4 to 20 mA dc**
Access:	**None**
Gauges:	**0-160 psig/0-11 bar**
Action:	**Increasing Input Moves Piston Down**
Certification:	**FM,Explosion Proof/Intrinsic Safe/Nonincendive**
Controller Type:	
Action:	
Measure Element:	
Range:	
Output:	
Mounting:	
Airset:	
Mounting:	
Transducer:	
Input Signal:	
Output Signal:	
Action:	
Mounting:	
Airset:	
Certifications:	
Line In:	**8 in, SCH 160**
Line Out:	**8 in, SCH 160**
Insulation:	**None**
Service Cond:	
Process Fluid:	**Water**
Critical Pressure:	**3200.113 psia**
Shutoff Drop:	**3200 psi**
Max Rated Cv:	**165.0**

Variable Name	Unit	Minimum	Operating		
Mass Flow Rate Liquid (wl)	**lb/h**	**140000.000**	**765000.000**		
Inlet Pressure (P1)	**psig**	**2423.000**	**2423.000**		
Pressure Change (dP)	**psi**	**140.000**	**140.000**		
Inlet Temperature (T1)	**deg F**	**320.0000**	**320.0000**		
SG		**0.917**	**0.917**		
Kinematic Viscosity (Nu)	**cSt**	**0.190**	**0.190**		
Vapor Pressure (Pv)	**psia**	**89.654**	**89.654**		
Sizing Coefficient (Cv)		**24.724**	**138.601**		
% Open		**41**	**87**		
Valve Lpa (LpAe1m)	**dB(A)**	**56**	**64**		

NOTES:

FISHER

EMERSON

Valve/Regulator Sizing Calculation

Customer: **GRAND ISLAND UTILITIES CITY OF**
Contact: **Dan Nitzel**
Customer Reference: **Boiler Feedwater Control Valve**
Item: **1** Rev: Qty: **1**
Tags:
Description: **NPS 4 HPT 585C Size 68 DVC6200 377 - Standard 416SST Trim**
Service Description:

Stover Controls
Contact: **Ryan Peetz**
Sales Office Reference:
Quote: **029-RDP-180828-0084772/(No Name Assigned)**
Date Last Modified: **12/11/2018**
Lead Time:
Rev: **1**

Sizing Type: Water | Flow is Turbulent | Solving for: Cv | Noise is Hydrodynamic | Flow is Mass

Variable Name	Units	Minimum	Operating
SERVICE & SIZING			
Inlet Temperature (T1)	**deg F**	**320.0000**	**320.0000**
Inlet Pressure (P1)	**psig**	**2423.000**	**2423.000**
Pressure Change (dP)	**psi**	**140.000**	**140.000**
Mass Flow Rate Liquid (wl)	**lb/h**	**140000.000**	**765000.000**
Pressure Recovery Factor (Fl)		**0.850**	**0.850**
Valve style modifier (Fd)		**0.235**	**0.101**
Cavitation coefficient (Kc)		**0.600**	**0.600**
Atmospheric Pressure	**psi**	**14.69**	**14.69**
Specific Gravity (SG)		**0.917**	**0.917**
Kinematic Viscosity (Nu)	**cSt**	**0.190**	**0.190**
Critical Pressure (Pc)	**psia**	**3200.113**	**3200.113**
Vapor Pressure (Pv)	**psia**	**89.654**	**89.654**
Inlet fluid density (Rho1)	**lb/ft3**	**57.234**	**57.234**
Pipe Size Up	**in**	**8**	**8**
Pipe Schedule Up		**160**	**160**
Pipe Size Down	**in**	**8**	**8**
Pipe Schedule Down		**160**	**160**
Nominal Valve Diameter (dv)	**in**	**4.000**	**4.000**
Sizing Coefficient (Cv)		**24.724**	**138.601**
% Open		**41**	**87**
Application Ratio (Ar)		**0.060**	**0.060**
dP Choked	**psi**	**1701.410**	**1682.219**
dP Cavitation	**psi**	**1408.771**	**1407.313**
Fp		**1.00**	**0.97**
NOISE CALCULATION			
Hydrodynamic Trim		**Standard Trim**	**Standard Trim**
Valve Lpa (LpAe1m)	**dB(A)**	**56**	**64**
VELOCITY OUTPUTS			
V1 Pipe	**ft/s**	**2.685**	**14.673**
V2 Pipe	**ft/s**	**2.685**	**14.673**

Item Notes:

FISHER

EMERSON

Flow Coefficient Graph

Customer: **GRAND ISLAND UTILITIES CITY OF**	Stover Controls	
Contact: **Dan Nitzel**	Contact: **Ryan Peetz**	
Customer Reference: **Boiler Feedwater Control Valve**	Sales Office Reference:	Lead Time:
Item: **1** Rev: Qty: **1**	Quote: **029-RDP-180828-0084772**	Rev: **1**
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Description: **NPS 4 HPT 585C Size 68 DVC6200 377 - Standard 416SST Trim**		
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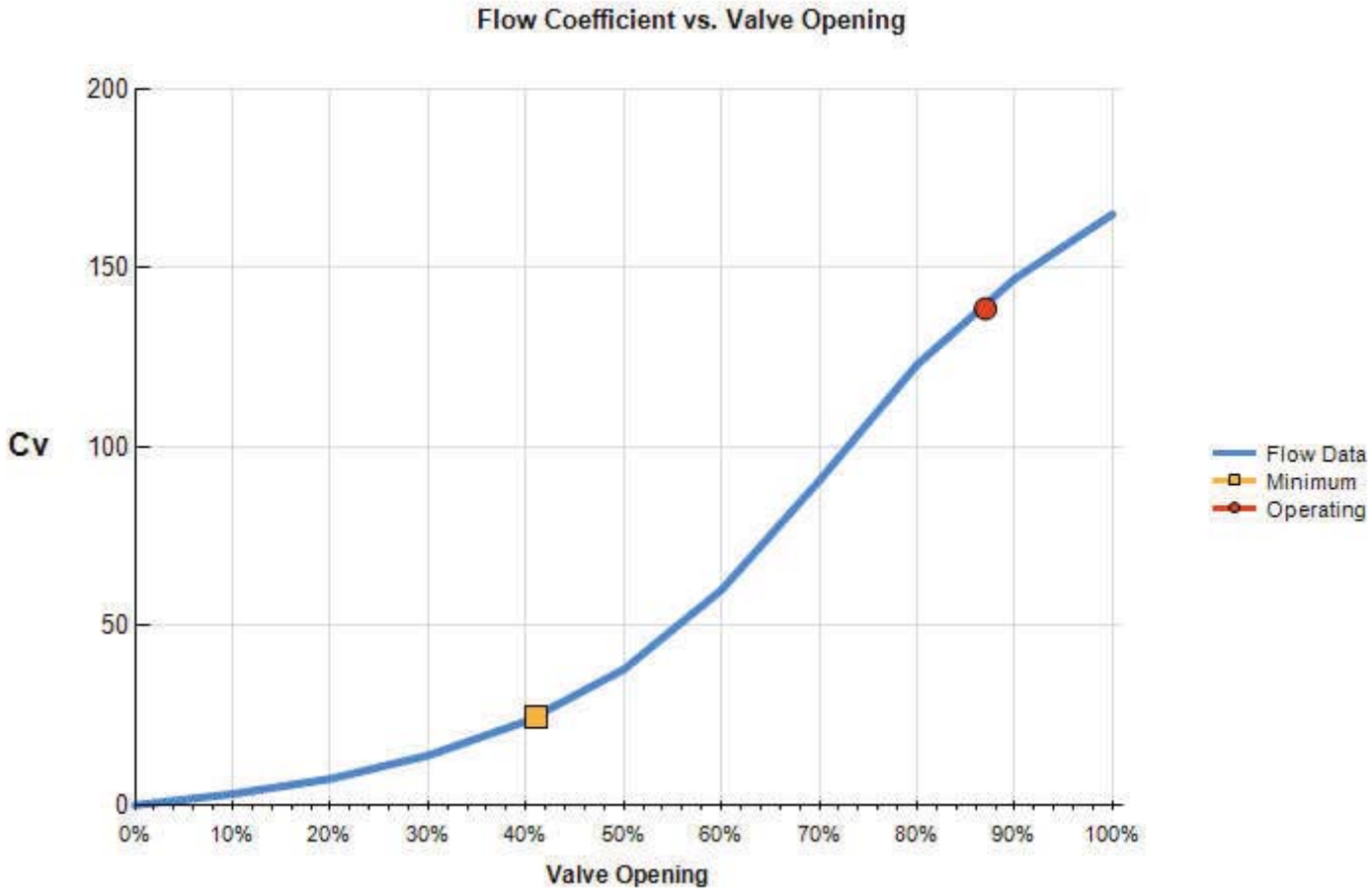
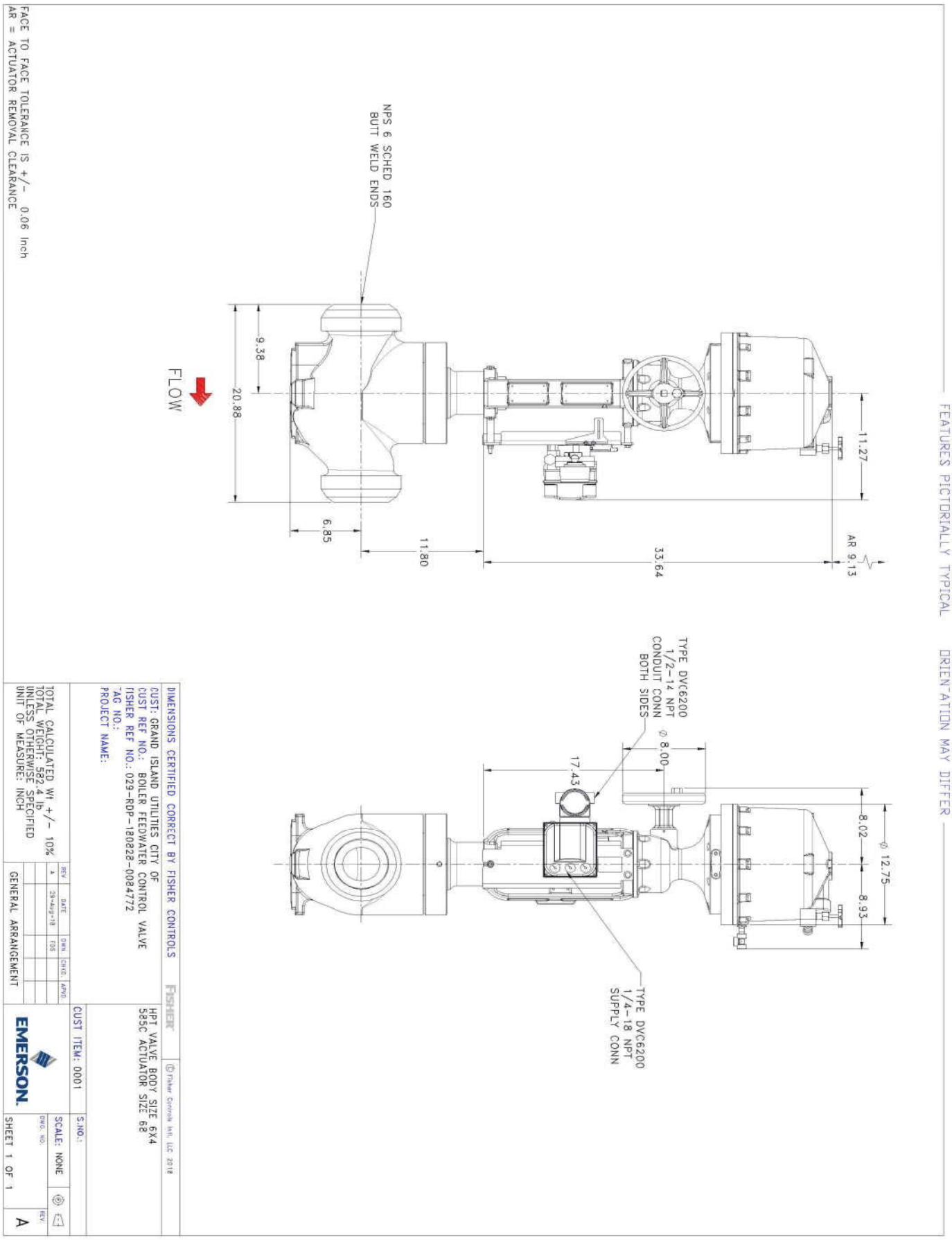


Product: HPT Valve Size=NPS 4 Travel=1 1/2 Inch Rating=CL900/CL1500 Seat Type=Metal Trim Style/Characteristic=Equal Percent Port Diameter=3 5/8 Inch


FACE TO FACE TOLERANCE IS +/- 0.06 Inch
AR = ACTUATOR REMOVAL CLEARANCE
NPS 6 SCHED 160
BUTT WELD ENDS
FLOW
9.38
20.88
6.85
11.80
33.64
AR 9.13
11.27
FEATURES PICTORIALLY TYPICAL
ORIENTATION MAY DIFFER
TYPE DVC6200
1/2-14 NPT
CONDUIT CONN
BOTH SIDES
Ø 8.00
17.43
8.02
Ø 12.75
8.93
TYPE DVC6200
1/4-18 NPT
SUPPLY CONN
DIMENSIONS CERTIFIED CORRECT BY FISHER CONTROLS
CUST: GRAND ISLAND UTILITIES CITY OF
CUST REF NO.: BOILER FEEDWATER CONTROL VALVE
FISHER REF NO.: 029-RDP-180828-0084772
TAG NO.:
PROJECT NAME:
HPT VALVE BODY SIZE 6X4
585C ACTUATOR SIZE 68
TOTAL CALCULATED WT +/- 10%
TOTAL WEIGHT: 582.4 lb
UNLESS OTHERWISE SPECIFIED
UNIT OF MEASURE: INCH
GENERAL ARRANGEMENT
REV A DATE 29-Aug-18 DWN FDS CHKD APVD
CUST ITEM: 0001
S.NO.:
SCALE: NONE
DWG. NO.
REV A
SHEET 1 OF 1
EMERSON
FISHER
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