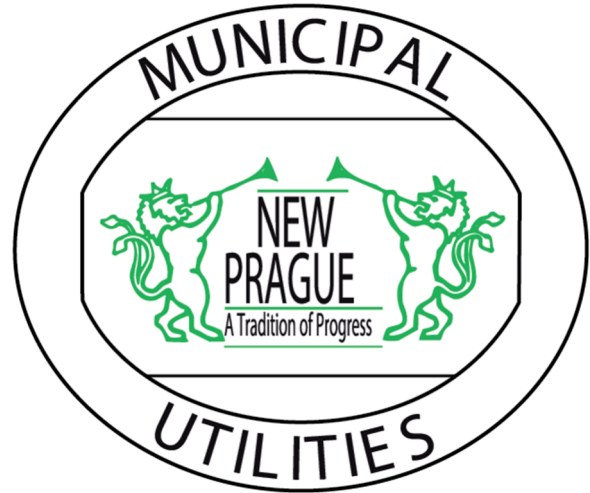


Bidding Documents
Furnishing Diesel Generating Equipment



New Prague Utilities Commission
New Prague, Minnesota

October 2024

DGR Project No. 417209



Bidding Documents
Furnishing Diesel Generating Equipment

New Prague Utilities Commission
New Prague, Minnesota

October 2024

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Signature: _____
Travis L. Zipf, P.E.

Date: _____ License No.: 43069

DGR Project No. 417209

DGR Engineering
1302 South Union Street
Rock Rapids, IA
(712) 472-2531
dgr@dgr.com

Bidding Documents

Furnishing Diesel Generating Equipment

New Prague Utilities Commission
New Prague, Minnesota

Contact persons for this project are as follows:

Owner's

Representatives:

New Prague Utilities Commission
118 Central Avenue N
New Prague, MN 56071
Phone: 952-758-1142

Bruce Reimers
General Manager
Email: breimers@ci.new-prague.mn.us

Engineer:

DGR Engineering
1302 South Union Street
Rock Rapids, IA 51246
Phone: 712-472-2531

Travis Zipf, P.E.
Project Engineer
Email: travis.zipf@dgr.com

Bidding Documents

Furnishing Diesel Generating Equipment

**New Prague Utilities Commission
New Prague, Minnesota**

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ADVERTISEMENT FOR BIDS

Notice is hereby given that sealed bids will be received by the General Manager of New Prague Utilities Commission at the Utility Offices located at 118 Central Ave N, New Prague, MN 56071, until **1:30 P.M.** on **October 24, 2024**, for Furnishing Diesel Generating Equipment. At said time and place, the bids shall be publicly opened and read aloud.

The proposed construction is described in general as follows:

The general nature of the work on which proposals will be received consists of the furnishing four (4) new 2,500 – 3,100 kW (standby-rated), 12.47 kV, 3-phase, 60 Hz diesel engine generator sets with controls and accessories; miscellaneous related equipment; and testing, commissioning, and start-up services.

The above work shall be in accordance with the specifications and proposed form of contract now on file in the office of New Prague Utilities Commission, New Prague, Minnesota, by this reference made a part hereof, as though fully set out and incorporated herein.

Suppliers desiring a copy of the project documents for individual use may obtain them from the office of DGR Engineering, Rock Rapids, Iowa, telephone (712) 472-2531, fax (712) 472-2710, web site www.dgr.com, e-mail dgr@dgr.com, no deposit required.

Each bid shall be made on the bid form furnished by the Engineer and shall be accompanied by bid security in the form of a certified check or bid bond, made payable to New Prague Utilities Commission, New Prague, Minnesota, in the amount of ten percent (10%) of the bid, which security becomes the property of New Prague Utilities Commission in the event the successful bidder fails to enter into a contract and post a satisfactory Performance and Payment Bond.

Payment to the Supplier for the equipment will be made from cash on hand or such other funds that legally may be used or obtained for such purposes. Payment to the Supplier for new equipment shall be made on the basis of ninety percent (90%) upon the delivery and placement of the equipment; ten percent (10%) within thirty-one (31) days after final completion, testing, start-up, Owner's acceptance, and delivery of final documentation.

All materials shall be delivered per the dates set in the Specifications.

New Prague Utilities Commission reserves the right to defer acceptance of any bid for a period not to exceed thirty (30) days after the date bids are received and no bid may be withdrawn during this period. New Prague Utilities Commission also reserves the right to reject any or all bids and enter into such contract as it shall deem to be in the best interest of the Utility.

Dated this 1st day of October 2024.

NEW PRAGUE UTILITIES COMMISSION

By _____ /s/ Bruce Reimers
General Manager

INSTRUCTIONS TO BIDDERS

1.01 FAMILIARITY OF CONDITIONS:

- A. Bidders are required to examine to their satisfaction, the plans and specifications and to make sure that the requirements are fully understood. The failure or omission of any Bidder to examine any form, instrument, or document shall in no way relieve any bidder from any obligation regarding their bid.

1.02 BIDDERS QUALIFICATIONS:

- A. Bidder must be capable of performing the work bid upon. The lowest responsive Bidders will be required to satisfy the Owner as to their integrity, experience, number of employees, equipment, personal, and financial ability to perform and ability to finance the cost of the work.
- B. If the information and data requested by the Owner is not furnished, the Owner may consider the Bidder non-responsive or non-responsible. The Owner reserves the right, in its sole and absolute discretion, to accept the bid of a Bidder despite the fact that said Bidder has not submitted any information, list, data or statement requested.
- C. The Owner reserves the right to reject any bid if the Owner determines, in its sole and absolute discretion, that the Bidder is not properly qualified to carry out the obligations of the Contract and/or to complete the work contemplated by the Contract. Conditional bids will not be accepted.

1.03 METHOD OF BIDDING:

- A. Bids shall be submitted on a unit price basis as stated on the Bid form. In preparing a bid, the Bidder shall specify the price, written legibly in ink or typewritten, at which the Bidder proposes to do each item of work. The price shall be stated with respect to each and every alternate item, whether an add alternate, or a deduct alternate. Failure to state a price for any alternate bid item shall constitute a non-responsive bid that will not be considered. The prices shall be stated in figures. In items where unit price is required, the total amount for each item shall be computed at the unit prices bid for the quantities given in the estimate. In the event of discrepancies in the unit price extensions listed in the bid, unit prices shall govern.
- B. For all work let on a unit price basis, the Engineer's estimate of quantities shown on the bid is understood to be approximate only and will be used only for the purpose of comparing bids.

1.04 BID SECURITY:

- A. Each bid shall be accompanied by bid security as specified in the Notice to Bidders and made payable to the Owner. Should the bidder receiving the award fail to

execute a satisfactory contract and file acceptable bonds within ten (10) days after the award of contract, the Owner may consider Bidder to be in default, annul the Notice of Award, and the bid security of that Bidder will be forfeited. Such forfeiture shall be the Owner's exclusive remedy if Bidder defaults.

- B. The bid security of unsuccessful Bidders will be returned promptly after the award has been made. In no case will the bid security be held longer than thirty (30) days without written permission of the Bidder, except that the bid security of the Bidder to whom the contract is awarded will be retained until he or she has entered into contract and filed an acceptable bond.

1.05 TAXES:

- A. The unit prices for material items in all Bids shall not include provisions for the payment of any sales, excise or other taxes payable to the State of Minnesota. The Owner will issue a tax exemption certificate to the successful Bidder.

1.06 ALTERNATE MATERIALS:

- A. Requests for approval of 'or-equal' materials and equipment shall be submitted to the Engineer in writing at least fifteen days prior to receipt of bids. Each request shall conform to the terms and conditions of the bidding documents and to the type, function, and quality standards of approved materials and equipment. The burden of proof of the merit of proposed 'or-equal' materials and equipment is upon the Bidder. The engineer's decision of approval or disapproval of a proposed 'or-equal' item will be final. No substitution shall be approved except by a written addendum issued to all prospective Bidders.
- B. Bidders may submit bids for alternate materials which do not meet all the detailed requirements of the specifications. Such submissions shall be in addition to the basic bid which shall comply with all requirements of the specifications. Bid evaluation and contract award will be made based on the base bid. Alternate materials will then be considered, and the final contract amount adjusted accordingly if the Owner decides to accept bids for alternate materials. In submitting bids for alternate materials, Bidders shall submit manufacturer's data and note the exceptions to the requirements of the plans and specifications.

1.07 TERMS AND CONDITIONS:

- A. The Bidder is invited to attach their standard patent protection and liability limitation conditions, but shall not include any other terms and conditions to this bid. Attachment of additional terms and conditions shall be grounds for disqualification of the submitted bid.

1.08 CHANGE IN QUANTITIES:

- A. NOT USED.

1.09 SUBMISSION OF BIDS:

- A. Bidders will be furnished with bid form(s) giving the estimate of quantities needed to complete the work. Two (2) copies of the completed bid form(s) and all supporting documentation shall be included with the bid.
- B. If the bid is made by an individual, his or her name and post office address must be shown. If made by a firm or partnership, the name and post office address of the firm or partnership must be shown. If made by a corporation, the person signing the bid must name the state under the laws of which the corporation is chartered, and the name, title, and business address of the executive head of the corporation. Anyone signing a bid as agent may be required to submit satisfactory evidence of his or her authority to do so.
- C. Any changes or alterations made in the official bid form, or any additions thereto, may result in the rejection of the bid. No bid will be considered which contains a clause in which the Bidder reserves the right to accept or reject a contract awarded by the Owner. Bids in which the unit prices are obviously unbalanced may be rejected.
- D. Should the Bidder find discrepancies, ambiguities or omissions from these documents, they should immediately notify the Engineer and an addendum will be sent to all known entities holding copies of the Bidding Documents.
- E. Two (2) copies of each bid form and all supporting documentation shall be provided. Bids shall be placed in an opaque envelope and the envelope sealed and marked "Bid Enclosed – Furnishing Diesel Generating Equipment" to indicate its contents. If forwarded by mail, the envelope shall be mailed to the following address:

New Prague Utilities Commission
Attn: Bruce Reimers, General Manager
118 Central Avenue N
New Prague, MN 56071
- F. Receipt of any Addenda must be acknowledged on the bid form or a copy of any addenda relating to the bid shall be signed and attached to the bid.

1.10 MODIFICATION OR WITHDRAWAL OF BIDS:

- A. A bid may be withdrawn by an appropriate document duly executed in the same manner that a bid must be executed and delivered to the place where bids are to be submitted prior to the date and time for the opening of bids. Upon receipt of such notice, the unopened bid will be returned to the Bidder.
- B. If a Bidder wishes to modify its bid prior to bid opening, Bidder must withdraw its initial bid and submit a new bid prior to the date and time for the opening of bids.

- C. No bid may be withdrawn for a period of thirty (30) days after the scheduled date and time for the receipt of bids.

1.11 **CONTRACT AWARD:**

- A. Award of the Contract, if an award is made, will be based on the base bid and/or any alternate bid(s) chosen by the Owner, as is in the best interest of the Owner. It is the intent of the Owner to award one (1) Contract for the equipment as is deemed to be in the best interest of the Owner. The Owner reserves the right to reject any or all bids, waive technicalities, and make award(s) as deemed to be in the best interest of the Owner.

The effect of the base costs and evaluation costs associated with the output capabilities of each generator set for generator verification test capacity (GVTC) testing will be considered in the award decision. In addition to cost, other items that will impact the award decision include the following:

1. Conformance to project specifications.
2. Output of each generator set.
3. Product features, enhancements, limitations, and related aspects.
4. Relevant experience with installations of similar size and type.
5. The Owner's and Engineer's past experience with units manufactured by the Bidder.
6. Support capabilities.
7. Maintenance personnel locality and capabilities.
8. Ability to meet specified delivery schedule / equipment delivery date.

The Owner reserves the right to conduct a post bid interview and/or installation site visit as a part of the bid evaluation process.

1.12 **PERFORMANCE BOND:**

- A. The Bidder to whom the contract is awarded shall furnish a Performance and Payment Bond in an amount equal to the total amount of the bid guaranteeing the faithful performance of the work in accordance with the terms of the contract. Such bond shall be with a surety company authorized to do business in the State of Minnesota and in form acceptable to the Owner. Any costs associated with procuring the necessary bond shall be included in the bid prices.

1.13 EXECUTION OF CONTRACT:

- A. The Bidder to whom the contract has been awarded shall enter into contract with the Owner within ten (10) days after the award has been made.
- B. No bid shall be considered binding upon the Owner until the contract is properly executed by both parties and all required bonds are filed.
- C. The contract, when executed, shall be combined with all the Contract Documents identified in the Material Agreement representing the entire agreement between parties. The Bidder shall not claim any modification resulting from representation or promise made by representative of the Owner or other persons.

1.14 DELIVERY/INSTALLATION DATE:

- A. The Bidder shall provide guaranteed completion dates in the locations provided on the Bid Form. Refer to the General Requirements for targets related to the delivery of materials.
- B. The Owner reserves the right to deduct from the contract price \$950 per day, per engine, for each calendar day for failing to meet the guaranteed delivery or final completion dates of the project schedule as described in Section 1.02 of the General Requirements. This price reduction shall be in lieu of proving an actual loss via legal or arbitration proceeding, but not as a penalty.
- C. The Owner agrees to indemnify the Supplier for circumstances beyond his control, including acts of God, acts of government, and related circumstances. Actions that cause delivery delays that are under the control of the Supplier are failure to allow sufficient time for manufacturing, failure to inform the Engineer of changes in the manufacturing schedule, or lack of cooperation in establishing effective measures by which delays could be minimized.
- D. The Supplier shall provide quarterly progress reports to the Engineer after award of the contract.

* * * END OF SECTION * * *

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

BID

Bid Due Date:

Description (*Project Name— Include Location*):

BOND

Bond Number:

Date:

Penal sum

\$

(Words)

(Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER

SURETY

(Seal)

(Seal)

Bidder's Name and Corporate Seal

Surety's Name and Corporate Seal

By:

Signature

By:

Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest:

Signature

Attest:

Signature

Title

Title

Note: Addresses are to be used for giving any required notice.

Provide execution by any additional parties, such as joint venturers, if necessary.

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
 - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2 All Bids are rejected by Owner, or
 - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

BID FORM

FURNISHING DIESEL GENERATING EQUIPMENT

TO: New Prague Utilities Commission
Attn: Bruce Reimers, General Manager
118 Central Avenue N
New Prague, MN 56071

FROM: Bidder's Name _____

Address _____

Pursuant to and in compliance with the Advertisement for Bids and the Instructions to Bidders relating thereto, the terms of which are incorporated herein by reference thereto, the undersigned as bidder offers and agrees, if this offer is accepted, to furnish and deliver the equipment and materials in strict conformance with the Specifications forming a part of these contract documents and in accordance with following addenda for the sum indicated on the following bid schedule.

Addendum Number

Addendum Date

1. The prices set forth herein do not include any sums which are or may be payable by the seller on account of taxes imposed by the State of Minnesota upon the sale, purchase or use of the equipment. If any such tax is applicable to the sale, purchase or use of the equipment, the amount thereof shall be paid by the purchaser.
2. The prices included herein are firm without regard for time of delivery, increase in cost from manufacturer, or any other factor.
3. The price of the equipment set forth herein shall include the cost of delivery to the job site in New Prague, Minnesota and off-loading and placement as detailed in the specifications.
4. Title to the equipment shall pass to the Owner upon completion of the contract and acceptance by the Owner.
5. This bid is void unless a materials contract based on this proposal is entered into by the Owner and the Supplier within 30 days after the date hereof.
6. The undersigned being familiar with all the details, conditions, and requirements hereby proposes to furnish the following material to the New Prague Utilities Commission in strict conformance with the specifications and Bidding Documents, to-wit:

DUPLICATE THIS FORM AS NECESSARY – MULTIPLE BIDS ARE ALLOWED

Item No.	Qty	Description	Unit Price	Extended Price
BASE BID ITEM NO. 1 - ITEMS:				
1A	4	New generator set, suitable for a remote mounted radiator , including local control panel and accessories as specified	\$ _____	\$ _____
1B	4	Remote-mounted radiator and surge tank	\$ _____	\$ _____
1C	4	New fuel oil day tank	\$ _____	\$ _____
1D	4	New set of starting batteries and cabling	\$ _____	\$ _____
1E	4	New battery charger	\$ _____	\$ _____
1F	4	Spare materials	\$ _____	\$ _____
TOTAL – ITEM NO. 1:			\$ _____	

REQUIRED OPTIONAL BID ITEMS:				
	4	Extended warranty period of 5 years for one (1) genset	\$ _____	\$ _____
	4	New hospital grade exhaust silencer	\$ _____	\$ _____
	4	Generator stator and bearing temperature measurement and display	\$ _____	\$ _____
	1	Solution of extended life ethylene glycol and high-quality water		\$ _____ /gal

OPTIONAL BID ITEM:				
	4	Alternate remote radiator selection	\$ _____ Add / Deduct [Circle one]	\$ _____ Add / Deduct [Circle one]

* * * BID FORM CONTINUED ON NEXT PAGE * * *

REQUIRED INFORMATION:
Guaranteed GVTC test output of the genset: _____ kW
Guaranteed delivery date:
Genset manufacturer, make, model:

* Guaranteed minimum subject to purchase price adjustment penalty after installation of new generator (see Specifications).

* * * END OF BID FORM FOR BASE BID NO. 1 * * *

Documentation Attached Checklist (Required to include - see General Requirements section):

(3) References Minimum _____ Emissions and Performance Data _____
Maintenance Contract Proposal _____ Equipment Descriptions _____
Maintenance Schedule _____

Bid Security Enclosed _____

Dated this ____ day of _____, 2024.

Bidder _____

Address _____

Authorized Officer _____

Signature _____

Telephone No. _____

E-mail _____

PERFORMANCE BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location)*:

BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:

Amount:

Modifications to this Bond Form: None See Paragraph 16

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal *(seal)*

Surety's Name and Corporate Seal *(seal)*

By: _____
Signature

By: _____
Signature *(attach power of attorney)*

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.
2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after:
 - 3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
 - 3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
 - 3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.
4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
 - 5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
 - 5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
 - 5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or
 - 5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:
 - 5.4.1. After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
 - 5.4.2. Deny liability in whole or in part and notify the Owner, citing the reasons for denial.
6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.
7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:
 - 7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
 - 7.2. additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and
 - 7.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.
8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.
9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.
10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
11. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit shall be applicable.
12. Notice to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.
13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
14. Definitions
 - 14.1. Balance of the Contract Price: The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.
 - 14.2. Construction Contract: The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.
 - 14.3. Contractor Default: Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.
 - 14.4. Owner Default: Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
 - 14.5. Contract Documents: All the documents that comprise the agreement between the Owner and Contractor.
15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be subcontractor and the term Owner shall be deemed to be Contractor.
16. Modifications to this Bond are as follows:

PAYMENT BOND

CONTRACTOR *(name and address)*:

SURETY *(name and address of principal place of business)*:

OWNER *(name and address)*:

CONSTRUCTION CONTRACT

Effective Date of the Agreement:

Amount:

Description *(name and location)*:

BOND

Bond Number:

Date *(not earlier than the Effective Date of the Agreement of the Construction Contract)*:

Amount:

Modifications to this Bond Form: None See Paragraph 18

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

_____ *(seal)*

_____ *(seal)*

Contractor's Name and Corporate Seal

Surety's Name and Corporate Seal

By: _____

By: _____

Signature

Signature *(attach power of attorney)*

Print Name

Print Name

Title

Title

Attest: _____

Attest: _____

Signature

Signature

Title

Title

Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond shall arise after the following:
 - 5.1. Claimants who do not have a direct contract with the Contractor,
 - 5.1.1. have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - 5.1.2. have sent a Claim to the Surety (at the address described in Paragraph 13).
 - 5.2. Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
 - 7.1. Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
 - 7.2. Pay or arrange for payment of any undisputed amounts.
 - 7.3. The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.
8. The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
16. **Definitions**
 - 16.1. **Claim:** A written statement by the Claimant including at a minimum:
 1. The name of the Claimant;
 2. The name of the person for whom the labor was done, or materials or equipment furnished;
 3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
 4. A brief description of the labor, materials, or equipment furnished;
 5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
 6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
 7. The total amount of previous payments received by the Claimant; and
 8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
 - 16.2. **Claimant:** An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
 - 16.3. **Construction Contract:** The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
 - 16.4. **Owner Default:** Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
 - 16.5. **Contract Documents:** All the documents that comprise the agreement between the Owner and Contractor.
17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.
18. Modifications to this Bond are as follows:

GENERAL REQUIREMENTS

FURNISHING DIESEL GENERATING EQUIPMENT

NEW PRAGUE UTILITIES COMMISSION
NEW PRAGUE, MINNESOTA

PART 1 - GENERAL

1.01 SUMMARY:

- A. Materials, equipment and work shall be as specified herein, and shall be designed, tested, rated, assembled, and installed in strict accordance with the current state and local codes and with all applicable standards of ANSI, IEEE, NEMA, NEC, NESC, IEC, and UL.

1.02 PROJECT SCHEDULE:

- A. The following dates represent the proposed schedule for this Contract (subject to guaranteed timeframes provided in the Bid Form and Agreement):

Project Task (Base Bid Item 1)	Date
Receipt of Submittals	December 2024
Delivery and field placement of four new generator sets and related equipment	September 2027*+
Field work, commissioning, and testing complete	120 days after delivery
Final completion, including final submittals and close-out documents	30 days after field work, commissioning, and testing complete+

* Date subject to change.

+ Contract price deductions apply to this date.

The Supplier shall coordinate actual delivery details, dates, and times with the Owner and installation contractor.

1.03 SUBMITTALS:

- A. The following items shall be included with the bid package:
 1. A complete description of the materials contained within the proposal.

2. Local support and maintenance arrangements.
 3. Maintenance schedule with recommended intervals for oil changes, overhauls, and other major maintenance items.
 4. List of at least three (3) references of Owners of similar units, preferably local.
 5. Emissions and performance data for submission to the Minnesota Pollution Control Agency. Exact (not nominal) data shall be furnished. Also include GVTC testing capabilities (maximum kW) of each generator set.
- B. In addition to any drawings and data submitted with the bid, the Supplier, after award of the contract and before proceeding with the manufacture of the material (where applicable), shall furnish the Engineer electronic copies of all design calculations, data sheets and drawings covering the design and installation of the material for approval.
- C. The Supplier shall submit structural details and drawings of the equipment outlines, connections, schematics, and wiring diagrams for approval. All drawings shall be approved prior to fabrication.
- D. The Supplier shall be responsible for all drawings required to fully document the function of all equipment internal to the control panels or switchgear. The Supplier shall also note external equipment connections on the wiring diagrams.
- E. The Supplier shall clearly indicate on the drawings what equipment/cables are furnished by the Supplier and what equipment/cables are to be furnished by Others.
- F. The generator drawings to be prepared include, but are not limited to the following:
1. Generator plan view and footprint diagram.
 2. Generator layout diagram.
 3. Generator three-line diagram.
 4. Generator AC schematics.
 5. Generator DC schematics.
 6. Generator wiring diagrams.
 7. Generator interconnection diagrams.
- G. The Supplier shall supply to the Engineer an electronic copy in .pdf and an AutoCAD compatible format of each of the above-mentioned drawings for all submittals.

- H. Drawings submitted shall be in 11 x 17 inch format.
- I. Drawings shall be transmitted with a cover letter and such letter shall indicate the submittal numbers, drawings included in transmittal, and date sent.
- J. Approval of final Supplier's drawings or data by the Engineer shall not relieve the Supplier of any part of his responsibility to meet all the requirements of this specification or as to the correctness of his drawings and data. Further, approval of the Engineer does not relieve the Supplier of responsibility for the adequacy of the design.
- K. Shop drawings for all material shall be submitted within 6 weeks of award.
- L. Allow 3 weeks for the Engineer's review of the shop drawings.
- M. See the Technical Specifications for additional submittal requirements.
- N. One (1) hard copy and an electronic copy of all instruction manuals and parts books shall be provided with the equipment. One (1) hard copy and an electronic copy of all approved shop drawings and/or material lists shall be furnished after the project is completed. One (1) zipped file containing all files required to create the instruction book shall be supplied via email, FTP, or similar electronic medium. Final, as-built drawings shall be included with the package, including both .pdf and AutoCAD versions.
- O. Supplier shall submit to the Engineer a maintenance schedule summary for all equipment furnished by Supplier needing routine maintenance as recommended by the equipment manufacturer.

1.04 DESIGN COORDINATION:

- A. The Supplier shall provide the necessary information, assistance, and coordination to the Engineer on final design issues associated with the equipment to be supplied. If deemed necessary by the Engineer, a design coordination meeting shall be conducted with the Supplier to cover these items.

1.05 SHIPPING AND DELIVERY PROCEDURES:

- A. A pre-delivery inspection shall be performed by the system manufacturer's nearest dealer at the dealer's facility to ensure no damage occurred in transit and all generator set components, controls, and equipment are included as specified herein.
- B. The Bid(s) shall include delivery, assembly and installation of the proposed equipment at the Owner's West Substation site in New Prague, Minnesota. Address of the project site is:

New Prague Utilities Commission West Substation
507 6th Ave NW
New Prague, MN 56071

- C. The seller shall notify the Engineer by telephone when equipment is ready for shipment, **at least 72 hours prior to delivery**, so the Owner can schedule to be on-site during delivery of the equipment. In addition, seller shall advise the Engineer of method of shipment, projected routing and estimated time in shipment.
- D. Provide rigging and other necessary equipment to perform the assembly and installation.
- E. Title to the equipment shall pass to the Owner upon acceptance testing and checkout of the equipment and receipt of all required documentation.

1.06 INSURANCE REQUIREMENTS:

- A. **General** – The Supplier shall secure and maintain such insurance policies as will protect that Supplier and unless otherwise specified, the Owner and its agents, from claims for bodily injuries, death or property damage, which may arise from operations under this contract whether such operations be by the Supplier or anyone employed directly or indirectly by them.

The Supplier shall not commence work under this contract until the Supplier and has obtained all insurance required herein and such insurance has been approved by the Owner. The Supplier shall deliver to the Owner executed copies of all policies or a certificate of insurance. The Supplier's policies and Certificate of Insurance shall contain a provision that coverage afforded under the policies shall not be canceled without at least thirty (30) days' advanced written notice to the Owner, or ten (10) days' written notice for non-payment of premium.

The Supplier agrees to hold harmless, indemnify and defend the Owner and its agents from all loss and damage, including damage to person or property, arising from any act by, or negligence of, Supplier or its subcontractors or their officers, agents, or employees of either while engaged in the performance of this contract, or while in or about the building or premises, or arising from accident or any injury not caused by act of Owner or Owner's agents, its agents or servants, or anyone employed by Owner, other than this Supplier, to any Contractor or officer, agent, or employee of a subcontractor while engaged in or about the performance of this contract, or while in or about Owner's premises, or arising from liens or claims for services rendered or labor or materials furnished in or for the performance of this contract.

- B. **Workers' Compensation Insurance:** The Supplier shall maintain such insurance as will protect that Supplier and New Prague Utilities Commission and their agents from claims under Workers' Compensation acts and from any other claims for damages for personal injury, including death, which may arise from operations under this contract, whether such operations be by the Supplier or subcontractor or

anyone employed directly or indirectly by them. Workers' Compensation Insurance policies limits shall be in an amount not less than those listed below (Each Accident; Disease-Policy Limit; and Disease-Each Employee Limit).

- 1. State: Statutory
- 2. Applicable Federal (e.g., Longshoreman's): Statutory
- 3. Employer's Liability:
 - Bodily injury, each accident \$ 500,000
 - Bodily injury by disease, each employee \$ 500,000
 - Bodily injury/disease aggregate \$ 500,000

The Workers' Compensation policy shall include a waiver of subrogation clause in favor of the Owner.

C. **Commercial General Liability Insurance:** The Supplier shall take out and maintain during the term of this contract, Supplier's Commercial General Liability insurance including products/completed operations, personal injury, advertising injury, and contractual liability in an amount not less than those listed below.

- 1. General Aggregate \$ 4,000,000
- 2. Products - Completed Operations Aggregate \$ 4,000,000
- 3. Personal and Advertising Injury \$ 2,000,000
- 4. Each Occurrence (Bodily Injury and Property Damage) \$ 2,000,000

D. **Supplier's Commercial Automobile Liability Insurance:** The Supplier shall take out and maintain during the term of this contract, Supplier's Commercial Automobile Liability Insurance in an amount not less than listed below. Automobile policies shall include non-ownership and hired auto coverage in the above specified amounts.

- 1. Combined Single Limit of \$ 1,000,000

E. **Additional Insured:** The Owner, Engineer, and each of their employees, officers or agents shall be named as an additional insured under the prime Supplier's Public Liability insurance policies for not less than \$5,000,000.00 (five million dollars).

Owner: New Prague Utilities Commission
 118 Central Avenue N
 New Prague, MN 56071

Engineer: DeWild Grant Reckert and Associates Company
dba DGR Engineering
1302 South Union Street
Rock Rapids, IA 51246

- F. **Limits:** The above limits can be met with the primary policy or a combination including an excess liability or commercial umbrella policy.
- G. The Supplier's policies shall be primary insurance and non-contributory to any other valid and collectible insurance available to the Owner with respect to any claim arising out of the Owner's performance under the agreement.
- H. **Installation Floater:** The Supplier shall maintain an installation floater on the equipment, including the equipment while stored off-site, while in transit, and on the Owner's property. The policy shall be written on a full replacement cost basis. Coverage shall continue until the installation work is accepted by the Owner. Owner shall be named as an insured on the Supplier's installation floater policy. The policy deductible shall not exceed \$10,000 unless approved in advance by the Owner. The Supplier shall be responsible for payment of any deductible. The installation floater shall be primary to any coverage maintained by the Owner. The Supplier's insurer shall waive any right of subrogation or recovery against the Owner.

1.07 WARRANTY:

- A. Supplier shall furnish a standard warranty package with the material. A copy of the warranty shall be furnished with the bid package.
- B. Coverage length: Minimum 24 months from energization or 30 months from date of delivery, whichever comes first.
- C. Shall be comprehensive, without deductibles, and shall cover all equipment furnished by Supplier, whether or not it was manufactured by the Supplier.
- D. Shall further include all repair parts, labor, travel expenses necessary for repairs at the job site, and expendables (lubricating oil, filters, antifreeze, and other service items made unusable by the defect) used during the course of the repair.
- E. The Bidder shall be required to submit an alternate bid price for an extended warranty period of 5 years from the date of successful start-up. The 5 year warranty shall include the same coverages and requirements as the 24/30 month warranty described above. The Owner will make a decision on whether to accept the optional extended warranty after final completion of the project, prior to expiration of the 24/30 month warranty included in the base bid. If the equipment offered is used, the Bidder shall conduct all necessary inspections and tests to enable the implementation of the 5 year warranty.

- F. The Bidder may, at his discretion, submit a proposal covering other extended warranty period(s) and coverage(s) than those described here. Such proposal shall in detail describe the items covered and the services offered.

1.08 MAINTENANCE CONTRACT:

- A. The manufacturer's authorized dealer shall furnish to the Owner a proposed contract to perform maintenance on the supplied equipment. Cost for this work shall NOT be included in these bid prices, but will be evaluated and if selected, purchased on a separate contract. Information shall be provided on proposed maintenance intervals, work to be performed at each interval, payment schedule for performed work, and Owner and Dealer listed responsibilities.
- B. In addition to the proposed maintenance contract, the Bidder shall furnish with the bid a maintenance schedule with recommended intervals for oil changes, overhauls, and other major maintenance items to be performed throughout the life of each generator set.

* * * END OF SECTION * * *

TECHNICAL SPECIFICATIONS

FURNISHING DIESEL GENERATING EQUIPMENT

NEW PRAGUE UTILITIES COMMISSION NEW PRAGUE, MINNESOTA

1. GENERAL ITEMS:

This specification describes standby generating equipment and related materials to be delivered to and placed inside a proposed new generating plant building constructed by New Prague Utilities Commission. These specifications cover the furnishing and complete installation (where required) of all equipment required to complete the work. The bid prices stated in the proposal shall include all painting, labor, materials, freight, loading, protection from weather, fabrication, and installation (where required) to assure the Owner that the equipment will operate as specified. The Supplier shall further provide start-up assistance, testing and checkout as described in later sections of this specifications, as well as the necessary coordination with the installation contractor.

The equipment to be furnished under this contract includes the following:

- Under base bid item 1, four (4) new diesel generator sets each with a remote mounted radiator, new control and indication equipment as specified, and other accessory equipment.

The descriptions contained herein indicate the equipment to be supplied in this specification, as well as the proposed method of connection and interfacing to other equipment, some of which will be completed by Others.

The Owner reserves the right to reject any or all bids, waive technicalities, and make award(s) as deemed to be in the best interest of the Owner. In addition to cost, other items will impact the award decision as listed in the Instructions to Bidders.

2. GENERAL REQUIREMENTS OF GENERATOR SET:

The new generator sets and related components shall be completely assembled and factory tested by a manufacturer which has built, sold and serviced generating equipment of a similar design and size for at least 5 years. Both engine and generator shall be the responsibility of a single manufacturer and be of a standard model or series in regular production at the manufacturer's place of business. No unit assembled by anyone other than a recognized manufacturer will be accepted. All bidders must be authorized factory dealers of the equipment being furnished.

Required generator set ratings are as follows:

- Output capacity for each new generator shall be in the range of 2,500 through 3,100 kW, 3,125 through 3,875 kVA at 80 percent power factor, standby rating. The generator shall be stamped at the maximum standby rating.
- **Preference will be given to a generator set with a higher output over that of a lower output.**
- Output voltage shall be 12,470 volts, 3 phase, 60 Hz, grounded wye.
- Engine speed shall be 1,800 rpm.
- The rating the generator will be GVTC tested at shall not exceed 90 percent of the maximum standby rating fuel rate limit of the engine and shall be based on two (2) hours of standby operation in any 24-hour period at rated speed and rated voltage with an ambient temperature of minus 40 deg F to plus 114 deg F measured two (2) feet from the end bearing housing of the generator in line with the shaft. All ratings shall be adjusted for the elevation and temperature of the installation. The ratings shall be the net output after subtracting the electrical load of the radiator and all parasitic loads. Project elevation approximately 1,001 feet above sea level.
- The bid submittal shall include documentation of the efficiency of a similar production generator and the fuel utilization of a similar production engine after 4 hours of continuous operation at full load. This data shall be based on #2 distillate fuel oil with a cetane rating of 40. The fuel utilization data and the generator efficiency shall be certified by the engine manufacturer. Certification by other parties will not be accepted.
- Only new engines meeting TIER 4 FINAL EPA certifications standards for the horsepower of the rating will be considered. The engine shall hold a certificate of conformity from EPA.

The Owner will contractually commit the output capacity of the generating equipment furnished under this contract to a third party. Upon project commissioning and going forward into the future, this facility will be GVTC tested according to the following.

- The rating each generator set will be GVTC tested at is defined as being paralleled with the utility grid at 100 percent load factor for up to 500 operating hours per year.
- A test to demonstrate generator output capability is required at least annually by the Utility's power supplier. The required test is for a minimum of one hour at or above the load level the unit (or units) is (are) accredited for.
- The rating each generator set will be GVTC tested at must carry a minimum overload capacity of 10 percent. The standby / overload / maximum rating is defined as an output available with varying load for the duration of the interruption of the normal power source, in accordance with ISO 8528. The standby / overload / maximum rating is the maximum published rating of the genset.

It is a requirement of this Contract that the guaranteed GVTC test output capability include all generating equipment parasitic loads, including the radiator (as applicable) and other accessories furnished and / or provided by this Supplier. In addition, special or premium fuel shall not be required to achieve this output level. The generating equipment must also be capable of performing the above accreditation requirements without special equipment adjustments or programming. In other words, the plant needs to be capable of providing the accreditation output at any time the Owner desires, as long as all equipment is in satisfactory operating condition. The 10 percent overload requirement will assure the Owner that the accreditation requirements can be met for the duration of the power contract.

All ratings must be substantiated by the manufacturer's certified standard published curves. The Owner reserves the right to employ an independent third party to conduct a factory inspection during assembly of the unit. Any such inspection would be at the Supplier's expense.

All work and equipment provided shall be designed, tested, rated, assembled, and installed in strict accordance with the current state and local codes and with all applicable standards of ANSI, IEEE, NEMA, NEC, NESC, IEC, and UL.

Purchase Price Adjustment: The Owner will receive capacity payments for the total accredited capacity of the generation facility, on a per kW basis. The total generating capability from the initial GVTC test results shall be compared to the guaranteed GVTC test output capability found in the Proposal. This figure cannot exceed 90 percent of the maximum standby rating of the genset. Additionally, a one hour test at 10 percent above the guaranteed GVTC test rating will be required. The total purchase price of the contract order shall be reduced if the tested output capability of the generating equipment is less than the guaranteed output capability (including the 10 percent overload requirement) submitted in the Proposal. The penalty for failing to meet the guaranteed GVTC test rating shall be \$2,400/kW, which shall be deducted from the final payment. No adjustment in purchase price shall be made if the tested output capability is more than the guaranteed output capability.

3. **DESCRIPTION OF OPERATION:**

The paralleling switchgear and control system will be furnished under a separate contract. This Supplier shall provide the necessary information and work with the switchgear and control system supplier to ensure the overall system performs as specified. It is anticipated that the paralleling switchgear will be set up with automated operational capabilities, including:

- Local/remote starting, synchronizing, and base load operation via a single start signal; local/remote unloading, cool down, and stop via a single stop signal.
- Local/remote initiated black start operation; local/remote initiated transfer to utility after black start operation.
- Automatic black start operation; automated transfer to utility after black start operation.
- Overall load setting and automated load sharing capabilities.

The time required to automatically start, accelerate to rated speed and voltage, and synchronize each generator set to the system bus upon a signal to do so shall not exceed 15 seconds under normal conditions, assuming that each generator set is in an ambient temperature of 40 deg F or greater, and water jacket heaters are operating properly. Each generator set shall be capable of starting and delivering power no more than 10 seconds from the time the "start" signal is received during an outage. Each engine-generator set shall be capable of single step load pick up of 100 percent nameplate kW and power factor, less applicable derating factors, with each engine generator set at operating temperature.

A one-line diagram showing the proposed electrical configuration is included in the Appendix.

4. **ENGINE:**

The engine shall be diesel, full compression ignition injection, four stroke cycle internal combustion engine, either vertical or vee type, and shall have an engine driven type full pressure lubrication system. Speed regulation shall be isochronous and rated plus or minus ¼ percent from no load to standby rated load. The engine shall meet specifications when operating on distillate fuel oil. The horsepower rating of the engine at its minimum tolerance level shall be sufficient to drive the generator and all connected accessories. Two cycle engines are not acceptable.

The engine shall be equipped complete with lube oil, lube oil coolers, fuel oil cooler, fuel transfer pump, fuel priming pump, engine driven water pump(s), and engine mounted fuel filter. The engine shall be provided with one or more replaceable dry type air cleaners of sufficient capacity to effectively protect the working parts of the engine from dust and grit. All air filters shall be conveniently located for servicing. If any of the above auxiliary equipment is remote mounted, the bidding Supplier shall include the installation of this equipment in their bid.

The engine fuel rate shall not be adjusted higher than the fuel rate recommended by the engine manufacturer.

The engine shall be equipped for battery starting (dual 24-volt starters powered by batteries).

Each generator set shall be mounted on skids which in turn shall be mounted on high efficiency spring/pad type vibration isolators. The quantity of vibration isolators shall be provided as recommended by the engine manufacturer.

The engine and control system shall be equipped with such devices that in the event of abnormally high jacket water/aftercooler water temperature, low jacket water/aftercooler water level, excessively low lubricating oil pressure, overcrank or overspeed conditions, the control system will automatically shut the engine down. Pre-alarms shall also be installed for approach to low oil pressure, approach to high jacket water/aftercooler water temperature, and low jacket water/aftercooler water temperature, at a minimum. The manufacturer shall establish the proper settings for these levels based on the engine supplied.

The engine (or genset control panel) shall be equipped with a service meter, fuel pressure gauge, intake manifold temperature gauge, lube oil pressure gauge, lube oil temperature gauge, pyrometer, engine coolant temperature gauge, and air cleaner restriction gauges. All gauges shall

be installed in a shock mounted panel located on the side of the engine in a place that is easy for the operator to record readings, if they are not a function of each generator set control panel.

An electronic governor system shall be provided to monitor all significant engine parameters, and adjust engine performance according to speed, altitude, temperature, aftercooler temperature, and engine condition. It shall incorporate revisable control software capable of reconfiguring engine operation to desired performance levels. The engine control shall be configured to avoid interruption of power whenever possible. In the event of system faults which do not require immediate shutdown, the engine shall be programmed to continue operation at power levels sufficient to remain within performance limits. It shall display real time and historical data to allow the user to optimize operation and provide accurate service information in the event of a malfunction. Information shall be accessible through a data link for remote monitoring, or through a RS-232 port. A data link failure shall not cause an interruption of engine operation.

Each generator set shall have the capability to allow isochronous load sharing between multiple automatically paralleled generator set. Speed droop shall be adjustable from 0 to 10 percent from no load to full rated load and share within 5 percent when paralleled with similarly equipped engines. Ramping to rated speed during startup shall be delayed until engine oil pressure is assured, with rate of acceleration controlled. In the event of a DC power loss, the fuel system shall remain closed.

Do not make modifications affecting generator set factory emissions certification without approval of manufacturer and Engineer. Where such modifications are made, provide field emissions testing as necessary for certification. It is not acceptable for a manufacturer to add control equipment to a previous tier generating unit, unless EPA has provided the manufacturer with a Certificate of Conformity.

5. **GENERATOR:**

The generator shall be designed and constructed to match the life of the engine and have the following electrical and mechanical characteristics.

The generator shall be rated in accordance with NEMA Standard MG1. The generator shall be rated at the prime kW and standby kW rating at 80 percent power factor and at the voltage, frequency, and RPM as indicated. All insulation system components shall meet NEMA MG1 temperature limits for Class F insulation systems, minimum. Temperature rise of the rotor and stator shall not exceed NEMA Class F (105 deg C rise by resistance over 40 deg C ambient) minimum and shall comply with UL 2200. The NEMA kW rating at the rated voltage shall be stamped on the nameplate. Enclosure shall be NEMA MG 1, drip-proof.

The generator shall be synchronous, self-ventilated, of heavy-duty ball-bearing drip-proof construction, and suitable for direct coupling to the engine flywheel housing. It shall be connected to the engine through a semi-flexible coupling. The excitation system shall be of brushless construction. A permanent magnet excitation system shall be provided, enabling the generator to sustain and regulate 300 percent of rated current for 10 seconds during a fault condition.

A solid state or digital regulator shall be provided to match the characteristics of the generator and engine. The regulator shall be equipped with three-phase RMS sensing and shall control buildup

of AC generator voltage to provide a linear rise and limit overshoot. The voltage regulator shall be equipped with overexcitation protection, volts per Hertz regulation, loss of sensing protection, and temperature compensation. Voltage regulation shall be plus or minus 0.5 percent for any constant load from no load to full rated load for both parallel and non-parallel applications. Random voltage variation with any steady load from no load to full load shall not exceed plus or minus 0.5 percent. Voltage level adjustment shall be a minimum of plus or minus 5 percent. **Voltage regulator shall be capable of cross-current compensation and include field current and field voltage inputs. Regulator shall be a CDVR or approved equal.** The regulator module shall be shock mounted and suitably protected against vibration and atmospheric deterioration, if installed on the generator.

Total Harmonic Distortion shall be not greater than 5 percent.

The field circuit shall have inherent protection to prevent excessive field currents and field over-voltage.

An anti-condensation heater shall be provided for the generator, rated 120/240 VAC, single phase.

The generator shall be provided with a junction box large enough for wiring access and connections to the generator leads and the neutral via the neutral grounding reactor, no less than minimum sizes prescribed by the National Electric Code. Terminals shall be provided, suitable for connection of 2-hole NEMA spades. Provide space and access in junction box for three (3) current transformers (similarly sized to ABB SCV window-style CT) furnished by others and installed by this Supplier on the neutral leads of the generator. The Owner or third party will deliver the current transformers to the Supplier.

Current and voltage instrumentation transformers shall be furnished as required for generator control equipment. Accuracy and ratio shall be suitable for the monitoring and control equipment applications.

Appropriately sized neutral grounding reactors will be furnished and installed by Others for each generator set, for limiting the magnitude of line-to-ground faults to that of a three-phase fault.

Required Optional Bid Item: Generator shall be fitted with necessary provisions to measure generator stator and bearing temperatures.

6. **GENERATOR SET AIR INTAKE SYSTEM:**

The engine air intake air system shall be equipped with one or more standard-duty, engine mounted air filter assembly with replaceable dry filter element(s) as recommended by the engine manufacturer. Provide with service indicator.

7. **GENERATOR SET LUBRICATING OIL SYSTEM:**

The engine lubrication system shall be full pressure, with engine-driven, positive displacement oil pump with a built-in pressure relief valve. Pump shall be sufficiently sized to ensure proper lubrication.

Control lubricating oil flow automatically in system to maintain optimum oil temperature. Control shall be capable of full flow and is designed to be fail-safe. Provide oil cooler where recommended by manufacturer.

The engine shall be equipped with a separate 24 VDC pre/post-lube pump to assure engine oil pressure and lubrication before start-up and after operation. Provide with automatic control to allow scheduling of pre-lube function during non-operational hours.

Provide one or more replaceable, full-flow oil filter(s). Oil filtration system shall be equipped with a spring-loaded bypass valve(s) to maintain flow in the event the filter(s) become clogged. Refer to Article 15 for spare materials.

Provide a dip-stick or other manual means for level indication. Provide provisions for the addition of lubricating oil. Provide additional means to remove a small volume of lubricating oil from the system for use in sampling and testing.

Provide thermostatically controlled oil heater to improve starting under cold ambient conditions where recommended by manufacturer.

The crankcase drain shall be arranged for complete gravity drainage to an easily removable container with no disassembly and without use of pumps, siphons, special tools or appliances. Extend oil drain lines to exterior of base frame for maintenance. Provide with pipe plug and manually operated ball valve.

Provide with a closed-type crankcase ventilation system as recommended by the manufacturer. The system shall remove contaminants from the crankcase gases, separate oil from the gases, and return the filtered gases to the engine intake system. Refer to Article 15 for spare materials.

Provide the initial fill of lubricating oil for the engine. The oil provided shall be appropriate for the duty of the application. Refer to Article 15 for spare materials.

Generator set delivery to project site may not occur immediately due to project schedule limitations. Supplier to provide a suitable engine and generator preservative measures to allow for storage for up to one year. Provide the necessary material and labor to remove preservative provisions and bring generator set into service, including an oil change if recommended by the manufacturer.

8. **GENERATOR SET FUEL SYSTEM:**

The engine shall be capable of satisfactory performance on a commercial grade of diesel, ASTM D975 No. 2-D and approved cold weather diesel blends. Engines requiring premium fuel are not acceptable.

The engine shall be equipped with an engine-driven, positive displacement fuel transfer pump of sufficient capacity to ensure adequate fuel supply during starting and load conditions and cooling of fuel injectors, if applicable. The pump shall be maintenance free for the life of the equipment. Provide a check valve to secure prime and relief-bypass valve.

Provide a manual fuel priming pump to facilitate priming and bleeding air from the system.

Provide a primary full flow fuel filter, with water separator, with replaceable elements, in the fuel line prior to the fuel transfer pump. The levels of filtration shall be recommended by the engine manufacturer. All fuel filters shall be conveniently located for servicing. No screens or filters requiring cleaning or replacement shall be used in the injection pump or injection valve assemblies. Fuel filter and serviceable fuel system components shall be located to prevent fuel from spilling onto the generator set batteries. Refer to Article 15 for spare materials.

If the engine utilizes fuel oil for lubrication and cooling of the fuel injection system, provide necessary provision for cooling of the fuel oil. A fuel cooler shall be selected for operation of each generator set at full rated load, plus ten (10) percent reserve, in the ambient temperatures specified. A remote fuel oil cooler or one that is incorporated into the engine radiator is acceptable.

Furnish flexible, oil resistant, fuel lines with stainless steel braiding for elimination of objectionable vibration and movement at the following locations. Fuel lines shall be rated 300 deg F and 100 PSI. The installing contractor will extend the fuel oil piping to a point near the engine.

- Engine supply connection (between contractor-provided fuel supply piping and engine)
- Engine return connection (between engine and fuel oil cooler inlet connection)
- Fuel oil cooler outlet connection (between fuel cooler outlet connection and contractor-provided fuel return piping).

Furnish a painted steel fuel oil day tank, listed and labeled as complying with UL 142. Day tank manufacturer shall be Tramont or Engineer approved equal. The capacity of the day tank shall be 600 gallons.

Day tank equipment must be capable of being placed in a space of approximately 4 ft. wide x 7 ft. long x 4 ft. high. The day tank will be placed at the same elevation of the of the generator set, and a check valve will be provided by others in the supply piping.

The day tank shall be single wall construction, fabricated with welded steel, exterior paint and rust inhibitor coated interior. Furnish with a welded steel, painted, open top rupture basin sized for 150 percent of tank capacity. Rupture basin shall be provided with drain. Day tank connections shall be as follows:

- Tank fill, with full length dip tube, 2 inch minimum.
- Manual fill connection, with lockable fill cap, 2 inch minimum
- Engine supply, with full length stand tube, 2 inch minimum
- Engine return, 2 inch minimum

- Tank overflow, with stand tube, 2 inch minimum. Intended to pump contents to main tank with separate base-mounted pump. Pump is by others.
- Tank drain, with stand tube, 1 inch minimum
- Normal atmospheric vent, 2 inch minimum
- Emergency pressure relief vent, sized as required by UL 142
- Inspection port, 4 inch square, minimum
- Openings as necessary for level gauge and level switches

Provide a hand pump, with isolation valves, mounted on the day tank for priming the engine fuel supply line.

Include the necessary control provisions to operate a day tank overflow pump, provided by others, for returning fuel to the main tank in the event of an alarm condition.

The day tank shall be supplied with monitoring and controls required to call for fuel from the on-site bulk fuel storage system. The control system shall operate on 120 VAC and include the following features:

- UL listed
- LED fuel level gauge
- High and low fuel level indication, and contacts for remote annunciation, including closure of a normally closed solenoid valve (high fuel level indication only)
- Critical low level alarm, and contacts for engine shutoff
- Critical high level alarm, and contacts for remote annunciation, including closure of a normally open solenoid valve
- Fuel in rupture basin alarm, and contacts for remote annunciation
- Pump run indication
- Manual on/off control options
- System test switch

The Owner will provide fuel for startup, testing, and commissioning of the generators.

9. GENERATOR SET COOLING SYSTEM:

Each generator set shall be supplied with a closed-loop, liquid-cooling system with a remote mounted radiator and separate engine driven water pumps for each circuit. Coolant flow shall be controlled automatically in system to maintain optimum coolant temperature as recommended by the engine manufacturer.

Engine driven pumps shall be capable of the delivering suitable flow and pressure for the cooling system considering the following site conditions. These values do not include the restriction created by the engine or remote radiator.

- 100 feet (equivalent length) of 6-inch piping for the jacket water circuit
- 100 feet (equivalent length) of 4-inch piping for the aftercooler water circuit

A remote mounted radiator shall be sized and furnished by the Supplier for each generating unit furnished under this specification.

Subject to compliance with requirements, furnish products by one of the following manufacturers:

- Worldwide Exchangers, a SHECO Industries Company.
- Smithco Engineering, Amercool Division.
- Engineer approved equal prior to bid.

The radiator shall be sized, with manufacturer suggested foiling factors, to provide sufficient capacity to serve the cooling circuits (jacket water, aftercooler water and any other loops) of the generating unit operating at 110 percent load at 110 deg F ambient (outdoor) temperature without derating the generating unit. Size the radiator using a mixture of extended life ethylene glycol and high-quality water, with anticorrosion additives (50/50 mixture) furnished by the equipment manufacturer. Radiator shall be sized based on a core temperature which is 20 degree F higher than the rated operation temperature, or prototype tested to verify cooling performance of the engine/radiator/fan operation in a controlled environment.

The radiator shall be constructed with a horizontal core and vertical air discharge suitable for outdoor operation. The radiator shall be heavy duty bolted construction with a self-supporting base that has mounting holes and lifting lugs to facilitate handling during installation. The radiator shall be supplied with a hailscreen. The radiator and motor shall be a minimum of 78 inches clear from roof level. All piping connections shall be on the same end of the radiator.

The radiator frame shall be fabricated of hot rolled plate steel that has been hot dipped galvanized, and must be capable of withstanding wind loads up to 100 MPH and extreme temperature changes. The radiator coil shall be rated for 150 PSIG continuous service, and must be hydro tested to 225 PSIG per A.S.M.E Code. The radiator cooling fins shall be fabricated from aluminum. The fins shall be mechanically bonded to the tubes.

The radiator fan shall be a high-performance air foil type. The fan shall be of aluminum construction. The radiator shall be equipped with a heavy-duty galvanized fan, belts, core guards, and personnel protection screens and / or guards. Equipment shall be OSHA-compliant.

The radiator fan shall be driven by a heavy duty, inverter-duty, totally enclosed fan cooled, 480 VAC, three phase, 60 hertz motor with a 1.15 service factor. The maximum power required to operate the radiator fan shall not exceed the service factor of the motor. All motors shall be protected with properly sized circuit breakers (no fusing).

Each radiator fan motor shall be fitted with rain guards or equivalent means to reduce the potential for water entry into the motor.

A space heater shall be fitted within each radiator fan motor to reduce internal humidity during idle times and prevent motor freezing in the winter months.

Each radiator fan motor shall be furnished with separate (individual) variable frequency drive (VFD), allowing for fan operation to match the load of the generating unit. Include the necessary thermocouples, thermowells and VFD programming for control. Installation of VFD and accessories will be indoors and by others.

Each VFD shall have surge protection, arresters and surge capacitors included, minimum, integral disconnect, and 3 to 5 percent line and load reactors. The line and load reactors shall be mounted within the VFD enclosure where possible or in series with the VFD where not. The VFD shall be manufactured by ABB or Engineer-approved equal prior to bid.

Each radiator fan motor shall be equipped with a manual-reset vibration switch and remote annunciation to the plant control system that will shut the motor off in the event of excessive vibration.

The radiator shall be equipped with a galvanized steel split tank expansion tank with sufficient capacity under all operations. The expansion tank shall be mounted on top of the radiator structure. Both the jacket water and aftercooler water sides of the expansion tank shall be equipped with a guarded sight glass, low water level switch and pressure relief cap.

If the components are not at an easily accessible location, the vibration switch(es) and level switch(es) shall be pre-wired to a common location within a junction box for interconnection by Others at a single point.

The maximum permissible sound pressure generated by the fan shall not exceed 75 dBA at a distance of 23 feet in any direction from the radiator, as tested by an accredited laboratory.

Subject to review and acceptance by the radiator manufacturer, each radiator will be installed as close as possible to the adjacent radiator.

Each radiator shall be furnished with an OSHA-compliant walkway and ladder on the connection end of each radiator. Height of platform shall be suitable to access the valve at the inlet and outlet connection of the radiator and expansion tank. Considering the previous paragraph, furnish a platform that will extend between all radiators with access ladders on each end.

Furnish flexible connectors at each radiator and engine connection that are constructed of materials capable of withstanding thermal expansion, vibration of the equipment and the temperature and pressure of the coolant. Provide the necessary bolts, washer, nuts and full face, non-asbestos gaskets for all connections.

The Supplier shall provide factory-authorized, on-site start up assistance and testing for the furnished equipment, including radiator, VFD, control and related accessories.

Provide thermostatically controlled coolant heater to improve starting under cold ambient conditions; size according to manufacturer's recommendations for achieving starting and load acceptance requirements under worst case ambient temperature. The preferred operating voltage shall be 480 VAC, three-phase. Isolation valves shall be installed on the inlet and outlet sides of the heater to facilitate servicing.

Required Optional Bid Item: The Supplier shall furnish and install a solution of extended life ethylene glycol and high-quality water, with anticorrosion additives, as recommended by the engine manufacturer for the local conditions. The antifreeze solution shall be paid for by the Owner on the basis of the Supplier standard pricing for antifreeze. **Provide a “per gallon” price with the bid.**

Optional Bid Item: The Supplier may furnish an alternate radiator for each generating unit furnished under these specifications. The Supplier shall furnish documentation to the Engineer as part of bid to allow for an informal review. Include a list of key differences between the proposed alternate radiator and the basis of design above.

10. **GENERATOR SET EMISSION CONTROL SYSTEM:**

Supplier shall furnish the necessary emission control equipment to meet the Tier 4 final engine exhaust emission standards defined in 40 CFR 1039. The following generally outlines the scope of supply and responsibility for the emission control system. Supplier is required to provide a complete and functional system, considering the scope below.

- Furnish the required emission control technologies and associated equipment, potentially including:
 - Oxidation catalyst and monitoring system
 - Selective catalytic reduction, dosing cabinet, dosing tank, DEF pump, and monitoring system
 - Diesel particulate filter and monitoring system
 - Other technologies that may be required to meet engine exhaust emissions requirements of this project. This may include exhaust heaters, load banks, etc.
- Furnish steel exhaust piping, expansion joint(s), fittings, flanges, bolts, nuts, gaskets, insulation blankets and other materials required between the engine outlet and emission control system inlet. If the emission control technologies are not installed within a common

housing, the Supplier shall provide the additional components as required between the emission control system devices. Installation of components will be by Others using guidance or installation criteria furnished by Supplier.

- Furnish the necessary steel support structure and other materials required to elevate and support the emission control system over the engine / generator set. Installation of components will be by Others using guidance or installation criteria furnished by Supplier.
- Provide the necessary wiring and piping connections between the engine, dosing cabinet, controls and the emission control equipment.

The following will be provided by Others to support the emission control system installation. Supplier to advise of any requirements in the material below.

- Diesel exhaust fluid (DEF) storage tank, sized to allow not less than 24 hours of full load run time without refueling.
- DEF piping, insulation and heat tracing between the tank and the dosing cabinet.
- Air compressor, receiver, air dryer and filtration, sized for the generator manufacturer's requirements.
- Compressed air piping between the air compressor equipment and the dosing cabinet.

The Owner will provide the necessary diesel exhaust fluid for startup, testing, and commissioning of the generator.

If the chemicals used in the emission control system are subject to freezing, the supplier shall provide the necessary heater(s), heat tracing, insulation or other means to allow generator operation in freezing conditions.

11. **GENERATOR SET EXHAUST SYSTEM:**

Components of the engine exhaust system, including the proposed exhaust silencer, factory-supplied emission controls, expansion joints, fittings, and pipe/tailpipe. shall be selected to meet the performance requirements and design criteria indicated in this Article. The design shall not exceed seventy-five (75) percent of the manufacturer's exhaust backpressure limitation.

An engine exhaust back pressure report or equivalent engineering calculations shall be submitted to document compliance with this Article. Calculation inputs shall incorporate the following data. Size of piping and accessories shall be determined by Supplier. All values are approximate and subject to change based on Supplier's offering and project design parameters.

- Facility elevation above sea level: 1,001 feet (approximate).
- Engine-connected expansion joint(s), described within, by Supplier.

- Piping, fittings and accessories between the engine and factory-supplied emission control module, by Supplier.
- Factory-supplied emission control module, if applicable, by Supplier.
- One full-size exhaust piping expansion joint, with ANSI flanges (inlet and outlet), twenty-four (24) inches in overall length, by Others.
- Exhaust silencer, described within, by Supplier.
- Fifty (50) feet of carbon steel piping, schedule 10, by Others.

Accessories including the engine-connected expansion joints and exhaust silencer will be furnished by the Supplier for installation by Others. Any expansion joint(s) in the full-size exhaust piping will be provided by Others.

A specification for engine-connected expansion joints is outlined below.

- Design Conditions:
 - Flow medium: Diesel engine exhaust.
 - Design pressure: 5 psig, minimum.
 - Design temperature: 1,000 deg F, minimum
 - Axial compression: As recommended by the Supplier.
 - Lateral compression: As recommended by the Supplier.
 - Angular rotation: As recommended by the Supplier.
 - Movement: Concurrent.
- Construction:
 - Stainless steel bellows.
 - Provide a bellows flow liner if recommended by the Supplier.
 - Carbon steel plate flanges.

Required Optional Bid Item: A heavy-duty, hospital grade exhaust silencer shall be furnished by this Supplier for installation by Others for each generator set. The silencer shall eliminate both high velocity and resonance noises. Silencer configuration shall be for vertical installation with single, side inlet connection, and single, end outlet connection. The housing shall be provided with legs to mount to a concrete pad by others. The silencer housing shall be furnished with lifting

lugs, and one or more drain connections to facilitate condensate or moisture removal from the exhaust system. An engraved metal nameplate providing serial number and manufacturer reference material shall be included.

The hospital grade silencer shall meet the following acoustical performance requirements, as tested in a qualified acoustical testing laboratory:

Octave Band Center Frequency	Attenuation (dB)
63	28
125	34
250	38
500	39
1000	38
2000	36
4000	34
8000	34

The hospital grade silencer shall be designed to support a tailpipe section terminating a minimum of 50 feet above grade. Anticipate that the tailpipe will be an ASTM A 53, Schedule 10, commercially available black steel pipe of diameter matching the outlet diameter of the silencer. Tailpipe will be furnished and installed by Others.

The silencer shall also be fitted with a factory-fabricated steel framework (rings) to accommodate the installation of field-applied jacket (cladding) by others. Construction will be described generally as follows:

- 1/8-inch thick transverse bands shall be 3 inches wide and rolled to create a separation of approximately 6 inches between the housing and the band.
- Transverse band support spokes shall be provided on 30 to 60 degree intervals, as recommended by the manufacturer, around the circumference of the housing
- Transverse bands shall be spaced at approximately 20 inch intervals, as recommended by the manufacturer, along the entire length of the housing.
- The transverse bands shall be connected together with a 1/8-inch longitudinal support bands.

12. GENERATOR SET STARTING SYSTEM:

Each engine starting system shall include a 24-volt DC dual starting motor, a starter relay, and an automatic reset circuit breaker to protect against butt engagement. The dual electric starters shall be capable of three complete cranking cycles without overheating.

Batteries shall be lead-acid or calcium/lead antimony type, low maintenance, sized as recommended by the engine manufacturer, mounted near the starting motor. A corrosion resistant or coated steel battery rack shall be provided for the batteries. Required cables, connectors, and battery disconnect shall be furnished and sized to satisfy starting requirements. The system shall be capable of starting a properly equipped engine within 10 seconds.

A battery-charging alternator shall be included. It shall be engine-driven with integral solid-state voltage regulation. The alternator and remote battery charger shall cooperatively maintain battery voltage.

A battery charger shall be furnished for each generator set, to be installed by Others in a remote location on a wall inside the generator building. All external wiring will be completed by Others. The battery charger shall be of the automatic mode switching type. It shall have an output current rating of at least 20 amps and shall be capable of automatically switching from one rate to the other according to the needs of the battery. Voltage settings for both ranges shall be factory preset for the specific battery type and shall not be field adjustable. It shall maintain its rated output DC voltage within plus or minus 0.2 percent with AC input variation of plus or minus 10 percent. AC input voltage shall be 240-volt, single phase. The charger shall have automatic overload protection, DC voltmeter and ammeter, AC breaker input, DC breaker output, and provisions for automatically switching to float mode when the battery is fully charged. The charger shall be equipped with output contacts for remote annunciation of charger failure, low DC volts, high DC volts, and loss of AC power. The charger shall be of the wall-mounting type in a NEMA 1 enclosure. Furnish SENS EnerGenius® IQ or engineer approved equal.

13. **GENERATOR SET CONTROL PANEL:**

Each generator set shall be provided with a microprocessor-based control system for complete control and monitoring of the engine and generator set functions. The control system shall be engine-mounted or mounted on a freestanding panel adjacent to each generator set and shall allow local monitoring and control of each generator set, and remote monitoring and control as described in a later section of this specification. Each generator set control panel shall be designed and built by the engine-generator manufacturer and shall be vibration isolated and environmentally sealed. The panel shall be properly labeled for identification of all meters, control switches, and functions. The panel shall incorporate self-diagnostics capabilities and fault logging.

The panel shall include a minimum of the following:

- Digital readouts: AC metering shall be within 0.5 percent true rms accuracy. A minimum of the following digital readouts shall be provided:
 - Generator AC Voltage, 3N (available in L-L or L-N)
 - Generator AC Amps, 3N
 - Generator frequency
 - Generator kW (total and per-phase)

- Generator kVA
 - Generator power factor (average total and per-phase)
 - Generator kWh
 - Engine oil pressure
 - Engine coolant temperature
 - Engine RPM
 - Engine running hours of operation
 - System DC Volts
 - **Required Optional Bid Item:** Generator stator and bearing temperatures.
- Controls: An engine control switch shall be mounted on the control panel and shall include positions for the following:
 - Off/reset mode
 - Manual start/run mode
 - Manual stop/cooldown mode
 - Automatic/supervisory mode

The off/reset, manual start/run, and manual stop/cooldown modes above shall be unsupervised by any remote or supervisory control. In the off/reset mode, each generator set shall immediately stop, bypassing all time delays. In the manual start/run mode, each generator set shall start and accelerate to rated speed and voltage as directed by the operator. In the manual stop/cooldown mode, each generator set shall shut down with the manufacturer's recommended pre-programmed cooldown time delay. In the automatic mode, each generator set shall be ready to accept a signal from a remote device to start or stop as required.

A large red emergency stop pushbutton shall be provided. Depressing the emergency stop pushbutton shall cause each generator set to immediately shut down, and be locked out from automatic restarting.

A reset switch shall be provided to clear fault indication and to allow restarting of each generator set after it has shut down for any fault condition. A lamp test switch shall be provided to allow testing of all panel lamps at one time.

Start-stop logic shall have provisions for cycle cranking and cool down operation. Cycle cranking shall be adjustable, allowing for user selected crank time, rest time, and number of cycles.

Cooldown time shall also be user programmable. Cycle cranking settings and cooldown time shall be initially set as recommended by the generator set Supplier.

Control outputs shall be provided for use in controlling the air intake and exhaust air flow for each generator set. A minimum of two normally-open, dry output contacts (control outputs) shall be provided for signaling a “start” sequence, as well as two outputs for signaling a “stop” sequence. The dampers and damper controls, along with interconnection wiring, will be provided and installed by Others.

- Protective Functions: Each generator set shall alarm and/or shut down for various fault conditions as recommended by the generator set Supplier. Shut down and alarm indicators shall meet the requirements of NFPA 110 Level I regulations as they pertain to this installation and are the responsibility of the generator set Supplier. Each generator set control shall perform and indicate a minimum of the following conditions:
 - Low oil pressure (alarm and shutdown)
 - High coolant temperature (alarm and shutdown)
 - Low coolant temperature (alarm)
 - Low jacket water level (shutdown)
 - Low aftercooler level (shutdown)
 - Overspeed (shutdown)
 - Overcrank (shutdown)
 - Low fuel in daytank (shutdown)
 - Low DC battery voltage (alarm)
 - High DC battery voltage (alarm)
 - Battery charger failure (alarm)
 - Emergency stop depressed, from either local control panel or switchgear panel (shutdown)
 - System not in auto (alarm)

The control shall include a minimum of three spare user-programmable inputs and indication points for alarm or shutdown. Each generator set shall be provided with all the necessary sensors and auxiliary equipment to sense and indicate the above listed fault conditions, and the control system shall automatically initiate alarms or shutdown sequences as required.

All points for connection to remote devices shall be on a common terminal block strip or adjacent terminal block strips, permanently labeled for ease of connection by Others.

14. **EXECUTION:**

The following articles and paragraphs are intended to define acceptable procedures and practices for constructing, installing, inspecting, and testing each generator set and associated equipment.

14.1 **Placement and Installation – Generation Plant Installation:**

The generator sets and related equipment shall be assembled and set in place (where required) inside the Owner's proposed generation plant building by the Supplier's representative. The Supplier shall be responsible for complete installation of the following:

- The proposed generator set will be placed on a newly constructed concrete foundation. Any modifications required to the facility in order to receive the proposed generating unit will be by Others.
- All equipment is to be brought into the plant engine room area via an opening approximately 10 feet wide by 12 feet high. All equipment shall be capable of removal, if necessary, through the same opening. The Supplier shall make all necessary arrangements to accomplish this, verify all openings, dimensions, site conditions, and transport and set all equipment in permanent place on the Owner's plant foundation pads.
- The generator sets shall be installed in the engine room and fully dressed out, including installation of any parts removed for transportation.
- The high voltage cabling and connections to the switchgear will be furnished and installed by Others.
- The free-standing generator control panel will be installed adjacent to the respective generator set by Others. Furnish any necessary structure required to raise the control panel to a reasonable operating height. Wiring, including power, control and data, between the control panel and engine shall be completed by the Supplier. Power, control, and data connections between the generator control panel and remote controls or switchgear will be furnished and installed by Others. Supplier to provide guidance or installation criteria related to the selected location.
- The free-standing generator emission control dosing cabinet will be installed adjacent to the respective generator set by Others. Furnish any necessary structure required to raise the cabinet to a reasonable operating height. Piping, wiring, including power, control and data, between the dosing cabinet and engine shall be completed by the Supplier. Piping, power, control, and data connections between the remote elements and the dosing cabinet will be furnished and installed by Others. Supplier to provide guidance or installation criteria related to the selected installation location and sizing, selection or placement of remote elements.
- The exhaust piping, expansion joint(s), fittings, flanges, bolts, nuts, gaskets, insulation blankets and other materials required between the engine outlet and

emission control system inlet shall be furnished by the Supplier for installation by Others. Supplier to provide guidance or installation criteria to the installer.

- The exhaust silencer shall be furnished by the Supplier for installation by Others.
- For the balance of exhaust system equipment between the emission control system outlet and the tailpipe, including expansion joint(s), insulation, jacketing and other materials, these will be furnished and installed by Others.
- The fuel day tank and piping to each generator set from the day tank will be installed adjacent to the respective generator set by Others. The fuel day tank and flexible fuel lines shall be furnished by Supplier for installation by Others. Fuel piping from the day tank to the bulk fuel storage will be furnished and installed by Others. Power and control wiring between the day tank and other equipment will be furnished and installed by Others.
- The 15 kV switchgear shall be assembled and installed by Others in the proposed switchgear room. Any interconnection wiring required between switchgear sections after assembly shall be completed by Others. (Power, control, and data connections to external equipment will be furnished and installed by Others.)
- The battery bank and relevant cables and connections to the generator shall be installed adjacent to the respective generator set. The battery rack shall be securely anchored.
- The battery charger shall be furnished by Supplier for installation by Others. Power connections between the battery bank and battery charger will be furnished and installed by Others.

14.2 **Interconnection Wiring:**

Interconnection wiring between the supplied equipment and external equipment including each generator set and existing substation equipment, will be completed by Others. The Supplier shall develop and furnish proposed interconnection diagrams, wiring lists, and control cable schedules for use in completing this work.

Any interconnection wiring, tubing or other between factory-supplied emission control equipment and its respective control panel or generator set shall be completed by the Supplier.

14.3 **Field Quality Control:**

The complete installation shall be checked for procedural and operational compliance by a representative of the system manufacturer's nearest authorized supplier. The engine lubrication oil and antifreeze, as recommended by the system manufacturer, shall be provided and installed by the generator set Supplier. If the controls and generator set are furnished by different manufacturers, technical representatives of both manufacturers'

authorized suppliers shall verify the installation meets requirements. Any deficiencies pertaining to each generator set shall be noted and corrected by the generator set Supplier. Deficiencies caused by Owner's contractor shall be noted by the generator set Supplier and repaired by the Owner's contractor.

The system manufacturer's dealer representative and technical support personnel shall be present to assist a different installation contractor during installation, startup, systems check, adjusting, and any site testing required after the installation is complete.

14.4 **Testing and Start-Up:**

The generator set Supplier shall perform a complete operational test on each generator set prior to shipment. All equipment to be supplied shall be fully tested for function and performance. Certified test reports shall be furnished to the Engineer after completion of testing. The Owner reserves the right to witness testing, and the Supplier shall submit a testing agenda to the Owner prior to the testing date.

A full functional test of the complete system shall be performed after installation, to ensure that all systems are operational, and that each generator set will run at the ratings herein specified. The tests to be performed, in the presence of the manufacturer's representative, the Owner's installing contractor, Engineer, and Owner staff, include but are not limited to the following:

- Verification that the equipment has been installed properly.
- Verification of proper system operation under all operating modes as described in this specification.
- Functional testing of all equipment. All equipment supplied shall be functionally tested to verify proper operation. This testing shall include verification of proper operation under all conceivable operating modes. Examples of functional tests include verifying the proper operation of breakers, battery chargers, jacket water heaters, annunciators, auxiliary equipment, interlocking schemes, remote controls, and related tests.
- Functional testing of all control schemes. All possible operating scenarios shall be tested.
- Proof of operational performance regarding load capability, voltage regulation, and frequency. The Owner will select the ambient conditions under which these tests are to be completed. A performance test of up to six hours will be required by the Owner's power supplier, in addition to the initial GVTC test. Additionally, the genset package will be required to run one hour at 10 percent over the level at which the engines are GVTC tested.

- Checks of all fluid levels shall be made. While the engines are running, they shall be checked for exhaust leaks, oil leaks, fuel leaks, coolant leaks, abnormal vibrations, and other routine checks.

The performance bond shall remain in effect and will be kept by the Owner until the equipment has been tested and is fully operational.

14.5 **Orientation/Training:**

The system manufacturer's nearest authorized dealer shall provide a complete orientation and training for the Owner's maintenance personnel. Orientation shall include both classroom and hands-on instruction. Topics covered shall include control operation, meters, indicators, warnings/annunciation, shutdown of system, and routine maintenance and testing. The training shall include each generator set, operating modes, and controls. Orientation and training shall be conducted separately from the startup and testing required herein. A sufficient amount of training and instruction shall be supplied to the Owner's staff to allow them to competently operate and utilize the generating plant and its equipment.

The Supplier shall provide training for the facility operating personnel covering operation and maintenance of the equipment provided. The training program shall be not less than 4 hours in duration (two 2-hour sessions, on separate days, in the event of an absence). Training dates shall be coordinated with the facility Owner.

14.6 **Operator's Manuals and Parts Books:**

The system manufacturer's nearest authorized dealer shall furnish one (1) hard copy and an electronic copy of the manuals and books listed below for materials furnished under this contract:

Operating Instructions - with description and illustration of all controls and indicators, including engine and generator controls.

Parts Books - that illustrate and list all assemblies, subassemblies and components, except standard fastening hardware (nuts, bolts, washers, etc.)

Preventative Maintenance Instructions - on the complete system that cover daily, weekly, monthly, biannual, and annual maintenance requirements and includes a complete lubrication chart.

Routine Test Procedures - for all electronic and electrical circuits and for the main AC generator.

Troubleshooting Chart - covering the complete generator set showing description of trouble, probable cause and suggested remedy.

Recommended Spare Parts List – showing all consumables anticipated to be required during routine maintenance and testing.

Wiring Diagrams and Schematics - showing function of all electrical components.

Electronic copies of these items shall be provided as described in the General Requirements section.

15. **SPARE MATERIALS:**

Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

- Fuses: One for every 3 of each type and rating, but no fewer than one of each.
- Indicator Lamps: Two for every 6 of each type used, but no fewer than two of each.
- Filters: One set of lubricating oil, fuel (primary and secondary), combustion air, and crankcase ventilation for each engine.
- Lubricating oil: Five gallons of type matching the initial fill, for each engine.
- Coolant: Five gallons of type matching the initial fill, for each engine. Pre-mixed or 100 percent ethylene glycol is acceptable.

* * * END OF SECTION * * *

MATERIAL AGREEMENT

THIS AGREEMENT made as of _____, 2024 between _____ (hereinafter called the "Supplier"), and New Prague Utilities Commission, New Prague, Minnesota (hereinafter called the "Owner"),

WITNESSETH, that the Supplier and the Owner for the considerations hereinafter named agree as follows:

1.01 SCOPE OF WORK:

- A. The Supplier agrees to sell and deliver to the Owner and the Owner agrees to purchase and receive from the Supplier materials under the Bid Form, in strict accordance with the documents entitled "**Furnishing Diesel Generating Equipment, New Prague Utilities Commission, New Prague, Minnesota.**"

1.02 THE CONTRACT DOCUMENTS:

- A. The Contract Documents shall consist of this written Agreement, Bid Proposal, Instructions to Bidders, Addendums issued numbers __, Bid, Insurance Policies and Certificates, General Requirements, Performance Bond, drawings and specifications, tests and engineering data, approved change orders, Supplier's Requests for Payment, and all addenda issued by the Owner prior to the awarding of the Contract (collectively, the "Contract Documents"). All of the Contract Documents listed in this Material Agreement are hereby incorporated by this reference as fully as if they were set out in this Agreement in full, all of which documents and instruments are incorporated by the signature of the parties hereto.

1.03 TIME OF COMPLETION:

- A. The work to be performed under this contract shall be commenced upon execution of this Agreement and shall be substantially completed by _____.

1.04 THE CONTRACT SUM:

- A. The Owner shall pay the Supplier for the equipment, in current funds: The Owner shall pay to the Supplier for performance of the work encompassed by this Agreement, and the Supplier will accept as full compensation therefore the lump sum of \$ _____, subject to adjustment as provided by the Contract Documents, to be paid by progress payments in cash or its equivalent in the manner provided for in the Contract Documents.

1.05 PAYMENT:

- A. Upon delivery and placement of the equipment at the Owner's site, the Supplier shall submit to the Owner a detailed statement of the equipment delivered. The Owner shall, within thirty (30) days after receipt of the equipment in acceptable

condition and associated invoice, pay the Supplier ninety percent (90%) of the contract price of the equipment. The Owner shall, within thirty (30) days after final completion including field testing, start-up, orientation/training, final drawing and documentation submittal, punch list completion, certification by the Engineer, and receipt of associated invoice, pay the Supplier the remaining ten (10) percent of the contract price of the equipment.

1.06 TERMINATION:

- A. This Agreement may be terminated by either party upon seven (7) days written notice should the other party breach the terms of this Agreement.

1.07 ASSIGNMENT:

- A. The Supplier shall not assign all of his rights or obligations under this Agreement without the express written consent of the Owner. Upon any assignment even though consented to by the Owner, the Supplier shall remain liable for the performance of the work under this Agreement.

1.08 PARTIAL INVALIDITY:

- A. If any provisions of this Agreement are in violation of any statute or rule of law of the State of Minnesota, then such provisions shall be deemed null and void to the extent that they may be violative of law, but without invalidating the remaining provisions hereof.

1.09 WAIVER:

- A. No waiver of any breach of any one of the agreements, terms conditions or covenants of this Agreement by the Owner shall be deemed or imply or constitute a waiver of any other agreement, term, condition or covenant of this Agreement. The failure of the Owner to insist on strict performance of any agreement, term, condition or covenant, herein set forth, shall not constitute or be construed as a waiver of the Owner's rights thereafter to enforce any other default; neither shall such failure to insist upon strict performance be deemed sufficient grounds to enable the Supplier to forego or subvert or otherwise disregard any other agreement, term, condition or covenant of this Agreement.

1.10 ENTIRE AGREEMENT:

- A. The within Agreement, together with the Contract Documents, constitute the entire agreement of the parties hereto. No modification, change, or alteration of the within Agreement shall be of any legal force or effect unless in writing, signed by all the parties.

1.11 COUNTERPARTS:

- A. This Agreement may be executed in several counterparts and each such counterpart shall be deemed an original.

1.12 GOVERNING LAW:

- A. Venue for any and all legal actions regarding or arising out of the transaction covered herein shall be solely in the District Court in and for Scott County, State of Minnesota or the United States District Court for the State of Minnesota. This transaction shall be governed by the laws of the State of Minnesota.

1.13 NOTICES:

- A. All notices, requests, demands and other communications given or to be given under this Agreement shall be in writing and shall be deemed to have been duly given when served if served personally, or on the second day after mailing if mailed by first class mail, registered or certified, postage prepaid, and properly addressed to the party to whom notice is to be given as set forth below.

If to Owner:

If to Supplier:

New Prague Utilities Commission
118 Central Avenue N
New Prague, MN 56071

1.14 CASUALTY INSURANCE:

- A. Except when the risk of loss of the Equipment is with Owner, Supplier shall maintain on the Equipment insurance against loss or damage by fire, lightning and all other risks covered by the so-called extended coverage insurance endorsement in an amount equal to the full insurable value of the Equipment. Upon the request of Owner, Supplier shall deliver to Owner a certificate of insurance evidencing the insurance required by this section.

1.15 RISK OF LOSS:

- A. Risk of loss of the Equipment shall remain with Supplier until the Equipment has been unloaded, inspected, and accepted by the Owner or Owner’s Representative, at which time risk of loss shall pass to Owner. Notwithstanding the foregoing, if Owner rejects the Equipment as non-conforming, risk of loss of the Equipment shall be and remain with Supplier until Supplier corrects the non-conformity or Buyer accepts the Equipment.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by their duly authorized representatives all as of the day and year first above written.

New Prague Utilities Commission

Owner

Supplier

Sign: _____

Sign: _____

Print: _____

Print: _____

ATTEST:

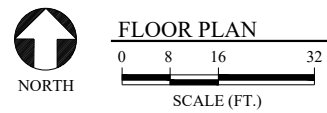
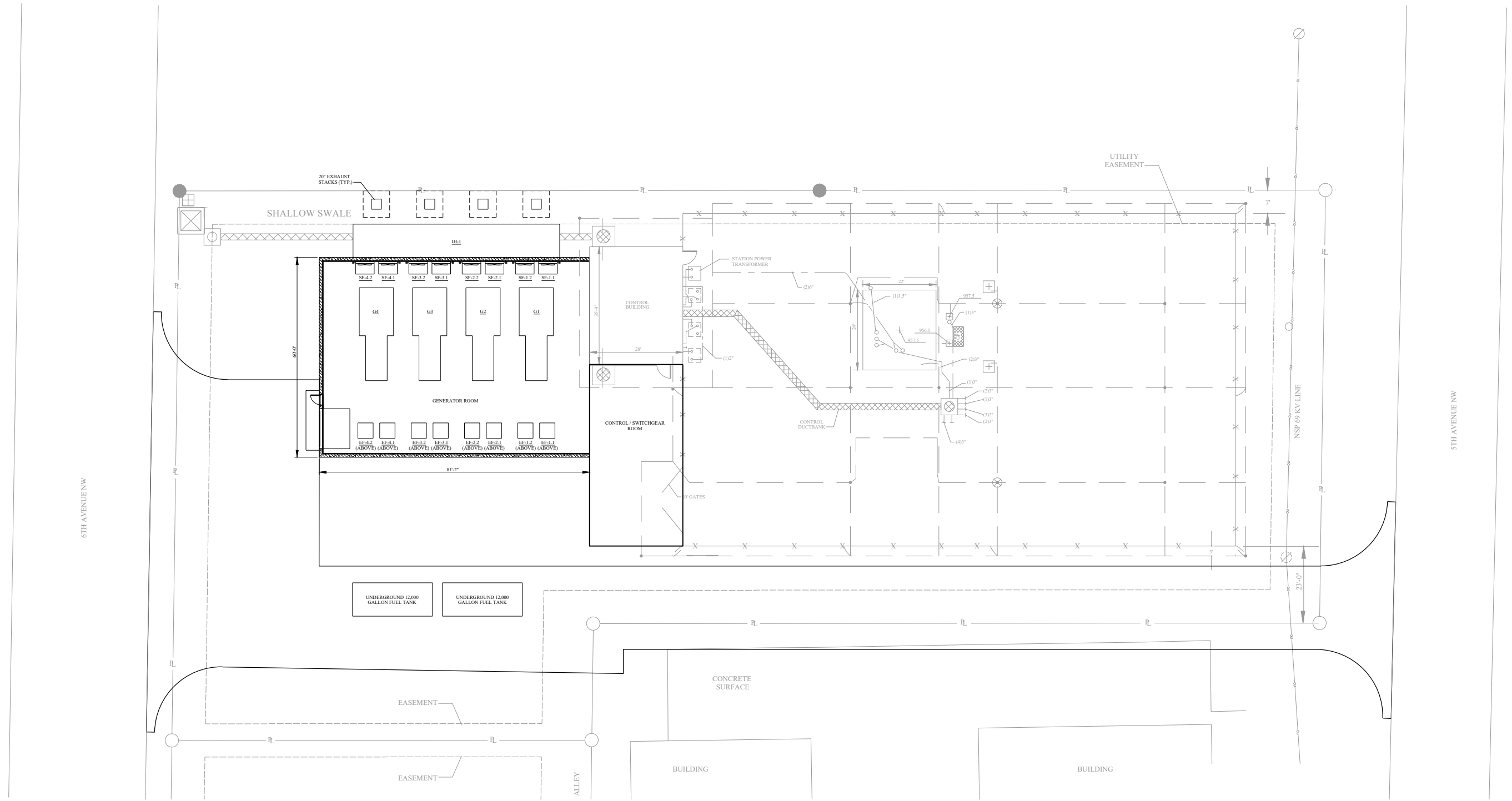
ATTEST:

Sign: _____

Sign: _____

Print: _____

Print: _____



PRELIMINARY
NOT FOR CONSTRUCTION
 09-17-2024

REV	DATE	DESCRIPTION
A	09-17-2024	PRELIMINARY



Project Manager: DLM
 Designer: TLZ
 Project Number: 417209
 Phone: (712) 472-2531

NEW PRAGUE UTILITIES
 NEW PRAGUE, MINNESOTA

GENERATOR PLANT SITE LAYOUT
 WEST SUBSTATION

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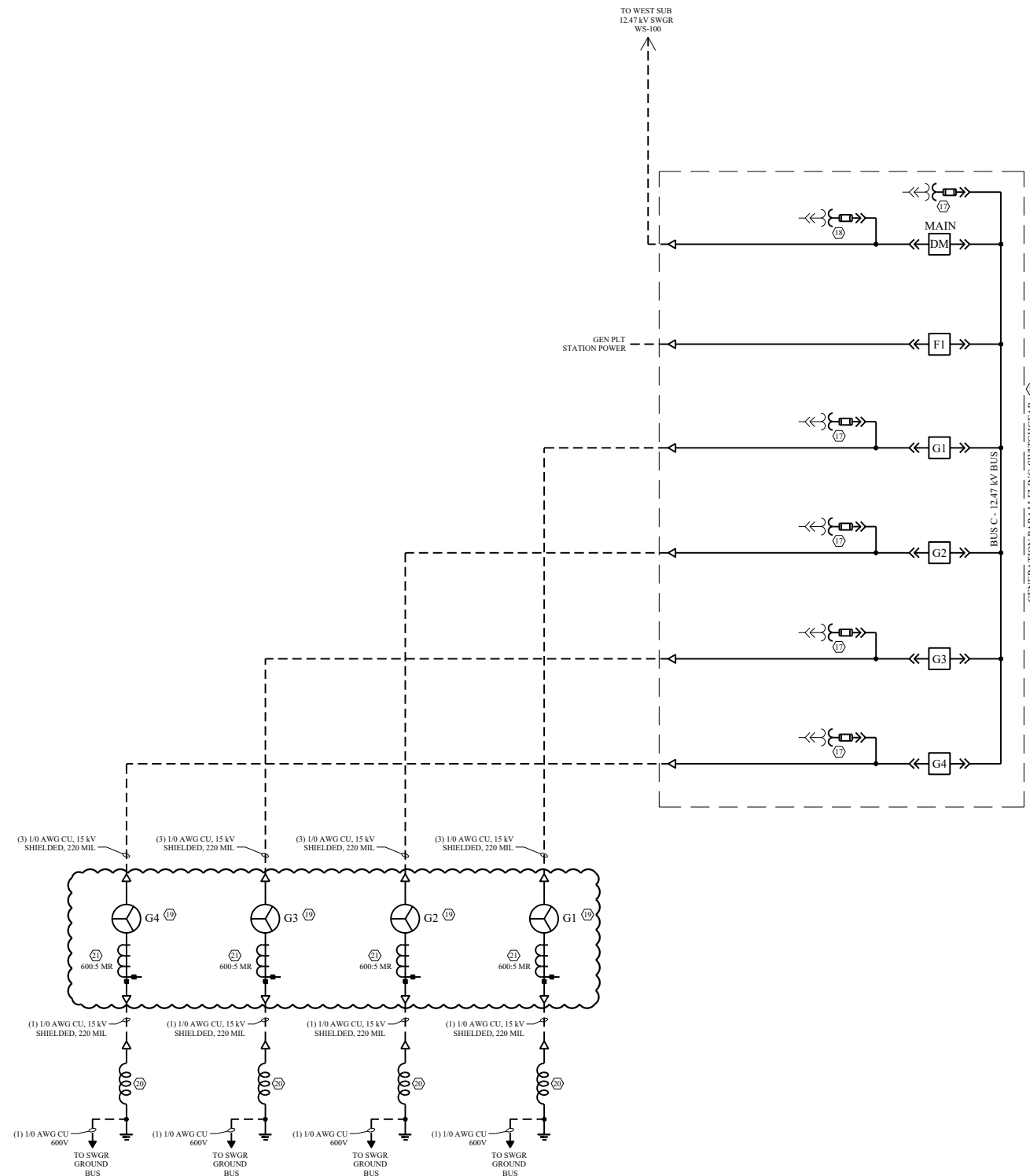


GENERAL LEGEND

- 115 kV
- 12.47 kV
- PT, CT circuit
- Wye, grounded
- Delta
- Underground transition
- Furnished by Supplier

GEN SET SUPPLIER NOTES

1. Furnish, offload, and place generator sets. Coordinate placement with onsite Contractor and Owner. Installation by Others
2. Neutral grounding reactor to be furnished and installed by Others.
3. Generator differential CT's to be furnished by others and installed by the Gen Set Supplier in the medium voltage AC output bus bar connection cabinet. Provide CT mounting provisions and wire secondary leads to a terminal block for external connection by Others.
4. Power cable and terminations at the generator, switchgear, and neutral grounding reactor by Others.



MAJOR EQUIPMENT

- (16) 15 kV switchgear
-Nema 1, metal clad
-1200 A bus
-(6) 15 kV circuit breakers, 3Ø, 1200 A, 31.5 kA interrupt
- (17) Potential transformer, 3Ø, draw-out type, 7200:120 V, with primary fuse
- (18) Potential transformer, 1Ø, draw-out type, 7200:120 V, with primary fuse
- (19) Generator set, 12.47 kV, 3100 kW (standby) @ 80% power factor
- (20) Neutral grounding reactor, 15 kV
- (21) Current transformer, 1Ø, C200, 600:5 Multi-ratio

REV	DATE	DESCRIPTION
A	10-1-24	IFB GEN SETS - WEST GEN PLT



Project Manager: DLM
 Designer: DLM
 Project Number: 417209
 Phone: (712) 472-2531

NEW PRAGUE UTILITIES
 NEW PRAGUE, MINNESOTA

SWITCHING ONE-LINE
 WEST GENERATION PLANT

S
H
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T
 WSG-120