ALASKA ENERGY AUTHORITY

ALASKA ENERGY AUTHORITY – REQUEST FOR QUOTE (RFQ) # 24138

Issue Date: June 11,2024

Due Date: June 25, 2024

Tuluksak Generator #2 Replacement Project

Genset Fabrication

Alaska Energy Authority (AEA) is soliciting bids to purchase commodities as indicated in Appendix C - Scope of Work, Appendix D - Bid Schedule, and Appendix E - Specifications. Note that the term Bid is used throughout this RFQ and for the purposes of this solicitation Bid is equivalent to Quote.

IMPORTANT NOTICE: If you received this solicitation from the State of Alaska's "Online Public Notice" web site, or you downloaded this solicitation from AEA's procurement website, you must register on the online Plan Holders List to receive notification of subsequent amendments to the solicitation. Failure to register may result in the rejection of your bid. It is the bidder's responsibility to ensure that they have received all addenda affecting this RFQ. To register, go to www.aideaaeaprocurement.org and select the Plan Holders Registration link and complete the Planholders Registration.

BIDDER'S NOTICE: By signature on this form, the bidder certifies that they comply with the following:

(1) the bidder has a valid Alaska business license or will obtain one prior to award of any contract resulting from this RFQ. If the bidder possesses a valid Alaska business license, the license number must be written below or one the following forms of evidence submitted with the bid:
- a canceled check for the business license fee;
- a copy of the business license application with a receipt date stamp from the State's business license office;
- a receipt from the State's business license office for the license fee;
- a copy of the bidder's valid business license;
- a sworn notarized affidavit that the bidder has applied and paid for a business license;

(2) the price(s) submitted was arrived at independently and without collusion, under penalty of perjury, and that the bidder is complying with:
- the laws of the State of Alaska;
- the applicable portion of the Federal Civil Rights Act of 1964;
- the Equal Employment Opportunity Act and the regulations issued thereunder by the state and federal Government;
- the Americans with Disabilities Act of 1990 and the regulations issued thereunder by the state and federal government;
- the bid will remain open and valid for at least 30 days;
- all terms and conditions set out in this Request for quote (RFQ).

(3) the bidder does not have a conflict of interest as described in Section 1.08.

If a bidder does not hold an Alaska Business License (1) at the time designated in the RFQ for opening the Authority will disallow the Alaska Bidder Preference. Bids must also be submitted under the name as appearing on the bidder's current Alaska business license in order to receive the Alaska Bidder Preference. If a bidder fails to comply with (2) or (3) of this paragraph, the Authority may reject the bid, terminate the contract, or consider the contractor in default.

Rachael M. Holly
Contract Officer

813 West Northern Lights Blvd
Anchorage, AK 99503

Phone: (907) 771-3055
FAX: (907) 771-3044

Email:
AEAProcurement@akenergyauthority.org

	COMPANY SUBMITTING BID	*DOES YOUR BUSINESS QUALIFY FOR THE ALASKA BIDDER'S PREFERENCE? [ ] YES [ ] NO
	AUTHORIZED SIGNATURE	*DOES YOUR BUSINESS QUALIFY FOR THE ALASKA VETERAN PREFERENCE? [ ] YES [ ] NO
	PRINTED NAME	*SEE RFQ FOR EXPLANATION OF CRITERIA TO QUALIFY
	DATE	TELEPHONE NUMBER
ALASKA BUSINESS LICENSE NUMBER	FEDERAL TAX ID NUMBER	E-MAIL ADDRESS

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SECTION 1. INTRODUCTION & INSTRUCTIONS

SEC. 1.01 PURPOSE OF THE RFQ

Alaska Energy Authority (AEA) is soliciting bids to purchase commodities as indicated in Appendix C - Scope of Work, Appendix D - Bid Schedule, and Appendix E - Specifications.

SEC. 1.02 DEADLINE FOR RECEIPT OF BIDS

Bids must be received no later than the time and date indicated in the RFQ Schedule, Sec. 1.14, at which time they will be publicly opened. Late bids or amendments will be disqualified and not opened or accepted for evaluation. The bid opening will be conducted telephonically. Potential bidders may attend telephonically by calling **1-888-585-9008** and when prompted enter **351 122 943 #**.

SEC. 1.03 PRIOR EXPERIENCE

Minimum prior experience, if applicable, is indicated in the attached Specifications. A bidder's failure to meet these minimum prior experience requirements will cause their bid to be considered non-responsive and rejected.

SEC. 1.04 REQUEST FOR QUOTE (RFQ) REVIEW

Bidders shall carefully review this RFQ for defects and questionable or objectionable material. Comments concerning defects and questionable or objectionable material in the RFQ should be made in writing and received by the contracting officer at least ten days before the bid opening date. This will allow time for an amendment to be issued if one is required. It will also help prevent the opening of a defective bid, upon which award cannot be made, and the resultant exposure of bidders' prices.

SEC. 1.05 QUESTIONS PRIOR TO DEADLINE FOR RECEIPT OF BIDS

All questions must be in writing and directed to the contracting officer. The interested party must confirm telephone conversations in writing. Two types of questions generally arise. One may be answered by directing the questioner to a specific section of the RFQ. These questions may be answered over the telephone. Other questions may be more complex and may require a written amendment to the RFQ. The contracting officer will make that decision.

Contract Officer Rachael M. Holly Phone 907-771-3055 Fax 907-771-3044

SEC. 1.06 SITE INSPECTION

Not Applicable

SEC. 1.07 SUBMITTING BIDS

Bids must be either Emailed, Hand Delivered or Mailed as follows:

EMAIL: AEAProcurement@akenergyauthority.org

HAND DELIVERED OR MAILED: The sealed bid package must be addressed as follows:

Alaska Energy Authority
Attention: **Rachael M. Holly**
Request for quote (RFQ) Number: 24138
RFQ Title: **GENSET FABRICATION**
813 W NORTHERN LIGHTS BLVD
ANCHORAGE, AK 99503

It is the bidder's responsibility to contact the issuing agency at **907-771-3055** to confirm that the bid has been received. The Authority is not responsible for unreadable, corrupt, or missing attachments.

SEC. 1.08 BID FORMS

Bidders shall use the front page of this RFQ and any other forms identified in this RFQ for submitting bids. All bids must be signed by an individual authorized to bind the bidder to the provisions of the RFQ.

BIDDER'S CERTIFICATION

By signature on the bid, the bidder certifies that they comply with the following:

A. the laws of the State of Alaska;

B. the applicable portion of the Federal Civil Rights Act of 1964;

C. the Equal Employment Opportunity Act and the regulations issued thereunder by the state and federal government;

D. the Americans with Disabilities Act of 1990 and the regulations issued thereunder by the state and federal government;

E. all terms and conditions set out in this RFQ;

F. the price(s) submitted was arrived at independently arrived and without collusion, under penalty of perjury; and

G. that the bid will remain open and valid for at least 30 days.

If any bidder fails to comply with [a] through [g] of this paragraph, the Authority reserves the right to disregard the bid, terminate the contract, or consider the contractor in default.

CONFLICT OF INTEREST

Each bid shall include a statement indicating whether or not the company or any individuals working on the contract has a possible conflict of interest (e.g., currently employed by the State of Alaska or formerly employed by the State of Alaska within the past two years) and, if so, the nature of that conflict. The contracting officer reserves the right to **consider a bid non-responsive and reject it** or cancel the award if any interest disclosed from any source could either give the appearance of a conflict or cause speculation as to the objectivity of the contract to be performed by the bidder.

SEC. 1.09 PRICES

The bidder shall state prices in the units of issue on this RFQ. Prices quoted in bids must be exclusive of federal, state, and local taxes. If the bidder believes that certain taxes are payable by the state, the bidder may list such taxes separately, directly below the bid price for the affected item.

SEC. 1.10 PRE-BID CONFERENCE

Not Applicable

SEC. 1.11 ASSISTANCE TO BIDDERS WITH A DISABILITY

Bidders with a disability may receive accommodation regarding the means of communicating this RFQ or participating in the procurement process. For more information, contact the contracting officer no later than ten days prior to the deadline for receipt of bids.

SEC. 1.12 AMENDMENTS TO BIDS

Amendments to or withdrawals of bids will only be allowed if acceptable requests are received prior to the deadline that is set for receipt of bids, in accordance with 3 AAC 109.170. No amendments or withdrawals will be accepted after the deadline unless the delay is due to an error of the procurement agency, in accordance with 3 AAC 109.360.

SEC. 1.13 AMENDMENTS TO THE RFQ

If an amendment is issued, it will be provided to all who were notified of the RFQ and to Planholders who have registered on the RFQ Plan Holders Registration at www.aideaaeaprocurement.org.

SEC. 1.14 RFQ SCHEDULE

The RFQ schedule set out herein represents the Authority's best estimate of the schedule that will be followed. If an Activity of this schedule is changed, the schedule may be adjusted. All times are Alaska Time.

ACTIVITY	TIME	DATE
Issue Date / RFQ Released		6/11/2024
Deadline for Protest (10 days prior to Bid Due)	2:00 PM	6/14/2024
Deadline for Comments/Questions (5 days prior to Bid Due)	2:00 PM	6/20/2024
Deadline for Receipt of Bids / Bid Due Date	2:00 PM	6/25/2024

This RFQ does not, by itself, obligate the Authority. The Authority's obligation will commence when the contract is approved by the AEA Executive Director, or the Director's designee. Upon written notice to the contractor, the Authority may set a different starting date for the contract. The Authority will not be responsible for any work done by the contractor, even work done in good faith, if it occurs prior to the contract start date set by the Authority.

SEC. 1.15 ALTERNATE BIDS

Bidders may only submit one bid. In accordance with 3 AAC 109.270 alternate bids (bids that offer something different than what is asked for) will be rejected.

SEC. 1.16 SUPPORTING INFORMATION

Bidders shall submit all required technical, specification, and other supporting information with their bid, so that a detailed analysis and determination can be made by the contracting officer that the product offered meets the RFQ specifications and that other requirements of the RFQ have been met. However, provided a bid meets the requirements for a definite, firm, unqualified, and unconditional offer, the Authority reserves the right to request supplemental information from the bidder, after the bids have been opened, to ensure that the products or services offered completely meet the RFQ requirements. The requirement for such supplemental information will be at the reasonable discretion of the Authority and may include the requirement that a bidder will provide a sample product(s) so that the Authority can make a first-hand examination and determination.

A bidder's failure to provide this supplemental information or the product sample(s), within the time set by the Authority, will cause the Authority to consider the offer non-responsive and reject the bid.

SEC. 1.17 FIRM, UNQUALIFIED, AND UNCONDITIONAL OFFER

Bidders must provide enough information with their bid to constitute a definite, firm, unqualified and unconditional offer. To be responsive a bid must constitute a definite, firm, unqualified and unconditional offer to meet all the material terms of the RFQ. Material terms are those that could affect the price, quantity, quality, or delivery. Also included as material terms are those which are clearly identified in the RFQ and which, for reasons of policy, must be complied with at risk of bid rejection for non-responsiveness.

SECTION 2. CONTRACT INFORMATION

SEC. 2.01 CONTRACT TERM

The length of the contract will be from the date of award until the time of delivery and acceptance at the F.O.B. point.

SEC. 2.02 CONTRACT ADMINISTRATION

The administration of this contract is the responsibility of the contracting officer or person appointed by AEA.

SEC. 2.03 CONTRACT FUNDING

Refer to Appendix A, A.13. AEA estimates a budget of between **$50,000.00** and **$100,000.00** dollars for this contract.

SEC. 2.04 CONTRACT EXTENSION

A month-to-month extension may only be executed by the contracting officer via a written contract amendment. Refer to Appendix A, A.15.

SEC. 2.05 CONTRACT CHANGES – UNANTICIPATED AMENDMENTS

During the course of this contract, the contractor may be required to perform additional work. That work will be within the general scope of the initial contract. When additional work is required, the Authority will provide the contractor a written description of the additional work and request the contractor to submit a firm time schedule for accomplishing the additional work and a firm price for the additional work. Cost and pricing data must be provided to justify the cost of such amendments per 3 AAC 109.540.

The contractor will not commence additional work until the contracting officer has secured required Authority approvals necessary for the amendment and issued a written contract amendment.

SEC. 2.06 SUBCONTRACTORS

Subcontractors will not be allowed.

SEC. 2.07 JOINT VENTURES

Joint ventures will not be allowed.

SEC. 2.08 CONTRACT PERFORMANCE LOCATION

The location(s) the work is to be performed, completed and managed at the vendors place of business.

The Authority will not provide workspace for the contractor. The contractor must provide its own workspace.

By signature on their bid, the bidder certifies that all services provided under this contract by the contractor and all subcontractors shall be performed in the United States.

If the bidder cannot certify that all work will be performed in the United States, the bidder must contact the contracting officer in writing to request a waiver at least 10 days prior to the deadline for receipt of bids.

The request must include a detailed description of the portion of work that will be performed outside the United States, where, by whom, and the reason the waiver is necessary.

Failure to comply with these requirements may cause the Authority to reject the bid as non-responsive, or cancel the contract.

SEC. 2.09 RIGHT TO INSPECT PLACE OF BUSINESS

At reasonable times, the Authority may inspect those areas of the contractor's place of business that are related to the performance of a contract. If the Authority makes such an inspection, the contractor must provide reasonable assistance.

SEC. 2.10 SCOPE OF WORK AND SPECIFICATIONS

Alaska Energy Authority (AEA) is soliciting bids to purchase commodities as indicated in Appendix C - Scope of Work, Appendix D - Bid Schedule, and Appendix E - Specifications.

SEC. 2.11 F.O.B. POINT

The F.O.B. point for all items purchased under this contract is the final destination. Ownership of and title to the ordered items remains with the contractor until the items have been delivered to their final destination and are accepted by the Authority. The F.O.B. point is indicated in Appendix C - Scope of Work.

SEC. 2.12 SHIPPING DAMAGE

The Authority will not accept or pay for damaged goods. The contractor must file all claims against the carrier(s) for damages incurred to items in transit from the point of origin to the ultimate destination. The Authority will provide the contractor with written notice when damaged goods are received. The Authority will deduct the cost of the damaged goods from the invoice prior to payment. The contractor must file all claims against the carrier(s) for reimbursement of the loss.

SEC. 2.13 DELIVERY TIME

The Scope of Work indicates the desired delivery in calendar weeks. In the space provided on the Bid Schedule indicate the earliest firm delivery in calendar weeks required to make delivery after the receipt of an order. Failure to make an entry in the space provided will be construed as an offer to deliver by the desired delivery. Bids that specify deliveries in excess of the desired delivery may be considered non-responsive and may be rejected.

SEC. 2.14 INSPECTION & MODIFICATION - REIMBURSEMENT FOR UNACCEPTABLE DELIVERABLES

The contractor is responsible for proving all products or the completion of all work set out in the contract. All products or work is subject to inspection, evaluation, and approval by the Authority. The Authority may employ all reasonable means to ensure that the work is progressing and being performed in compliance with the contract. The Authority may instruct the contractor to make corrections or modifications if needed in order to accomplish the contract's intent. The contractor will not unreasonably withhold such changes.

Substantial failure of the contractor to perform the contract may cause the Authority to terminate the contract. In this event, the Authority may require the contractor to reimburse monies paid (based on the identified portion of unacceptable products or work received) and may seek associated damages.

SEC. 2.15 CONTINUING OBLIGATION OF CONTRACTOR

Refer to Appendix A, A.17.

SEC. 2.16 ESTIMATED QUANTITIES

The quantities in this RFQ are indicated in Appendix D - Bid Schedule.

SEC. 2.17 CONTRACT PRICE ADJUSTMENTS

Not Applicable.

SEC. 2.18 INFORMAL DEBRIEFING

When the contract is completed, an informal debriefing may be performed at the discretion of the contracting officer. If performed, the scope of the debriefing will be limited to the products provided or work performed by the contractor.

SEC. 2.19 INDEMNIFICATION

The contractor shall indemnify, hold harmless, and defend the contracting agency from and against any claim of, or liability for error, omission or negligent act of the contractor under this agreement. The contractor shall not be required to indemnify the contracting agency for a claim of, or liability for, the independent negligence of the contracting agency. If there is a claim of, or liability for, the joint negligent error or omission of the contractor and the independent negligence of the contracting agency, the indemnification and hold harmless obligation shall be apportioned on a comparative fault basis.

"Contractor" and "contracting agency", as used within this and the following article, include the employees, agents and other contractors who are directly responsible, respectively, to each. The term "independent negligence" is negligence other than in the contracting agency's selection, administration, monitoring, or controlling of the contractor and in approving or accepting the contractor's work.

SEC. 2.20 INSURANCE

Without limiting the contractor's indemnification, it is agreed that the contractor shall purchase at its own expense and maintain in force at all times during the performance of services under this agreement the following policies of insurance. Where specific limits are shown, it is understood that they shall be the minimum acceptable limits. If the contractor's policy contains higher limits, the Authority shall be entitled to coverage to the extent of such higher limits.

Certificates of Insurance must be furnished to the contracting officer prior to contract approval and must provide for a notice of cancellation, non-renewal, or material change of conditions in accordance with policy provisions. Failure to furnish satisfactory evidence of insurance or lapse of the policy is a material breach of this contract and shall be grounds for termination of the contractor's services. All insurance policies shall comply with and be issued by insurers licensed to transact the business of insurance under AS 21.

Proof of insurance is required for the following:

- Workers' Compensation Insurance: The contractor shall provide and maintain, for all employees engaged in work under this contract, coverage as required by AS 23.30.045, and; where applicable, any other statutory obligations including but not limited to Federal U.S.L. & H. and Jones Act requirements. The policy must waive subrogation against the state.
- Commercial General Liability Insurance: covering all business premises and operations used by the contractor in the performance of services under this agreement with minimum coverage limits of $300,000 combined single limit per occurrence.
- Commercial Automobile Liability Insurance: covering all vehicles used by the contractor in the performance of services under this agreement with minimum coverage limits of $300,000 combined single limit per occurrence.

SEC. 2.21 MANDATORY REPORTING

Not Applicable.

SECTION 3. CONTRACT INVOICING AND PAYMENTS

SEC. 3.01 BILLING INSTRUCTIONS

Invoices must be billed to the ordering agency's address shown on the individual Purchase Order, Contract Award or Delivery Order. The Authority will make payment after it receives the goods or services and the invoice. Questions concerning payment must be addressed to the Authority.

SEC. 3.02 PAYMENT FOR AUTHORITY PURCHASES

Payment for agreements under $500,000 for the undisputed purchase of goods or services provided to the Authority will be made within 30 days of the receipt of a proper billing or the delivery of the goods or services to the location(s) specified in the agreement, whichever is later.

SEC. 3.03 THIRD-PARTY FINANCING AGREEMENTS NOT ALLOWED

Because of the additional administrative and accounting time required of the Authority when third party financing agreements are permitted, they will not be allowed under this contract.

SECTION 4. EVALUATION AND CONTRACTOR SELECTION

SEC. 4.01 EVALUATION OF BIDS

After bid opening, the contracting officer will evaluate the bids for responsiveness. Bids deemed non-responsive will be eliminated from further consideration. An evaluation may not be based on discrimination due the race, religion, color, national origin, sex, age, marital status, pregnancy, parenthood, disability, or political affiliation of the bidder.

SEC. 4.02 APPLICATION OF PREFERENCES

Not Applicable.

SEC. 4.03 ALASKA BIDDER PREFERENCE

Not Applicable.

SEC. 4.04 ALASKA VETERAN PREFERENCE

Not Applicable.

SEC. 4.05 USE OF LOCAL FOREST PRODUCTS

Not Applicable.

SEC. 4.06 LOCAL AGRICULTURAL AND FISHERIES PRODUCT PREFERENCE

Not Applicable.

SEC. 4.07 ALASKA PRODUCT PREFERENCE

Not Applicable.

SEC. 4.08 EMPLOYMENT PROGRAM PREFERENCE

Not Applicable.

SEC. 4.09 ALASKANS WITH DISABILITIES PREFERENCE

Not Applicable.

SEC. 4.10 PREFERENCE QUALIFICATION LETTER

Not Applicable.

SEC. 4.11 EXTENSION OF PRICES

In case of error in the extension of prices in the bid, the unit prices will govern; in a lot bid, the lot prices will govern.

SEC. 4.12 METHOD OF AWARD

Award will be made to the lowest responsive and responsible bidder. In order to be considered responsive, bidders must bid on all items.

SEC. 4.13 NOTICE OF INTENT TO AWARD

After the responses to this RFQ have been opened and evaluated, a tabulation of the bids will be prepared. This tabulation, called a Notice of Intent to Award, serves two purposes. It lists the name of each company or person that offered a bid and the price they bid. It also provides notice of the Authority's intent to award a contract(s) to the bidder(s) indicated. A copy of the Notice of Intent will be emailed to each company or person who responded to the RFQ. Bidders identified as the apparent low responsive bidders are instructed not to proceed until a Purchase Order, Contract Award, Lease, or some other form of written notice is given by the contracting officer. A company or person who proceeds prior to receiving a Purchase Order, Contract Award, Lease, or some other form of written notice from the contracting officer does so without a contract and at their own risk.

SECTION 5. GENERAL PROCESS AND LEGAL INFORMATION

SEC. 5.01 ALASKA BUSINESS LICENSE AND OTHER REQUIRED LICENSES

Prior to the award of a contract, a bidder must hold a valid Alaska business license. However, in order to receive the Alaska Bidder Preference and other related preferences, such as the Alaska Veteran Preference and Alaskans with Disabilities Preference, a bidder must hold a valid Alaska business license prior to the deadline for receipt of bids. Bidders should contact the **Department of Commerce, Community and Economic Development, Division of Corporations, Business, and Professional Licensing, PO Box 110806, Juneau, Alaska 99811-0806**, for information on these licenses. Acceptable evidence that the bidder possesses a valid Alaska business license may consist of any one of the following:

- copy of an Alaska business license;
- certification on the bid that the bidder has a valid Alaska business license and has included the license number in the bid;
- a canceled check for the Alaska business license fee;
- a copy of the Alaska business license application with a receipt stamp from the state's occupational licensing office; or
- a sworn and notarized statement that the bidder has applied and paid for the Alaska business license.

You are not required to hold a valid Alaska business license at the time bids are opened if you possess one of the following licenses and are offering services or supplies under that specific line of business:

- fisheries business licenses issued by Alaska Department of Revenue or Alaska Department of Fish and Game,
- liquor licenses issued by Alaska Department of Revenue for alcohol sales only,
- insurance licenses issued by Alaska Department of Commerce, Community and Economic Development, Division of Insurance, or
- Mining licenses issued by Alaska Department of Revenue.

Prior the deadline for receipt of bids, all bidders must hold any other necessary applicable professional licenses required by Alaska Statute.

SEC. 5.02 AUTHORITY

This RFQ is written in accordance with 3 AAC 109 and 2 AAC 12.

SEC. 5.03 COMPLIANCE (Refer to Appendix A, A.9)

SEC. 5.04 SUITABLE MATERIALS, ETC. (Refer to Appendix A, A.2)

SEC. 5.05 SPECIFICATIONS

Unless otherwise specified in this RFQ, product brand names or model numbers specified in this RFQ are examples of the type and quality of product required, and are not statements of preference. If the specifications describing an item conflict with a brand name or model number describing the item, the specifications govern. Reference to brand name or number does not preclude an offer of a comparable or better product, if full specifications and descriptive literature are provided for the product. Failure to provide such specifications and descriptive literature may be cause for rejection of the offer.

SEC. 5.06 CONTRACTOR SITE INSPECTION

The Authority may conduct on-site visits to evaluate the bidder's capacity to perform the contract. A bidder must agree, at risk of being found non-responsive and having its bid rejected, to provide the Authority reasonable access to relevant portions of its work sites. Individuals designated by the contracting officer at the Authority's expense will make site inspection.

SEC. 5.07 ORDER DOCUMENTS

Except as specifically allowed under this RFQ, an ordering agency will not sign any vendor contract. The Authority is not bound by a vendor contract signed by a person who is not specifically authorized to sign for the Authority under this RFQ. Unless otherwise specified in this RFQ, the Authority Purchase Order, Contract Award and Delivery Order are the only order documents that may be used to place orders against the contract(s) resulting from this RFQ.

SEC. 5.08 HUMAN TRAFFICKING

By signature on their bid, the bidder certifies that the bidder is not established and headquartered or incorporated and headquartered in a country recognized as Tier 3 in the most recent United States Department of State's Trafficking in Persons Report.

The most recent United States Department of State's Trafficking in Persons Report can be found at the following website: http://www.state.gov/j/tip/

Failure to comply with this requirement will cause the Authority to reject the bid as non-responsive, or cancel the contract.

SEC. 5.09 RIGHT OF REJECTION

Bidders must comply with all of the terms of this RFQ, 3 AAC 109 (Procurement for Alaska Energy Authority Managed Grants), and all applicable local, state, and federal laws, codes, and regulations. The contracting officer may reject any bid that does not comply with all of the material and substantial terms, conditions, and performance requirements of the RFQ.

Bidders may not qualify the bid nor restrict the rights of the Authority. If a bidder does so, the contracting officer may determine the bid to be a non-responsive counter-offer and the bid may be rejected.
Minor informalities that:

- do not affect responsiveness;
- are merely a matter of form or format;
- do not change the relative standing or otherwise prejudice other offers;
- do not change the meaning or scope of the RFP;
- are trivial, negligible, or immaterial in nature;
- do not reflect a material change in the work; or
- do not constitute a substantial reservation against a requirement or provision;

may be waived by the contracting officer.

The Authority reserves the right to refrain from making an award if it determines that to be in its best interest.
A bid from a debarred or suspended bidder shall be rejected.

SEC. 5.10 AUTHORITY NOT RESPONSIBLE FOR PREPARATION COSTS

The Authority will not pay any cost associated with the preparation, submittal, presentation, or evaluation of any bid.

SEC. 5.11 DISCLOSURE OF BID CONTENTS

All bid prices become public information at the bid opening. After the deadline for receipt of bids, all other bid material submitted become the property of the State of Alaska and may be returned only at the Authority's option. AAC 109.270 and 3 AAC 109.700 require public records to be open to reasonable inspection. All other bid information will be held in confidence during the evaluation process and prior to the time a Notice of Intent to Award is issued. Thereafter, bids will become public information.

Trade secrets and other proprietary data contained in bids may be held confidential if the bidder requests, in writing, that the contracting officer does so, and if the contracting officer agrees, in writing, to do so. The bidder’s request must be included with the bid, must clearly identify the information they wish to be held confidential, and include a statement that sets out the reasons for confidentiality. Unless the contracting officer agrees in writing to hold the requested information confidential, that information will also become public after the Notice of Intent to Award is issued.

SEC. 5.12 ASSIGNMENTS (Refer to Appendix A, A.5)

Bids that are conditioned upon the Authority's approval of an assignment will be rejected as non-responsive.

SEC. 5.13 FORCE MAJEURE (Refer to Appendix A, A.14)

SEC. 5.14 DEFAULT (Refer to Appendix A, A.4)

SEC. 5.15 DISPUTES (Refer to Appendix A, A.3)

SEC. 5.16 SEVERABILITY (Refer to Appendix A, A.16)

SEC. 5.17 CONTRACT CANCELLATION

The Authority reserves the right to cancel the contract at its convenience upon **30** calendar days written notice to the contractor. The Authority is only liable for payment in accordance with the payment provisions of this contract for supplies or services provided before the effective date of termination.

SEC. 5.18 GOVERNING LAW; FORUM SELECTION (Refer to Appendix A, A.18)

SEC. 5.19 SOLICITATION ADVERTISING

Public notice has been provided in accordance with 3 AAC 109.150.

SEC. 5.20 QUALIFIED BIDDERS

Per 2 AAC 12.875, unless provided for otherwise in the RFQ, to qualify as a bidder for award of a contract issued under 3 AAC 109, the bidder must:

1) Add value in the contract by actually performing, controlling, managing, or supervising the services to be provided; or

2) Be in the business of selling and have actually sold on a regular basis the supplies that are the subject of the RFQ.

If the bidder leases services or supplies or acts as a broker or agency in providing the services or supplies in order to meet these requirements, the contracting officer may not accept the bidder as a qualified bidder under 3 AAC 109.

SEC. 5.21 FEDERALLY IMPOSED TARIFFS

Changes in price (increase or decrease) resulting directly from a new or updated federal tariff, excise tax, or duty, imposed after contract award may be adjusted during the contract period or before delivery into the United States via contract amendment.

- **Notification of Changes:** The contractor must promptly notify the contracting officer in writing of any new, increased, or decreased federal excise tax or duty that may result in either an increase or decrease in the contact price and shall take appropriate action as directed by the contracting officer.

- **After-imposed or Increased Taxes and Duties:** Any federal excise tax or duty for goods or services covered by this contract that was exempted or excluded on the contract award date but later imposed on the contractor during the contract period, as the result of legislative, judicial, or administrative action may result in a price increase provided:

a) The tax or duty takes effect after the contract award date and isn't otherwise addressed by the contract;

b) The contractor warrants, in writing, that no amount of the newly imposed federal excise tax or duty or rate increase was included in the contract price, as a contingency or otherwise.

- **After-relieved or Decreased Taxes and Duties:** The contract price shall be decreased by the amount of any decrease in federal excise tax or duty for goods or services under the contract, except social security or other employment taxes, that the contractor is required to pay or bear, or does not obtain a refund of, through the contractor's fault, negligence, or failure to follow instructions of the contracting officer.

- **Authority's Ability to Make Changes:** The Authority reserves the right to request verification of federal excise tax or duty amounts on goods or services covered by this contract and increase or decrease the contract price accordingly.

- **Price Change Threshold:** No adjustment shall be made in the contract price under this clause unless the amount of the adjustment exceeds $250.

SEC. 5.22 PROTEST

3 AAC 109.570 provides that an interested party may protest the content of the RFQ.

An interested party is defined in 3 AAC 109.900 (17) as "an actual or prospective bidder or offeror whose economic interest might be affected substantially and directly by the issuance of a contract solicitation, the award of a contract, or the failure to award a contract."

If an interested party wishes to protest the content of a solicitation, the protest must be received, in writing, by the contracting officer at least ten days prior to the deadline for receipt of bids.

3 AAC 109 also provides that an interested party may protest the award of a contract or the proposed award of a contract.

If a bidder wishes to protest the award of a contract or the proposed award of a contract, the protest must be received, in writing, by the contracting officer within 10 days after the date the Notice of Intent to Award for the contract is issued.

A protester must have submitted a bid in order to have sufficient standing to protest the proposed award of a contract. Protests must include the following information:

- the name, address, and telephone number of the protester;
- the signature of the protester or the protester's representative;
- identification of the contracting agency and the solicitation or contract at issue;
- a detailed statement of the legal and factual grounds of the protest including copies of relevant documents; and the form of relief requested.

Protests filed by telex or telegram are not acceptable because they do not contain a signature. Fax copies containing a signature are acceptable.

The contracting officer will issue a written response to the protest. The response will set out the contracting officer's decision and contain the basis of the decision within the statutory time limit in 3 AAC 109.570. A copy of the decision will be furnished to the protester by certified mail, fax or another method that provides evidence of receipt.

All bidders will be notified of any protest. The review of protests, decisions of the contracting officer, appeals, and hearings, will be conducted in accordance with 3 AAC 109 – Procurement for Alaska Energy Authority Managed Grants.)

SECTION 6. APPENDICES

(a) Appendix A – General Conditions

(b) Appendix B – Not Used, No Federal Funding

(c) Appendix C – Scope of Work

(d) Appendix D - Bid Schedule

(e) Appendix E – Specifications

SCOPE OF WORK

1. **Scope** – Receive Owner Furnished engine and accessories, furnish generator and accessories, and assemble into a complete engine-generator set as indicated in Attachment D – Bid Schedule and in accordance with Attachment E – Specifications.

2. **Submittals** – Provide Submittals in accordance with Attachment E – Specifications. Submittals shall be provided to the Authority within 14 days of contract award.

3. **Testing** – Test engine-generator set and provide test documentation in accordance with Attachment E – Specifications.

4. **Packaging** – Prepare, package, and label engine-generator sets and loose ship accessories as indicated in Attachment E – Specifications.

5. **F.O.B. Point** – Deliver all items to the Alaska Energy Authority, 2601 Commercial Drive, Anchorage, AK 99501.

6. **Delivery Date** – Delivery of all items to the F.O.B. Point is desired within 6 calendar weeks after receipt of an order. On the Bid Schedule provide a firm delivery in calendar weeks for each type of commodity where indicated.

Item No.	Item Description	Quan	Units	Unit Cost	Extended Cost
1	210ekW Engine-Generator (Genset) & Accessories	1	Each		
				TOTAL $	
	Firm Delivery in Calendar Weeks				

NOTES:

1) See Attachment E for equipment specifications.

2) See Attachment C for scope of work including requirements for submittals, equipment packaging, etc.

3) See Attachment C for F.O.B. point and desired delivery.

4) Provide unit cost and extended cost for each item listed above. Provide a total cost for entire order.

5) Provide a firm delivery in calendar weeks where indicated above. Note that a firm delivery significantly later than the desired delivery date may cause a bid to be declared non-responsive.

6) For a bid to be considered responsive it must include the following:
   a) This Bid Schedule completed as indicated.
   b) The completed RFQ response (page 1 of the RFQ).

SECTION 26 32 13
GENSET FABRICATION

Notes:

1) ***The scope of this contract is to provide a complete engine-generator set (genset) with all accessories as indicated below. The engine to be used for the fabrication of this genset will be Owner Furnished. The Serial Number is indicated under Part 2 and the Build Codes are included in Attachment B.***
2) ***Some modifications have been made to the engine to prepare it for prime power service. All completed modifications are listed below in bold italic text and noted as already completed. See Attachment C Photographs for detail on present engine configuration.***
3) ***All materials not specifically indicated as Owner Furnished shall be provided and all modifications not specifically indicated as already completed shall be performed as part of this contract.***
4) ***The Owner in this specification refers to the Alaska Energy Authority (Authority).***

PART 1 - GENERAL

1.1 SCOPE

A. The Work included herein shall consist of providing materials, fabricating, and shop testing a complete genset as specified herein.

B. The genset shall be delivered complete and ready for installation.

C. Provide all accessories as specified.

1.2 RELATED REQUIREMENTS – not used

1.3 SUBMITTALS

A. Provide a complete submittal in a single electronic file in Adobe Acrobat PDF format.

B. Provide complete and accurate drawings of the equipment, including outline drawings and dimensional data which fully describe the height, width, and depth of the equipment; skid construction; schematics; wiring diagrams; and other relevant details.

C. Provide manufacturer's catalog literature for all accessories and equipment.

D. A torsional vibration analysis (TVA) has been prepared and accepted for the following engine generator combination:

1. John Deere 6090AFM85 with Newage/Stamford S4L1D-D41.

For any engine generator combinations not specifically listed above, a TVA shall be provided for the proposed engine generator combination within 14-days of contract award.

1.4 REGULATORY COMPLIANCE

The Environmental Protection Agency (EPA) has issued New Source Performance Standards (NSPS) regulations governing use of stationary diesel engines in remote areas

of Alaska. These regulations were revised effective June 29, 2021. The following provision of 40 CFR applies to this solicitation:

A. 40 CFR 60.4216(c) stipulates: Manufacturers, owners, and operators of stationary CI ICE that are located in remote areas of Alaska may choose to meet the applicable emission standards for emergency engines in §§ 60.4202 and 60.4205, and not those for non-emergency engines in §§ 60.4201 and 60.4204, except that for 2014 model year and later nonemergency CI ICE, the owner or operator of any such engine must have that engine certified as meeting at least the Tier 3 PM standards identified in appendix I of 40 CFR part 1039 or 40 CFR 1042.101.

The Owner Furnished diesel engine is a new Tier 3 Marine certified engine in compliance with EPA emissions requirements.

1.5 QUALITY ASSURANCE

A. Equipment shall not have been in service at any time prior to delivery, except as required by tests.

B. All equipment shall be designed, fabricated, and assembled in accordance with recognized and acceptable engineering and shop practices. Individual parts shall be manufactured to standard sizes and gauges so that repair parts, furnished at any time, can be installed in the field. Like parts of duplicate units shall be interchangeable.

C. Equipment and components furnished under these specifications shall be in accordance with the requirements of applicable UL, NEC, IEEE, NEMA, and ANSI standards.

1.6 FABRICATOR QUALIFICATIONS

The genset shall be furnished, assembled, and tested by a qualified fabricator (Fabricator) who is regularly engaged in the business of providing diesel engine driven generator equipment.

A. The Fabricator must have staff with extensive experience in packaging diesel engine driven electrical generators. A list of five successful installations that key staff have worked on may be requested by the Authority after the bid opening and prior to award in order to verify Fabricator qualifications. The list must include installation date, description of installation, and a reference contact for each installation.

B. The Fabricator must maintain a competent service organization that is available for field service calls. A description of the organization including resumes of key personnel may be requested by the Authority after the bid opening and prior to award in order to verify Fabricator qualifications.

C. The Fabricator must have a fabrication facility with adequate space and appropriate equipment as required to perform the work. The Authority may inspect the Fabricator’s shop after the bid opening and prior to award in order to verify Fabricator qualifications.

1.7 FABRICATOR WARRANTIES

Note that the Owner Furnished engine warranty is provided by others and these warranty requirements only apply to the generator and other components provided under this contract.

A. The Fabricator shall warrant the work for a period of not less than 18 months after delivery to the F.O.B. point.

B. In the event of equipment or component failure during the warranty period, the Fabricator shall repair or replace such defective equipment or components and bear all associated costs. Costs shall include material, parts, and labor. The Fabricator will be allowed to charge for travel and per diem expenses within Alaska related to warranty service at actual cost plus 10%. The Fabricator shall assist the Authority as directed to determine the cause of failure and pursue manufacturer's warranties to the extent necessary to obtain replacement equipment and provide proof of action taken upon request.

C. Provide a nametag on each piece of equipment that clearly identifies the party responsible for the warranty. Nametag shall include the name, address, and phone number, and shop order or Fabricator's serial number.

1.8 OPERATION AND MAINTENANCE MANUALS – not used

PART 2 - PRODUCTS

2.1 GENERAL CONFIGURATION AND MANUFACTURERS

A. The genset shall be complete utilizing all new components.

B. The genset shall be configured as specified herein and shall include all accessories as indicated.

C. Prime Power Rating Nameplate: The Fabricator shall provide a permanently affixed nameplate listing the prime power rating as specified herein for the genset.

D. Provide Newage/Stamford generators as indicated in the Specific Configuration requirements that follow or Kato equal, no other substitutes except as specifically noted below. The generator shall be rated for continuous output at the value and temperature rise indicated at 0.8 power factor. The generator shall be 2/3 pitch winding, 3 phase, 277/480 volt, 12 lead reconnectable, with PMG excitation.

E. If a Marathon or other generator of equivalent or greater capacity is provided it shall be modified and upgraded prior to installation. Prior to assembling to the engine the following tasks shall be performed:

1. Inspect generator internally for defects. If any defects are encountered immediately file a warranty claim with the manufacturer.
2. Electrically test all windings.
3. Check fasteners for proper torque.
4. Replace diode plate mounting bolts with grade 8 bolts with nylok nuts.

5. Insulate main rotor leads with phase paper or fabric wire loom. Secure leads with heat shrinkable polyester tape using epoxy on all knots.

2.2 SPECIFIC CONFIGURATION

Owner Furnished Engine:

John Deere 6090AFM85, Tier 3 Marine, 298 hp, 210 ekW prime. Serial # RG6090L139381, Engine Base Option Code 3072RG, 24 VDC Starting and Control Voltage. See Attachment B Build Codes for additional information.

The engine is configured for generator drive application with 11.5" diameter flywheel and SAE 2 adapter. Fabricator shall convert as required for mating with generator.

Generator:

Minimum 270kW continuous at 105°C rise, Newage/Stamford S4L1D-D41 or Kato equal.

2.3 ENGINE ECU AND ACCESSORIES

A. ***The engine is furnished with an Engine Control Unit (ECU) which has been programmed for 1800 RPM operation with analog throttle input for speed bias. See Attachment A for representative ECU payload.***

B. The ECU is being furnished loose ship. Fabricator shall furnish a manufacturer's standard Generation II Marine Electronics ECU mounting bulkhead complete with 10' long engine to ECU interconnect harness, generator drive adapter harness ECU to 21 pin connection, fuel pump relay, transient suppression diode, etc.

C. Install the Owner Furnished ECU on the mounting bulkhead then mount the bulkhead to the generator left side cover plate using rubber vibration isolating mounts as indicated on the Attachment D Drawing. Neatly coil the excess harness and secure in place.

2.4 ENGINE MOUNTED ACCESSORIES, WIRING, AND PIPING

A. Fuel and Oil Hoses: All hoses for fuel, lube oil, vents, mechanical gauges, etc., shall be Aeroquip type FC300, Eaton Weatherhead H569 or approved equal. Minimum hose size shall be 5/16" (#6). Provide with re-useable JIC swivel type fittings. Push-on or barb type hose connections will not be allowed. Route hoses to avoid wear points and to ensure access to normal service points on the engine. Securely support hoses from engine and skid.

B. Glycol Hoses: All hoses for glycol shall be Teflon hose with stainless steel outer braid, Eaton Weatherhead H243 or approved equal. Provide with re-useable plated steel straight JIC swivel ends with NPT adapters. Route hoses to avoid wear points and to ensure access to normal service points on the engine. Securely support hoses from engine and skid.

C. Wire Loom: All wiring for control and instrumentation shall be routed in plastic loom. Provide tee fittings for all branch connections. Route loom to avoid wear points and to ensure access to normal service points on the engine. Securely support loom from engine and skid.

D. Protective Guards: All moving parts and hot surfaces shall be provided with protective guards in accordance with U.L Standard 2200.

E. Air Cleaners: The engine shall be provided with a metal canister air cleaner with a reusable oiled cotton stock element. John Deere, K&N, Parker, or approved equal. Open disposable type air filters or plastic canisters will not be accepted.

F. Fuel Piping Termination: Fuel supply and return lines shall be routed to the front of generator skid for field connection to the plant piping. See Attachment D Drawing for detailed configuration.

G. Lube Oil Piping Termination: The oil drain line shall be routed to the front of generator skid for field connection to the plant piping. See Attachment D Drawing for detailed configuration.

H. Oil Level: The engine shall have a combination visual oil level site gauge with adjustable high and low level switches, Murphy L129CK1 or approved equal. Mount on rubber isolators and connect to engine with minimum #8 hoses. Carefully route upper vent hose to create a high point and connect directly into crankcase. Route lower hose to a connection directly on the oil pan. Do not tee lower hose into oil drain line. See Attachment D Drawing for installation detail.

I. Provide a 24 VDC Relay: John Deere AT145341, Caterpillar 9X-8124, or Denso equal. The auxiliary relay shall be mounted in the generator enclosure and connected as indicated in Attachment D Drawing.

J. Control Power: To provide 24VDC power to the terminal strip, a 30A circuit breaker with switch shall be mounted on the engine in the vicinity of the starter, Cooper 187-030-F-00 or approved equal.

K. Sensors: ***The engine is furnished with the following sensors loose ship.*** Install and connect as noted:

1. Air Restriction Indicator/Switch. Combination visual indication and alarm switch. 1/8" MPT, 22.46" water column limit, manual reset, normally open switch with adjustable setpoint. Donaldson 135578-08420. See Note 1 below for installation.

2. Exhaust Gas Temperature. Manufacturer standard exhaust temperature sensor kit, complete assembly including 14mm fitting and connectors for wiring harness. John Deere DZ104193. See note 2 below for installation.

Note 1. Shop adjust switch to close at 20" water column and verify function. Wire to terminal strip as indicated in the Attachment D Drawing.

Note 2. Wire into engine harness and program ECU to recognize input. Upon completion of shop testing, if exhaust gas temperature sensor is installed in flex, remove sensor and tywrap to engine in a secure location for shipping.

2.5 ENGINE MODIFICATIONS

A. The crankcase ventilation filter and accessories have been removed and a single point hose connection has been provided for field connection by others to a crankcase ventilation system.

B. The cooling system has been modified. See Paragraph 2.6, Cooling System.

C. ***The engine charging alternator and accessory drive have been removed. See Attachment C Photographs for detail.***

D. As part of this contract furnish and install a fabricated damper guard.

2.6 COOLING SYSTEM

A. The heat exchanger and coolant expansion tank have been removed. See Attachment C Photographs for detail.

B. The vent lines have been connected to a single high point air vent/pre-heat connection complete with a threaded ball valve with a 1/2" male hose barb fitting. See Attachment C Photographs for detail.

C. The existing 2-3/8" coolant discharge fitting has been removed and replaced with a 2-1/2" vertical outlet fabricated aluminum thermostat cover. See Attachment C Photographs for detail.

D. Glycol Filter: As part of this contract furnish and install a screw-on canister style filter element with 3/8" NPT connections on head, Wix #24019 head with #24069 element or approved equal. Mount head on steel bracket fixed to front or side of engine. Connect to engine with glycol hoses with 3/8" NPT quarter turn gauge cock isolation valves. Connect inlet to thermostat housing and connect outlet to water pump inlet.

2.7 EXHAUST FLEX

A. As part of this contract furnish an 18 inch long stainless steel exhaust flex connector with welded connections, Alaska Rubber, DME, Harco, or approved equal. Provide a 4" square Cat flange complete with gasket and bolts at one end for connection to the turbocharger and provide a 5" ANSI 125/150# pattern flange at the opposite end for connection to field piping. Note that if the exhaust temperature sensor cannot be installed directly in the turbocharger outlet connection, a 14mm FPT stainless steel boss fitting shall be welded into the flex between the engine connection and the corrugated hose.

2.8 LOOSE SHIP ACCESSORIES

Provide the following accessories:

A. Four each spring vibration isolators complete with mounting hardware, sized for the complete engine generator unit weight. Caldyn Type RJ or approved equal.

B. One each drip pan, 16-gauge galvanized sheet metal, liquid tight joints, 20" wide by 50" long by 1" high.

C. Two each minimum 800 cold crank amp 12-volt starting batteries, sealed maintenance free, Optima Red Top NAPA Part Number BAT N993478RED or approved equal.

D. Two each #2/0 AWG arctic flex battery cables, length as required to reach 5' minimum beyond the end of the skid. One each #2/0 AWG by 12-inch long jumper. All cables shall include compression type terminal ends shipped loose. One battery cable shall be red for the positive lead and the other shall be black for the negative lead. The jumper shall be black with red heat shrink one end. Provide plastic terminal covers for the batteries. The battery cables shall be routed and supported from the skid as indicated on the Attachment D Drawing.

E. One each battery charger, 12/24-volt, 20A, solid state, auto equalizing 120 volt AC input power with AC pilot light. Provide with optional high and low DC voltage alarm relay, AC power failure relay, and remote summary relay. SENS model NRG22-20-RCLS, LeMarche ECSR-40/20-12/24V-AV1 or approved equal.

2.9 DIAGNOSTIC GAUGE

A. Provide a J1939 multi-function monitoring panel programmed to receive unique John Deere fault codes, John Deere DG14 or approved equal. Note that the panel must be programmed for operation with a Marine Tier 3 engine, no exceptions. The panel shall be mounted through the back of the generator enclosure as indicated on the Attachment D Drawing.

2.10 GENERATOR/ALTERNATOR

A. Generator shall be a single bearing, four pole, synchronous type. Generator shall be directly connected to the engine flywheel housing and driven through a flexible coupling to ensure permanent alignment. Windings shall 2/3 pitch, random wound, and lashed at the end turns to provide superior mechanical strength. The generator shall be brushless, 12 lead reconnectable, three phase, 60 Hz, 1800 RPM, and connected for 277/480V service.

B. The rotating assembly shall be dynamically balanced to less than 2 mils peak to peak displacement and shall be designed to have an over speed withstand of 125% of rated speed for 2 minutes in accordance with NEMA MG1-32.

C. Cast iron end brackets with bearing bores machined for an O-Ring to retard bearing outer race rotation and fabricated steel frames shall be used. Bearings shall be pre-lubricated, double shielded, ball type, single row Conrad, C3 fit. Minimum B-10 bearing life shall be 30,000 hours for single bearing units.

D. Generator wiring diagram shall be permanently installed on the inside of the terminal enclosure cover.

E. The insulation system of both the rotor and stator shall be of NEMA Class H materials or better and shall be synthetic and non-hygroscopic. The stator winding and rotor shall be coated with resin plus an epoxy sealant for extra moisture and abrasion resistance.

F. The generator shall be equipped with a permanent magnet generator (PMG) excitation system. The system shall supply a minimum short circuit support current of 300% of the rating for 10 seconds. The rotating exciter shall use a three-phase full wave rectifier assembly with hermetically sealed silicon diodes protected against abnormal transient conditions by a multi-plate selenium surge protector.

The diodes shall be designed for safety factors of 5 times voltage and 1.5 times current.

G. Voltage Regulator: The generator will be field connected to an existing voltage regulator in the switchgear. Provide connection to terminals as indicated in Attachment D Drawing.

H. Factory Nameplate: The generator manufacturer shall provide a permanently affixed nameplate that provides the following information:

1. Rated voltage, phase, and power factor.
2. Insulation class, winding type, and connection.
3. Rated kW and amperage at specific temperature rise.
4. Exciter voltage and current.

I. The generator shall be self-ventilated with a direct drive one-piece, cast aluminum alloy, unidirectional internal fan for high volume, low noise air delivery. Airflow shall be from opposite drive end through generator to drive end. The exciter shall be in the airflow.

J. The generator shall be provided with a standard sized terminal compartment. The terminal compartment shall be provided with a load connection block to allow easy field termination of the load, neutral, and ground conductors. The generator neutral connection shall not be connected to the mounting skid or the generator frame. The neutral shall be isolated for field grounding by others at the switchgear or transformer.

K. In order to provide reinforcement for conduit entries, the generator right side cover plate shall be replaced with a minimum 14 gauge steel cover plate cut and drilled to match the original plate as indicated on the Attachment D Drawing.

2.11 MOUNTING SKID

A. The engine generator shall be equipped with a suitable full length base frame (skid) for mounting the engine and generator. The skid shall be constructed from structural steel channel with ends beveled and plated for short term skidding and rolling of unit. **No formed or stamped steel base frame designs will be accepted.** Provisions shall be made so that the generator can slide back a minimum of 12” to access the rear main seal on the engine without removing the generator end off of the skid or requiring the use of blocking to support it. See the Attachment D Drawing for skid design and layout.

B. Provisions shall be made in the skid for the mounting of vibration isolators at locations as indicated on the Attachment D Drawing. Wedge washers shall be welded in place on the skid to provide a flat surface for the vibration isolator lock nuts.

C. The engine generator shall be placed on the skid at the location indicated on Attachment D Drawing.

2.12 WIRING INTERFACE WITH REMOTE SWITCHGEAR

A. A control wiring terminal strip shall be installed in the generator terminal enclosure. All wiring for control and monitoring shall be terminated on terminal blocks

mounted on DIN rail with heavy duty end anchors. The terminals shall be IDEC or approved equal, BNH15LW except where indicated 50A provide BNH50W. Each terminal block and all wire terminations shall be individually numbered as indicated in Attachment D Drawing.

B. The DC power supply for the switchgear shall be provided from the engine starting batteries through the engine-mounted circuit breaker. Terminals shall be provided as indicated on the Attachment D Drawing for supplying 24 VDC to the switchgear.

2.13 PAINTING

The completed unit shall be painted John Deere industrial tan including engine, skid, and generator.

2.14 SPARE FILTERS

In addition to the filters installed on the engines, provide the following quantities of replacement filters for the engine plus break in oil. Package spare filters and oil in boxes.

A. Twelve (12) oil filters.

B. Four (4) primary fuel filters.

C. Four (4) secondary fuel filters.

D. Two (2) air filters plus one air filter service kit.

E. Four (4) glycol filters.

F. Break in oil identical to oil installed in engine. One (1) gallon for each engine.

PART 3 - EXECUTION

3.1 SHOP ASSEMBLY

A. Prior to beginning assembly, thoroughly inspect engine and generator for manufacturing defects or for damage that may have occurred in shipping. Verify that the shipping arms on the front of the generator are intact and that rotor is properly centered. Check inside of generator for dirt or moisture and clean thoroughly.

B. Replace the standard factory hardware used for attachment of the generator coupling disc to the engine flywheel with Grade 8 hex head bolts. Install heavy gauge washers, tighten and torque bolts in accordance with manufacturer's specifications, and paint pen mark after final torquing.

C. Upon assembly of engine and generator on the skid, ensure proper alignment then adjust and secure supports to ensure alignment is maintained.

D. Modify engine as specified previously. Install all accessories, devices, hoses, etc. as specified. Verify that all hose and wiring is properly routed, well supported, and secured to avoid wear points.

E. Install exhaust temperature sensor and air restriction indicator/switch and connect to harness/terminal stip. Adjust air restriction switch to close at 20" water column and verify function and reset.

F. Mount the ECU on the bulkhead and connect the wiring harness.

3.2 SHOP TESTS

A. Prior to shipment, the Fabricator shall perform testing as specified herein. Supply sufficient notice to the Authority prior to performing tests. The Authority reserves the right to witness all tests. Test procedures shall conform to ASME, IEEE, and ANSI standards, and NEMA standard practices section on testing, as appropriate and applicable.

B. The Fabricator shall provide all required mechanical and electrical equipment including but not limited to fuel supply, radiator, exhaust, load bank, voltage regulator, etc.

C. The Fabricator shall provide all required measuring and indicating devices. All devices shall be certified correct or correction data furnished for the device.

D. Prior to performing the load test, the engine generator Fabricator shall perform the following:

1. Verify that engine is filled with break in oil. The break in oil shall be approved by the engine manufacturer for 100 to 500 hour run time, John Deere Break-In Plus or approved equal. Pull a sample of the clean lube oil prior to the load test to be used for reference.
2. Perform hydrostatic test on water jackets to ensure that water seals and water jackets are watertight. Test report shall indicate pressure at which test was made and the results.
3. Connect engine coolant piping to radiator or heat exchanger. Note that all engine coolant circulation must be performed by the engine water pump without the benefit of any external pump or pressurized system.
4. Install thermometer to monitor coolant return temperature entering the engine for comparison against the coolant discharge temperature.

E. Engine Tests: Perform customary commercial shop 8 hour load test on the genset including, but not limited to, the following:

1. Prior to the 8 hour run, power up the ECU and verify that it is programmed as shown in the typical payload file in Attachment A. Connect the ECU to an analog throttle input and verify that it is correctly responding including idle operation at input less than or equal to 0.5 VDC, 1800 RPM at 2.5 VDC, and variable RPM above and below 2.5 VDC. Note confirmation on the load test. Take screen shots to document the ECU programming and include with the load test reports for each engine.
2. Place engine in continuous operation without stoppage for a period of not less than eight hours. Operate not less than one hour at each load point (1/2, 3/4, and full load) and 1 hour at 110 percent of rated load. If stoppage becomes necessary during this period, repeat the 8-hour run.
3. Record the following data at the start, at 15-minute intervals, and at the end of each load run: Hz, kW load, fuel consumption, exhaust temperature, intake air temperature, jacket water temperature, coolant return

temperature, lube oil temperature, lube oil pressure, manifold (boost) pressure, and crankcase vacuum.

4. Tests shall indicate satisfactory operation and attainment of guarantees and specified performance.

F. Provide completed test reports to the Authority. Reports shall include but not limited to the following:

1. Complete 8-hour load test data.
2. Screen shots of throttle programming and confirmation of response.
3. Photos of split oil filters as described below.
4. Laboratory analysis of the clean lube oil sample and the sample pulled after the test as described below.

3.3 PREPARATION AND SHIPPING

A. Upon completion of testing perform the following steps to prepare for shipping:

1. Flush the cooling system with extended life 50/50 ethylene glycol mix, Shell Rotella ELC or approved equal. Install covers over the connections. Note that if testing was performed with extended life ethylene glycol solution the engine does not need to be flushed.
2. Pull a sample of the lube oil. Send to a laboratory for analysis. Include the sample of clean lube oil pulled prior to the load test for reference comparison.
3. Remove oil filter, split case, inspect contents and take photo to document. Note that if excessive or unusual metal fragments are found, contact the Authority immediately. Install new oil filter.
4. Turn the engine at cranking speed with throttle control in full off position and use a sprayer to add a mixture of 50% VCI (volatile corrosion inhibitor) oil and 50% 30-weight engine oil into the air intake or turbocharger inlet.
5. Continue spraying the VCI-oil mixture into the air intake or turbocharger inlet long enough to ensure the cylinders and exhaust ports are coated.
6. Clean the outside of the engine and inspect and ensure that the engine and generator are covered by good quality paint. Correct any deficiencies.
7. Spray a thin amount of VCI-oil mixture on the flywheel, ring gear teeth, and starter pinion. Install the covers to keep the vapors in.
8. Install a positive mechanical seal consisting of a fitting plate and gasket on exhaust opening. Then install all covers and/or tape on any other openings. Ensure all covers are air tight and weatherproof. Use waterproof, weather resistant type tape. Do not install tape in such a manner as will damage paint when the tape is removed. Install a mechanical protective device over any protruding items, which may be vulnerable to damage during transportation.

B. After preparing the genset, package as follows:

1. Coil wiring harnesses and secure ECU bulkhead to generator. Alternately, the ECU bulkhead may be disconnected and packaged in a padded crate.
2. Put a waterproof cover over the entire genset. Make the cover tight, but loose enough to let air circulate around the unit to prevent damage to exposed metal parts from condensation.
3. All other included components (spare parts, loose items, etc.) shall be packaged individually in waterproof wrapping. Each individual component package shall then be packed in a box or crate, and each box/crate wrapped in waterproof wrapping to prevent corrosion to the components during extended periods of outside storage. All boxes or crates shall be palletized onto the minimum number of pallets, as required for the quantity and size of the boxes/crates.
4. Each component package shall be sequentially numbered and marked for ease of identification. Each box/crate shall also be marked with a unique identifying number. Each pallet shall be provided with a packing slip identifying the number of each box/crate on the pallet, in addition to a listing of each component package within each box/crate. Each pallet shall be marked (with two inch high letters/numbers), on all four sides and the top, with the project or community name.
5. Two copies of the packing slip identifying the quantity of pallets, the crates/boxes on each pallet, and the listing of component packages within each box/crate shall be provided to the Authority.

C. Final payment will not be made until completion of the following:

1. The genset and all loose ship parts have been accepted by the Authority at the F.O.B. Point.
2. The test reports have been received and approved by the Authority.

END OF WRITTEN SPECIFICATION

See The Following Attachments:

Attachment A - Typical ECU Payload

Attachment B – Owner Furnished Engine Build Codes

Attachment C – Owner Furnished Engine Photographs

Attachment D – Fabrication Details

JOHN DEERE Custom Performance™

PowerTech™ 4.5L AFM - Marine Genset

Glossary

Pinout Report

PIN J2-A1 : CAN 1-High (Yellow)	PIN J2-D1 :	PIN J2-G1 :	PIN J2-K1 :
PIN J2-A2 :	PIN J2-D2 : Stop Lamp (-)	PIN J2-G2 : Excitation 4+	PIN J2-K2 : CAN Shield
PIN J2-A3 : Excitation #3+	PIN J2-D3 :	PIN J2-G3 : Excitation 4-	PIN J2-K3 :
PIN J2-A4 : Primary Analog Throttle	PIN J2-D4 :	PIN J2-G4 :	PIN J2-K4 :
PIN J2-B1 : CAN 1-Low (Green)	PIN J2-E1 :	PIN J2-H1 :	PIN J2-L1 : ECU Power
PIN J2-B2 : Keyswitch	PIN J2-E2 :	PIN J2-H2 :	PIN J2-L2 : ECU Ground
PIN J2-B3 :	PIN J2-E3 : Engine Protection Shutdown Override	PIN J2-H3 : CAN 2-Low	PIN J2-L3 : ECU Ground
PIN J2-B4 :	PIN J2-E4 :	PIN J2-H4 :	PIN J2-L4 : ECU Power
PIN J2-C1 :	PIN J2-F1 :	PIN J2-J1 :	PIN J2-M1 : ECU Power
PIN J2-C2 :	PIN J2-F2 :	PIN J2-J2 :	PIN J2-M2 : ECU Ground
PIN J2-C3 : Excitation #3-	PIN J2-F3 :	PIN J2-J3 : CAN 2-High	PIN J2-M3 :
PIN J2-C4 :	PIN J2-F4 :	PIN J2-J4 :	PIN J2-M4 : ECU Power

Fault Code Report

Note: the following list of Fault Codes are those that are configured in the Trim Page, this list does not include all of the fault codes configured.

Fault 91.03: Primary Analog Throttle Out-of-Range High	Fault 91.04: Primary Analog Throttle Out-of-Range Low

Standard Sensor Configuration

Help

☐ Coolant Loss Switch Enable

Coolant Loss Switch Type: Open if Coolant Loss

☐ Air Filter Restriction Switch Enable - shared with Auxiliary Temperature Sensor

Air Filter Restriction Switch Type: Normally Open

☐ Fuel Leak Switch Enable - shared with Configurable Switch 1

Fuel Leak Switch Type: Normally Closed

☐ Water-in-Fuel Sensor Disable

Auxiliary Sensor Configuration

Help

☐ Enable Auxiliary Temperature Sensor (Pin J2-D3) - shared with Air Filter Restriction Switch

Default (deg. C): 100

☐ Configurable Switch 1 Enable (Pin J2-F2 Switch to Power)
Shared with Fuel Leak Switch

Switch Name Config Switch 1

Switch Type Normally Open

☐ Configurable Switch 2 Enable (Pin J2-E1 Switch to Power)

Switch Name Config Switch 2

Switch Type Normally Open

☐ Configurable Switch 3 Enable (Pin J2-J1 Switch to Ground)
Shared with Auxiliary Derate Switch

Switch Name Config Switch 3

Switch Type Normally Open

☐ Configurable Switch 4 Enable (Pin J2-F1 Switch to Power)
Shared with Bump Down Switch

Switch Name Config Switch 4

Switch Type Normally Open

☐ Configurable Switch 5 Enable (Pin J2-D4 Switch to Power)
Shared with Bump Up Switch

Switch Name Config Switch 5

Switch Type Normally Open

☐ Configurable Switch 6 Enable (Pin J2-J2 Switch to Power)

Switch Name Config Switch 6

Switch Type Normally Open

☐ Configurable Switch 7 Enable (Pin J2-K1 Switch to Ground)
Shared with Auxiliary Shutdown Switch

Switch Name Config Switch 7

Switch Type Normally Open

☐ Configurable Switch 8 Enable (Pin J2-B3 Switch to Power)

Switch Name Config Switch 8

Switch Type Normally Open

☐ Configurable Switch 9 Enable (Pin J2-E4 Switch to Power)
Shared with Bump Enable Switch

Switch Name Config Switch 9

Switch Type Normally Open

☐ Configurable Switch 10 Enable (Pin J2-H4 Switch to Excitation+)
Shared with Isochronous Droop Switch

Switch Name Config Switch 10

Switch Type Normally Open

Configurable Logic

Help

☐ Enable Configurable Logic 1

Logic Name CONFIG LOGIC 1

Active when the following conditions have been met for 0 seconds

Unused is Greater than 0

NONE

Unused is Active

Inactive when the following conditions have been met for 0 seconds

Unused is Greater than 0

NONE

Unused is Active

☐ Enable Configurable Logic 2

Logic Name CONFIG LOGIC 2

Active when the following conditions have been met for 0 seconds

Unused is Greater than 0

NONE

Unused is Active

Inactive when the following conditions have been met for 0 seconds

Unused is Greater than 0

NONE

Unused is Active

☐ Enable Configurable Logic 3

Logic Name CONFIG LOGIC 3

Active when the following conditions have been met for 0 seconds

Unused is Greater than 0

NONE

Unused is Active

Inactive when the following conditions have been met for 0 seconds

Unused is Greater than 0

NONE

Unused is Active

Shared CAN Bus Settings

Help

ECU Source Address Engine 1 - Source Address 0

John Deere OEM Panel Function Instance

Tachometer Output

Help

☐ Enable Tachometer Output 30 Pulses per Revolution

Fuel Transfer Pump

Help

Select Fuel Transfer Pump Stanadyne Transfer Pump

Start Aid Control

Help

☐ Enable Glow Plugs

Hardware Fault Lamps

Help

☐ Enable Warning Fault Lamp (J2-C1) - Shared with Starter Overspeed Relay / Configurable Output 3

☐ Enable Stop Fault Lamp (J2-D2)

Engine Mode Indication

Help

☐ Enable Engine Run Lamp / Alarm (J2-J4) - Shared with Configurable Output 1

☐ Enable Engine Stop Lamp / Alarm (J2-E2)

Configurable Outputs

Help

☐ Enable Configurable Output 1 (J2-J4) - Shared with Run Mode Lamp/Alarm

Output Name CONFIG OUTPUT 1

Output Type On/Off

Enable Output when Unused is Active

Default Output to Disabled when Unused is Active

Lamp Test Disabled

☐ Enable Configurable Output 2 (J2-K4)

Output Name CONFIG OUTPUT 2

Output Type On/Off

Enable Output when Unused is Active

Default Output to Disabled when Unused is Active

Lamp Test Disabled

☐ Enable Configurable Output 3 (J2-C1) - Shared with Warning Fault Lamp

Output Name CONFIG OUTPUT 3

Output Type On/Off

Enable Output when Unused is Active

Default Output to Disabled when Unused is Active

Lamp Test Disabled

Throttle

Help

☐ Disable All Throttles

Digital Throttle

☐ Enable Digital Throttle

○ 2-State Throttle

◉ 3-State Throttle

Primary Analog Throttle

☑ Enable Primary Analog Throttle

☐ Self-Calibration Enable

Secondary Analog Throttle

☐ Enable Secondary Analog Throttle

☐ Self-Calibration Enable

PWM Throttle

☐ Enable PWM Throttle

PWM Frequency (Hz)
200

Minimum PWM Duty Cycle %
10

Maximum PWM Duty Cycle %
90

Throttle Adjustments

Multiple Throttle Failure Condition Default:
Default to Rated Speed

Throttle Out-of-Range Recovery:
Rated Recovery

Minimum Throttle Offset:

Offset: 0 rpm increase

Maximum Throttle
Offset: 0 rpm Decrease

Envelope Calculation

Torque Speed Control

Help

☐ Enable TSC Source 1 Enable	☐ TSC1 Timeout Fault	3 Source Address 1
☐ Enable TSC Source 2 Enable	☐ TSC2 Timeout Fault	4 Source Address 2

Governor Droop

Help

RPM of Droop 0 Hz (Isochronous)

Envelope Calculation

Startup Acceleration Rate

Help

Acceleration
Rate: Standard (Maximum)

Governor Gains

Help

Information: The factory settings for the engine speed control (governor) parameters have been optimized for the majority of applications to provide the best combination of stability and response characteristics.

DO NOT change these settings from the defaults unless there is a significant problem with engine speed stability or response to load changes. Changing the governor gains from the defaults can aggravate instabilities in the system or lead to unacceptable response. Any changes must be evaluated to determine if the final performance is acceptable.

Low Speed Governor Gain: Use Selected Alternate Gain

All Speed Governor Gain: Use Selected Alternate Gain

Maximum Speed Governor Gain: Use Selected Alternate Gain

Selected Alternate Gain: Alternate Gainset #1

Gain Adjustment Percentage: 100 % (Valid range is 25% to 200%)

Derates & Shutdowns

Help

Standard (Level 1) Derates

☐ Enable Standard (Level 1) Derates

Standard Shutdowns

Refer to the Sensor Configuration section to enable optional sensors

Coolant Temperature Shutdown: Enabled

Engine Overspeed Shutdown: Enabled

J1939 Enable/Disable Shutdowns

☐ Allow Enable/Disable of Shutdowns by J1939 CAN Message

5 Controller Source Address

Engine will shutdown immediately after Engine Overspeed condition

Fuel Temperature Shutdown
Enabled

Intake Manifold Air Temperature Shutdown Enabled

Oil Pressure Shutdown
Enabled

Water-in-Fuel Shutdown
Enabled

Coolant Loss Shutdown
Disabled

Shutdown Timer
Immediate

Fault Indication

Help

☐ Enable Auxiliary Temperature Indication - Auxiliary Temperature Sensor is Disabled

Lamp Type Disabled Aux Temperature Threshold 1 135 (deg. C)

Lamp Type Disabled Aux Temperature Threshold 2 140 (deg. C)

Temperature Shutdown Disabled

Auxiliary Derate

Help

☐ Auxiliary Derate Enable - shared with Configurable Switch 3

Auxiliary Derate Switch Input Type Normally Open

Auxiliary Derate Amount [20% over 4 minutes]

☐ Override Auxiliary Derate at Engine Start

Override Auxiliary Derate Time [5 seconds]

Auxiliary Shutdown

Help

Warning: This is intended as a system protection shutdown. This is not intended to be used as an emergency stop.

☐ Auxiliary Shutdown Enable - shared with Configurable Switch 7

Auxiliary Shutdown Switch Input Type [Normally Open]

NOTE: Care should be taken to choose a switch type that matches desired behavior with common failure modes

Auxiliary Shutdown Timer [Immediate]

☐ Override Auxiliary Shutdown at Engine Start

Override Auxiliary Shutdown Time [5 seconds]

Shutdown Verify for Certification Testing

Help

☐ Enable Engine Overspeed Verify - Engine Overspeed Shutdown has been enabled above in Standard Shutdowns

Engine Overspeed Threshold (rpm) [1700]

☐ Enable Adjustable Coolant Temperature Shutdown

Coolant Temperature Shutdown Threshold (deg. C) [75]

☐ Enable Oil Pressure Shutdown for Certification Testing

Search Results for RG6090L139381 :

Serial Number	Base Code	Model	Material	Manufactured Date	Parts Catalog No.
RG6090L139381	3072RG	6090AFM85	6090AFM85	2019-12-05	PC12358

Rating	EPA Family	EUR Family	Emissions Label Part No.	EPA Certificate	CARB Certificate
6090AFM85E	KJDXN09.0155	N/A*	R568070	KJDXN09.0155-013	

Option Name	Ordered	Factory	Distributor
Description Not Available	1099	*	*
Rocker Arm Cover, with John Deere Logo, No Oil Fill	1107	1107	*
Oil Filler Cover	1299	*	*
Crank Pulley, 8-rib Poly Vee, Rubber Damper for Genset	1359	1359	*
Flywheel Housing, SAE #2, Gray Iron, with Front & Bottom Access Plate, Not Sealed, with Provision for Electronic Tach Drive	1425	1425	*
Flywheel, 292.1mm (11.5 in.) Over Center Clutch, 129 Tooth 8/10 Pitch Ring Gear	1524	1524	*
Fuel System, Nippondenso, HPCR, 12V or 24V, 1600cc Injectors, Propulsion/Genset	1601	1601	*
Air Inlet, Genset, No Air Heater	1712	1712	*
Air Cleaner, None	1899	1899	*
Oil Pan, Aluminum, Shallow Sump, Side Drain, 30 Degree Off-Level Capability with Drain Valave, 31L, Compatible with Left Hand Pan Mount Dipstick	1980	1980	*
Water Pump	2001	2001	*
Thermostat Cover, None	2199	2199	*
Thermostats, None	2299	2299	*
Fan Drive, None	23GA	23GA	*
Belt, w/o Belt Guard	24AM	24AM	*
Block Heater, None	2699	2699	*
Heat Exchanger and Top Tank, with Three Zinc Anodes, 16 Psi Cap, Genset	2706	2706	*
Exhaust Manifold, Watercooled, Propulsion/Genset	2821	2821	*
Closed Crankcase Ventilation System, None	2999	2999	*
Starter, Iskra, 24V, 4 kW (5.4 hp), LH 3-Bolt Type 1 Mount, Isolated Ground	3015	3015	*
Alternator, Iskra, 24V, 100 Amp, Insulated / Isolated Ground, Large Frame	3160	3160	*
Fuel Filter, 24V, RH Side, Engine Mounted, Primary Filter, 10 Micron, with Water Separator and Secondary Filter, 2 Micron, Water-In-Fuel Sensor, Low Pressure Fuel Sensor, Electric Fuel Transfer Pump	3515	3515	*
Operators Manual (English)	3804	3804	*
Thermostat Housing	3928	3928	*
Dipstick, Integrated Dipstick & Tube, RH Side Block Mounted, for use with No CCV & No Air Cleaner	4062	4062	*

Option Name	Ordered	Factory	Distributor
Belt-Driven Front Auxiliary Drive	4199	*	*
Starting Aid, None	4399	4399	*
Cylinder Block	4601	4601	*
Tapered Nose Crankshaft and Main Bearings	4705	4705	*
Connecting Rods and Pistons	4804	4804	*
Rocker Arm With Valve Actuation	4903	4903	*
Oil Pump	5003	5003	*
Cylinder Head with Valves	5101	5101	*
Gear Driven Auxiliary Drive, LH, SAE A Front, SAE B Rear	5203	5203	*
Air Intake Hose, None	5498	5498	*
Shipping Stand, for use with #1 or #2 Flywheel Housing	55B4	55B4	*
Paint, Industrial Tan (Paintable)	5605	5605	*
Water Pump Cover	5711	5711	*
Oil Filter & Cooler, RH Side, Engine Mounted, Genset	5937	5937	*
Alternator Mounting, Large Frame Alternator	6222	6222	*
Exhaust Elbow, None	6499	6499	*
Turbocharger, Genset 1800 RPM	6565	6565	*
Crankshaft Damper	6899	*	*
Engine Serial Number Plate	6902	6902	*
Power Rating, 24V, 222kW (297hp) @ 1800 RPM, Genset (200 kWe)	72GU	72GU	*
Air Compressor Mounting Bracket, None	7499	7499	*
Timing Gear Cover	7706	7706	*
Air Compressor, None (for use w/ other than 5201 LH Aux Drive Base Unit)	7899	7899	*
Sea Water Pump	8002	8002	*
Vehicle Performance, Genset	83BE	83BE	*
Wiring Harness, Factory-Installed, RH Service	8482	8482	*
Starter Relay, None	9199	9199	*
Engine Accessories	9299	*	*
Genset, EPA Marine Tier 3, IMO MARPOL Annex VI Tier II Compliant	93FC	93FC	*
Wiring Harness,OPT RETRO MAIN PANEL HARN	*	97UP	*
Wiring Harness,OPT Interconnect harnesse	*	97UQ	*
Instrument Panel,OPT Main Station Panel	*	97UR	*
Instrument Panel,OPT Remote Station Pane	*	97US	*
Relay Module	*	97UX	*
Lift Straps	9806	9806	*
Miscellaneous Service Parts	*	9901	*

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
2019 MODEL YEAR
CERTIFICATE OF CONFORMITY
WITH THE CLEAN AIR ACT

OFFICE OF TRANSPORTATION AND AIR QUALITY
ANN ARBOR, MICHIGAN 48105

Certificate Issued To: **Deere & Company**
(U.S. Manufacturer or Importer)

Certificate Number: **KJDXN09.0155-013**

Effective Date: 11/15/2018

Expiration Date: 12/31/2019

Byron J. Bunker, Division Director
Compliance Division

Issue Date: 11/15/2018

Revision Date: N/A

Model Year: 2019
Manufacturer Type: Original Engine Manufacturer
Engine Family: KJDXN09.0155

Mobile/Stationary Indicator: Both
Limited Application: Constant Speed Engines
Intended Service: Auxiliary
Aftertreatment Device Indicator: No
Intended Service Fuel: Diesel

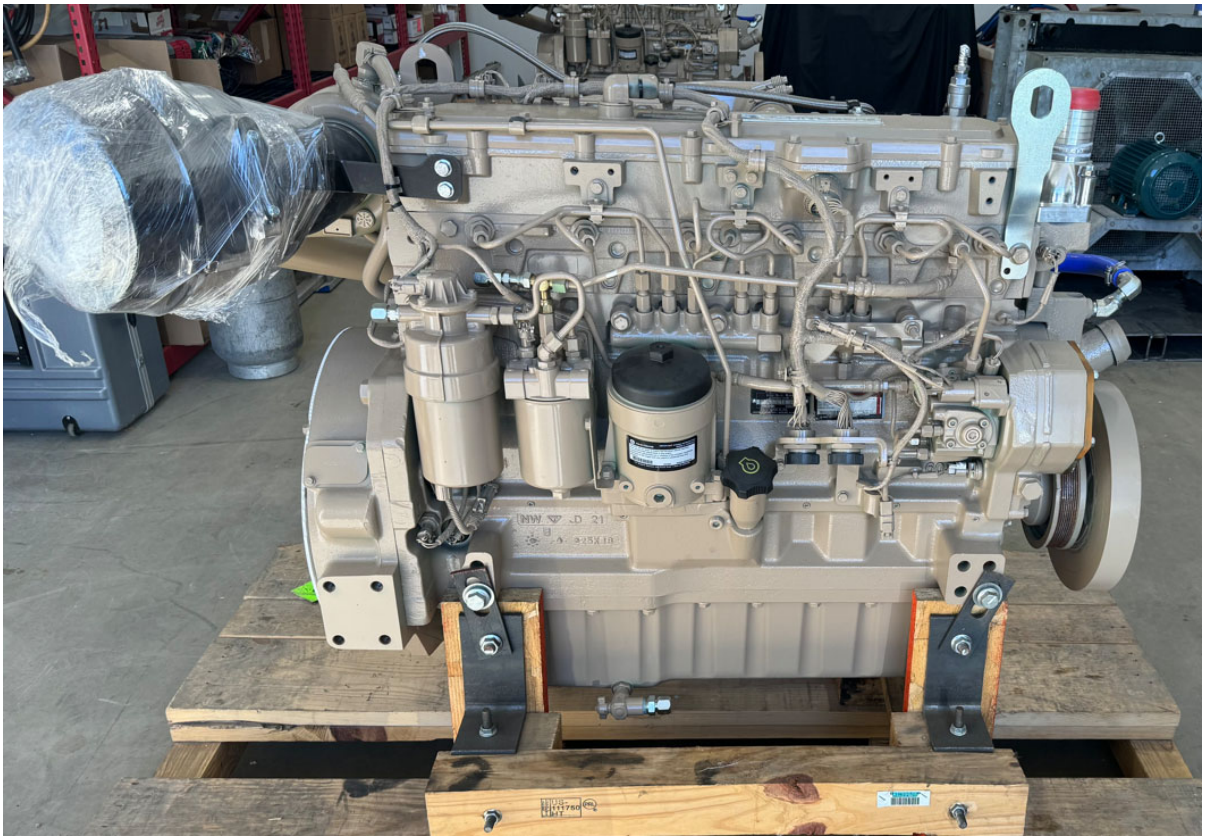
Pursuant to Section 111 and Section 213 of the Clean Air Act (42 U.S.C. sections 7411 and 7547) and 40 CFR Part 60 and Part 1042, and subject to the terms and conditions prescribed in those provisions, this certificate of conformity is hereby issued with respect to the test engines which have been found to conform to applicable requirements and which represent the following stationary and marine engines, by engine family, more fully described in the documentation required by 40 CFR Part 60 and Part 1042 and produced in the stated model year.

This certificate of conformity covers only those new stationary and marine compression-ignition engines which conform in all material respects to the design specifications that applied to those engines described in the documentation required by 40 CFR Part 60 and Part 1042 and which are produced during the model year stated on this certificate of the said manufacturer, as defined in 40 CFR Part 60 and Part 1042.

It is a term of this certificate that the manufacturer shall consent to all inspections described in 40 CFR Part 1068 and authorized in a warrant or court order. Failure to comply with the requirements of such a warrant or court order may lead to revocation or suspension of this certificate for reasons specified in 40 CFR Part 1042. It is also a term of this certificate that this certificate may be revoked or suspended or rendered void *ab initio* for other reasons specified in 40 CFR Part 1042.

This certificate does not cover marine engines sold, offered for sale, introduced, or delivered for introduction into commerce in the U.S. prior to the effective date of the certificate. This certificate of conformity does not cover stationary or marine engines imported prior to the effective date of the certificate.

Overview From Right Side:



Overview From Left Side:

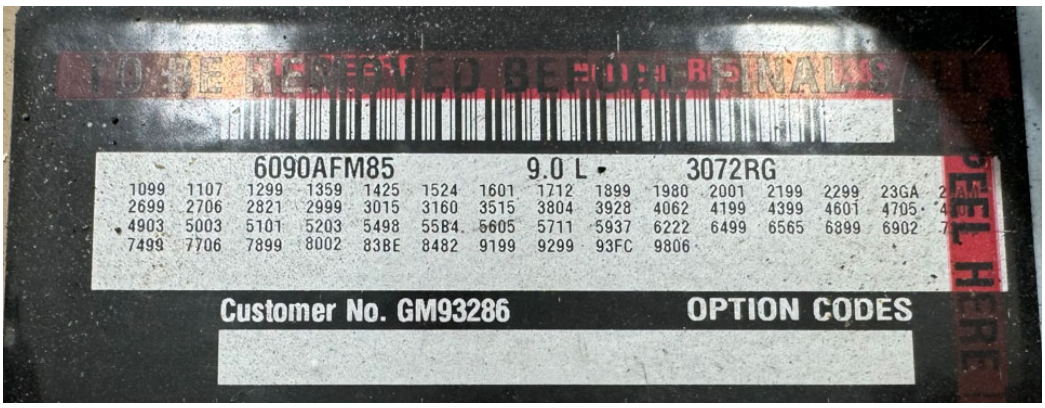
Front Views:

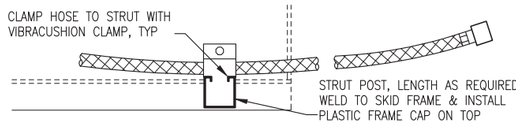
Rear View:

Modified Coolant Discharge Connection & Vent:

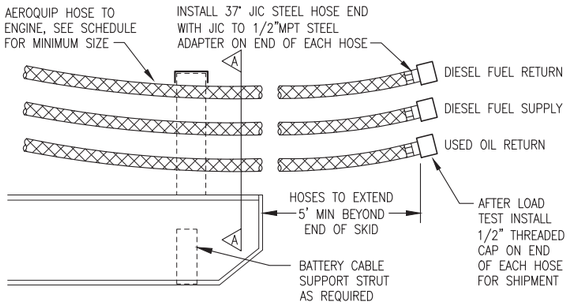
Air Cleaner:

Nameplates:

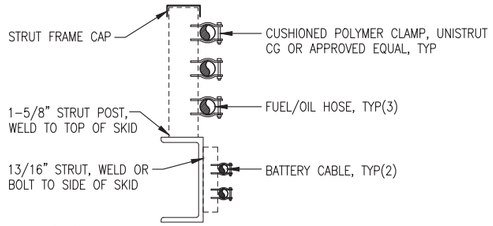




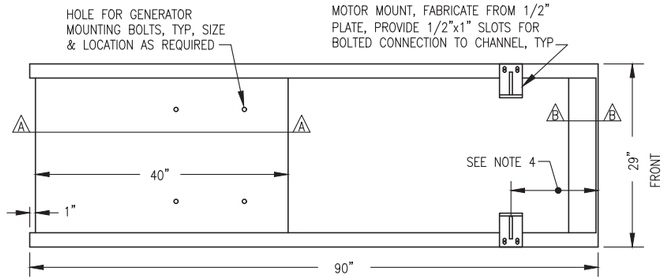
GENSET FRONT RIGHT SKID PLAN VIEW



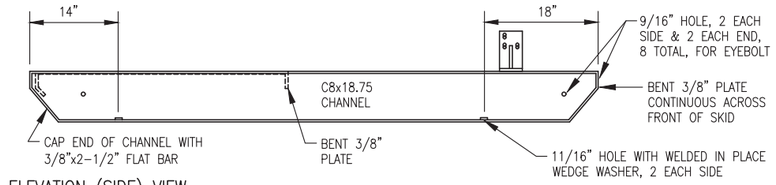
GENSET FRONT RIGHT SKID ELEVATION



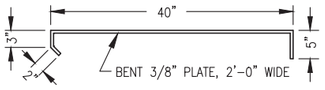
SKID SECTION A–A



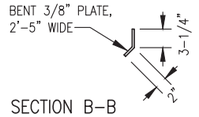
PLAN (TOP) VIEW



ELEVATION (SIDE) VIEW



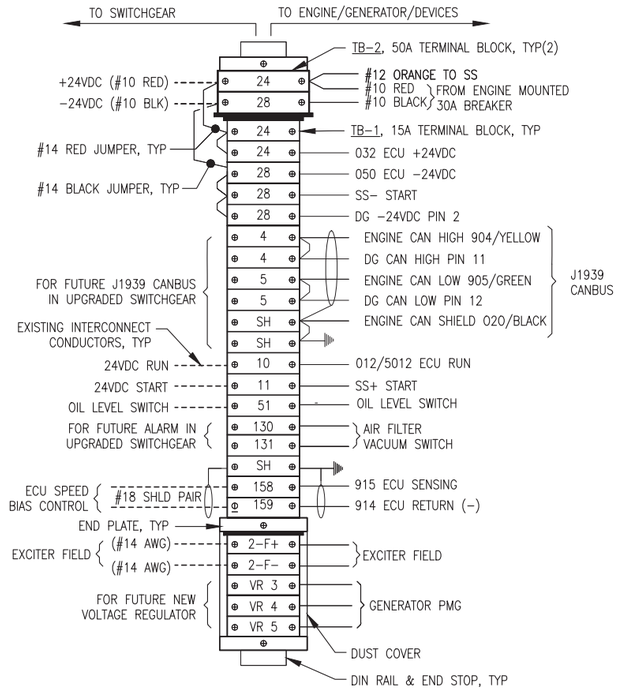
SECTION A–A



SECTION B–B

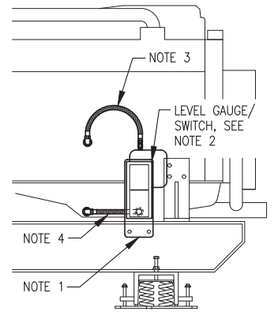
NOTES:

1) FABRICATE SKID FROM ASTM A–36 STEEL. BEND PLATES & CUT ENDS OF CHANNELS AT 90° & 45° AS SHOWN.
2) EXCEPT WHERE INDICATED AS BOLTED, MAKE ALL CONNECTIONS WITH CONTINUOUS WELDS (FILLET OR FULL–PENETRATION GROOVE AS REQUIRED) IN ACCORDANCE WITH CURRENT AWS STANDARD CODE.
3) ROUND ALL CORNERS & GRIND WELDS SMOOTH AFTER FABRICATION. PAINT TO MATCH ENGINE–GENERATOR.
4) PLACE UNIT ON SKID SO THAT THE CENTERLINE OF THE EXHAUST RISER IS 50" FROM THE FRONT OF THE SKID.



NOTES:

1) NEW TERMINAL STRIP NUMBERS MATCH INTERCONNECT TERMINALS IN GEN#2 SWITCHGEAR SECTION. SEE ATTACHED SWITCHGEAR REVISION DRAWINGS FOR MODIFICATIONS TO EXISTING SWITCHGEAR.
2) ADDITIONAL TERMINALS ARE BEING PROVIDED FOR FUTURE REVISIONS AS NOTED THAT ARE NOT BEING USED NOW.



NOTES:

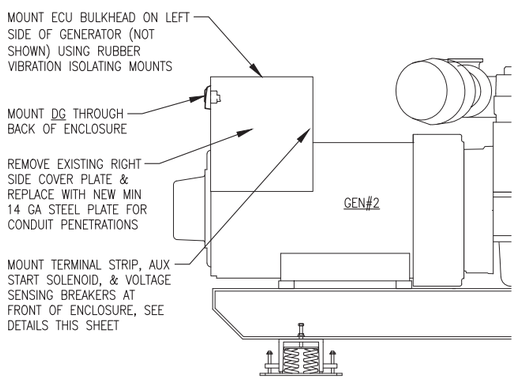
1) 1/4" STEEL SUPPORT PLATE PRE–DRILLED TO MATCH GAUGE/SWITCH MOUNTS AND BOTTOM HOSE ENTRANCE. BOLT TO INSIDE (BACK) OF CHANNEL SKID AT HEIGHT AS REQUIRED TO CENTER GAUGE AT NORMAL FULL OIL LEVEL.
2) MOUNT OIL LEVEL GAUGE/SWITCH TO STEEL SUPPORT PLATE WITH RUBBER SHOCK MOUNTS. ADJUST SWITCH CONTACTS TO 1/2" ABOVE AND BELOW NORMAL FULL LEVEL. PAINT MARK A RED LINE AT BOTH SWITCH LEVELS.
3) CONNECT TOP (VENT) PORT TO ENGINE CRANK CASE WITH #8 HOSE WITH 1/2" OR 3/8" NPT JIC SWIVEL ENDS. ROUTE UPPER HOSE WITH HIGH POINT 4" MIN ABOVE TOP OF GAUGE.
4) CONNECT BOTTOM PORT TO ENGINE OIL PAN WITH #8 HOSE WITH 1/2" OR 3/8" NPT JIC SWIVEL ENDS. DO NOT TEE INTO OIL DRAIN LINE. ROUTE LOWER HOSE BACK THROUGH PRE–DRILLED HOLE IN STEEL PLATE.

1 M3 FUEL & OIL HOSE TERMINATIONS
NO SCALE

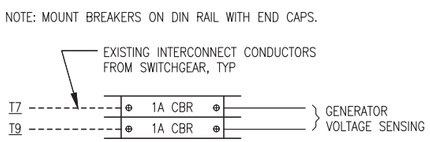
2 M3 GEN#2 (JOHN DEERE 6090) SKID DESIGN
1"=1'–0"

3 M3 TERMINAL STRIP CONNECTIONS
NO SCALE

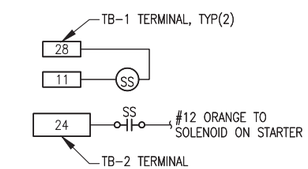
4 M3 OIL LEVEL GAUGE/SWITCH
NO SCALE



5 M3 INTERCONNECT TERMINAL STRIP & DEVICES ELEVATION
NO SCALE



6 M3 VOLTAGE SENSING CIRCUIT BREAKER CONNECTIONS
NO SCALE



7 M3 STARTER SOLENOID SS WIRING
NO SCALE

GENERATOR ENCLOSURE ELECTRICAL DEVICES BILL OF MATERIALS

TAG	MANUFACTURER	MODEL	DESCRIPTION
CBR	ALLEN–BRADLEY	1489–M1–C010	RAIL MOUNT CIRCUIT BREAKER, 1P, 1A
DG	JOHN DEERE	DG–14	DIAGNOSTIC GAUGE WITH HARNESS PROGRAMMED FOR MARINE TIER 3 WITH UNIQUE JOHN DEERE FAULT CODE
SS	JOHN DEERE	AT145341	STARTER AUXILIARY SOLENOID, 24V
TB–1	IDEC	BNH15LW	15A DIN RAIL–MOUNT TERMINAL BLOCK
TB–2	IDEC	BNH50W	50A DIN RAIL–MOUNT TERMINAL BLOCK

ISSUED FOR GENSET FABRICATION JUNE 2024

STATE OF ALASKA 49TH BRIAN C. GRAY ME 8210 REGISTERED PROFESSIONAL ENGINEER

ALASKA ENERGY AUTHORITY

PROJECT: TULUKSAK POWER PLANT
2024 GENERATOR #2 REPLACEMENT

TITLE: GENSET FABRICATION DETAILS

Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: BCG	DATE: 6/6/24
FILE NAME:	SHEET: M3
PROJECT NUMBER:	