

**CONTRACT DOCUMENTS
&
TECHNICAL SPECIFICATIONS**

HU 2026-41

**DON HENRY POWER CENTER
CONTROLS REPLACEMENT**

CITY OF HASTINGS

**Proposals Will Be Opened Promptly At
4:00 PM, Wednesday, May 20, 2026**

Bid Submitted By: _____



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**CONTRACT AND SPECIFICATIONS
FOR
DON HENRY POWER CENTER
CONTROLS REPLACEMENT
FOR
CITY OF HASTINGS
HASTINGS, NEBRASKA**

Contract No. HU 2026-41

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ADVERTISEMENT FOR BIDS

The City of Hastings, Nebraska, will receive bids for the **Don Henry Power Center Controls Replacement, HU 2026-41** until 4:00 p.m. at the City of Hastings, 1228 N Denver Ave., Hastings, Nebraska, on Wednesday, May 20, 2026, at which time and place all bids will be publicly opened and read aloud. **Brief description of project: Design, manufacture, furnish, test a new DCS control system for Don Henry Power Center in Hastings, Nebraska.** If you plan on bidding and are not already on our approved bidders list for this project, you are REQUIRED to fill out the [Plan Holders Submittal Form](#) that is located on the City website: <https://www.cityofhastings.org/bids/>.

The Contract Documents, including plans and specifications, are on file at the City of Hastings 1228 N Denver Avenue, Hastings, Nebraska 68901. Copies of the plans and specifications in electronic (PDF) format may be obtained by visiting the City of Hastings Website: www.cityofhastings.org/bids. A paper copy is available for \$75.00, plus sales tax (\$5.25), plus shipping.

Each bid shall be accompanied by a certified check, drawn on a solvent bank in the State of Nebraska, or a bid bond in an amount of not less than five percent (5%) of the total bid of all contract construction costs, made payable to the City Treasurer of the City of Hastings, Nebraska, as security that the bidder to whom the contract may be awarded will enter into a contract to build all the improvements in accordance with this notice and give bond in the sum hereinafter provided for the construction of improvements.

No bid shall be withdrawn after opening of bids without the consent of the City of Hastings, Nebraska, for a period of sixty (60) days after scheduled time of closing bids.

Time is of the essence in this contract. In evaluating bid(s) received, the City will consider the timelines of completion of prior construction contracts, existing workload of bidders and available manpower that bidder commits to the project.

The successful bidder will be required to furnish a Performance Bond in the sum of the full amount of the Contract within ten (10) days of the date of award. No additional time will be allowed the Contractor for providing the Performance Bond.

DATED AT HASTINGS, NEBRASKA, this 8th day of April, 2026.

CITY OF HASTINGS, NEBRASKA

Tyler Ficken, City Clerk

Publish:
April 14, 2026
April 21, 2026

Furnish 2 proofs of publication

INSTRUCTIONS TO BIDDERS

All proposal information, including any unit price fill in sheets or other required information, shall be submitted on the proposal forms hereto attached. Copies of addenda, if any, shall be signed and attached. City of Hastings does NOT accept faxed or emailed bid returns.

Bidders shall inform themselves of all relevant matters, and, if awarded the contract, shall not be allowed any extra compensation by reason of any matter or thing concerning which such Bidder might not have fully informed himself, prior to the bidding.

The Bidder bidding on the Specifications herein, who has exceptions to those called for in the Specifications, must so state in the space provided below and/or attach a letter explaining in detail the exceptions taken to those required in the Specifications. This letter of explanation shall become a part of the bid and shall be attached hereto. Failure by the Bidder to outline his exceptions will require the successful Bidder to comply with these Specifications.

EXCEPTIONS TO SPECIFICATIONS:

The City will not assume obligations resulting from losses or damages until acceptance of the equipment.

If any person contemplating submitting a bid for this contract is in doubt as to the true meaning of any part of the Specifications or other proposed contract documents, he may submit to Purchaser a written request for an interpretation thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation of the proposed documents will be made only by addendum duly issued or delivered to each person receiving a set of such documents. The Purchaser will not be responsible for any other explanation or interpretation of the proposed documents.

All addendums must be signed and attached to bid documents.

BIDDER PRE-QUALIFICATION

CITY OF HASTINGS DON HENRY POWER CENTER CONTROLS REPLACEMENT Contract No. HU 2026-41

In order for their proposals to be considered, bidders without previous successful work history with City of Hastings must demonstrate before the bid opening that they are qualified to perform the work satisfactorily. Each prospective bidder shall submit written evidence of their qualifications to the Owner, not less than fifteen (15) days before the date of bid opening. Such evidence shall certify that the bidder:

1. Maintains a permanent place of business;
2. Has technical knowledge and practical experience in distributed control systems and gas turbines;
3. Has available the organization and qualified manpower to do the work;
4. Has no just or proper claims pending against him or his work; and
5. Has furnished other systems of similar type and complexity. The evidence shall consist of a listing of the facilities indicating the owner's name, contact info, location, approximate dollar value, type of facilities, date of completion, and system description.

IF YOU HAVE QUESTIONS OR NEED HELP ON THESE SPECIFICATIONS

PLEASE CONTACT ANY OF THE FOLLOWING:

TECHNICAL QUESTIONS

Brandon Miller – Mechanical Engineer
1228 N Denver Ave
Hastings, NE 68901
Ph# 402-462-3653
Email: bidquestions@cityofhastings.org

GENERAL QUESTIONS OR REQUESTS

Rena Griess
Engineering Admin Assistant
Ph# 402-462-3665
Email: bidquestions@cityofhastings.org

IMPORTANT SUBMITTAL INSTRUCTIONS

ON HOW TO SUBMIT YOUR BID

FOR

CITY OF HASTINGS

DON HENRY POWER CENTER

CONTROLS REPLACEMENT

Contract No. HU 2026-41

Your bid **MUST** be returned by means of hand delivery, USPS, Fed-X, UPS, or other carrier by 4:00 p.m. on the date of the bid opening. Any bids received after this time will be returned unopened to the Vendor. City of Hastings **DOES NOT ACCEPT** bids that are faxed or emailed.

ALL the following documents are **TO BE SUBMITTED** in your bid packet.

- 1. Cover sheet with your company's name filled in**
- 2. ALL addendums received – must be acknowledged and signed**
- 3. Bid Bond**
- 4. If Exceptions, Instructions to Bidders with any exceptions listed**
- 5. Proposal Page(s)**
- 6. Proposed progress payment schedule**

FAILURE TO RETURN REQUIRED BID DOCUMENTS

COULD SUBJECT YOUR BID PROPOSAL TO BE REJECTED

IMPORTANT MAILING (OR HAND DELIVERY) INSTRUCTIONS

Please address your return envelope as shown in the example below. All bids must be sealed in a properly marked envelope.

To hand deliver, please drop off between the hours of 8am – noon and 1-5pm Monday through Friday.

<p>Your Return Address</p> <p>City of Hastings Attn: Renae Griess 1228 N Denver Avenue Hastings, NE 68901</p> <p><u>This Information MUST BE typed or written in the lower left hand corner of return envelope OR SIMPLY CUT OUT AND TAPE ON YOUR RETURN ENVELOPE</u></p> <p>✂ ✂ ✂ ✂</p> <table border="1"><tr><td><p>BID DOCUMENTS ENCLOSED ATTN: Renae Griess Contract No: Don Henry Controls Replacement HU 2026-41 Bid Opens: Wednesday, May 20, 2026 @ 4:00 PM</p></td></tr></table>	<p>BID DOCUMENTS ENCLOSED ATTN: Renae Griess Contract No: Don Henry Controls Replacement HU 2026-41 Bid Opens: Wednesday, May 20, 2026 @ 4:00 PM</p>
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If returning Fed-X or similar carrier, please enclose the bid in an “inner” envelope which is sealed. Please make sure BOTH envelopes are properly marked on the OUTSIDE OF THE ENVELOPE as shown in the example above.

One bid per envelope. Bid submittal via email is not allowed. Bids must be checked in to the City of Hastings prior to 4:00 pm deadline.

**Proposal for Don Henry Power Center Controls Replacement
Contract No. HU 2026-41**

TO: City of Hastings
1228 N. Denver Ave
Hastings, NE 68901

Bid Opening: May 20, 2026 (Wednesday)
SEALED BIDS MUST BE RECEIVED BY 4:00 P.M.
AND WILL BE OPENED PROMPTLY AT THAT
TIME

We, the undersigned, being familiar with all parts of these documents, being Notice to Bidders, Bid Proposal Price Sheets, Contract Document Forms, Plans and Specifications, Affidavit, Material List, and all other parts of this document, do herein submit our proposal to furnish, install, and perform all tasks required to complete said project area(s) for the total costs.

The labor portion is not subject to sales tax; however, the material portion is taxed accordingly. The project is inside of city limits and is subject to **7.0% sales tax**. See following tax rules and regulation language.

BID SECTION I: DHPC Controls Replacement

Item#	Description	Unit Price	Total
1	Design, manufacture, furnish, test, and delivery of a new DCS Control System per the attached specifications	<u>LUMP SUM</u>	\$
2	Field Services and Training per Section 011100 Part 109 of the specifications	<u>LUMP SUM</u>	\$
3	Sales Tax	*(For Option 1 Contractors only) Sales Tax on materials of the above items	\$
TOTAL SECTION I			
			\$
In Words			

BID SECTION II: DHPC Vibration Monitoring System

Item#	Description	Unit Price	Total
1	Upgrade existing vibration monitoring system per Section 260548 of the specifications	<u>LUMP SUM</u>	\$
2	Sales Tax	*(For Option 1 Contractors only) Sales Tax on materials of the above items	\$
TOTAL SECTION II			
			\$
In Words			

Proposal for Don Henry Power Center Controls Replacement

Contract No. HU 2026-41

BID SECTION III: Spare Parts

Item#	Description	Unit Price	Total
1	Recommended Spare Parts – Vendor to include an itemized list with unit prices, lead times, and recommended quantities per Section 011100 Part 105	<u>LUMP SUM</u>	\$
2	Sales Tax	*(For Option 1 Contractors only) Sales Tax on materials of the above items	\$
TOTAL SECTION III			
			\$
In Words			

Equipment Delivery Date: September 17, 2027

Project Completion Date : December 20, 2027

For purposes of sales/use tax, this project falls under Nebraska Sales and Use Tax Regulation 1-017 for Contractors. By definition, a contractor is “any person who repairs property annexed to, or who annexes property to, real estate, including leased property, by attaching building materials to the annexed property or improvement being built or repaired, or who arranges for annexation of property.” Please refer to www.revenue.nebraska.gov/salestax.html for additional information.

For calculating this proposal:

- All contractors are to include sales/use tax on materials in the bidder’s prices, if applicable.
- **Option 1 contractors must separately state materials, sales tax, labor, and other charges on all invoices for the project. Any invoices submitted that do not include this required breakdown of the charges will not be accepted for payment. (This requirement does not apply to Option 2 or 3 contractors.)**
- The sales/use tax rate on building materials is 7.0% for projects within Hastings’ city limits and 5.5% for projects outside of city limits.
- Contractor labor charges for this proposal are not subject to sales/use tax per the Nebraska Department of Revenue Notice to Contractors effective October 1, 2007.
- In submitting this bid, the bidder certifies that he will comply with all applicable laws, ordinances, and codes of the City of Hastings and the State of Nebraska.
- For this project, Contractor will supply all materials.

What contractor option have you registered with the Nebraska Department of Labor (must select one)? Please refer to <https://dol.nebraska.gov> for additional information.

Option 1 _____

Option 2 _____

Option 3 _____

Is Nebraska Sales/Use Tax included in the above prices.

Yes _____ No _____

**Proposal for Don Henry Power Center Controls Replacement
Contract No. HU 2026-41**

(ALL COSTS TO INCLUDE CITY AND STATE SALES TAX)

The undersigned bidder agrees to furnish the required performance bond and to enter into a contract within ten (10) days after acceptance of the Proposal and further agrees to complete all work covered by the foregoing Proposal in accordance with specified requirements.

Exceptions: No Yes (If yes, list on ***“Instructions to Bidders”*** page)

Any modification of bid proposal will be considered non-conformance of the bid. All exceptions to the proposal shall be noted as an exception to the bid.

City of Hastings may at its own discretion delete any project area and / or component prior to award of contract. City of Hastings will award any or all bid sections to one contractor.

In submitting this proposal, it is further understood that the City of Hastings reserves the right to reject any or all proposals and may waive any informalities and may accept the proposal which best suits its needs. It is further understood that this proposal may not be withdrawn for a period of sixty days (60) days after bids are opened.

All bid documents, including proposals, bid bonds, subcontractor designation, etc., must be submitted with original signatures. No copies will be accepted.

OFFICIAL NAME & ADDRESS

Firm Name	Signature
Address	Typed or Printed Name
City, State, Zip	Title
Phone No.	Date
Fax No.	Email Address

**ALL BIDS MUST BE CHECKED IN TO THE CITY OF HASTINGS
PRIOR TO 4:00 PM DEADLINE**

AGREEMENT

THIS AGREEMENT, made and entered into this ___ day of _____, 2026, by and between the City of Hastings, Party of the First Part, hereinafter called the "Purchaser" or "City", and _____ of (town) _____ in the State of _____, Party of the Second Part, hereinafter called the "Contractor".

WITNESSETH: THAT,

WHEREAS: The Purchaser has caused the necessary contract documents to be prepared for defining material, equipment, and/or labor to be supplied to the City of Hastings and delivered complete as specified in the accompanying contract documents.

WHEREAS: The Purchaser has advertised for bids from Contractors, has received said bids, analyzed same and duly awarded a contract to the "Contractor", "Party of the Second Part", for material, equipment, and/or labor as hereinafter set forth and as stated more in detail in the Proposal and related contract documents to wit; Notice to Bidders, Instructions to Bidders, Specifications; all of which documents are attached hereto and made a part of this Contract.

NOW, THEREFORE: It is hereby agreed that for the sum of _____.
(\$ _____)

to be paid by the Purchaser, within Thirty (30) days after the acceptance of material, equipment, and/or labor by the Purchaser, to the Contractor, the Contractor agrees to furnish all materials, equipment, and/or labor as required by the accompanying specifications, and the aforesaid contract documents, for **HU 2026-41 Don Henry Power Center Controls Replacement.**

All materials, equipment, and/or labor shall be in accordance with the accompanying contract documents and specifications which are as much a part of this Agreement as if repeated verbatim herein.

It is further agreed that the Contractor will start work promptly, furnish the necessary drawings promptly and complete the work in the number of days set forth in the Proposal.

IN WITNESS WHEREOF: The Parties of the First and Second Parts have hereto set their hands and seals on the day and year above written.

CITY OF HASTINGS
Party of the First Part

By: _____

Date: _____

ATTEST:

City Clerk

CONTRACTOR
Party of the Second Part

SEAL

By: _____

Title: _____

Date: _____

APPROVED TO FORM:

City Attorney

Note: If executed by one other than President, Partner or the individual Owner, a Power-of-Attorney authorizing execution should accompany this Contract.

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, the undersigned, _____,
as principal, and _____,
a corporation organized and existing under the laws of the State of _____,
and duly authorized to transact business in the State of Nebraska, as surety are held and firmly
bound unto the CITY OF HASTINGS, NEBRASKA, a municipal corporation organized and
existing under the laws of the State of Nebraska, hereinafter referred to as CITY, in the penal sum
of _____ Dollars (\$ _____),
lawful money of the United States, for the payment of which will and truly be made, we the said
principal and the said surety do hereby bind ourselves, our heirs, executors, administrators and
assigns, jointly and severally, by these presents as follows:

The condition of this obligation is such that, whereas the principal, by an instrument in writing
attached hereto and bearing the date of _____, 20____, has agreed with the
CITY to do all work necessary and to furnish all labor, materials, supplies, tools and equipment to

as specified thereby and in the specifications, proposals and contract forming the Contract
Documents attached thereto and made a part hereof:

NOW THEREFORE, if the principal shall well and truly in good, sufficient and in a
workmanlike manner, and to the satisfaction of the CITY perform and complete the work required,
and shall defend, indemnify and save harmless the CITY against all damages, claims, demands,
expenses and charges of every kind (including claims of patent infringement) arising from any act,
omission or neglect of said principal, his agents, servants or employees, with relation to said work,
and shall pay all costs, charges, rentals and expenses for labor, materials, supplies and equipment
and deliver the said improvement to the CITY completed and ready for operation and free from all
encumbrances or claims for labor, materials or otherwise, and shall pay all other expenses lawfully
chargeable to the CITY, and this bond shall also be for the use and benefit of all persons who may
perform any work or labor or furnish any material in the execution of said Contract and may be

sued on thereby in the name of any such party claiming the benefit hereof, then this obligation shall be void, otherwise the same shall remain in full force and effect. This obligation shall be in full force and effect for the full guarantee period provided in the specifications contained herein.

PROVIDED FURTHER, that said surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract or the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this bond, and it does hereby waive notice of any change, extension of time, alteration or addition to terms of the Contract, to the work or to the specifications.

PROVIDED FURTHER, that if the principal of his, their or its subcontractor or subcontractors fail to duly pay for any labor, materials team, hire sustenance, provisions, provender or any other supplies or materials used or consumed by such contractor of his, their or its subcontractors in performance of the work contracted to be done, the surety will pay the same in any amount not exceeding the sum specified in the bond together with interest as provided by law.

IT WITNESS WHEREOF, said principal and surety have hereunto set their hands and seals at _____ this _____ day of _____, 20____,

This Bond is executed in triplicate counterparts.

	_____	Principal
(SEAL)	_____	Street Address
_____	_____	City, State, Zip
Witness	_____	Name of Person Executing
	_____	Surety
ATTEST:	_____	By: _____
_____	_____	Title: _____

INSURANCE COVERAGE

The undersigned hereby certifies that Workmen's Compensation, Public Liability and Property Damage, and Automobile Liability and Property Damage Insurance is in force and effect in accordance with the requirements contained in "Instruction To Bidders" which is a part of this document "Bid Proposal And Specifications". We further agree to give ten (10) days notice to the City of Hastings before effective date of cancellation or reduction of any of the above coverage.

This Insurance Coverage applies only to _____

Dated _____

SUPPLIER

By _____

Title _____

Date _____

INSURANCE COMPANY

By _____

Title _____

Address _____

Date _____

SECTION 1 - GENERAL CONDITIONS

GENERAL CONDITIONS

GC.1 Contract Documents

It is understood and agreed that the Notice to Bidders, Instructions to Bidders, Proposal, Proposal Data, Contract Agreement, Performance Bond, Payment Bond, General Conditions, Special Conditions, Specifications, Drawings, Addenda, and Change Orders issued by the Purchaser or the Engineer, and specifications and engineering data furnished by the Contractor and accepted by the Purchaser, are each included in this Contract and the work shall be done in accordance therewith.

GC.2 Definitions

Words, phrases, or other expressions used in these contract documents shall have meanings as follows.

1. "Contract" or "contract documents" shall include the items enumerated above under CONTRACT DOCUMENTS.
2. "Purchaser" shall mean the City of Hastings named and designated in the Contract Agreement as "Party of the First Part," and their duly authorized agents. All notices, letters, and other communication directed to the Purchaser shall be addressed and delivered to:

City of Hastings
1228 North Denver Avenue
P.O. Box 398
Hastings, Nebraska 68902-0289
Attention: Mr. Brandon Miller
Mechanical Engineer
3. "Contractor" shall mean the corporation, company, partnership, firm or individual named and designated in the Contract Agreement as the "Party of the Second Part," who has entered into this Contract for the performance of the work covered thereby, and its, his, or their duly authorized representatives.
4. "Subcontractor" shall mean and refer only to a corporation, partnership, or individual having a direct contract with the Contractor for performing work covered by these contract documents.
5. "Engineer" shall also refer to City of Hastings as the purchaser.
6. "Date of contract," or equivalent words, shall mean the date written in the first paragraph of the Contract Agreement.
7. "Day" or "days," unless herein otherwise expressly defined, shall mean a calendar day or days of 24 hours each.
8. "The work" shall mean the equipment, supplies, materials, labor, and services to be furnished under the contract and the carrying out of all obligations imposed by the contract documents.

SECTION 1 - GENERAL CONDITIONS

9. "Drawings" or "plans" shall mean all (a) drawings furnished by the Purchaser as a basis for proposals, (b) supplementary drawings furnished by the Purchaser to clarify and to define in greater detail the intent of the contract drawings and specifications, (c) drawings submitted by the successful bidder with his proposal, provided such drawings are acceptable to the Purchaser, (d) drawings furnished by the Purchaser to the Contractor during the progress of the work, and (e) engineering data and drawings submitted by the Contractor during the progress of the work, provided such drawings are acceptable to the Engineer.
10. Whenever in these contract documents the words "as ordered," "as directed," "as required," "as permitted," "as allowed," or words or phrases of like import are used, it shall be understood that the order, direction, requirement, permission, or allowance of the Purchaser or Engineer is intended only to the extent of judging compliance with the terms of the contract; none of these terms shall imply that the Purchaser or the Engineer has any authority or responsibility for supervision of the Contractor's forces or construction operations, such supervision and the sole responsibility therefor being strictly reserved for the Contractor.
11. Similarly the words "approved," "reasonable," "suitable," "acceptable," "proper," "satisfactory," or words of like effect and import, unless otherwise particularly specified herein, shall mean approved, reasonable, suitable, acceptable, proper, or satisfactory in the judgment of the Purchaser or Engineer, to the extent provided in (10) above.
12. Whenever in these contract documents the expression "it is understood and agreed" or an expression of like import is used, such expression means the mutual understanding and agreement of the parties executing the Contract Agreement.
13. "Official acceptance" shall mean the Purchaser's written acceptance of all work performed under this Contract, based on the Engineer's final inspection and issuance of a final payment certificate.
14. "Project completion" shall mean that the Don Henry Gas Turbine is ready for operation. The project completion date is at the end of day, December 20th, 2027.
15. "Final Acceptance" shall mean that all work has been completed in accordance with these specifications, the project has been walked down, punch list items have been completed, and Purchaser is ready to accept the Work as complete.
16. "Stop Work Order" shall mean that the Purchaser will provide a written order to the Contractor requiring the Contractor to stop all, or any part of, the work called for by this Contract, for a time defined by the order. The order shall specify the reasoning for the suspended work, which may include, but are not limited to, engineering considerations, changes to the project scope, safety or environmental concerns, or other issues

SECTION 1 - GENERAL CONDITIONS

detrimental to the project. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order. As soon as practical, the Purchaser and Contractor shall discuss the impacted activities, schedule, materials, labor, and equipment. If applicable, Purchaser and Contractor will seek to negotiate an equitable adjustment in the schedule, Contract price, or both, and the contract shall be modified, or a change order issued, as necessary. Upon any agreement and finalization of commercial conditions, Purchaser to provide written order to cancel the stop work order.

GC.3 Execution of the Contract

Once the bids have been evaluated, the Purchaser will electronically submit the Contract Agreement to the Contractor. The Contractor shall sign the Contract Agreement and return to Purchaser for the final approval process. Upon final approvals, the Contract Agreement will be signed by the Purchaser and electronically returned to the Contractor. Contractor shall then mail one hardcopy of required bonds, one electronic or hardcopy of insurance documents, and one electronic or hardcopy of power of attorney forms to the Purchaser. The date of contract on the bond forms and power of attorney forms shall match the date provided on the Contract Agreement by the Purchaser.

The Purchaser will review the final documents and electronically send a final conformed contract to the Contractor.

GC.4 Legal Addresses

The business address of the Contractor listed in the Proposal is hereby designated as the place to which all notices, letters, and other communication to the Contractor will be mailed or delivered. The address of the Purchaser appearing in section GC.2 is hereby designated as the place to which all notices, letters, and other communication to the Purchaser shall be mailed or delivered. Either party may change his address at any time by an instrument in writing delivered to the Engineer and to the other party.

GC.5 Scope and Intent of Contract Documents

The various parts of the contract documents are intended to supplement but not necessarily duplicate each other. Any work exhibited in one part and not in another shall be executed as if it had been set forth in all parts, so that the work will be performed according to the complete design as determined by the Engineer.

Should anything necessary for a clear understanding of the work be omitted from the contract documents, or should the requirements appear to be in conflict, the Contractor shall secure written instructions from the Engineer before proceeding with the work affected thereby. It is understood and agreed that the work shall be performed according to the true intent of the contract documents.

GC.6 Independent Contractor

The relationship of the Contractor to the Purchaser shall be that of an independent contractor.

SECTION 1 - GENERAL CONDITIONS

GC.7 Assignment

The Contractor shall not assign the work, or any part thereof, without the previous written consent of the Purchaser, nor shall he assign, by power of attorney or otherwise, any of the money payable under this Contract unless written consent of the Purchaser has been obtained. No right under this Contract, nor claim for any money due or to become due hereunder shall be asserted against the Purchaser, or persons acting for the Purchaser, by reason of any so-called assignment of this Contract or any part thereof, unless such assignment has been authorized by the written consent of the Purchaser. In case the Contractor is permitted to assign moneys due or to become due under this Contract, the instrument of assignment shall contain a clause subordinating the claim of the assignee to all prior liens for services rendered or materials supplied for the performance of the work.

GC.8 Oral Statements

It is understood and agreed that the written terms and provisions of this agreement shall supersede all oral statements of representatives of the Purchaser, and oral statements shall not be effective or be construed as being a part of this Contract.

GC.9 Reference Standards

Reference to the standards of any technical society, organization, or association, or to codes of local or state authorities, shall mean the latest standard, code, specification, or tentative standard adopted and published at the date of taking bids, unless specifically stated otherwise.

GC.10 Source of Materials

To the extent possible, materials, and equipment (including components thereof) furnished under these specifications shall be produced, processed, manufactured, and assembled within the United States of America. Substitution of foreign materials for domestic materials will not be permitted unless such substitution is clearly stated in the Proposal and accepted by the Purchaser.

GC.11 Contractor to Check Drawings and Lists

The Contractor shall check all dimensions, elevations, and quantities indicated on the drawings and lists furnished to him by the Engineer. The Contractor shall notify the Engineer of any discrepancy between the drawings and the conditions at the site, or any error or omission in the drawings, or in the layout as given by stakes, points, or instructions, which he may discover in the course of the work. The Contractor will not be allowed to take advantage of any error or omission in the drawings or other contract documents that a reasonable inspection of them by Contractor would reveal. Full instructions will be furnished by the Engineer should such error or omission be discovered, and the Contractor shall carry out such instructions as if originally specified.

GC.12 Figured Dimensions to Govern

Dimensions and elevations indicated on the drawings shall be accurately followed even though different from scaled measurements. No work indicated on the drawings, the dimensions of which are not indicated, shall be executed until necessary dimensions have been obtained from the Engineer.

SECTION 1 - GENERAL CONDITIONS

GC.13 No Waiver of Rights

Neither the inspection by the Purchaser or Engineer or any of their officials, employees, or agents, nor any order by the Purchaser or Engineer for payment of money, or any payment for, or acceptance of, the whole or any part of the work by the Purchaser or Engineer, nor any extension of time, nor any possession taken by the Purchaser or its employees, shall operate as a waiver of any provision of this Contract, or of any power herein reserved to the Purchaser, or any right to damages herein provided, nor shall any waiver of any breach in this Contract be held to be a waiver of any other or subsequent breach.

GC.14 Authority of the Engineer

To prevent delays and disputes, and to discourage litigation, it is agreed by the parties to this Contract that the Engineer shall determine the quantities of work which are to be paid for under the contract and shall resolve all questions in relation to the work.

If, in the opinion of the Contractor or the Purchaser, a decision made by the Engineer is not in accordance with the meaning and intent of the contract, either party may file with the Engineer and the other party to the contract, within 30 days after receipt of the decision, a written objection to the decision. Failure to file an objection within the allotted time will be considered acceptance of the Engineer's decision and the decision shall become final and conclusive.

The Engineer's decision and the filing of the written objection thereto shall be a condition precedent to the right to request arbitration or to start action in court.

It is the intent of this agreement that there shall be no delay in the execution of the work and the decision of the Engineer as rendered shall be promptly observed.

GC.15 Engineering Inspection

The Purchaser may appoint (either directly or through the Engineer) such inspectors as the Purchaser deems proper to inspect the work for compliance with the contract documents. The Contractor shall furnish all reasonable assistance required by the Engineer, or inspectors, for the proper inspection of the work. Should the Contractor object to any interpretation of the contract by an inspector, the Contractor may make written appeal to the Engineer for a decision.

Inspectors shall have the authority to reject work which is unsatisfactory, faulty, or defective or does not conform to the requirements of the contract documents. Inspection shall not relieve the Contractor from any obligation to construct the work strictly in accordance with the contract documents.

Upon the failure of the Contractor or its Subcontractors to comply with any of the requirements of this Contract (but not limited to quality or safety), the Purchaser shall have the authority to stop any portion of the work affected by such failure until such failure is remedied. If the Purchaser issues a Stop Work Order, the Purchaser shall not be liable for any costs or expenses claimed by Contractor arising out of such issuance. The construction

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schedule shall not be delayed or extended as a result of the Purchaser's issuance of a Stop Work Order.

GC.16 Contractor Default

If the work to be done under this Contract is abandoned by the Contractor; or if this Contract is assigned by him without the written consent of the Purchaser; or if the Contractor is adjudged bankrupt; or if a general assignment of his assets is made for the benefit of his creditors; or if a receiver is appointed for the Contractor or any of his property; or if at any time the Engineer certifies in writing to the Purchaser that the performance of the work under this Contract is being unnecessarily delayed, that the Contractor is violating any of the conditions of this Contract, or that he is executing the same in bad faith or otherwise not in accordance with the terms of said contract; or if the work is not substantially completed within the time named for its completion or within the time to which such completion date may be extended; then the Purchaser may serve written notice upon the Contractor and his surety of the Purchaser's intention to terminate this Contract. Unless within 5 days after the serving of such notice, a satisfactory arrangement is made for continuance, this Contract shall terminate. In the event of such termination, the surety shall have the right to take over and complete the work, provided that if the surety does not commence performance within 30 days, the Purchaser may take over and prosecute the work to completion, by contract or otherwise. The Contractor and his surety shall be liable to the Purchaser for all excess cost sustained by the Purchaser by reason of such prosecution and completion. The Purchaser may take possession of, and utilize in completing the work, all materials, equipment, tools, and plant on the site of the work.

GC.17 Beginning, Progress, and Completion of the Work

The time of completion is a basic consideration of this Contract. Unless otherwise specified in these contract documents or advised by written order of the Purchaser, the Contractor shall begin work within 10 days after the date of contract. The work shall be prosecuted to completion in accordance with the specified schedule, subject to adjustment as provided in these contract documents.

A detailed construction schedule shall be prepared by the Contractor and submitted to the Purchaser for review. The schedule shall contain the various activities required to perform the work and the dates the activities will be started and completed in order to complete the work in accordance with the specified schedule requirements. The Contractor is responsible for determining the sequence and time estimates of the detailed construction activities. However, the Purchaser reserves the right to require the Contractor to modify any portion of the schedule the Purchaser determines to be impracticable or unreasonable; as required to coordinate the Contractor's activities with those of other contractors, if any, engaged in work for the Purchaser on the site; to avoid undue interference with the Purchaser's operations; and to assure completion of the work by the date or dates stipulated. Upon acceptance by the Purchaser of the Contractor's detailed construction schedule, the Contractor will be responsible for maintaining such schedule.

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If at any time the Contractor's work is behind schedule, he shall immediately put into effect definite procedures for getting the work back on schedule. The procedures shall be subject to review and modification by the Purchaser.

GC.18 Hindrances and Delays

The Contractor expressly agrees that in undertaking to complete the work within the time specified, he has made allowances for all hindrances and delays which might usually be expected to occur in performing the work. No claims shall be made by the Contractor for such hindrances and delays.

If the Contractor experiences hindrances and delays which, in his opinion, are not usually to be expected in the performance of the work and which affect the performance of the work, he may request a change in the contract. Such hindrances and delays may include, but not be limited to, acts or failure to act by the Purchaser or other contractors employed by the Purchaser, fires, floods, labor disputes, epidemics, or acts of God. Such hindrances and delays shall not include rain, snow, or other non-severe inclement weather. Claims by the Contractor for any change in the contract due to such hindrances and delays shall be made in accordance with the requirements of Article GC.22, CHANGES TO THE CONTRACT. The Contractor shall use all reasonable means to minimize the extent of the delay.

GC.19 Suspension of Work

The Purchaser reserves the right to suspend and reinstate execution of the whole or any part of the work without invalidating the provisions of the contract. Suspension or reinstatement of the work will be by written notice to the Contractor from the Purchaser.

Suspension of work shall not automatically entitle the Contractor to additional compensation or a change in the contract time; however, the Contractor will be reimbursed for real and unavoidable direct costs incurred by him as a result of such suspension and/or the contract will be extended as required to compensate for any delay due to such suspension. Claims by the Contractor for change of contract time or an adjustment of the contract price, due to work suspensions ordered by the Purchaser shall be made in accordance with the requirements of Article GC.22, CHANGES TO THE CONTRACT. The Contractor shall use all reasonable means to minimize the consequences of such suspension.

GC.20 Cancellation of Work

The Purchaser reserves the right to cancel the unshipped portion of the work by giving written notice to the Contractor. In the event of cancellation, the Purchaser will pay the Contractor reasonable and proper cancellation costs.

Cancellation of the work shall not constitute the basis for a claim for damages or loss of anticipated profits.

The Contractor shall, after consultation with the Purchaser, take all reasonable steps to minimize the costs related to cancellation. The Contractor shall provide the Purchaser with an accounting of costs claimed, including adequate supporting information, and the Purchaser may, at its expense, audit the claimed costs and supporting information.

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GC.21 Modifications

The Contractor shall modify the work whenever so ordered by the Purchaser and such modifications shall not affect the validity of the contract. Modifications may involve changes in the amount of the work to be performed or changes in the contract time for which appropriate changes to the contract will be made.

Contract changes due to modifications shall be made in accordance with the requirements of Article GC.22, CHANGES TO THE CONTRACT.

GC.22 Changes to the Contract

The contract may be changed only by duly executed change orders issued by the Purchaser.

If, in the opinion of the Purchaser or the Contractor, any event or action by the other party justifies a change in the contract, either party shall initiate with the other party, within 5 days after such event or action, a request for a change to the contract. All documentation required to substantiate the proposed change shall be submitted within a minimum reasonable time after initiating the request for change. Upon the parties reaching agreement regarding the proposed change, the Purchaser will issue a written change order therefor.

Notwithstanding the foregoing provisions requiring duly authorized change orders, in the event agreement has been reached between authorized representatives of the parties regarding the change in the contract pending processing of such change order, the Contractor shall proceed with the work on the basis of written interim authorization from the Purchaser.

If the Contractor claims that any instruction, request, drawing, specifications, or other directive or action of the Purchaser or the Engineer constitutes a change in the contract, but has not been authorized as such by a change order in writing by the Purchaser, the Contractor shall immediately request a written interim authorization and proceed without delay to perform the work in accordance with such authorization. The Contractor shall provide written notice of the claim or dispute to the Engineer and the Purchaser within 5 days of the request for interim authorization. The Contractor's failure to give said written notice within the 5 day period shall constitute a waiver and relinquishment of any such claim or dispute. The Purchaser's written interim authorization shall not constitute approval of the claim for increased or decreased work, but shall be a condition precedent to the Contractor's right to receive payment for such work and to the Contractor's right to prosecute or maintain any proceeding to recover for such work.

GC.22.1 Contract Price Changes

The contract price may be changed due to modifications which involve extra work or decreased work; or due to work suspensions, hindrances, and delays over which the Contractor has no control. Claims for changes in the contract price shall conform to the requirements specified herein.

GC.22.1.1 Increased Price

If a change in the contract is required due to work suspensions or hindrances and delays, the contract price will be increased according to agreed lump sums, agreed acceleration costs, or

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other demonstrable costs submitted by the Contractor and substantiated to the satisfaction of the Purchaser.

If a change in the contract price is required due to a modification which increases the amount of the work, and the added work or any part thereof is of a type and character which can properly and fairly be classified under one or more unit price items of the contract, then the contract price will be increased according to the amount actually done and at the applicable unit price. Otherwise, such work shall be paid for as herein-after provided.

Contract price changes for modifications involving extra work will be based on agreed lump sums or on agreed unit prices whenever the Purchaser and the Contractor agree upon such prices before the extra work is started; otherwise, payments for extra work will be based on actual direct cost plus the specified percentage allowance.

For the purpose of determining whether proposed extra work will be authorized, or for determining the payment method for extra work, the Contractor shall submit to the Engineer, upon request, a detailed cost estimate for proposed extra work. The estimate shall indicate itemized quantities and charges for all elements of direct cost. Charges for the Contractor's and subcontractor's extra profit, extra general superintendence, extra field office expense, and extra overheads shall be indicated as a percentage addition to the total estimated direct cost. Unless otherwise agreed upon by the Contractor and the Purchaser, such percentage additions shall be 15 percent for the extra work performed by the Contractor's own forces or 20 percent for extra work performed by a subcontractor.

When payment for extra work is based on actual direct cost, the Contractor will be paid the actual direct cost plus an allowance of 15 percent if the extra work is performed by the Contractor's own forces or 20 percent if the extra work is performed by a subcontractor. The allowance will be paid as full compensation for the Contractor's and sub-contractor's extra profit, extra general superintendence, extra field office expense, extra overheads, and all other elements of extra cost not defined herein as actual direct cost.

The actual direct cost shall include only those extra costs for labor and material expended in direct performance of the extra work and may include the following.

- a. The actual payroll cost of all workmen such as laborers, mechanics, craftsmen, and foremen.
- b. The Contractor's or subcontractor's net cost for materials and supplies.
- c. The rental charge for vehicles and construction equipment.
- d. The transportation charges for equipment.
- e. The charges for extra power, fuel, lubricants, water, and special services.
- f. The charges for extra payroll taxes, bond premiums, and insurance premiums.

The form in which actual direct cost records are kept, the construction methods, and the type and quantity of equipment used shall be acceptable to the Engineer.

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Construction equipment which the Contractor has on the jobsite and which is of a type and size suitable for use in performing the extra work shall be used. The hourly rental charges for equipment shall not exceed 1/2 percent of the latest applicable monthly rental rates as published by Dataquest Incorporated in its "Rental Rate Blue Book" and shall apply to only the actual time the equipment is used in performing the extra work.

When extra work requires the use of equipment which the Contractor does not have on the jobsite, the Contractor shall obtain the concurrence of the Engineer before renting or otherwise acquiring additional equipment. The rental charges for the additional equipment shall not exceed the latest applicable "Rental Rate Blue Book" published rental rates.

GC.22.1.2 Decreased Price

If a change in the contract price is required due to a modification which decreases the amount of work, such decrease shall not constitute the basis for a claim for damages or anticipated profits on work affected by such decrease. Where the value of omitted work is not covered by applicable unit prices, the Engineer shall determine, on an equitable basis, the amount of:

- a. Credit due the Purchaser for contract work deleted as a result of an authorized change,
- b. Allowance to the Contractor for any actual loss incurred in connection with the purchase, delivery, and subsequent disposal of materials or equipment required for use on the work as planned and which could not be used in any part of the work as actually built, and
- c. Any other adjustment of the contract amount where the method to be used in making such adjustment is not clearly defined in the contract documents.

Unless otherwise agreed upon by the Purchaser and the Contractor, the credit due the Purchaser for reductions in the amount of work to be done shall be the estimated direct cost of the deleted work plus an overhead allowance of the following.

- 10 percent of the estimated direct cost if the work was to have been done by the Contractor's own forces, or
- 15 percent of the estimated direct cost if the work was to have been done by a subcontractor.

Direct cost referred to above shall include the category of costs listed as actual direct costs, Items (a) to (f) inclusive of the article entitled Increased Price.

GC.22.2 Contract Time Changes

The contract time may be changed due to work modifications, hindrances and delays, and work suspensions over which the Contractor has no control.

Contract time will not be changed for delays caused by unfavorable weather or unsuitable ground conditions normally incident to the work, inadequate construction force, failure to

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place timely orders for equipment and materials, or other causes within the control of the Contractor.

GC.23 Step Dispute Resolution

In the event of any controversy, claim or dispute between the Parties arising out of or relating to this Agreement, including its enforcement, such controversy, claim or dispute, including disputes regarded as such by only one of the Parties, the Parties shall negotiate in good faith to resolve such dispute, including third party mediation, if the Parties so agree.

If no settlement is achieved, either Party may pursue a claim in a federal or state court with competent jurisdiction.

GC.24 Laws and Regulations

The Contractor shall observe and comply with all ordinances, laws, and regulations, and shall protect and indemnify the Purchaser and the Purchaser's officers and agents, including the Engineer, against any claim or liability arising from or based on any violation of the same.

GC.25 Taxes, Permits, and Licenses

The Contractor shall pay all sales, use, and other taxes that are lawfully assessed against the Purchaser or Contractor in connection with the work and shall obtain and pay for all required licenses, permits, and inspections.

The Contractor will be compensated for any increase in tax rates, license fees, and permit fees or any new taxes, licenses, or permits imposed after the date of the Proposal; provided, however, that this provision shall be limited to sales, use, and excise taxes assessed against the completed work and to licenses and permits required specifically for the proposed work.

GC.26 Patents

Royalties and fees for patents covering materials, articles, apparatus, devices, equipment, or processes used in the work shall be included in the contract amount. The Contractor shall satisfy all demands that may be made at any time for such royalties or fees and he shall be liable for any damages or claims for patent infringements. The Contractor shall, at his own cost and expense, defend all suits or proceedings that may be instituted against the Purchaser for alleged infringement of any patents involved in the work and, in case of an award of damages, the Contractor shall pay such award. Final payment to the Contractor by the Purchaser will not be made while any such suit or claim remains unsettled.

GC.27 Materials and Equipment

Unless specifically provided otherwise in each case, all materials and equipment furnished for permanent installation in the work shall conform to applicable standard specifications and shall be new, unused, and undamaged when installed or otherwise incorporated in the work. No such material or equipment shall be used by the Contractor for any purpose other than that intended or specified, unless such use is specifically authorized by the Purchaser in each case.

All required tests in connection with acceptance of source of materials shall be made at the Contractor's expense by a properly equipped laboratory of established reputation whose work

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and testing facilities are acceptable to the Purchaser. Any change in origin or method of preparation or manufacture of a material being routinely tested will require new tests. Reports of all tests shall be furnished to the Engineer or Purchaser in as many copies as required.

GC.28 Guarantee

The Contractor guarantees that the work herein contracted will be as specified and will be free from defects in design, workmanship, and materials. Contractor does not guarantee or warrant parts subject to normal wear and tear during operation. If within the guarantee period the work fails to meet the provisions of this guarantee, the Contractor shall promptly correct any defects, including nonconformance with the contract documents by adjustment, repair, or replacement of all defective parts or materials at the Contractor's option and expense, after consulting with the Purchaser on the proposed remedy plans.

Except as otherwise prescribed by the terms of any special guarantees required by the contract documents, the guarantee period shall begin on the date of final payment and shall end 12 months later.

The cost of all materials, parts, labor, transportation, supervision, special tools, and supplies required for replacement or repair of parts and for correction of defects shall be paid by the Contractor or by the surety.

This guarantee shall be extended to cover all repairs and replacements furnished under the guarantee and the period of the guarantee for each such repair or replacement shall be 1 year after correction of the defect except as otherwise prescribed by the terms of any special guarantees required by the contract documents.

The Contractor will be given an opportunity to confirm the existence of the defect, but he shall not delay the correction while making such determination.

If within 10 days after the Purchaser has notified the Contractor of a defect, failure, or abnormality in the work, the Contractor has not started to make the necessary repairs or adjustments, the Purchaser is hereby authorized to make the repairs or adjustments or to order the work to be done by a third party; the cost of the work to be paid by the Contractor.

In the event of an emergency where, in the judgment of the Purchaser, delay would cause serious loss or damage, repairs or adjustments may be made by the Purchaser or a third party chosen by the Purchaser without advance notice to the Contractor and the cost of the work shall be paid by the Contractor or by the surety.

GC.29 Contractor's Insurance Coverage

The Contractor shall not commence work under this Contract until Contractor has obtained all the insurance required under this article. Furthermore, the Contractor shall not allow any sub-contractor to commence work under this Contract until the sub-contractor has obtained the same insurance as is required of the Contractor. The sub-contractor alone shall be responsible for the sufficiency of its own insurance program.

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GC.29.1 Certificates of Insurance

Certificates of Insurance acceptable to the Purchaser shall be filed with the Purchaser prior to commencement of the work. All insurance carried shall conform to the relevant provisions of the respective Project Documents and be with insurance companies which are rated “A, X” or better by Best’s Insurance Guide, or other insurance companies of recognized responsibility satisfactory to the Purchaser.

GC.29.2 Proof of Carriage of Insurance. Satisfactory certificates of insurance shall be filed with the Purchaser prior to starting any construction work on this contract. The parties agree that the requirements with respect to requirements to procure and maintain insurance under this Section is a material part of this Agreement.

GC.29.3 Additional Insureds

Insurance coverages furnished under this Contract, with the exception of Workers' Compensation and Employer's Liability, shall include the City of Hastings and their members, directors, officers, agents, and employees as named Additional Insureds on a primary and noncontributory basis, and shall include Products and completed operations with respect to the activities of the Contractor and shall be maintained for the full duration of the project including for a period after completion to include the statute of repose.

Notwithstanding any other provision of these policies, the insurance afforded shall apply separately to each insured, with respect to any claim, suit, or judgment made or brought by or for any other insured, as though a separate policy had been issued to each, except the insurer's liability shall not be increased beyond the amount or amounts for which the insurer would have been liable had only one insured been named.

The Purchaser shall not by reason of their inclusion under these policies incur liability to the insurance carrier for payment of premium for these policies.

GC.29.4 Waiver of Subrogation

To the extent permitted by applicable law, the Contractor and their sub-contractor shall require their insurance carriers, with respect to all insurance policies, to waive all rights of subrogation against the Purchaser their partners, directors, officers, agents, and employees.

GC.29.5 Workers' Compensation and Employer's Liability Insurance

The Contractor shall procure, and shall maintain during the life of this Contract, Workers' Compensation Insurance as required by workers' compensation laws of the State of Nebraska and also of the state in which the sub-contractor is domiciled.

The Contractor shall also be protected against claims for injury, disease, or death of employees which, for any reason, may not fall within the provisions of a workers' compensation law. The Employer's Liability Insurance shall contain the following limits of liability:

Bodily Injury by Accident	\$500,000 each accident
Bodily Injury by Disease	\$500,000 each employee

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Bodily Injury by Disease

\$500,000 policy limit

GC.29.6 General Liability Insurance

This insurance shall be written per project on an "occurrence" policy form, including coverage for premises/operations, products/completed operations, blanket contractual liability, independent contractors and personal injury, with no exclusions for explosion, sudden and accidental pollution or an absolute or total pollution exclusion, collapse and underground perils. The commercial general liability policy shall also include a severability of interest clause and a cross liability clause in the event more than one entity is "named insured" or "named additional insured" under the liability policy.

Limits of Insurance shall be as follows:

Each Occurrence Limit	\$1,000,000
Products/Completed Operations	\$2,000,000
General Aggregate Limit	\$2,000,000
Personal and Advertising Injury	\$1,000,000

GC.29.7 Automobile Liability Insurance

This insurance shall be written under a Business Auto Policy and shall protect the Contractor and Additional Insureds against claims arising from injuries to members of the public or damage to property of others arising from the use of automobiles whether such automobiles are owned, non-owned, or hired. Automobile insurance shall include Motor Carrier Endorsement Act MCS 90 and transportation pollution coverage if applicable. If work is being done near a railroad track, the 50' railroad right of way exclusion must be deleted.

Limit of Liability	\$1,000,000 each accident
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GC.29.8 Umbrella Liability Policy

This insurance shall protect the Contractor and the Additional Insureds against all claims in excess of the limits provided under the employer's liability, automobile liability, and general liability policies. The liability limits of the umbrella liability policy shall be not less than \$5,000,000 per occurrence. This policy shall be an "occurrence" type policy. However, Purchaser reserves the right to require higher limits with respect to each project.

GC.29.9 Pollution Liability – If Applicable

Limits of at least:	\$1,000,000 per occurrence; \$1,000,000 aggregate
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If Contractor or its Sub-subcontractor's work includes but not limited to remediating, handling, processing or disposing of hazardous material including but not limited to asbestos containing materials, silica, lead, PCBs, contaminated soil, etc, coverage shall be provided for bodily injury, property damage and clean-up costs resulting for pollution conditions.

GC.29.10 Riggers Liability – Not Applicable

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GC.29.11 Railroad Protective Liability – Not Applicable

GC.29.12 Professional Liability – If Applicable (Applicable for contractors providing or is responsible for providing design/engineering/surveying services/or consulting services):

Limits of at least: \$1,000,000 per occurrence; \$1,000,000 aggregate

Policy shall provide for a retroactive date prior to the starting date of services for which this agreement applies. Policy shall not exclude damages for bodily injury, property damage, or pollution liability. Coverage shall remain in force for a minimum of 3 years following substantial completion of construction through either policy renewal or the purchase of an Extended Reporting Provision. Contractor agrees to waive its rights of recovery. Subcontractor's insurer shall endorse the policy to waive subrogation against Owner and their respective agents, officers, directors and employees.

GC.29.13 Transportation Insurance – If Applicable

Contractor shall purchase inland marine coverage at the expense of Contractor on all equipment and materials, where Purchaser has an insurable interest. Insurance shall protect for Contractor and Purchaser from physical loss of equipment while loading, unloading, in transit to jobsite, and until equipment or materials have been installed or received by Purchaser.

GC.29.14 Property Insurance A.K.A. Builder's Risk – Not Applicable

GC.30 Indemnification

To the fullest extent permitted by laws and regulations, the Contractor shall defend, indemnify, and hold harmless the Purchaser, their officers, directors, members, consultants, agents, and employees from and against all claims, damages, losses, and expenses, direct, indirect, or consequential (including but not limited to fees and charges of engineers, architects, attorneys, and other professionals and court and arbitration costs) arising out of or resulting from the negligent, wrongful, or defective performance of the work by the Contractor, any sub-contractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the work, or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder or arises by or is imposed by law and regulations regardless of the negligence of any such party.

In any and all claims against the Purchaser, or of any of their officers, directors, members, consultants, agents, or employees by any employee of the Contractor, any sub-contractor, any person or organization directly or indirectly employed by any of them to perform or furnish any of the work or anyone for whose acts any of them may be liable, this indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor or any such sub-contractor or other person or organization under workers' or workmen's compensation acts, disability benefit acts, or other employee benefit acts, nor shall this indemnification obligation be limited in any way by any limitation on the amount or type of insurance coverage provided by the Purchaser, the Contractor, or any of their sub-contractors.

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GC.31 Release of Liability

Acceptance by the Contractor of the last payment shall be a release to the Purchaser and every officer and agent thereof, from all claims and liability hereunder for anything done or furnished for, or relating to the work, or for any act or neglect of the Purchaser or of any person relating to or affecting the work.

GC.32 Claims for Labor and Materials

The Contractor shall indemnify and save harmless the Purchaser from all claims for labor and materials furnished under this Contract. When requested by the Purchaser, the Contractor shall submit satisfactory evidence that all persons, firms, or corporations who have done work or furnished materials under this Contract, for which the Purchaser may become legally liable, have been fully paid or satisfactorily secured. In case such evidence is not furnished or is not satisfactory, an amount will be retained from money due the Contractor which, in addition to any other sums that may be retained, will be sufficient, in the opinion of the Purchaser, to liquidate all such claims. Such sum will be retained until the claims as aforesaid are fully settled or satisfactorily secured.

Before final acceptance of the work by the Purchaser, the Contractor shall submit to the Engineer in duplicate a notarized affidavit stating that all subcontractors, vendors, persons, or firms who have furnished labor or materials for the work have been fully paid and that all taxes have been paid. If a performance bond has been executed, a statement from the surety shall also be submitted consenting to the making of the final payment.

GC.33 Final Inspection

When the work has been substantially completed and at a time mutually agreeable to the Purchaser and Contractor, the Purchaser will make a final inspection of the work as to the acceptability and completeness of the work.

GC.34 Payments

Payment will be based on the Contractor's progress payment schedule which he will submit to the Purchaser for approval. The Purchaser will retain five percent (5%) of the total contract amount for all work completed including change orders.

GC.35 Hazardous Materials

As required under Federal Hazardous Communications Standards and certain state and local laws, the Contractor shall provide Material Safety Data Sheets covering all hazardous materials furnished under or otherwise associated with the work under this Contract. The Contractor shall provide the Purchaser with either copies of the applicable Material Safety Data Sheets or copies of a document certifying that no Material Safety Data Sheets are required under any federal, state, or local law, regulation, statute, or ordinance in effect at the jobsite.

Hazardous materials are defined in the applicable statute which may use the terminology "toxic substances" instead of "hazardous materials." The Contractor is responsible for determining if any substance or material furnished, used, applied, or stored under this Contract is within the provisions of any applicable statute.

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If the work under this Contract includes onsite construction or erection, the Contractor shall provide written notice of the presence of hazardous materials to local fire, medical, and law enforcement agencies as required with a copy of such notice to the Purchaser.

The Contractor shall provide labeling of hazardous materials and training of employees in the safe usage of such materials as required under any applicable federal, state, or local law, regulation, statute, or ordinance.

GC.36 Liquidated Damages

Time is a material provision of this Agreement. If the Contractor is unable to meet the agreed upon completion dates, the Contractor shall immediately notify the Purchaser and confirm the notice in writing within ten (10) business days of the delaying event. The notice shall contain detailed information of the delay including Contractor's estimate of the duration of the delay, Contractor's estimate of the delay's impact to Contractor's schedule and Contractor's plan to mitigate the effects of the delay.

Contractor shall be excused for delays in completion of the work only in accordance with GC.18. In the event of any such delay, Contractor shall only be allowed an extension of the date of completion for a period of time reasonably necessary to overcome the effect of the delay. Contractor shall not be entitled to any extra compensation for such delay. Contractor shall promptly notify the Purchaser in writing, with confirmation receipt of notification,

The liquidated damages amount per calendar day specified in the proposal form will be assessed, not as a penalty but as predetermined and agreed liquidated damages. The Purchaser and Contractor specifically agree the per calendar day amount to be assessed as liquidated damages is fair and reasonable and not excessive. The parties further agree that said per calendar day amount accurately reflect the anticipated loss and inconvenience to the public and lost revenue to or use by the Purchaser due to the project not being completed by the end of the project period or the end of the contract completion date.

The Purchaser shall have the right to deduct liquidated damages from any money in its hands, otherwise due, or to become due, to the Contractor; to submit invoice for payment; or to sue for and recover compensation for damages for nonperformance of this Contract within the time stipulated.

The Liquidated Damages for this project will be \$1,000.00 per calendar day past the project completion date.

GC.37 Consequential Damages

Except for Supplier's third party obligations arising out of or liability for breach of Articles GC.26 and/or GC.30, Purchaser and Supplier will not be liable to each other for loss of profits, loss of use, loss of contracts, or consequential damages arising out of this Contract. This Section will not relieve Supplier of any obligation under GC.36.

GC.38 Limitation of Liability

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With the exception of (a) indemnification stated in Article GC.30 and (b) the insurance coverages and limits set forth in Article GC.29, Supplier's total limit of liability on any claim, whether for breach of Contract, breach of warranty, tort, negligence, strict liability, or any other legal theory, for any loss or damage arising out of or connected to, or resulting from this Contract, shall be limited to the purchase price to be paid by Purchaser.

GC.39 Confidentiality

"Confidential Information" means the confidential or proprietary designs, know-how, processes, trade secrets, and other information owned or controlled by Purchaser, Engineer, or Supplier respectively. Supplier agrees to hold any Confidential Information received in the strictest confidence, shall only use the Confidential Information as necessary to perform the work. Purchaser agrees to hold any Confidential Information received in the strictest confidence and shall only use the confidential information as necessary for engineering, construction, start-up, commissioning, maintenance, or other purposes related to the project. Each party shall use the same degree of care as is used for its own information of similar importance, but no less than reasonable care.

GC.40 Work Eligibility Status

The Contractor is required and hereby agrees to use a federal immigration verification system to determine the work eligibility status of new employees physically performing services within the State of Nebraska. A federal immigration verification system means the electronic verification of the work authorization program authorized by the Illegal Immigration Reform and Immigrant Responsibility Act of 1996, 8 U.S.C. 1324a, known as the E-Verify Program, or an equivalent federal program designated by the United States Department of Homeland Security or other federal agency authorized to verify the work eligibility status of a newly hired employee.

GC.41 Fair Labor Standards

The Contractor agrees to comply with all current applicable State, Federal, and City fair labor standards in the execution of the contract. Pursuant to the Title VI Non-Discrimination Program of the City of Hastings, Contractor agrees to comply with the provisions set forth by CITY's Title VI Non-discrimination Program, if applicable. A copy of said provisions are as follows:

During the performance of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

- (1) **Compliance with Regulations:** The contractor shall comply with the Regulation relative to nondiscrimination in Federally-assisted programs of the Department of Transportation (hereinafter, "DOT") Title 49, Code of Federal Regulations, Part 21, and the Federal Highway Administration (hereinafter "FHWA") Title 23, Code of Federal Regulations, Part 200 as they may be amended from time to time, (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.
- (2) **Nondiscrimination:** The Contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, or national origin,

SECTION 1 - GENERAL CONDITIONS

sex, age, and disability/handicap in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by 49 CFR, section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

- (3) Solicitations for Subcontractors, Including Procurements of Materials and Equipment: In all solicitations either by competitive bidding or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin, sex, age, and disability/handicap.
- (4) Information and Reports: The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto, and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the (Recipient) or the FHWA to be pertinent to ascertain compliance with such Regulations, orders and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information the contractor shall so certify to the (Recipient), or the FHWA as appropriate, and shall set forth what efforts it has made to obtain the information.
- (5) Sanctions for Noncompliance: In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the (Recipient) shall impose such contract sanctions as it or the FHWA may determine to be appropriate, including, but not limited to:
 - (a.) Withholding of payments to the contractor under the contract until the contractor complies, and/or
 - (b.) Cancellation, termination or suspension of the contract, in whole or in part.
- (6) Incorporation of Provisions: The contractor shall include the provisions of paragraphs (1) through (6) in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations, or directives issued pursuant thereto.

The contractor shall take such action with respect to any subcontract or procurement as the (Recipient) or the FHWA may direct as a means of enforcing such provisions including sanctions for non-compliance: Provided, however, that, in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the (Recipient) to enter into such litigation to protect the interests of the (Recipient), and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

SECTION 2 – GENERAL DESCRIPTION AND SCOPE OF WORK

2.1 General:

The City of Hastings (Owner) is accepting bids for the design, manufacture, furnishing, testing, and delivery of a new DCS Control System for Don Henry Power Center Gas Turbine in Hastings, Nebraska. The bidder is strongly encouraged to visit with Hastings prior to submitting a bid. The Bidder shall inform themselves of all conditions and factors which would affect the execution of the work. No claims for financial compensation or time extension, based on the lack of such prior information (or its effect on the cost of the work) will be permitted by the Owner. Please contact Brandon Miller, Mechanical Engineer, at 402-462-3653 if you have any questions about this project or would like to set up a visit.

2.2 Description of System and Scope of Work:

Don Henry Power Center is a General Electric PG5341 gas turbine generator unit. The current PLC based controls were installed in 2000 by Innovative Control Systems, Inc.

The contractor shall perform the following scope of work:

- Design, manufacture, furnish, test, inspect and deliver a New DCS Control System per the specifications including:
 - Control System Hardware
 - Programming
 - Drawings
 - Documentation
- Provide a field service representative as required to support system installation, checkout, startup, functional testing, and training
- Furnish a new Vibration Monitoring system

2.3 Project Schedule:

This shall include the completion of various activities in accordance with the milestone time periods and dates listed below.

Activity	Schedule
Bid Opening	Wednesday, May 20, 2026 @ 4:00 PM
Anticipated Contract Award Date	Monday, June 8, 2026
Material Delivery Date	By September 17, 2027
Start of Outage	Friday, October 26, 2027
End of Outage	Friday, December 20, 2027
Pre-Outage Construction	As available prior to October 26, 2027
Commissioning and System Checkout	Monday, December 13, 2026 through December 20, 2026

HASTINGS UTILITIES SPECIFICATIONS

CONTROL SYSTEM SPECIFICATION

FOR THE

DON HENRY POWER CENTER

HASTINGS UTILITIES

ENTRUST SOLUTIONS GROUP PROJECT NO. 2526659.00

Issue Purpose	Issue Date	Prepared By	Reviewed By	Approved By
For Bid	4/6/2026	Benjamin Woods	Julio Cesar Garrido	Matthew Rangen

DIVISION 01 – GENERAL REQUIREMENTS

SECTION 011100
SUMMARY OF WORK

PART 1 – GENERAL

101. PROJECT INFORMATION

101.1. Owner: Hastings Utilities

101.2. Owner’s Engineer: EN Engineering (EN)

101.3. Project name: Don Henry Power Center Specifications Development

101.4. Project Location:

a. Location

Don Henry Power Center
110 North Marian Road
Hastings, NE 68901

b. Topography

Latitude: 40.58339 N
Longitude: 98.42015 W

102. SCOPE OF WORK

102.1 The Contractor shall design, manufacture, furnish, test, inspect and deliver to the jobsite the following:

a. New DCS Control System

1. Control System Hardware
2. Programming
3. Drawings
4. Documentation

b. Optional: Vibration Upgrade Section 260548

103. PROJECT MANAGEMENT

103.1 Project Meetings

a. Project Kickoff Meeting

1. Owner will conduct a meeting within twenty (20) days after the Effective Date of Agreement to review items stated in the agenda and to establish a working understanding of the project scope and execution expectations

b. Meeting Agenda

1. Projected schedule
2. Project coordination
3. Procedures and processing of
4. Substitutions
5. Submittals
6. Change Order
7. Commercial Terms
8. Procedure for testing
9. Location of Meeting: To be determined upon award.
10. Reporting: within three (3) working after the meeting, Owners will prepare and distribute minutes of the meeting to each party represented.

c. Engineering Coordination Meetings

1. Owners will schedule and conduct a meeting at bi-weekly for coordination during Contractors Equipment engineering and design phase of the project. Meeting shall be attended by:
 - i. Contractor's Representative(s) including engineering personnel.
 - ii. Contractor's principal subcontractors and suppliers, at Owner's discretion
 - iii. Owner's representative (including lead engineers
 - iv. Owner's representatives(s).
2. Meeting Agenda:
 - i. Review of action items.
 - ii. Facility design interfaces.
 - iii. Equipment and Material procurement status.
 - iv. Engineering/fabrication/manufacturing schedules.
 - v. Requests for information(RFIs).
3. Location of Meetings: To be determined upon award.
4. Reporting: Within three (3) working days after the meeting, Owner will prepare and distribute minutes of the meetings to each party represented.

103.2 Schedules and Reports

- a. Initial Coordination Submittals: Within ten (10) days after the Effective Date of Purchase Order Agreement, Contractor shall submit to Owner for review and acceptance:
 1. A preliminary Work progress schedule.
 2. A preliminary schedule of Submittals, as stated in item 103.3 of this section.
- b. Work Progress Schedule:
 1. After submittal of preliminary Work progress schedule, submit to Owner a detailed Work progress schedule within thirty (30) days after the Effective Date of Agreement. Base the schedule on the preliminary Work progress schedule and incorporate review comments and other feedback.
 2. The schedule shall show the Work in a graphic format suitable for displaying scheduled and actual progress.

- i. Prepare schedules as a horizontal bar chart with separate bar for each major portion of the Work or operation.
 - ii. The schedule shall also show the Work broken down into major phases and key items with the dates Work is expected to begin and be completed. Sequence of listings shall be in the chronological order of the start of each item of Work.
 - iii. Scale and spacing shall allow space for notations and revisions.
 - iv. Sheet size: Minimum 11 x 17 inches.
 3. Provide sub-schedules to define critical portions of entire schedules.
 4. Coordinate Work progress schedule with Work progress reports and delivery schedule.
 5. Owner will review and comment on Work progress schedule and, upon agreement between Owner and Contractor on necessary changes:
 - i. Contractor shall print and distribute copies of the accepted schedule to Owner, subsuppliers, and other parties required to comply with scheduled dates.
 6. Contractor shall not change the accepted Work progress schedule without prior concurrence of Owner.
 7. Submit to Owner an updated schedule at least once monthly. Schedule shall show actual progress and any proposed changes in the schedule of remaining Work.
- c. Work Progress Reports:
 1. Submit monthly a report on actual Work progress. More frequent reports may be required should the Work fall behind the accepted schedule.
 2. Work progress reports shall consist of marked copies of prints made from the accepted Work progress schedule, and a narrative report which shall include but not be limited to the following:
 - i. A description of current and anticipated delaying factors, if any.
 - ii. Impact of possible delaying factors.
 - iii. Proposed corrective actions.
 3. A Work progress report shall accompany each application for partial payment. Work reported complete but not readily apparent to Owner must be substantiated with supporting data.
 4. Should operations fall behind accepted schedule to an extent that completion of Work within the Contract Time appears doubtful, Contractor shall, at no change in Contract Price, take corrective action to get back on schedule.
- d. Delivery Schedule:
 1. Within thirty (30) days after the Date of Agreement, Owner and Contractor shall agree on a delivery schedule for all Equipment and Materials to be furnished for which the delivery time is not named in the Proposal or specified.
 2. Actual delivery dates shall be subject to the ability of Owner or installing contractor to receive and care for the delivered items.

3. Contractor shall notify Owner at least fifteen (15) days in advance of any delivery date and shall not make any shipments without written approval of Owner.
4. No delivery will be approved until proper Submittals pertaining to storage and installation have been received and accepted.
5. Any items delivered without written approval may be returned to the point of origin or unloaded and stored at a place and in a manner determined by Owner, and Contractor will be charged with any additional expense resulting therefrom.
6. If written order by Owner delays any shipment for more than thirty (30) days after the time set forth in the Contract Documents or the agreed delivery schedule, Owner will pay Contractor for storage at a rate to be mutually agreed upon at that time. Time of storage will be figured from thirty (30) days after the later of the dates defined above to receipt of Contractor's certified statement of the actual shipping date.
7. Items stored by Contractor as provided herein shall be protected by Contractor with fire and extended coverage insurance endorsed to include the so-called "All Risks" coverage endorsement to the full value of the items stored, and a satisfactory certificate proving protection for Owner shall be delivered to Owner. The cost of such insurance shall be included with the rate charged for storage.

103.3 Submittals

a. Definitions:

1. Shop Drawings, product data, and Samples are technical Submittals prepared by Contractor, Subcontractor, manufacturer, or sub-supplier and submitted by Contractor to Owner as a basis for approval of the use of Equipment and Materials proposed for incorporation in the Work or needed to describe installation, operation, maintenance, or technical properties, as specified in each Division of the Specifications.
 - i. Shop Drawings include custom-prepared data of all types including drawings, diagrams, performance curves, material schedules, templates, instructions, and similar information not in standard printed form applicable to other projects.
 - ii. Product data includes standard printed information on materials, products, and systems; not custom-prepared for this Project, other than the designation of selections from available choices.
2. Informational Submittals are those technical reports, administrative Submittals, certificates and guarantees not defined as Shop Drawings, product data, or Samples.
3. Technical reports include laboratory reports, tests, technical procedures, technical records, and Contractor's design analysis.
4. Administrative Submittals are those nontechnical Submittals required by the Contract Documents or deemed necessary for administrative records. These Submittals include maintenance agreements, Bonds, Project photographs, physical work records, statements of applicability, copies of industry standards, Project record data, schedules, security/protection/safety data, and similar type Submittals.

5. Certificates and guarantees are those Submittals on Equipment and Materials where a written certificate or guarantee from the manufacturer or sub-supplier is called for in the Specifications.
- b. Quality Requirements:
 1. Submittals such as drawings and data submitted to Owner shall be of suitable quality for legibility and reproduction purposes. Every line, character, and letter shall be clearly legible. Drawings such as reproducible shall be useable for further reproduction to yield legible hard copy.
 2. Documents submitted to Owner that do not conform to specified requirements shall be subject to rejection by Owner, and upon request, Contractor shall resubmit conforming documents. If conforming Submittals cannot be obtained, such documents shall be retraced, redrawn, or photographically restored as may be necessary to meet such requirements. Contractor's (or its Subcontractor's) failure to initially satisfy the legibility quality requirements will not relieve Contractor (or its Subcontractors) from meeting the required schedule for Submittals.
 - c. Language and Dimensions:
 1. All words shall be in the English language and use Imperial units.
 2. All dimensions shall be in Imperial units (ft-lb-sec); metric dimensional unit equivalents may be stated within parenthesis after the imperial unit.
 - d. Submittal Completeness:
 1. Submittals shall be complete with respect to dimensions, design criteria, materials of construction, and other information specified to enable Owner to review the information effectively.
 2. Where standard drawings are furnished which cover a number of variations of the general class of Equipment, each drawing shall be annotated to indicate exactly which parts of the drawing apply to the Equipment being furnished. Use hatch marks to indicate variations which do not apply to the Submittal. The use of "highlighting markers" will not be an acceptable means of annotating Submittals. Such annotation shall also include proper identification of the Submittal permanently attached to the drawing.
 3. Reproduction or copies of Contract Drawings or portions thereof will not be accepted as complete fabrication or erection drawings but will be acceptable when used by Contractor as a drawing upon which to indicate information on erection or to identify detail drawing references. Whenever the Contract Drawings are revised to show that additional Contractor's information, Owner's title block shall be replaced with Contractor's title block, and Owner's professional seal shall be removed from the drawing.
 - e. Form of Submittals:
 1. Submittals and other Project documents shall be transmitted in electronic format as specified.

- i. Selected Submittals may be provided in paper ("hardcopy") copies with advance approval of Owner, and using procedures specified herein.
 - ii. Equipment instruction books and operating manuals shall be provided in paper copies in addition to specified electronic format.
 2. Electronic Format using Owner's Document Management System:
 - i. Scanned Submittals and documents are not acceptable. Transmit Submittal and Project documents in:
 - (1). Adobe PDF files created directly from native electronic format, or
 - (2). Owner-approved equal.
 - (3). Electronic Submittals in .tif format are permitted only with specific Owner approval.
 - ii. Each drawing shall be submitted with an electronic filename that is equivalent to the drawing number, and any resubmitted drawing shall use the same filename as the original file name each time.
 - iii. Contractor Submittals shall be accompanied with a completed transmittal letter. Submittals that are not accompanied with an approved transmittal letter will not be accepted and will be returned to Contractor.
 - iv. All Contractor transmittal letters submitted to Owner shall be in the form supplied and shall contain as a minimum the following information:
 - (1). Contractor's Name
 - (2). Owner's Project number
 - (3). Owner's Contract number
 - (4). Filename
 - (5). Description of the information contained in the specific Submittal
 - (6). Revision number
 - (7). Submittal type
 - (8). Date of Submittal
 - v. Nonconforming Submittals are subject to rejection by Owner.
 3. Owner's review comments will be provided electronically in Adobe *PDF format.
 4. Digital delivery media for transmittal of electronic documents and Submittals shall be via email.
- f. Technical submittals
 1. Schedule of Submittals:
 - i. Prepare prior to Project Kick-off for Owner's concurrence a mutually agreed submission schedule of all Submittals specified or necessary for Owner's approval. Submit the schedule with the Work progress schedule. Schedule submission of all Submittals to permit review, fabrication, and delivery in time so as to not cause delay in the Work of Contractor or its Subcontractors or any other Contractors as described herein.

- ii. In establishing schedule for Submittals, allow 20 (twenty) days in Owner's office for reviewing original Submittals and 15 (fifteen) days in Owner's office for reviewing resubmittals.
- iii. Submittals requiring revisions shall be resubmitted within 15 (fifteen) days after receipt of Owner's review notations.
- iv. The schedule shall indicate anticipated dates of original submission for each item and Owner's approval thereof and shall be based upon at least one resubmission of each item.
- v. Schedule all Submittals (Shop Drawings, product data, and Samples) required prior to fabrication or manufacture for submission within 90 (ninety) days of the Effective Date of Contract or Engineering Notice to Proceed. Schedule Submittals pertaining to storage, installation, and operation at the Site for Owner's approval prior to delivery of Equipment and Materials.
- vi. Resubmit Submittals the number of times required for Owner's "Submittal Approved." However, any need for resubmittals in excess of the number set forth in the accepted schedule, or any other delay in obtaining approval of Submittals, will not be grounds for extension of the Contract Time provided Owner completes his reviews within the times specified.
- vii. Where a Submittal is required by the Specifications or the accepted Submittal Schedule, Contractor shall not commence production of any part of the Equipment and Materials affected thereby until such Submittal has been reviewed and approved by Owner.

2. Transmittal of Submittals:

- i. All Submittals (Shop Drawings, product data, and Samples) for Equipment and Materials furnished by Contractor, Subcontractors, manufacturers, and sub-suppliers shall be submitted to Owner by Contractor.
- ii. Transmit all Submittals to Owner for approval as follows:
 - (1). Electronic files utilize contactors standard forms.
- iii. Mark each Submittal by Project name and number, Contract title and number, and applicable Specification Section and Article numbers. Include in the letter of transmittal the drawing number and title, sheet number (if applicable), revision number, and electronic file name (if applicable). Unidentifiable Submittals will be returned for proper identification.
- iv. Check and approve Submittals of Subcontractors, sub-suppliers, and manufacturers prior to transmitting them to Owner. Contractor's submission shall constitute a representation to Owner that Contractor approves Submittals and has determined and verified all design criteria, quantities, dimensions, materials, catalog numbers, compliance with Laws and Regulations, and similar data, and Contractor assumes full responsibility for doing so; and Contractor has coordinated each Submittal with requirements of the Work and the Contract Documents.
- v. At the time of each submission, call to the attention of Owner in the letter of transmittal any deviations from requirements of the Contract Documents.

- vi. Make all modifications noted or indicated by Owner and return the required number of revised Submittals until approved. Direct specific attention in writing, or on revised Submittals, to changes other than the modifications called for by Owner on previous Submittals. Previously approved Submittals transmitted for final distribution will not be further reviewed and are not to be revised. If errors are discovered during manufacture or fabrication, correct the Submittal and resubmit for review.
3. Following completion of the Work and prior to final payment, furnish record documents and approved Samples and Shop Drawings necessary to indicate "as constructed" conditions, including field modifications, in the number of copies specified. Furnish additional copies for insertion in Equipment instruction books and operating manuals as required. All such copies shall be clearly marked "PROJECT RECORD."
 4. Submit a final record copy of the Master Field Drawing list which shall indicate the final revision status of each drawing on the list.
- g. Owner's Review:
1. Owner will review and take appropriate action on Submittals in accordance with the accepted Schedule of Submittals. Owner's review and approval will be only to determine if items of Equipment and Materials covered by the Submittals are compatible with the design concept and conform to information given in the Contract Documents.
 2. Such review and approval will not extend to design data reflected in Submittals which is peculiarly within the special expertise of Contractor or Contractor's Subcontractors or subsuppliers. Review and approval of a component item as such will not indicate approval of the assembly in which the item functions.
 3. Owner's review and approval of Shop Drawings, product data, or Samples will not relieve Contractor of responsibility for any deviation from requirements of the Contract Documents unless Contractor has in writing called Owner's attention to such deviation at the time of submission, and Owner has given written concurrence in and approval of the specific deviation. Approval by Owner shall not relieve Contractor from responsibility for errors or omissions in Submittals.
- h. Instruction Books and Operating Manuals:
1. In addition to electronic Submittals specified above, Equipment instruction books and operating manuals prepared by the manufacturer shall include the following:
 - i. Index and tabs.
 - ii. Instructions for installation, start-up, operation, inspection, maintenance, parts lists and recommended spare parts, and data sheets showing model numbers.
 - iii. Applicable drawings.
 - iv. Warranties and guarantees.
 - v. Name and address of nearest manufacturer-authorized service facility.
 - vi. All additional data specified.

2. Information listed above shall be bound into hard-back binders of split-prong or swing hinge type. Sheet size shall be 8-1/2" x 11". Binder color shall be consistent among all volumes transmitted. Capacity shall be a minimum of 1-1/2 inches, but sufficient to contain and singly remove sheets with ease.
 3. Provide the following accessories:
 - i. Label holder
 - ii. Business card holder
 - iii. Sheet lifters
 - iv. Horizontal pockets
 4. The following information shall be imprinted, inserted, or affixed by label on the binder front cover:
 - i. Owner's name.
 - ii. Owner's facility or plant name.
 - iii. Equipment item name.
 - iv. Volume number (if applicable).
 - v. Contract number.
 - vi. Manufacturer's name and address.
 5. The following information shall be imprinted, inserted, or affixed by label on the binder spine:
 - i. Equipment item name.
 - ii. Owner's name and Owner's facility or plant name.
 - iii. Manufacturer's name.
 - iv. Contract number.
 - v. Volume number (if applicable).
 6. Submit mockup of cover and spine for Owner's review.
- i. INFORMATIONAL SUBMITTALS:
1. Informational Submittals are comprised of technical reports, administrative Submittals, and guarantees which relate to the Work, but do not require Owner approval prior to proceeding with the Work. Informational Submittals include:
 - i. Test reports
 - ii. Certification on Materials
 - iii. Shipping and/or packing lists
 - iv. Job progress schedules
 - v. Equipment and Material delivery schedules
 - vi. Warranties and guarantees
 2. Transmittal of Informational Submittals:
 - i. All Informational Submittals furnished by Contractor, Subcontractors, manufacturers, and subsuppliers shall be submitted to Owner by Contractor unless otherwise specified.

- ii. Identify each Informational Submittal by Project name and number, Contract title and number, and the Specification Section and Article numbers marked thereon or in the letter of transmittal. Unidentifiable Submittals will be returned for proper identification.
- iii. At the time of each submission, call to the attention of Owner in the letter of transmittal any deviations from the requirements of the Contract Documents.

3. Owner's Review:

- i. Owner will review Informational Submittals for indications of Work or Material deficiencies.
- ii. Owner will respond to Contractor on those informational Submittals which indicate Work or Material deficiency.

104. MATERIAL AND SERVICES FURNISHED BY OTHERS

104.1 The following work, which does not constitute a part of the Specification, will be performed and/or provided by Others.

- a. Unloading of all equipment
- b. Storage of all equipment.
- c. Equipment installation, including mounting and anchoring
- d. External electrical cabling and raceway, including all interconnections.
- e. Checkout and turnover of equipment.

105. SPARE PARTS

105.1 Contractor shall include a spare parts list, including current prices, lead times, and recommended quantities.

105.2 The spare parts list shall indicate the parts that are recommended for Owner to keep in stock to properly maintain the Equipment and minimize its outage time.

106. MATERIAL REQUIREMENTS

106.1 All materials included in Contractor's scope shall be sourced from USA, Western European, Japanese, or South Korean sources. Material sources are subject to review and approval by the Owner. Material sourced from China will not be accepted.

107. DELIVERY

107.1 Delivery of all components is required by September 1st, 2027.

107.2 Delivery will be to Don Henry Power Center.

107.3 Delivery address and instruction will be coordinated with City of Hastings.

108. PROJECT CLOSE OUT

108.1 "Closeout": is defined to include general requirements near the end of Contract Time, in preparation for installation by others, performance and acceptance testing, final acceptance, final payment, normal termination of Contract, and similar actions evidencing completion of the Work. Time of closeout is directly related to "Substantial Completion" of the installation or

erection contract, and therefore may be either a single time period for the entire Work or a series of time periods for individual units of the Work which have been certified as Substantially Complete at different dates.

108.2 "Substantial Completion": means the event when (i) erection or installation of the Equipment and Materials furnished by this Contract has been completed by the installing contractor and required Field Services have been furnished, (ii) the Equipment and Materials are operating safely for the purpose of commissioning and startup, (iii) all testing of the Work has been completed and all test data properly evaluated, (iv) the performance guarantees have been met and warranty period started, and (v) Contractor has delivered to Owner all operating instructions, maintenance manuals, and warranties.

108.3 PROJECT RECORD DOCUMENTS:

a. General: In addition to documentation required by the Contract Documents, maintain at the Contractor's facilities (and at installation Site) one record copy of:

1. Drawings.
2. Specifications.
3. DCS and Graphics Back up.
4. Addenda.
5. Change Orders and other Modifications to the Contract.
6. Approved Shop Drawings, product data, and Samples.

b. Recording:

1. Label each document "PROJECT RECORD" in neat, large, printed letters.
2. Record information concurrently with fabrication or Field Services progress
3. Record Drawings: Legibly mark to record actual construction:
 - i. Where Submittals are used for mark-up, record a cross-reference at corresponding location on Drawings.
 - ii. Field changes of dimension and detail.
 - iii. Changes made by Change Order or other Modifications. Note related Change Order numbers where applicable.
 - iv. Details not on original Contract Drawings.
4. Record Specifications and Addenda: Legibly mark each Section to record:
 - i. Manufacturer, trade name, catalog number, and sub-supplier of each product and item of Equipment actually furnished, particularly optional and substitute items.
 - ii. Changes made by Addendum, Change Order, or other modifications.
 - iii. Related Submittals.
5. Record Product Data: Maintain one copy of each product data Submittal, and mark-up significant variations in actual Work in comparison with submitted information.
 - i. Include both variations in product as delivered to Point of Delivery, and variations from manufacturer's instructions and recommendations for installation.

- ii. Give particular attention to concealed products and portions of the Work which cannot otherwise be readily observed. Note related Change Orders and mark-up of record drawings and specifications.
 - 6. Miscellaneous Record Submittals: Refer to other Sections of these Specifications for requirements of miscellaneous record keeping and Submittals in connection with actual performance of the Work.
 - 7. Electronic Documentation:
 - i. In addition to paper copies, provide electronic versions of record documents showing "as-constructed" conditions, master field drawing list showing final revisions, instruction books, and operating manuals on CD-ROM/flash drive or electronically for download in AutoCAD if drawn or Adobe *PDF if written.
- c. Delivery:
 - 1. Deliver Record Documents to Owner.
 - 2. Accompany submittal with transmittal letter in duplicate, containing:
 - i. Date.
 - ii. Contract title and number.
 - iii. Contractor's name, address, and telephone number.
 - iv. Number and title of each Record Document.
 - v. Signature of Contractor's authorized representative.

WARRANTIES: Warranty or Guarantee is covered in City of Hasting standard General Conditions.

109. FIELD SERVICES AND TRAINING

- 109.1 The Contractor shall furnish the services of a factory representative as required to support installation, checkout, startup, functional testing, and training as a part of the scope of work. The factory representative shall have full knowledge and experience in the installation, operation, startup, and maintenance requirements of the system provided.
- 109.2 The Contractor shall provide in their proposal estimated man days per the following functions (include mobilizations):
 - a. Installation (remote support is acceptable).
 - b. Commissioning / Startup
 - c. Operational Startup / Shutdown
 - d. Onsite Training
- 109.3 The Contractor shall provide experienced personnel for the purpose of training maintenance and operations personnel in the startup, maintenance, and operation of the system. The Contractor will coordinate with the owner on appropriate shifts to cover all required stake holders. Training shall be provided no later than two months after start-up and commissioning. Training material will be provided at a minimum 3 weeks prior to planned training for approval by owner.

END OF SECTION 011100

DIVISION 25 – INTEGRATED AUTOMATION

SECTION 250100

OPERATION AND MAINTENANCE OF INTEGRATED AUTOMATION

PART 1 – GENERAL

101. EXTENT

101.1. EN Engineering (EN) has generated the following specifications for the new control system to be installed at Don Henry Power Center.

- a. All the existing Don Henry Allen Bradley control system equipment will be replaced with a new Distributive Control System (DCS).

101.2. This specification defines the quantity and minimum requirements of the control system.

PART 2 – REFERENCES/STANDARDS

201. HASTINGS DOCUMENTS

- 201.1. ICS Turbine Generator Control Binder
- 201.2. ICS Cabling Diagram Binder
- 201.3. ICS Device Connections Binder
- 201.4. ICS Generator Protection System Binder
- 201.5. ICS MCC Interface Binder
- 201.6. ICS P&ID Binder
- 201.7. Start-up and operating procedures

202. INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

- 202.1 IEEE C37.90 - Relays and Relay Systems Associated with Electric Power Apparatus
- 202.2 IEEE C37.90.1 - Standard for Surge Withstand Capability (SWC) Tests for Relays and Relay Systems Associated with Electric Power Apparatus
- 202.3 IEEE-142 – Recommended Practice for Grounding of Industrial and Commercial Power Systems
- 202.4 IEEE-518 – Guide for the Installation of Electrical Equipment to Minimize Electrical Noise Inputs to Controllers from External Sources
- 202.5 IEEE 802.3 – Standard for Local and Metropolitan Area Networks; Ethernet
- 202.6 IEEE 1100-2005 – Recommended Practice for Powering and Grounding Electronic Equipment

203. INTERNATIONAL SOCIETY OF AUTOMATION (ISA)

- 203.1 ISA 5.1 – Instrument Symbols and Identification
- 203.2 ISA 5.2 – Binary Logic Diagrams for Process Operation
- 203.3 ISA 5.3 – Instrument Loop Diagrams

- 203.4 ISA S37.1 – Electrical Transducer Nomenclature and Terminology
- 203.5 ISA 50.00.1 – Compatibility of Electronic Signals for Industrial Process Instruments (Also designated ANSI-MC12.1)
- 203.6 ISA 50.02 – Fieldbus Standard for Use in Industrial Control Systems
- 203.7 ISA 51.1 – Process Instrumentation Technology
- 203.8 ISA 18.2-2009 – Management of Alarms for the Process Industries
- 203.9 ISA 101.01-2015 – Human Machine Interfaces for Process Automation Systems
- 204. INSULATED CABLE ENGINEERS ASSOCIATION (ICEA)
- 205. NATIONAL ELECTRICAL MANUFACTURER ASSOCIATION (NEMA)
 - 205.1 NEMA ICS-1 - General Standards for Industrial Control and Systems
 - 205.2 NEMA ICS-2 - Standards for Industrial Control Devices, Controllers and Assemblies
 - 205.3 NEMA ICS-6 - Enclosures for Industrial Controls and Systems
 - 205.4 NEMA 250 - Enclosures for Electrical Equipment (1,000 Volts Maximum)
- 206. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
 - 206.1 NFPA 70 - National Electrical Code
- 207. ELECTRONIC INDUSTRIES ASSOCIATION (EIA)
 - 207.1 TIA-232-F – Interface Between Data Terminal Equipment and Data Communications Equipment
 - 207.2 TIA-455 - Standard Test Procedures for Fiber Optic Fibers, Cables, Transducers, Sensors, Connecting and Terminating Devices and Other Fiber Optic Components
 - 207.3 TIA-485-A – Electrical Characteristics of Generators and Receivers for use in Balanced Multipoint Systems
- 208. NATIONAL ELECTRICAL RELIABILITY COUNCIL (NERC)
 - 208.1 CIP 02-11 – Guidelines for Cyber Access Control
- 209. FEDERAL ENERGY REGULATORY COMMISSION (FERC)
 - 209.1 Guidelines for Cyber Access Control
- 210. INTERNATIONAL ELECTRO-TECHNICAL COMMISSION (IEC)
 - 210.1 IEC 61158 – Digital Data Communications for Measurement and Control – Fieldbus for Use in Industrial Control Systems

PART 3 – PRODUCTS

211. FUNCTION

- 211.1 The currently installed Allen Bradley PLC-5 equipment at Don Henry Power Center provide control and monitoring functions for the GE Frame V unit. The PLC-5 system consists of three racks with a 1785-L80E Controller, Flow Meter, Analog Input/output modules, thermocouple modules, RTD modules, 24VDC Digital input and output modules, 125VDC Digital input modules, and relay output modules. All I/O and current control functions are described in the reference electrical drawings and control narrative.

212. COMPONENTS

212.1. OPERATOR WORKSTATIONS

- a. There will be one (1) operator workstations located in the control building at Don Henry. Each workstation will have four (4) 24" monitors. These workstations will have full control of all Balance of Plant and Unit control functions.
- b. Logic updates/recommendations (reference Section 251500 Integrated Automation Software for further details)
- c. There will be one (1) operator workstation located at Whelan Energy Center (WEC) for remote monitoring and operation. This workstation will have full control of all Balance of Plant and Unit control functions. This workstation will be interfaced to the control system at Don Henry utilizing the newly installed fiber optic communications system.

212.2. ENGINEERING WORKSTATIONS

- a. There will be one (1) server grade workstation with two (2) 24" monitors located in the control building at Don Henry. The engineering workstation will be dedicated to logic and graphic development and other engineering functions.

212.3. HISTORIAN

- a. There will be one (1) server grade workstation located in the control building at Don Henry. This historian will be dedicated to storing historical data. Every point in the control system will be stored in the Historian.
- b. Historian will have trending capability for live and historical data.

212.4. PANEL MOUNTED HUMAN MACHINE INTERFACE (HMI)

- a. There will be one (1) Panel Mounted Touch Screen workstation located on the control cabinet in the control building at Don Henry. This workstation will have full control of all Balance of Plant and Unit control functions.

212.5. REMOTE TERMINAL SERVER

- a. There will be one (1) server grade workstation located in the control building at Don Henry. The Remote Terminal Server will be dedicated to remote access to the control system. This workstation will also have the PI Interface loaded on it for providing PI data to the PI Server.

212.6. ANTI-VIRUS SERVER

- a. An Anti-Virus server may or may not be required. It depends on the NERC CIP compliance plan for Don Henry. If required, Anti-Virus server will be located in the control building at Don Henry.

212.7. GLOBAL POSITIONING SYSTEM(GPS)

- a. The new control system shall be provided with an accurate external time standard. A GPD satellite synchronized clock shall maintain the time reference for all time synchronized devices and systems.
- b. The clock shall receive and decode time information transmitted by the GPS with an accuracy of +/-100 nanoseconds or better.

- c. The GPS receiver shall be provided with the antenna, interconnection terminations, cables, and mounting hardware.
- d. The standard time in day of year, hours, minutes, and seconds shall be displayed continuously at the device.
- e. Inter-Range Instrument Group (IRIG) time synchronization connections to the unit and plant protective relays will be provided.
- f. NTP Client/Server hierarchical time distribution is allowed, however no SNTP clients are acceptable for time synchronization for controllers, HMIs, Workstations, Servers or any other device that provide control, protection, historian or network management functions in the system. NTP Client shall make a transaction with its server over its polling interval. The polling interval shall be dynamically adjusted between 64 to 1024 seconds.
- g. Clock synchronization shall not have an error greater than 1/10 of the timestamp resolution.
- h. No domain time synchronization shall be used for the Windows computers as a primary time synch method.

212.8. UNIT CONTROLLER

- a. The Unit will have controls and monitoring functions. The Unit controller cabinet will be located in the control building at Don Henry. All field signals that were wired to the Allen Bradley PLC-5 will be wired to the new control system. The control and indicating devices on the Unit Control Panel to be reused will be wired to the new control system.
- b. Contractor may provide a new panel(s) if deemed necessary and approved by owner.
 - 1. The table below shows the number of I/O points of each type that will be needed.

I/O Type	Count
Flow Meter	4
Analog outputs	4
High-Res Thermocouple	23
Analog inputs	22
Thermocouple	16
RTD	9
24VDC Digital Input	36
24VDC Digital Output	30
125VDC Digital Input	57
Relay Output Module	44
Fogger Digital Input	22
Fogger Digital Output	22

Fogger Analog Input	22
Fogger Analog Output	22

- c. New hardware to utilize in existing control cabinet space by supplying new sub panels.
- d. Contractor may provide a new panel(s) if deemed necessary and approved by owner.
- e. All I/O connections to be knife blade switch (see Section 251413 Integrated Automation Remote Control Panels for more details).
- f. Additional I/O will need to be accounted for. Anticipated new Fogger, MCC Equipment, and AC Lube oil pump.
- g. The new hardware will have 25% spare I/O channels.

212.9. CONTROL PANEL

- a. Currently there are seven (7) analog displays, one (1) Quickpanel II HMI, one (1) Silence button, one (1) alarm horn and one (1) emergency stop button.

213. DESIGN CRITERIA

213.1. Control system requirements

- a. The new DCS shall be designed to meet design Criteria specified in Section 251413 of this specification
- b. The new DCS shall be designed with redundant controllers for the unit, redundant servers, redundant power supplies and redundant real time data network switches and cables.
- c. Contractor shall provide industry standard GE Turbine Frame 5 logic to be implemented into owner's new DCS system. The program will utilize suggested improvements stated in section 103.6. Contractor shall implement simulation logic that verifies functionality of system. This may include (not an exhaustive list):
 - 1. Inputs / Outputs (both digital and analog)
 - 2. Trips or Shutdowns
 - 3. PID simulation
 - 4. Visibility of simulation for owner to verify functions
- d. A GPS time synchronization system shall be utilized with the DCS and it will serve as a Network Time Protocol (NTP) Server.
- e. The new DCS will require the capability to communicate with the Emerson Ovation Enterprise Data Solutions (EDS). The contractor will need to engineer the system to allow key points within the new control system to communicate to the existing EDS. This may be done through a network bridge or communication protocol converter (redundant if used) using an agreed upon protocol that allows for the EDS to talk to the new control system. The contractor may include this scope of work of incorporating it into the existing EDS system if the contractor provides example projects of successful execution. If not, the contractor may take exception to this specific task.
- f. DCS tag naming convention will follow standard used at Hastings Whelan Energy Center. Owner to provide tag naming convention after award.

- g. The design of alarm processing and handling in the DCS shall mimic other Hasting's facilities to facilitate efficient operation and efficient programming for owner's stake holders.
- h. The design of graphics of the Human Machine Interface (HMI) shall
- i. mimic other Hasting's facilities to facilitate efficient operation and efficient programming for owner's stake holders.
- j. The power and grounding of the DCS equipment shall be in accordance with the requirements specified in Section 260526 Grounding and Bonding for Electrical Systems.
- k. All data communications cables external of the DCS cabinets and panels for remote operation shall be fiber optic. The data communications cables within the DCS cabinets and local panels may utilize copper.

214. OPERATION

214.1. Control system requirements

- a. The DCS shall include spare parts for 5 years of operation. All necessary equipment required for satisfactory operation of the DCS shall be provided. All equipment shall ensure that the system is complete in every detail and ready for operation upon completion of installation and wiring. Base channels, anchor bolts, leveling devices, compartment side attachments shall be furnished as required.
- b. All DCS equipment, such as processors I/O modules, Network Interface Cards (NIC), Power Supplies, media converters, etc. shall be industrial grade suitable for operation at the inner temperatures of the DCS cubicles reached at the highest ambient conditions at the site. The cubicle interior temperatures shall be properly controlled by providing adequate ventilation so that the life of the electrical and electronic components is not affected.
- c. Digital memory for operation, program configuration, and set points shall be non-volatile without the need for changing batteries or other maintenance.
- d. Complete design shall be provided, in accordance with currently accepted standards and suitable operation in a remotely operated gas turbine plant.

END OF SECTION 250100

DIVISION 25 – INTEGRATED AUTOMATION

SECTION 251413

INTEGRATED AUTOMATION REMOTE CONTROL PANELS

PART 1 – EXISTING COMPONENTS

101. TURBINE GENERATOR CONTROLLER PANEL

This section describes the requirements for the controls system hardware provided by the contractor. The general technical features of the controls system are covered.

- 101.1. The Don Henry Power Center TC2000 Turbine Generator Controller panel uses an Allen-Bradley PLC-5 Programmable Logic Controller (PLC) model 1785-L80E. The system was installed in 1999.
- a. The controller panel contains three (3) separate chassis containing the various I/O modules used for turbine generator control. The PLC is installed in Chassis 1.
 - b. The controller panel receives 125VDC power supplied to each chassis and to two (2) 125VDC/24VDC power supplies.
 - c. The power supply outputs are wired to provide redundant 24VDC power to the analog circuits of the controller panel.
 - d. Each chassis also receives backup power from the 125VDC batteries in the battery room adjacent to the Generator Excitation panel.

PART 2 – NEW COMPONENTS

102. HARDWARE TO INSTALL IN EXISTING PANELS

This section describes the requirements for the controls system hardware provided by the contractor. The general technical features of the controls system are covered. Owner shall supply power feed to the Contractor's equipment.

- 102.1. The assembled subpanel or components of the new controls system will be installed in the existing Turbine Generator Controller panel (TC2000) at the Don Henry Power Center controller building.
- a. Contractor may request to the owner utilizing new panels instead of reusing the existing panel. This will need to be clearly stated in Contractor's proposal with number of new panels required for system. Contractor will also supply estimated dimensions for each panel.
- 102.2. The new system will contain power redundancy features as with the current system.
- 102.3. Fused knife switch terminal blocks (Rockwell Automation Bulletin 1492-H5 or equivalent) will be used for all critical IO.
- 102.4. All control power fuse blocks to be provided with blown fuse indicator LEDs or Neon indicator lights as applicable. Fuse to be held in swing hinge holder with handle for easy removal.

- 102.5. Knife disconnect switches (Phoenix Contact 3211913 Knife Disconnect Terminal Block or equivalent) will be used for non-critical IO.
- 102.6. The electrical equipment provided shall be complete, including all accessories.
- 102.7. Electrical equipment and cables shall be in accordance with the drawings and the requirements of the National Electrical Code, as well as local and state ordinances.
- 102.8. All devices and components in the rear and side subpanels shall be identified with clearly marked labels (Brady White Polyester Labels B33-17-483 or equivalent).
- 102.9. Subpanel wiring shall be accomplished in a neat and orderly manner. Where practicable, wiring troughs with readily removable covers shall be used, and any two or more wires run together shall be clamped or tied in straight lay bundles at approximately 15-inch intervals. Ties or clamps shall be nonmetallic.
- 102.10. All wiring shall be neatly routed and supported and shall not block access to instruments. Twenty percent installed spare connections shall be provided.
- 102.11. Splices shall not be permitted in power, lighting, control wiring, or instrument leads.
- 102.12. All internal wiring connections shall be made on one side of the terminal blocks, and not more than two wires shall be connected under a single terminal screw.
- 102.13. Control panel and cabinet wiring shall be minimum No. 16 AWG stranded copper conductor with flame retardant insulation suitable for the application.
- 102.14. Contractor will segregate AC power wiring from DC power wiring and IO wiring using separate wiring troughs. In addition, analog IO will be segregated from digital IO with each type in their own wiring trough.
- 102.15. Each terminal block, terminal, conductor, relay, breaker, fuse block, and other auxiliary device shall be permanently labeled to coincide with the identification indicated on the drawings. All terminals provided for termination of external circuits shall be identified by inscribing circuit designations acceptable to the Owner on the terminal block marking strips with indelible black ink. All other wiring terminations shall be identified by printing on flame-resistant heat shrink conductor identification sleeves. A conductor identification sleeve shall be provided on each end of each internal conductor.
- 102.16. Terminal blocks shall be industrial duty, barriered, and shall be furnished with white marking strips without covers. Not less than 25 percent installed spare terminals shall be furnished.
- 102.17. All terminal blocks for external control wiring shall be rated 600 volts minimum and shall have strap screw terminals suitable for #10 AWG and smaller 600 volt insulated conductors.
- 102.18. All dc electrical control devices shall be designed for continuous operation on an ungrounded station battery at any voltage from 105 to 140 volts dc. Electrical devices served from this supply shall not impose any ground connections on it.

END OF SECTION 251413

DIVISION 25 - COMMUNICATIONS

SECTION 251500

INTEGRATED AUTOMATION SOFTWARE

PART 1 – GENERAL

101. GENERAL DESIGN REQUIREMENTS FOR PROGRAMMING

- 101.1 All of the existing Don Henry Allen Bradley control system equipment will be replaced with a new Distributive Control System (DCS). It shall perform the functions of monitoring, control, alarm, protection and interlock, diagnostic, accident treatment and maintenance guidance for the Generation Facility to meet all requirements at various operational conditions and assure safe and economic operation.
- 101.2 Existing local controls of plant components required for maintenance and testing shall be provided with local/remote selectors and relevant safety locks so as to allow the local controls to be performed without danger. Local emergency stop devices shall be provided where deemed necessary by the customer to meet design requirements on safety for personnel and equipment protection, and fire protection etc. Local controls would generally apply to motor driven equipment.
- 101.3 The fundamental functions such as of control, alarm, monitoring, interlock and protection shall be segregated to the greatest practicable extent, both functionally and physically, so that the failure of a function does not result in the failure of other functions
- 101.4 The control design shall have self-diagnosing abilities, so that internal faults can be detected within the system prior to the resulting disturbance to the process and so that measures can be taken to prevent spreading of the fault.
- 101.5 Instrument and control equipment for outdoor usage shall be installed to prevent against freezing, wind, rain, salts, fumes and dust.
- 101.6 Alarm function shall be realized through an HMI and alarmed in the plant DCS. No local annunciators are required.
- 101.7 The control system shall operate safely and reliably in all modes of operation at all loads demands (steady state, increasing and decreasing loads)

102. DCS CONTROL

- 102.1 The Contractor will provide DCS I/O subpanels and associated hardware for mounting and wiring in Owner's cabinets.
 - a. Contractor may provide new panels, but owner must give approval before procurement of new panels.
- 102.2 DCS hardware subpanels shall be installed and wired by the Contractor prior to install in owner's cabinets, panels, and buildings, as appropriate. Installation of and wiring to the Owner's cabinet(s) outside the Contractor-furnished control equipment areas will be by Others.
 - a. This is also applicable to new panels if owner has agreed to design decision.

102.3 Contractor shall provide an updated comprehensive functional description of the power plant controls prior to programming of system. Owner will review and approve prior to commencing the programming of the system. HMI screen sketches will be submitted and approved by Owner prior to programming by Contractor. Detailed SAMA and Boolean control logic diagrams, existing PLC program, existing HMI screens, Input/Output database (completed with all pertinent data fields for DCS programming), and HMI screen sketches to be used for software FAT.

103. PROGRAMMING REQUIREMENTS

103.1 Scope of work will include the updated GE Frame 5 logic and HMI graphic design to the corresponding DCS software suite.

103.2 Contractor will provide the appropriate licenses to operate the required software to operate the power plant.

103.3 Programming will utilize to the best of the Contractor's ability the existing macros leverage by other Hastings plant sites for ease of troubleshooting and training.

103.4 Programming will utilize to the best of the Contractor's ability the existing graphic macros leverage by other Hastings plant sites for ease of troubleshooting and training.

103.5 For software testing, the Contractor will at a minimum program simple simulation logic to verify operation and functionality of system.

103.6 The following additions will be reviewed and/or incorporated into the new logic:

- a. Vibration Trip Settings: Coordinate with owner on verifying needs for trip and alarm to be instantaneous or delayed.
- b. Overspeed Trip Settings: Coordinate with owner on verifying needs for trip and alarm. Current programming does not have ability to do separate testing of mechanical trips and electronic trips.
- c. Exhaust Temperatures: Provide capabilities of selecting transmitters (only if redundant)
- d. Combustion Monitor: Provide capabilities of turning on or off combustion monitors
- e. Overall Graphics: Provide key confirmation windows for critical functions (i.e., startup request, shutdown request). This will be coordinated before programming of all screens.
- f. Purge Time, Warmup Time, Cooldown Time: Coordinate with owner on verifying timer setpoints for these cycles.
- g. Fogger: Owner will be installing a fogger system for this site. Contractor will utilize design documents for this sub system and incorporate into the graphics, logic, and updated functional description.
- h. RO Pump Skid: Owner will be installing an RO Pump Skid to be used by the fogger system. Contractor will utilize design documents for this sub system and incorporate into the graphics, logic, and updated functional description.
- i. Counters: Current system leverages hardware display counters. New system will maintain similar functionality through graphics. Contractor not required to supply hardware for counters
- j. 125VDC Battery System: Owner will be moving battery system to a new location. Existing IO points or new IO points will need to be utilized for battery health feedback.

- k. Fire Protection System: Owner will be installing a new equipment house for all new MCC switchgear equipment, 125VDC battery system, and RO pump skid equipment. The equipment house will have a new fire protection system that will need to be tied into the new DCS system.
- l. New MCC Equipment: New DCS equipment will be required to talk a standard communication protocol between MCC equipment for health and IO feedback. Communication standard will be determined once the MCC equipment is designed.
- m. Additional instrumentation may be added for increased operational reliability. Include in hardware design a minimum of 25% spare count to potentially account for new instruments.

104. FACTORY ACCEPTANCE REQUIREMENTS

- 104.1 Contractor will provide a 60-day notice of Factory Acceptance Testing date(s).
- 104.2 Contractor will provide a FAT checklist or procedure prior to 60-day notice of FAT date. Owner and Contractor will agree to approval process of test steps prior to any testing.
- 104.3 Contractor will provide separate FAT documents for hardware checkout and for software functionality checkout. The minimum required for this documentation will include:
 - a. Verifying of hardware functionality. This may include jumpering signals, cycling circuit breakers, removing fuses, and utilizing multimeters to verify voltage/current/resistance readings. Verification of all IO points using appropriate testing equipment through the IO Cards.
 - b. Verifying of software functionality. This will include verifying all alarms/trips operate per functional description. Verifying manual operations. Verifying interlocks. Verifying auto operations. Verifying PID Loops function and react appropriately.
- 104.4 Contractor shall maintain FAT log of all changes. Owner has right to review FAT log and verify all changes and requests have been implemented (in a fair manner).
- 104.5 FAT will be considered complete once Owner and Contractor have signed off on acceptance of FAT.

105. SITE ACCEPTANCE REQUIREMENTS

- 105.1 Contractor will coordinate with Owner for Site Acceptance Testing date(s).
- 105.2 Contractor will provide a SAT checklist or procedure prior to 60-day notice of SAT date. Owner and Contractor will agree to approval process of test steps prior to any testing.
- 105.3 Contractor will provide separate SAT documents for hardware checkout and for software functionality checkout. The minimum required for this documentation will include:
 - a. Verifying of hardware functionality. This may include jumpering signals, cycling circuit breakers, removing fuses, and utilizing multimeters to verify voltage/current/resistance readings.
 - b. Verifying of software functionality. This will include verifying all alarms/trips operate per functional description. Verifying manual operations. Verifying interlocks. Verifying auto operations. Verifying PID Loops function and react appropriately.

- c. Owner may request full functional testing documentation to verify functionality and operation of selected systems.
- 105.4 Contractor shall maintain SAT log of all changes. Owner has right to review SAT log and verify all changes and requests have been implemented (in a fair manner).
- 105.5 SAT will be considered complete once Owner and Contractor have signed off on acceptance of SAT.
- 105.6 Installation will be completed by Others. Owner will at a minimum require remote technical support for any questions that may come up during the demolition or installation process.

END OF SECTION 251500

DIVISION 26 – ELECTRICAL

SECTION 260526

GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS

PART 1 – GENERAL

101. EXTENT

101.1. General Requirements

- a. Metallic conduit systems between electrical equipment, such as between motors, junction boxes, and so forth, shall be made up with tight connections to establish absolute and adequate electrical conductivity for ground fault current. Suitable bonding jumpers shall be installed around sliding joint pull box fittings, liquid-tight flexible conduits used for power applications and any other devices in metallic conduit runs that do not provide good conductivity for the ground current.

PART 2 – PRODUCTS

102. GENERAL

- 102.1. Connections to motors and equipment will be bolted. Lugs for attaching cables to equipment will be furnished and installed by Others. All ground cable lugs shall be copper compression NEMA 2-hole type.

103. MATERIALS

103.1. Grounding materials shall be as follows:

- a. Conductors shall be soft-drawn copper with Class B stranding.
- b. Clamps, connectors, and other hardware used with the grounding/bonding system shall be made of copper and supplied from an acceptable supplier.

END OF SECTION 260526

SECTION 260548

VIBRATION AND SEISMIC CONTROLS FOR ELECTRICAL SYSTEMS

PART 1 – GENERAL

101. EXTENT

101.1. General Requirements: OPTIONAL

- a. Contractor to upgrade the current vibrational monitoring system and integrate into new controls system. The existing system is composed of three vibration sensors that rout to three Metrix model 5534 Signal/Vibration Transmitters into the PLC.

PART 2 – REFERENCES/STANDARDS

102. AMERICAN PETROLEUM INSTITUTE (API)

102.1. API 670 – MACHINERY PROTECTION SYSTEMS

PART 3 – PRODUCTS

103. GENERAL

- 103.1. Integration into the new control system per OEM standards. Contractor may leverage internal technology or vendor for new equipment. Vendor to be approved by Hastings.
- 103.2. Quote to include optional pricing for replacing sensors.
- 103.3. Include spare channels for additional vibration sensors for future use.

END OF SECTION 260548

APPENDIX A DRAWINGS

FOR

CONTRACT NO. HU 2026-41
DON HENRY POWER CENTER
CONTROLS REPLACEMENT
CITY OF HASTINGS
HASTINGS, NEBRASKA