



Working Together for a
Better Tomorrow. Today.

SPECIFICATION PACKAGE

for

EX2000 PPT TRANSFORMER UPGRADES FALL OUTAGE 2014

Bid Opening Date/Time

Tuesday, January 28, 2014 @ 2:00 P.M. (local time)
City of Grand Island, City Hall
100 East 1st Street, P.O. Box 1968
Grand Island, NE 68802-1968

Contact

Ryan Schmitz, Production Engineer
City of Grand Island – Utilities Department
Platte Generating Station
308/385-5496

Date issued: January 10, 2014

**ADVERTISEMENT TO BIDDERS
FOR
EX2000 PPT TRANSFORMER UPGRADES-FALL OUTAGE 2014
FOR
CITY OF GRAND ISLAND, NEBRASKA**

Sealed bids will be received at the office of the City Clerk, 100 E. First Street, P.O. Box 1968, Grand Island, Nebraska 68802, until Tuesday, January 28, 2014 at 2:00 p.m. local time for EX2000 PPT Transformer Upgrades-Fall Outage 2014, FOB the City of Grand Island, freight prepaid. Bids will be publicly opened at this time in the Grand Island City Hall Council Conference Room #1 located on 1st floor of City Hall. Submit an original and three copies. Bid proposal package and any Addendas are also available on-line at www.grand-island.com under Business-Bid Calendars. Bids received after the specified time will be returned unopened to sender.

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

Each bidder shall submit with the bid a certified check, a cashiers check, or bid bond payable to the City Treasurer in an amount no less than five percent (5%) of the bid price which shall guarantee good faith on the part of the bidder and the entering into a contract within 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.

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
Grand Island Independent

(All bids must be submitted on this form)

EX2000 PPT TRANSFORMER UPGRADES-FALL OUTAGE 2014
BID DATA FORM

CITY OF GRAND ISLAND
GRAND ISLAND, NE

The undersigned Bidder, having examined all specifications and other bidding documents, and all addenda thereto, and being acquainted with and fully understanding all conditions relative to the specified materials and equipment, hereby proposes to provide such equipment FOB the City of Grand Island, freight prepaid, at the following price:

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

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

- By checking this box, Bidder acknowledges that Addenda Number(s) _____ were received and considered in Bid preparation.
- By checking this box, Bidder acknowledges the specified completion date of the project is **September 30, 2014**.

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

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

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

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

Bidder Company Name Date

Company Address City State Zip

Print Name of Person Completing Bid Signature

Telephone No. _____ Fax No. _____

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

CHECKLIST FOR BID SUBMISSION

FOR

EX2000 PPT TRANSFORMER UPGRADES-FALL OUTAGE 2014

Bids must be received by the City Clerk before 2:00 p.m. on Tuesday, January 28, 2014.

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

- A signed original and three (3) copies of the bidding documents. Failure to submit the correct number of copies will result in your bid not being considered.
- A reference list of at least three (3) projects of similar scope and complexity.
- Firm lump sum pricing; firm unit pricing in case adjustments are necessary, and breakout of sales tax pricing.
- A proposed schedule for the work scope, including an estimate of the number of hours and the number of employees required to perform the work.
- Selection of Nebraska Sales Tax Option.
- Acknowledgment of Addenda Number(s) _____.
- Bidders must complete and sign the Bid Data Form provided in these Documents. All blank spaces must be filled in. Bidders shall acknowledge receipt of any Addenda information on the Bid Data Form.
- A certified check, cashiers check or bid bond in a separate envelope attached to the **outside of the envelope containing the bid**. Each envelope must be clearly marked indicating its contents. Failure to submit the necessary qualifying information in clearly marked and separate envelopes will result in your bid not being opened.

Please check off each item as completed.

Company

Signature

Telephone No. _____

Fax No. _____

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.

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 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 Statute 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:

Conformance with the terms of the Bid Documents.

Bid price.
Cost of installation.

Suitability to project requirements.
Delivery time.

Responsibility and qualification of Bidder.

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

8. EXECUTION OF CONTRACT.

The successful Bidder shall, within 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 *EX2000 PPT TRANSFORMER UPGRADES-FALL OUTAGE 2014*; 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:	\$.00
Sales Tax on Materials/Equipment:	\$.00
Sales Tax on Labor:	<u>\$.00</u>
Total	\$.00

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

ARTICLE IV. The Contractor hereby agrees to act as agent for the City in purchasing materials and supplies for the City for this project. The City shall be obligated to the vendor of the materials and supplies for the purchase price, but the Contractor shall handle all payments hereunder on behalf of the City. The vendor shall make demand or claim for payment of the purchase price from the City by submitting an invoice to the Contractor. Title to all materials and supplies purchased hereunder shall vest in the City directly from the vendor. Regardless of the method of payment, title shall vest immediately in the City. The Contractor shall not acquire title to any materials and supplies incorporated into the project. All invoices shall bear the Contractor's name as agent for the City. This paragraph will apply only to these materials and supplies actually incorporated into and becoming a part of the finished product of the EX2000 PPT TRANSFORMER UPGRADES-FALL OUTAGE 2014.

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 **September 30, 2014**.

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.

Attorney for the City Date _____

DRAFT

REQUEST FOR BIDS - GENERAL SPECIFICATIONS

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

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

Bids shall include the following on the **outside** of the mailing envelope: **“EX2000 PPT Transformer Upgrades-Fall Outage 2014”**. All sealed bids are due no later than **Tuesday, January 28, 2014 at 2:00 p.m. local time**. Submit **an original and three copies** of the bid to:

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

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

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

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

The equipment and materials must be new, the latest make or model, unless otherwise specified. Prior to approving the invoice for payment, the City reserves the right to thoroughly inspect and test the equipment to confirm compliance with specifications. Any equipment or material which does not meet the City's requirements will be returned at vendor's expense for correction. The invoice will be paid after approval at the next regularly scheduled 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 cashiers check, or bid bond payable to the City Treasurer in an amount no less than five percent (5%) of the bid price which shall guarantee good faith on the part of the Bidder and the entering into a contract within 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. Please contact Ryan Schmitz at 308-385-5495, for questions concerning this specification.

EX2000 PPT Transformer Upgrades
Fall Outage 2014
Detailed Specifications

GENERAL DESCRIPTION: The Platte Generating Station is a 100 MW coal fired power plant in Grand Island, Nebraska. The plant was commissioned in 1982.

The original field excitation current was provided by a GE SCT-PPT Static Excitation System. In 2002, the original unit was retrofitted with an EX2000 M Frame Hot Backup Compound Type Digital Excitation System. During this upgrade, the DC Control windings in the SCT's were abandoned.

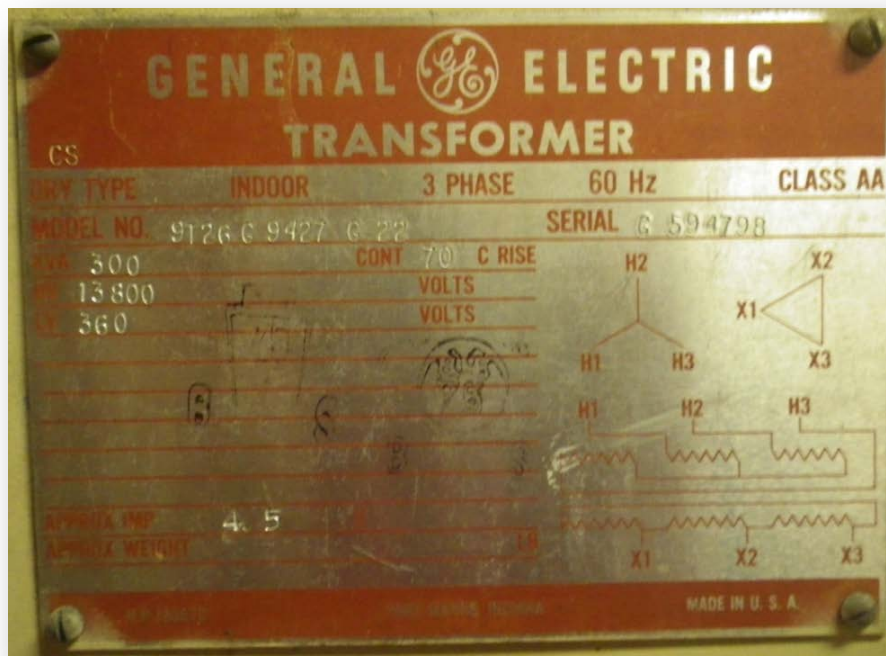
The Contractor shall furnish all equipment, labor, engineering, and materials necessary to replace the power potential transformer and remove the existing PPT/SCT's/linear reactors.

Work shall include (but is not limited to):

- Remove existing PPT, SCT's, and Exciter Switchgear cabinet and components.
- Procure and Install new stand-alone upsized PPT transformer to take the place of the existing PPT/SCT configuration.
- Field fit bus to accommodate the SCT removal.
- Provide any necessary EX2000 programming, control wiring and/or software/hardware upgrades necessary to accommodate new configuration.

SCOPE:

PPT Transformer – The Contractor shall provide and install a new power potential transformer (PPT). The transformer must be constructed to fit the dimensional restrictions of the existing transformer location (see attached drawing). The new PPT must be sized to have enough capacity to offset the PPT transformer being replaced as well as need for the saturable current transformers (SCT's). The existing PPT has a wye configured primary winding (13.8 KV) and a delta configured secondary winding (360V) as shown on its tag below. The transformer is fed by a 15 KV rated isolated phase bus.



If new transformers exterior dimensions vary from existing, the Contractor shall remove the existing transformer concrete pad mount (as shown in attached drawings) and construct a new concrete pad mount (4" height minimum).

The Contractor shall be responsible for all disconnections and terminations necessary to complete the project. The existing arrangement has the secondary power from the transformer jumpered through the Exciter Switchgear cabinet before terminating in the EX2000 cabinet. With the removal of the Exciter Switchgear cabinet in this specification, new power cables must be run from the new PPT directly to the EX2000 cabinet. The Contractor may need to provide a penetration through the concrete deck if an alternative route for the new cables cannot be found.

The Contractor will be allowed to scrap out the old PPT transformer and all abandoned bus/wire/cables for his profit. All abandoned cable tray cables must be removed by Contractor.

The existing PPT transformer is located on the ground floor (1st Floor) of the power plant.

SCT Transformers – The Contractor shall remove all three (3) existing SCT's and field modify the existing bus system to accommodate the 'removed' equipment. A past modification abandoned the DC regulating portion of the SCT's, which in turn has them currently operating in a 'wide open' configuration. The following information was pulled from an SCT tag. Additional information may be obtained during our spring shutdown (March 13-20, 2014).

Brand = General Electric
Cat No. = 44B371753-G01
Serial No.= 9278
Weight = 2400 LB

The Contractor will be allowed to scrap out all SCT transformers and all abandoned bus/wire/cables for his profit. All abandoned cable tray cables must be removed by Contractor.

The existing SCT transformers are located on the mezzanine floor (2nd Floor) of the power plant.

Exciter Switchgear – The Exciter Switchgear cabinet is the cabinet which contained the original plant exciter. When upgrades were performed in 2002, the existing cabinet was gutted and used strictly for the following purposes:

1. Linear Reactor housing and connections.
2. Jumper location for AC excitation power cables
3. Jumper location for DC field flashing cables
4. Jumper location for field voltage/ampereage cables supplying control room local gage readout

*Also in this cabinet are abandoned bridge rectifiers, switches, a GE AK-NB-30F 800A Frame Breaker, and various relays, terminal blocks, etc.

The Owner will take care of rerouting items #3 and #4 prior to the fall outage. Contractor is to remove or reroute all other items. All abandoned equipment and cabinet are to be removed and disposed of by Contractor. Contractor may scrap any items of value at his profit.

The Exciter Switchgear is located on the mezzanine floor (2nd Floor) of the power plant.

EX2000 Cabinet - Any required programming, control wiring, software upgrades, or hardware additions shall be the responsibility of the Contractor. The Contractor shall remove existing AC excitation cables from cabinet and re-terminate new cables from PPT transformer.

The EX2000 Cabinet is located on the mezzanine floor (2nd Floor) of the power plant.

Site Visit: The successful Contractor **is required** to make a site visit prior to August 1st, 2014. All pertinent personnel will be required. This visit will be used as a pre-installation meeting and to get the installation Contractor familiar with the layout of the exciter system components.

DRAWINGS:

Drawing No.	Description
23114-1EW-E1002	PGS Unit No. 1 - One Line Diagram
Sheet 1 of 2	Estimated Generator Data
Sheet 2 of 2	Estimated Generator Data
Sheet 1 of 3	Estimated Saturation & Synch Impedance Curves
Sheet 2 of 3	Estimated Reactive Capability Curves
Sheet 3 of 3	Estimated Excitation V Curves
Sheet 1 of 4	Project Component Layout
Sheet 2 of 4	Existing PPT
Sheet 3 of 4	Exciter Switchgear Cabinet
Sheet 4 of 4	EX2000 Cabinet

*NOTE: All drawings and details enclosed in this spec are for information only. Contractor is responsible to field verify all information.

BIDDING: The Bid shall include all applicable material, labor, travel, living expenses, taxes, permits, and/or delivery charges to Grand Island, Nebraska. Bids will be evaluated by the Owner based on price, schedule, quality, economy of operation, experience of the manufacturer, availability of service for repair and maintenance, adherence to specifications, and adaptability of the particular equipment for the specific use intended. 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 2:00 p.m. on Tuesday, January 28th, 2014.**

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 miles south of U.S. Highway 34 and 1 ½ miles east of U.S. Highway 281.

OWNER: Representative of the Platte Generating Station.

SCHEDULE: Work must be performed and completed during the facility's planned fall outage. The outage is **tentatively** scheduled for September 1st to September 18th, 2014. Manpower requirements and working hours should be chosen such that the work can be completed during the two (2) week outage.

Access to the plant will be available at all times and Contractor may determine working hours, however, the plant staff will only be available during normal, daytime, weekday working hours.

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

MATERIALS, EQUIPMENT, AND SERVICES PROVIDED BY THE OWNER: Owner shall provide construction power and a drinking water source.

MATERIALS, EQUIPMENT, AND SERVICES PROVIDED BY THE CONTRACTOR: Contractor shall provide all required tools, test equipment, consumables and all other equipment and materials necessary to completely perform the work. Contractor shall also provide his/her own temporary restroom facility.

SAFETY: Contractor shall follow all applicable OSHA regulations and plant safety regulations. All personnel working on site will be required to view the plant's safety presentation before commencing work.

During the course of work, Contractor shall clean up all debris daily and remove all unnecessary equipment/material. Upon completion, Contractor shall leave the premises in a neat and clean condition with respect to his/her own operation.

SUBMITTALS:

1. Contractor shall submit a proposed schedule for the work scope, including an estimate of the number of hours and the number of employees required to perform the work.
2. Contractor must supply a minimum of three (3) references for recent work with similar scope.
3. List Labor and Materials separately on the bid sheet.
4. Provide an hourly rate sheet in the event that additional work is required while onsite.

SERVICE RATES: Contractor shall include in the Bid a firm lump sum price, including expenses, and all other standard terms and conditions which will be in effect during the project. The Bid shall also include firm unit pricing for adjustments that may be required for work outside of the specified scope of services.

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

INSURANCE: Contractor shall comply with the attached Insurance Requirements.

SITE VISIT: A site visit prior to bidding is not required but highly recommended. Site visits can be arranged by contacting Ryan Schmitz at (308) 385-5495.

MINIMUM INSURANCE REQUIREMENTS
CITY OF GRAND ISLAND, NEBRASKA

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

1. WORKERS COMPENSATION AND EMPLOYER'S LIABILITY

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

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

2. BUSINESS AUTOMOBILE LIABILITY

This insurance shall be written in comprehensive form and shall protect the Bidder, Bidder's employees, or subcontractors from claims due to the ownership, maintenance, or use of a motor vehicle. The liability limits shall 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.

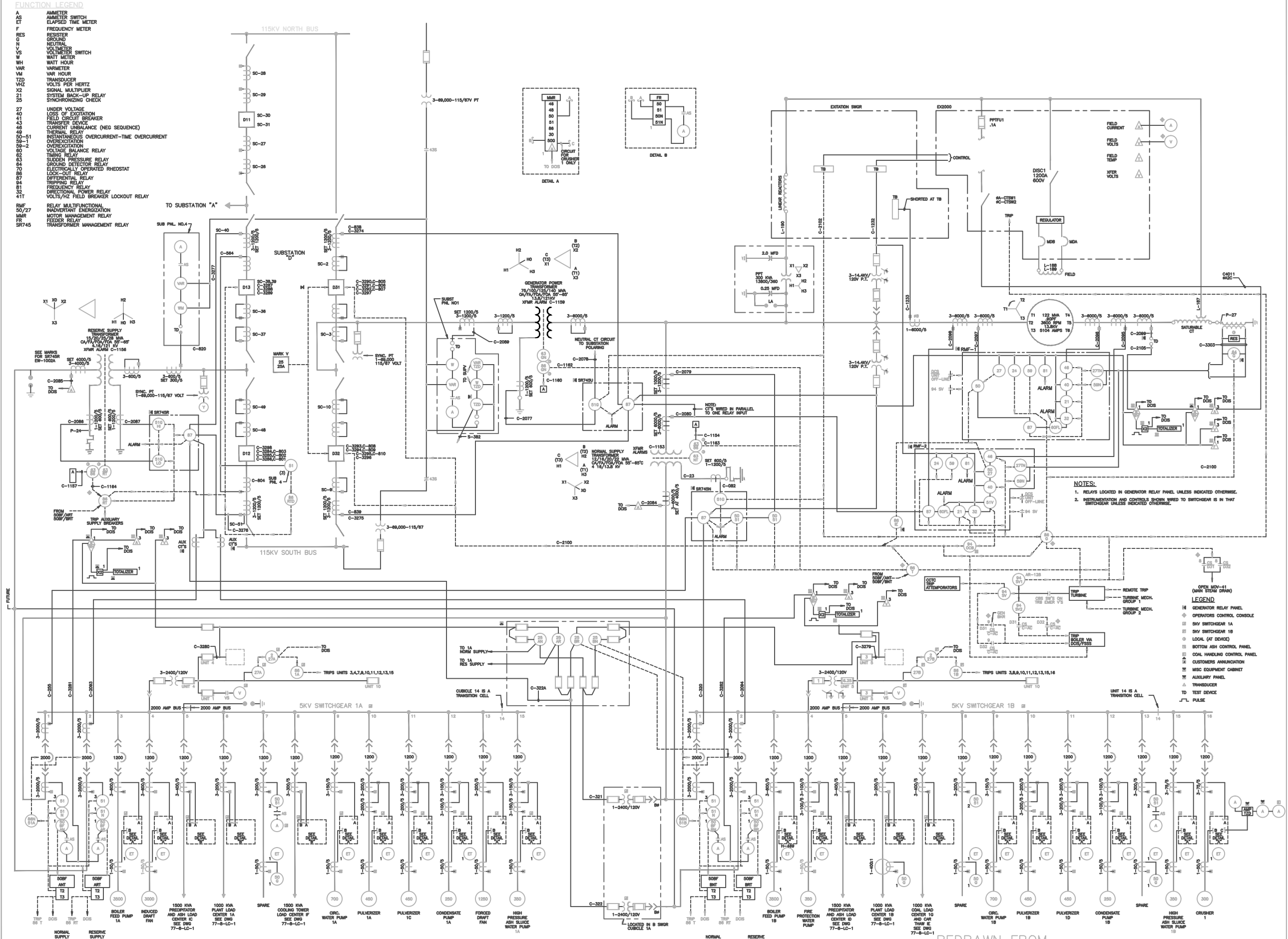
The Bidder shall provide and carry any additional insurance as may be required by special provisions of these specifications.

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.**

FUNCTION LEGEND

A	AMMETER
AS	AMMETER SWITCH
ET	ELAPSED TIME METER
F	FREQUENCY METER
RES	RESISTOR
G	GROUND
N	NEUTRAL
V	VOLTMETER
VS	VOLTMETER SWITCH
W	WATT METER
WH	WATT HOUR
VAR	VARMETER
VM	VOLTMETER SWITCH
TZD	TRANS-DUCER
VHZ	VOLTS PER HERTZ
X2	SIGNAL MULTIPLIER
21	SYSTEM BACK-UP RELAY
25	SYNCHRONIZING CHECK
37	UNDER VOLTAGE
40	LOSS OF EXCITATION
41	FIELD CIRCUIT BREAKER
43	TRANSFER DEVICE
48	CURRENT UNBALANCE (NEG SEQUENCE)
49	THERMAL RELAY
50-51	INSTANTANEOUS OVERCURRENT-TIME OVERCURRENT
58-1	OVEREXCITATION
58-2	OVEREXCITATION
60	VOLTAGE BALANCE RELAY
62	TIMING RELAY
63	SUDDEN PRESSURE RELAY
64	GROUND DETECTOR RELAY
70	ELECTRICALLY OPERATED RHEOSTAT
86	LOCK-OUT RELAY
87	DIFFERENTIAL RELAY
81	TRIPPING RELAY
81	FREQUENCY RELAY
82	DIRECTIONAL POWER RELAY
41T	VOLTS/HERTZ FIELD BREAKER LOCKOUT RELAY
RMF	RELAY MULTIFUNCTIONAL
50/27	INADVERTENT ENERGIZATION
MMR	MOTOR MANAGEMENT RELAY
FR	FEEDER RELAY
SR745	TRANSFORMER MANAGEMENT RELAY



NOTES:
 1. RELAYS LOCATED IN GENERATOR RELAY PANEL UNLESS INDICATED OTHERWISE.
 2. INSTRUMENTATION AND CONTROLS SHOWN WIRING TO SWITCHGEAR IS IN THAT SWITCHGEAR UNLESS INDICATED OTHERWISE.

LEGEND

⊞	GENERATOR RELAY PANEL
⊞	OPERATORS CONTROL CONSOLE
⊞	5KV SWITCHGEAR 1A
⊞	5KV SWITCHGEAR 1B
⊞	LOCAL (AT DEVICE)
⊞	BOTTOM ASH CONTROL PANEL
⊞	COAL HANDLING CONTROL PANEL
⊞	CUSTOMERS ANNUNCIATION
⊞	MISC EQUIPMENT CABINET
⊞	AUXILIARY PANEL
⊞	TRANS-DUCER
⊞	TO TEST DEVICE
⊞	PLUSE

REDRAWN FROM
77-8-EW-2 REV 7

3	03-05-97	GROUND FAULT RELAY ADDITION	DLH/COS/DAM
2	01-31-94	CONFORMED TO CONSTR RECORDS	TER/MAS/DAM
1	07-28-93	ISSUED FOR CONSTRUCTION	TER/DAM
0	06-14-93	ISSUED FOR 74.0202 BID	BT/CH/PP/DAM
REVISIONS AND RECORD OF ISSUE			

I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAW OF THE STATE OF MISSOURI.			
DATE	08-14-95	REG. NO.	E7844
CHECKED	MHS	DATE	07-21-95

BLACK & VEATCH	PLATE GENERATING STATION	PROJECT	23114-1EW-E1002
ENGINEER	TER	DRAWN	OSM
PLATTE GENERATING STATION - UNIT NO. 1		AREA	77-8-EW-2

ESTIMATED GENERATOR DATA

GENERATOR NO. 316X282

NAMEPLATE DATA

2 Poles, 3 Phase, Wye Connected, 60 Hertz
 Total temperature at rating guaranteed not to exceed:
 100 C on armature by detector, 120 C on field by resistance
 Maximum cold gas temperature: 46 C
 Inlet water: 95 F

	Rating	Capability	Capability
Gas 98% Purity (PSIG)	30	15	0.5
KVA	122,000	112,240	85,400
Armature Amps	5104	4696	3573
Armature Volts	13,800	13,800	13,800
Field Amps	621	588	498
Excitation Volts	375	375	375
Power Factor	0.90	0.90	0.90

DESIGN DATA

Gas 98% Purity PSIG	Maximum KVA One Cooler Out of Service
30	97,600
15	89,792
0.5	68,320

No-Load Field Current	274 Amperes
Three Phase Armature Winding Capacitance	0.903 Microfarads
Armature Winding DC Resistance (per phase)	0.00193 Ohms at 100 C
Field Winding DC Resistance	0.520 Ohms at 125 C

COLLECTOR AND BRUSH DATA

Collector brushes: 28 per set	Recommended Grade: National Carbon 634
Collector minimum safe operating diameter: 12 inches	
Shaft grounding brushes: 2 per set	Recommended Grade: National Carbon 634
If brushes spark or chatter, refer to: GEK-35474	

GAS COOLER DATA

Inlet water temperature: 95 F	Water flow at rated load: 792 gpm
Head loss through cooler: 12.5 feet	Gas flow through generator: 63,000 cfm
Gas space in generator: 1640 cubic feet	

AIR FILTER

Type of Air Filter	Farr 44
Size of Air Filter	30 x 10 x 2
Number of Air Filters	2

REACTANCE DATA (PER UNIT)**DIRECT AXIS****QUADRATURE AXIS**

Saturated Synchronous	(X _{dv})	1.667	(X _{qv})	1.596
Unsaturated Synchronous	(X _{di})	1.667	(X _{qi})	1.596
Saturated Transient	(X' _{dv})	0.175	(X' _q)	0.430
Unsaturated Transient	(X' _{di})	0.236		
Saturated Subtransient	(X'' _{dv})	0.122	(X'' _{qv})	0.118
Unsaturated Subtransient	(X'' _{di})	0.167	(X'' _{qi})	0.166
Saturated Negative Sequence	(X _{2v})	0.115		
Unsaturated Negative Sequence	(X _{2i})	0.159		
Saturated Zero Sequence	(X _{0v})	0.057		
Unsaturated Zero Sequence	(X _{0i})	0.073		
Leakage Reactance	(X _{LM,OEX})	0.136		
	(X _{LM,UEX})	0.136		

Field Time Constant Data (Sec. at 125 C)

Open Circuit	(T' _{do})	5.533	(T' _{qo})	0.380
Three Phase Short Circuit Transient	(T' _{d3})	0.580	(T' _q)	0.380
Line to Line Short Circuit Transient	(T' _{d2})	0.901		
Line to Neutral Short Circuit Transient	(T' _{d1})	1.045		
Short Circuit Subtransient	(T'' _d)	0.023	(T'' _q)	0.023
Open Circuit Subtransient	(T'' _{do})	0.033	(T'' _{qo})	0.083

Armature DC Component Time Constant Data (Sec. at 100 C)

Three Phase Short Circuit	(T _{a3})	0.248
Line to Line Short Circuit	(T _{a2})	0.248
Line to Neutral Short Circuit	(T _{a1})	0.206

Per Unit Armature Winding Sequence Resistance Data

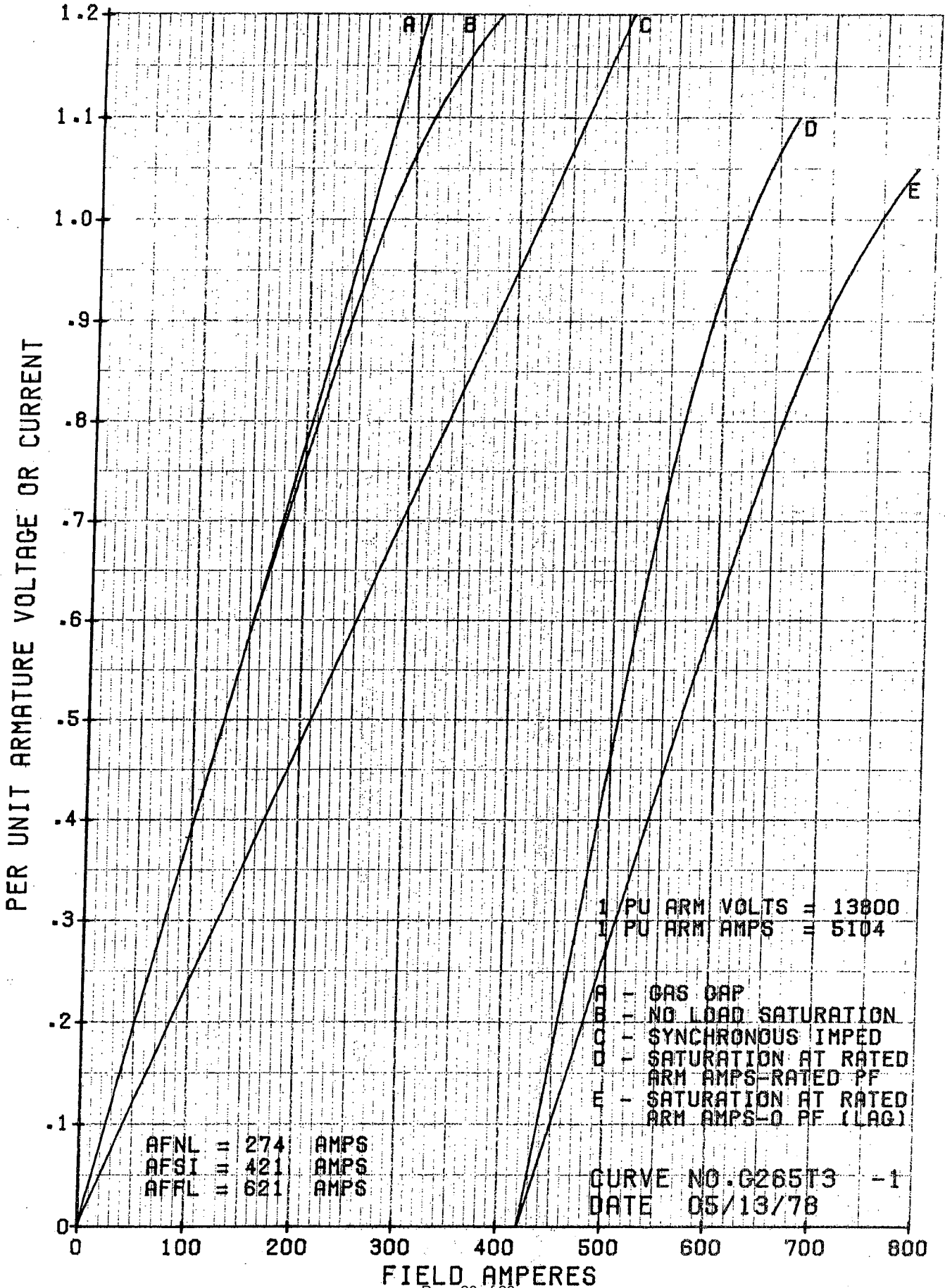
Positive	(R ₁)	0.003
Negative	(R ₂)	0.014
Zero	(R ₀)	0.005

Rotor Short-time Thermal Capacity (I ₂) ² t	30
Turbine and Generator Combined Inertia Constant (H)	2.75 KW Sec./KVA

ESTIMATED SATURATION AND SYNCHRONOUS IMPEDANCE CURVES

122000 KVA - 3600 RPM - 13800 VOLTS - .90 PF

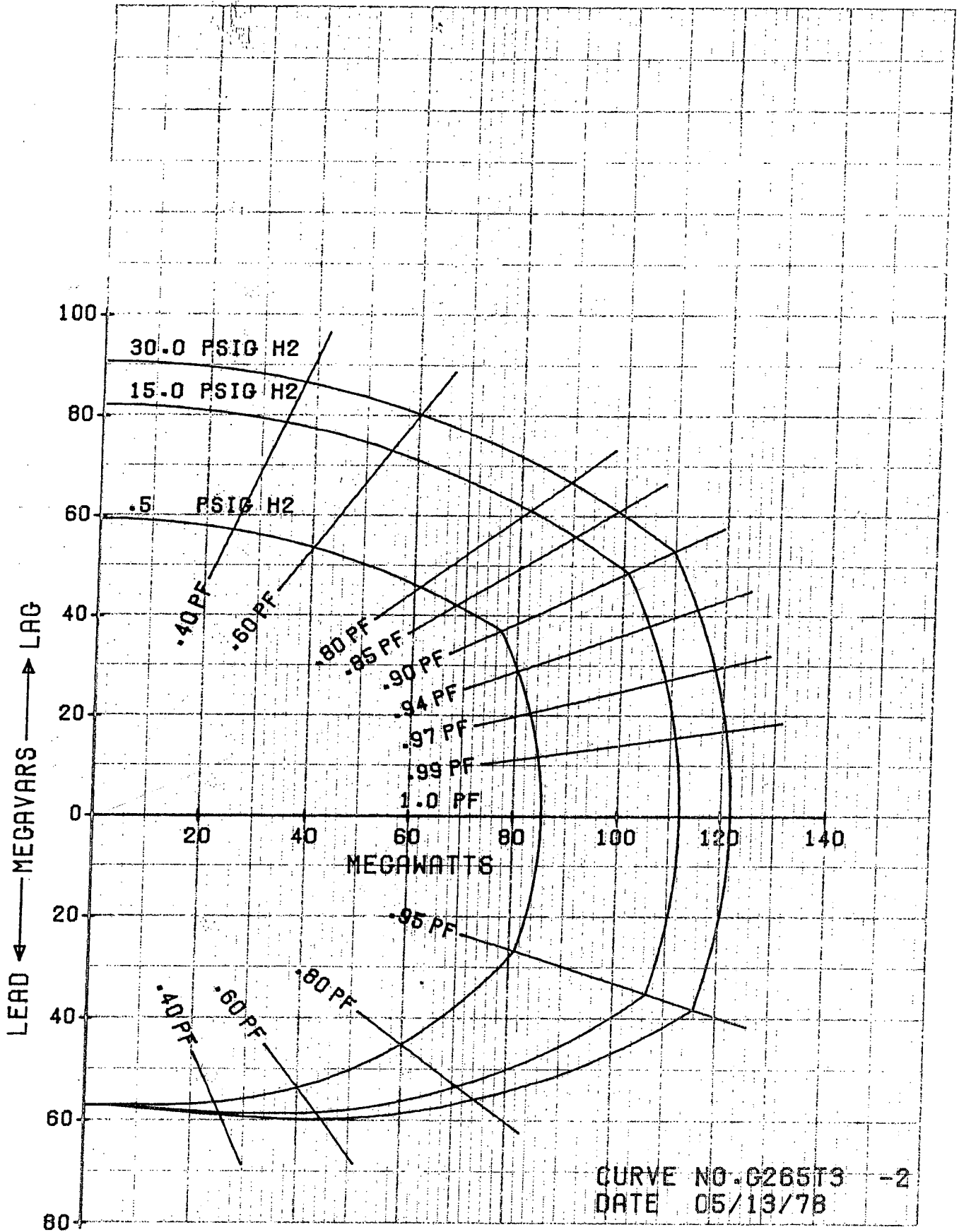
.58 SCR - 30 PSIG H2 - 375 FLD VOLTS



ESTIMATED REACTIVE CAPABILITY CURVES

122000 KVA - 3600 RPM - 13800 VOLTS - .90 PF

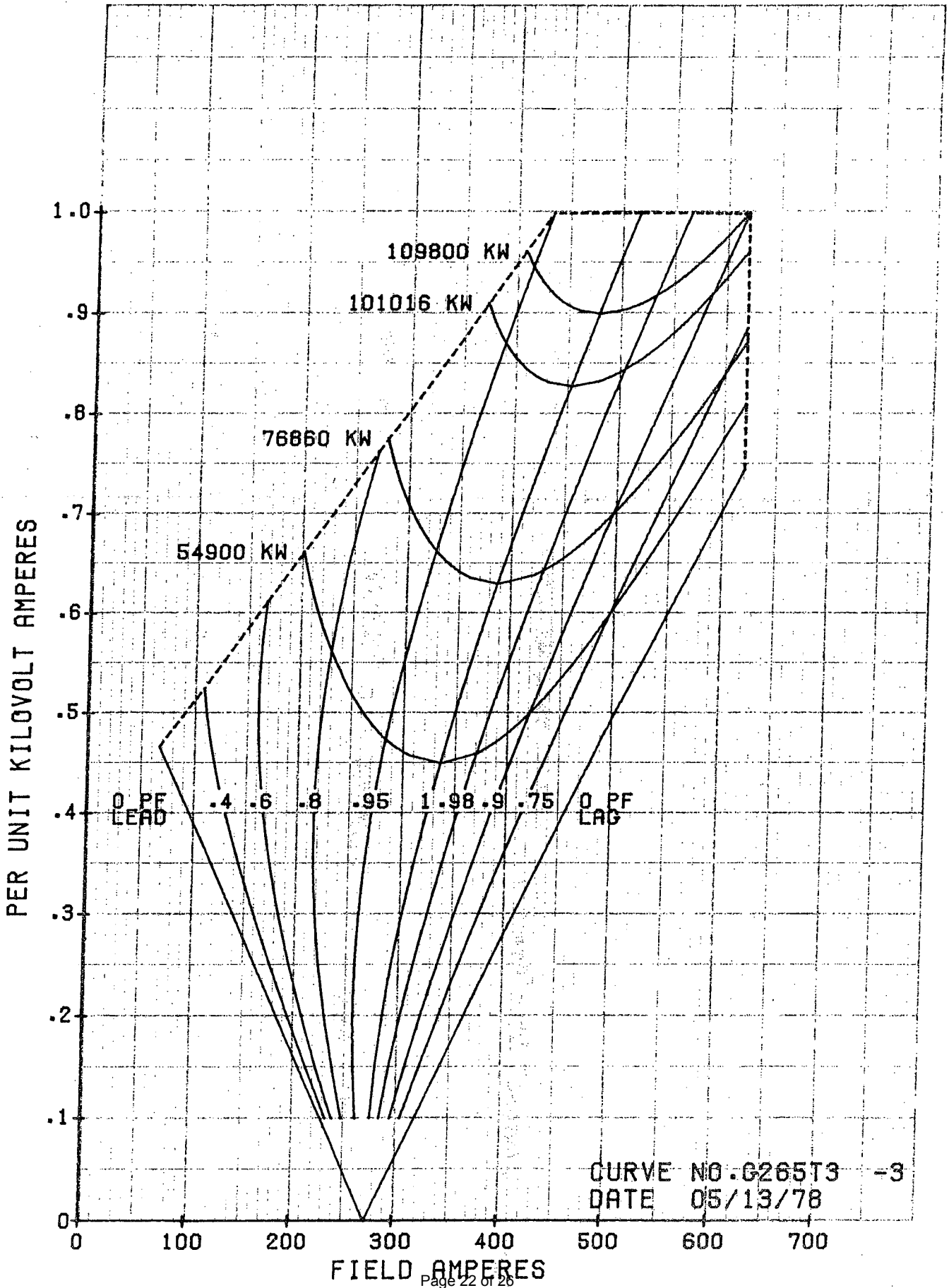
.58 SCR - 30 PSIG H2 - 375 FLD VOLTS



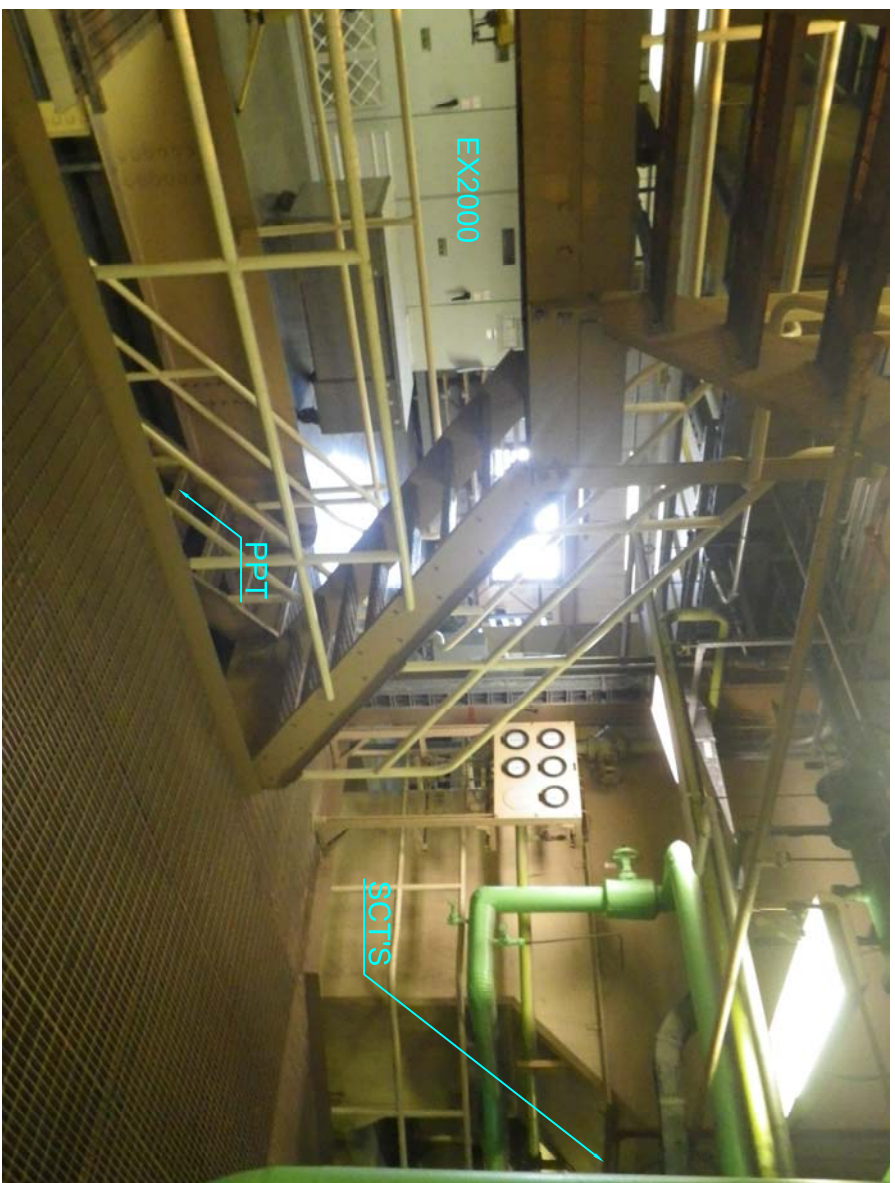
ESTIMATED EXCITATION V CURVES

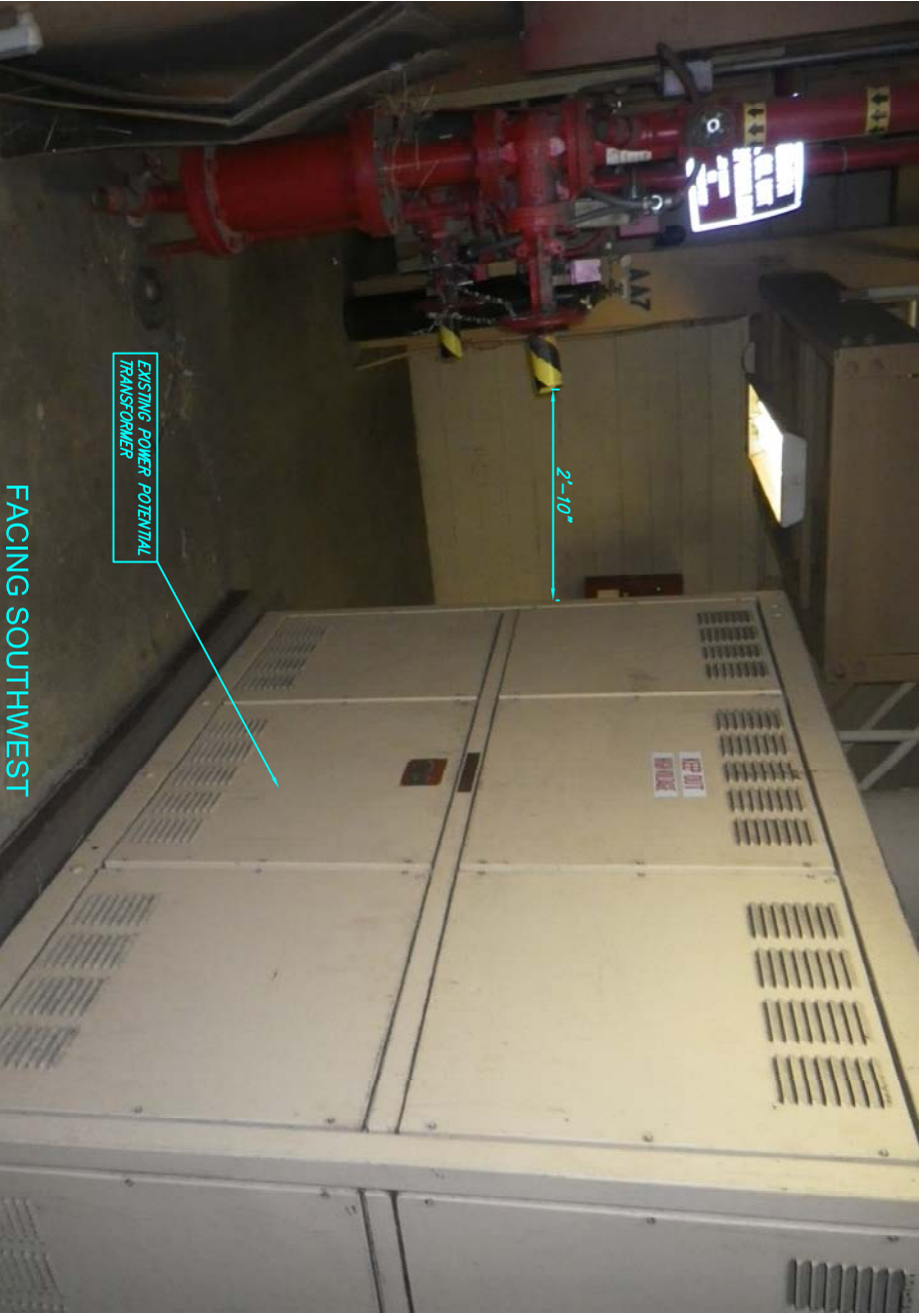
122000 KVA - 3600 RPM - 13800 VOLTS - .90 PF

.58 SCR - 30 PSIG H2 - 375 FLD VOLTS



CURVE NO. G265T3 -3
DATE 05/13/78





FACING SOUTHWEST

EXISTING POWER POTENTIAL TRANSFORMER

2'-10"



FACING NORTH

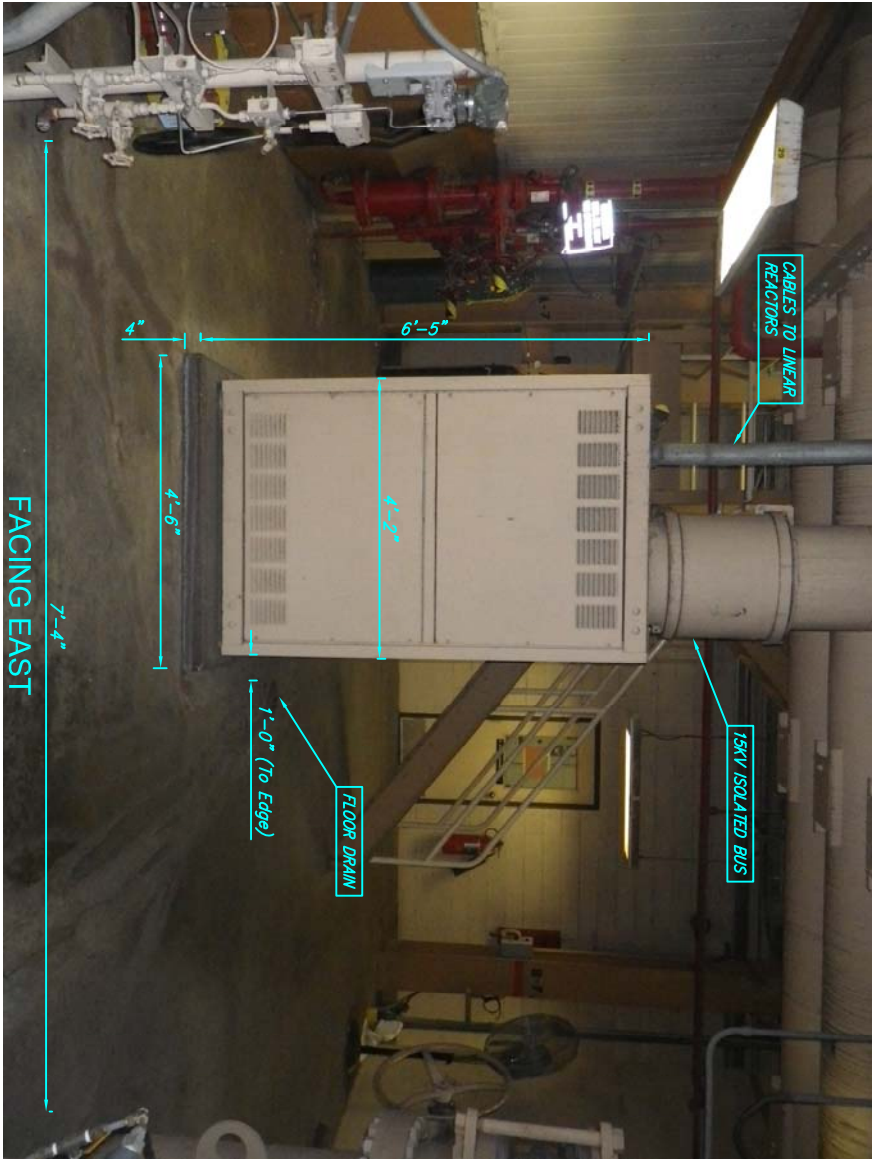
OVERHEAD DOOR

4'-0"

8'-9"

1'-2"

1'-0"



FACING EAST

CABLES TO LINEAR REACTORS

15KV ISOLATED BUS

FLOOR DRAIN

1'-0" (To Edge)

4"

4'-6"

4'-3"

7'-4"



FACING WEST

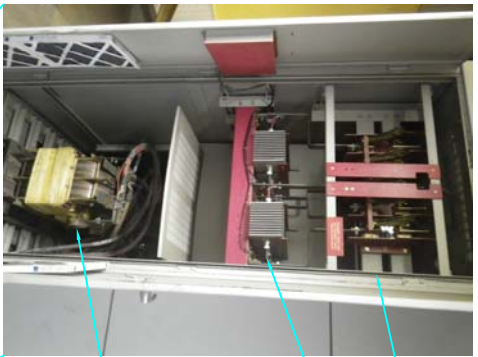
NOTE: OVERHEAD DOOR SITS ADJACENT TO GREEN AUX WATER PIPE IN BACKGROUND. DOOR OPENING IS 19.5' X 8'

EX2000 PPT TRANSFORMER UPGRADES
EXISTING PPT
PLATTE GENERATING STATION



DESIGN	RLS
DRAWN	RLS
DATE	12/20/2013
PROJECT NO.	14.PGS001
SHEET NO.	OF 4
C-2	

REVISIONS



ABANDONED SWITCH (FRONT AND BACK OF CABINET)

ABANDONED RECTIFIER BRIDGE (FRONT AND BACK OF CABINET)

2 X LINEAR REACTOR (FRONT AND BACK OF CABINET)

JUMPER LOCATION IN CABINET. THIS TERMINATION IS USED AS A JUNCTION BETWEEN THE PRT/SCT/LINEAR REACTORS AND EX2000 CABINET. (PICTURE FROM BACK OF CABINET)



ABANDONED SWITCH

ABANDONED RECTIFIER BRIDGE

1 X LINEAR REACTOR



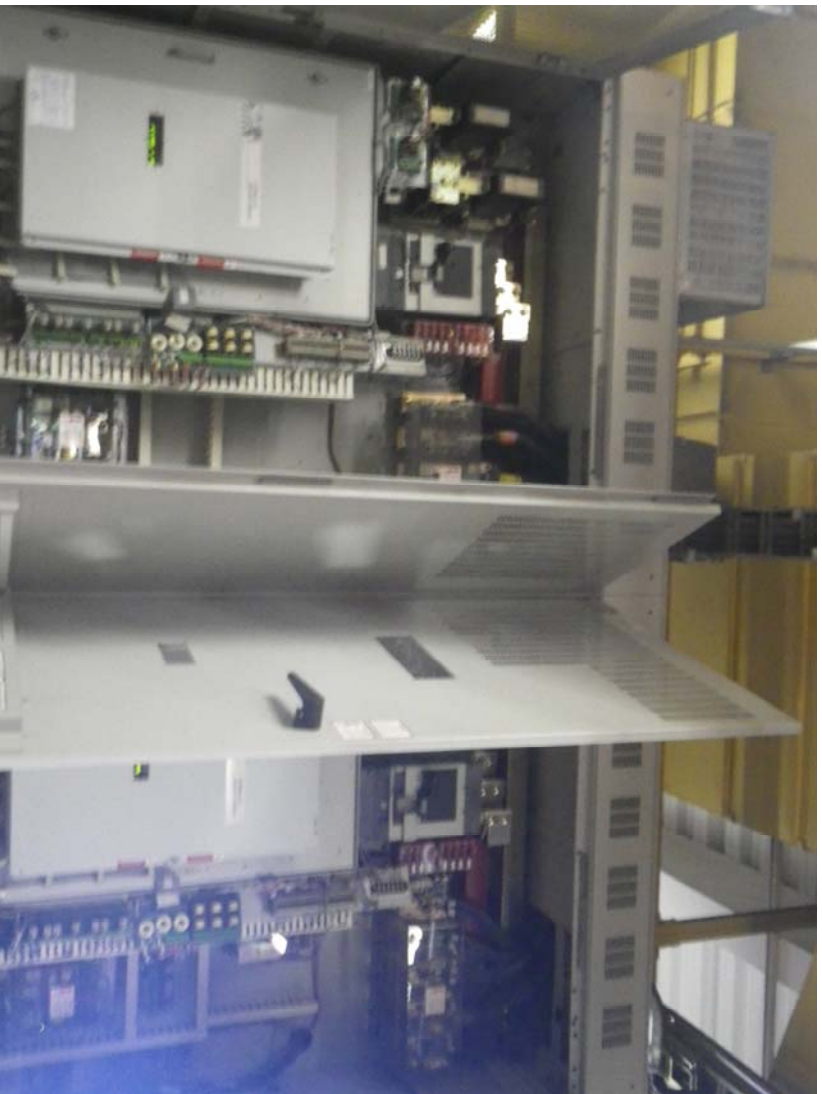
CONTRACTOR SHALL REMOVE EXCITER SWITCHGEAR CABINET AND ALL HOUSED COMPONENTS.

CURRENT EQUIPMENT TO BE REMOVED BY CONTRACTOR. REMAINING FIELD CONNECTIONS (SEE SPEC FOR DETAILS) BEING USED WILL BE REQUESTED BY OWNER PRIOR TO FALL SHUTDOWN.



EX2000 PPT TRANSFORMER UPGRADES
EXCITER SWITCHGEAR CABINET
PLATTE GENERATING STATION

REVISIONS
DESIGN RLS
DRAWN RLS
DATE 12/20/2013
PROJECT NO. 14.PGS001
SHEET NO. C-3
OF 4



EX2000 PPT TRANSFORMER UPGRADES
EX2000 CABINET
PLATTE GENERATING STATION

Page 26 of 26



1035 W. Wildwood Dr., Box 1968 Grand Island, NE 68802

REVISIONS

DESIGN	RLS
DRAWN	RLS
DATE	12/20/2013
PROJECT NO.	14.PGS001
SHEET NO.	

OF 4
C-4