



PROCUREMENT DEPARTMENT
813 W Northern Lights Blvd
Anchorage, AK 99503

RETURN BY EMAIL
AEAProcurement@akenergyauthority.org

REQUEST FOR QUOTATION

RFQ NO: **24127**
Quotations due on/before
2:00 PM Local Time
4/30/2024

AVTEC Series 60 Renovation

Page 1 of 4 Date: 4/16/24

CONTRACTOR NOTICE (This is NOT a Purchase Order)

This is an **informal quotation** that will not be read at public opening. The information may be publicly reviewed after award. The terms and conditions should be reviewed and understood before preparing a quotation.

Fill out and sign the bottom portion of this page along with the Debarment Certificate, page 4 of Appendix B, and return both pages. Please return the quotation by the above time and date to:

AEAProcurement@akenergyauthority.org. Please reference the RFQ number on the SUBJECT of the email.

PROJECT LOCATION:

Fabricators shop in Alaska
Pickup and delivery Seward, Alaska

PROCUREMENT OFFICER:

Selwin C. Ray (907) 771-3035
sray@akenergyauthority.org

This Request for Quotation (RFQ) is for an engine generator fabricator, hereinafter referred to as contractor, to renovate an Owner Furnished diesel engine-generator as described in Appendix A, Detailed Project Description, and Appendix C, Specifications.

The Engineer's Estimate for the Work is between \$10,000 and \$20,000.

All questions relating to bidding procedures should be directed to:
Selwin C. Ray, Contract Officer, (907) 771-3035 sray@akenergyauthority.org

All questions relating to technical aspects of the project should be directed to:
Justin Tuomi, Project Manager, (907) 771-3093 jtuumi@akenergyauthority.org

Provide a lump sum fixed price quote in U.S. dollars where indicated below. The cost shall include all labor, materials, supervision, equipment, tools, transportation, quality control, and supplies required to complete the work as described in this RFQ.

The proposed schedule for the Work is described in Appendix A, Detailed Project Description. Provide a firm completion date where indicated below.

THIS SECTION MUST BE COMPLETED BY CONTRACTOR

Completion is desired no later than December 1, 2023.

The Work shall be substantially complete no later than _____

Base Bid Lump Sum Price: _____

Additive Alternate #1 Lump Sum Price: _____

Additive Alternate #2 Lump Sum Price: _____

Company Name	Address	City	St	ZIP Code	Phone Number
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Alaska Business License No.	Tax I.D. No.
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_____ Signature	_____ Date	_____ Typed Name and Title
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**INSTRUCTIONS TO BIDDERS
TERMS AND CONDITIONS**

1. REQUEST FOR QUOTATION (RFQ) REVIEW: Offerors shall carefully review this RFQ for defects and questionable or objectionable material. Offerors' comments concerning defects and questionable or objectionable material in the RFQ must be made in writing and received by the purchasing authority before the date and time set for receipt of quotes. This will allow time for an amendment to be issued if one is required. It will also help prevent the opening of a defective quote, upon which award cannot be made, and the resultant exposure of offerors' prices. Offerors' original comments should be sent to the purchasing authority listed on the front of this RFQ.

2. QUOTATION FORMS: Offerors shall use this and attached forms in submitting quotes. A photocopied quote may be submitted.

3. SUBMISSION: Quotations shall be signed where applicable and received at the designated Purchasing Office no later than as indicated.

4. QUOTE REJECTION: The State reserves the right to reject any or all quotes, combinations of items, or lot(s), and to waive defects or minor informalities.

5. EXTENSION OF PRICES: In case of error in the extension of prices in the quote, the unit prices will govern; in a lot bid, the lot prices will govern. Negligence by the vendor in preparing the quotation confers no right for the withdrawal of the quotation after it has been opened.

6. ALASKA PROCUREMENT CODE: 3 AAC 109 and 2 AAC Ch. 12 are made a part of this document as if fully set forth herein. Note that 3 AAC 109 and 2 AAC Ch. 12 are available at most public libraries and legislative information offices; and both are available for review at Alaska State Purchasing Offices.

7. PRICES: The offeror shall state prices in the units of issue on this RFQ. Prices quoted for commodities must be in U.S. funds and include applicable federal duty, brokerage fees, packaging, and transportation cost to the FOB point so that upon transfer of title the commodity can be utilized without further cost. Prices quoted for services must be quoted in U.S. funds and include applicable federal duty, brokerage fee, packaging, and transportation cost so that the services can be provided without further cost. Prices quoted must be exclusive of federal, state, and local taxes. If the offeror believes that certain taxes are payable by the State, the offeror may list such taxes separately, directly below the bid price for the affected item. The State is exempt from Federal Excise Tax except the following:

- Coal - Internal Revenue Code of 1986 (IRC), Section 4121 - on the purchase of coal;
- "Gas Guzzler" - IRC, Section 4064 - on the purchase of low m.p.g. automobiles, except that police and other emergency type vehicles are not subject to the tax;
- Air Cargo - IRC, Section 4271 - on the purchase of property transportation services by air;
- Air Passenger - IRC, Section 4261 - on the purchase of passenger transportation services by air carriers;
- Leaking Underground Storage Tank Trust Fund Tax (LUST) - IRC, Section 4081 - on the purchase of Aviation gasoline, Diesel Fuel, Gasoline, and Kerosene.

8. PAYMENT FOR STATE PURCHASES: Payment for agreements under \$500,000 for the undisputed purchase of goods or services provided to a State agency, 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. A late payment is subject to 1.5% interest per month on the unpaid balance. Interest will not be paid if there is a dispute or if there is an agreement which establishes a lower interest rate or precludes the charging of interest.

9. PAYMENT DISCOUNT: Discounts for prompt payment will not be considered in evaluating the price you quote. However, the State shall be entitled to take advantage of any payment discount(s) offered by the vendor provided payment is made within the discount period. Payment discount periods will be computed from the date of receipt of the commodities or services and/or a correct invoice, whichever is later. Unless freight and other charges are itemized, any discount provided will be taken on full amount of invoice.

10. VENDOR TAX ID NUMBER: If goods or services procured through this RFQ are of a type that is required to be included on a Miscellaneous Tax Statement, as described in the Internal Revenue Code, a valid tax identification number must be provided to the State of Alaska before payment will be made.

11. 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.

12. SEVERABILITY: If any provision of this contract is declared by a court to be illegal or in conflict with any law, the validity of the remaining terms and provisions shall not be affected; and the rights and obligations of the parties shall be construed and enforced as if the contract did not contain the particular provision held to be invalid.

13. TITLE: Title passes to the State for each item at FOB destination.

14. FILING A PROTEST: An offeror shall attempt to informally resolve a dispute with the procurement officer regarding a small procurement. If the attempt is unsuccessful, the vendor may protest the solicitation or the award of a small procurement contract under 3 AAC 109 and 2 AAC

**INSTRUCTIONS TO BIDDERS
TERMS AND CONDITIONS**

Ch. 12. The protest must be filed in writing with the commissioner of the purchasing agency or the commissioner's designee and include the following information: (1) the name, address, and telephone number of the protester; (2) the signature of the protester or the protester's representative; (3) identification of the contracting agency and the solicitation or contract at issue; (4) a detailed statement of the legal and factual grounds of the protest, including copies of relevant documents; and (5) the form of relief requested. The protester must file a copy of the protest with the procurement officer for the purchasing agency. Protests will be treated in accordance with 3 AAC 109 and 2 AAC Ch. 12.

15. COMPLIANCE: In the performance of a contract that results from this RFQ, the contractor must comply with all applicable federal, state, and borough regulations, codes, and laws; and be liable for all required insurance, licenses, permits and bonds; and pay all applicable federal, state, and borough taxes.

16. SUITABLE MATERIALS, ETC.: Unless otherwise specified, all materials, supplies or equipment offered by an offeror shall be new, unused, and of the latest edition, version, model or crop and of recent manufacture.

17. SPECIFICATIONS: Unless otherwise specified in the RFQ, product brand names or model numbers 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.

18. FIRM OFFER: For the purpose of award, offers made in accordance with this RFQ must be good and firm for a period of ninety (90) days from the date of quote opening.

19. QUOTE PREPARATION COSTS: The State is not liable for any costs incurred by the offeror in quote preparation.

20. CONSOLIDATION OF AWARDS: Due to high administrative costs associated with processing of purchase orders, a single low quote of \$50 or less may, at the discretion of the State, be awarded to the next low offeror receiving other awards for consolidation purposes. This paragraph is not subject to the protest terms enumerated in "FILING A PROTEST" above.

21. CONTRACT FUNDING: Offerors are advised that funds are available for the initial purchase and/or the first term of the contract. Payment and performance obligations for succeeding purchases and/or additional terms of the contract are subject to the availability and appropriation of funds.

22. CONFLICT OF INTEREST: An officer or employee of the State of Alaska may not seek to acquire, be a party to, or possess a financial interest in, this contract if (1) the officer or employee is an employee of the administrative unit that supervises the award of this contract; or (2) the officer or employee has the power to take or withhold official action so as to affect the award or execution of the contract.

23. ASSIGNMENT(S): Assignment of rights, duties, or payments under a contract resulting from this RFQ is not permitted unless authorized in writing by the procurement officer of the contracting agency. Quotes that are conditioned upon the State's approval of an assignment will be rejected as nonresponsive.

24. SUBCONTRACTOR(S): Within five (5) working days of notice from the state, the apparent low bidder must submit a list of the subcontractors that will be used in the performance of the contract. The list must include the name of each subcontractor and the location of the place of business for each subcontractor and evidence of each subcontractor's valid Alaska business license.

25. FORCE MAJEURE (Impossibility to perform): The parties to a contract resulting from this RFQ are not liable for the consequences of any failure to perform, or default in performing, any of its obligations under the contract, if that failure or default is caused by any unforeseeable Force Majeure, beyond the control of, and without the fault or negligence of, the respective party. For the purposes of this Agreement, Force Majeure will mean war (whether declared or not); revolution; invasion; insurrection; riot; civil commotion; sabotage; military or usurped power; lightning; explosion; fire; storm; drought; flood; earthquake; epidemic; quarantine; strikes; acts or restraints of governmental authorities affecting the project or directly or indirectly prohibiting or restricting the furnishing or use of materials or labor required; inability to secure materials, machinery, equipment or labor because of priority, allocation or other regulations of any governmental authorities.

26. LATE QUOTES: Late quotes are quotes received after the time and date set for receipt of the quotes. Late quotes will not be accepted.

27. CONTRACT EXTENSION: Unless otherwise provided in this RFQ, the State and the successful offeror/contractor agree: (1) that any holding over of the contract excluding any exercised renewal options, will be considered as a month-to-month extension, and all other terms and conditions shall remain in full force and effect and (2) to provide written notice to the other party of the intent to cancel such month-to-month extension at least thirty (30) days before the desired date of cancellation.

28. DEFAULT: In case of default by the contractor, for any reason whatsoever, the State of Alaska may procure the goods or services from another source and hold the contractor responsible for any resulting excess cost and may seek other remedies under law or equity.

29. DISPUTES: If a contractor has a claim arising in connection with a contract resulting from this RFQ that it cannot resolve with the State by mutual agreement, it shall pursue a claim, if at all, in accordance with the provisions of 3 AAC 109 and 2 AAC Ch. 12.

**INSTRUCTIONS TO BIDDERS
TERMS AND CONDITIONS**

- 30. GOVERNING LAW; FORUM SELECTION:** A contract resulting from this RFQ is governed by the laws of the State of Alaska. To the extent not otherwise governed by section 29 of these Standard Terms and Conditions, any claim concerning the contract shall be brought only in the Superior Court of the State of Alaska and not elsewhere.
- 31. CONSUMER ELECTRICAL PRODUCT:** AS 45.45.910 requires that "...a person may not sell, offer to sell, or otherwise transfer in the course of the person's business a consumer electrical product that is manufactured after August 14, 1990, unless the product is clearly marked as being listed by an approved third party certification program." Electrical consumer products manufactured before August 14, 1990, must either be clearly marked as being third party certified or be marked with a warning label that complies with AS 45.45.910(e). Even exempted electrical products must be marked with the warning label. By signature on this quote the offeror certifies that the product offered is in compliance with the law. A list of approved third party certifiers, warning labels and additional information is available from: Department of Labor, Labor Standards & Safety Division, Mechanical Inspection Section, P.O. Box 107020, Anchorage, Alaska 99510-7020, (907)269-4925.
- 32. CONTINUING OBLIGATION OF CONTRACTOR:** Notwithstanding the expiration date of a contract resulting from this RFQ, the contractor is obligated to fulfill its responsibilities until warranty, guarantee, maintenance and parts availability requirements have completely expired.
- 33. ORDER DOCUMENTS:** Except as specifically allowed under this RFQ, an ordering agency will not sign any vendor contract. The State is not bound by a vendor contract signed by a person who is not specifically authorized to sign for the State under this RFQ. The State of Alaska 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.
- 34. BILLING INSTRUCTIONS:** Invoices must be billed to the ordering agency's address shown on the individual Purchase Order, Contract Award or Delivery Order. The ordering agency will make payment after it receives the merchandise or service and the invoice. Questions concerning payment must be addressed to the ordering agency.
- 35. OFFERORS WITH DISABILITIES:** The State of Alaska complies with Title II of the Americans with Disabilities Act of 1990. Individuals with disabilities who may need auxiliary aids, services, and/or special modifications to participate in this procurement should contact the procurement officer named on the cover page of this RFQ as soon as possible, but no later than the date and time quotations are due to make any necessary arrangements.
- 36. COMPLIANCE WITH ADA:** By signature of their quote the bidder certifies that they comply with the Americans with Disabilities Act of 1990 and the regulations issued thereunder by the federal government. Services or activities furnished to the general public on behalf of the State must be fully accessible. This is intended to ensure that agencies are in accordance with 28 CFR Part 35 Section 35.130 and that services, programs or activities furnished to the public through a contract do not subject qualified individuals with a disability to discrimination based on the disability.
- 37. FEDERAL ASSURANCES:** Because this contract is funded with federal funds, the provisions of Appendix B, Federal Assurances, shall apply. When submitting the quote, the vendor shall include the Debarment Certificate, page 4 of Appendix B.
- 38. INSPECTIONS AND REPORTS:** The Authority may inspect, in the manner and at reasonable times it considers appropriate, all of the contractor's facilities and activities under this contract. The contractor shall make progress and other reports in the manner and at the times the Authority reasonably requires.
- 39. NO ADDITIONAL WORK OR MATERIAL:** No claim for additional supplies or services, not specifically provided in this contract, performed or furnished by the contractor, will be allowed, nor may the contractor do any work or furnish any material not covered by the contract unless the work or material is ordered in writing by the Contracting Officer.
- 40. CONFLICTING PROVISIONS:** Unless specifically amended and approved by the Department of Law, the terms of this contract supersede any provisions the contractor may seek to add. The contractor may not add additional or different terms to this contract; AS 45.02.207(b)(1). The contractor specifically acknowledges and agrees that, among other things, provisions in any documents it sees to append hereto that purport to (1) waive the State of Alaska's sovereign immunity, (2) impose indemnification obligations on the Authority, or (3) seek to limit liability of the contractor for acts of contractor negligence, are expressly superseded by this contract and are void.

I. Background:

The Alaska Vocational Technical Center (AVTEC) runs a Power Plant Operator Training class in at their facility in Seward, Alaska. The facility is set up to replicate a typical rural Alaska diesel power plant. Since there are over 70 Detroit Diesel Series 60 engine-generators in prime power service throughout Alaska AVTEC wants to install one in their plant. They have acquired a used Series 60 engine-generator that is missing a number of components in order to be able to be used in the plant. The purpose of this project is to install components and make modifications to the Owner Furnished Series 60 to make it ready for installation in the AVTEC training facility.

II. Project Schedule:

April 24, 2024 Bids due.

May 1, 2024 Notice of Contract Award.

May 1, 2024 Owner Furnished Series 60 available for pickup.

July 30, 2024 Renovation Work Complete. Note that this is the desired completion date. Provide a firm completion date in the Bid Response based on the above listed schedule.

III. Scope of Work:

Specifications are included in Appendix C and are hereby incorporated into this RFQ.

The intent of the Contract is to provide for the completion of every detail of work described in the RFQ. The Contractor shall furnish all labor, materials, supervision, equipment, tools, transportation, quality control, and supplies required to complete the work in accordance with the RFQ.

The Base Bid Work shall include but not be limited to the following tasks:

- 1) Pick up Owner Furnished engine generator from the AVTEC facility in Seward, Alaska, and transport it to the Contractor's shop.
- 2) Furnish all required miscellaneous materials.
- 3) Perform all work described in Appendix C Specifications except those tasks specifically indicated under the Additive Alternates.
- 4) Deliver the renovated engine generator to the AVTEC facility in Seward, Alaska.

The Additive Alternate #1 Work shall include the following tasks:

- A1) Load test the renovated engine-generator in accordance with Appendix C Specifications, Paragraph 3.1.

The Additive Alternate #1 Work shall include the following tasks:

- A2) Clean and paint the renovated engine-generator in accordance with Appendix C Specifications, Paragraph 2.11.

IV. Owner Furnished Equipment and Services:

Under Part IV the term Owner refers to the Alaska Vocational Technical Center (AVTEC).

- 1) The Owner will furnish one each engine-generator as described in Appendix C Specifications at no cost to the Contractor.
- 2) At the beginning of the project, the Owner will provide a forklift with operator for loading the engine-generator onto the Contractor's truck at no cost to the Contractor.
- 3) At the end of the project, the Owner will provide a forklift with operator for unloading the engine-generator from the Contractor's truck at no cost to the Contractor.
- 4) The Contractor shall receive, transport, and protect the engine-generator in accordance with accepted industry standards. All handling charges required for receiving, hauling, transporting or storing the material shall be borne by the Contractor.
- 5) The Contractor shall provide a minimum 48 hours notice prior to arrival at AVTEC.

VII. Insurance Requirements:

The Contractor shall purchase at their 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 Owner shall be entitled to coverage to the extent of such higher limits. Certificates of Insurance must be furnished to the Owner prior to beginning work 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 Owner.

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 \$1,000,000 combined single limit per occurrence. The Owner shall be listed as additional insured and a Waiver of Subrogation against the Owner will be provided.

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.

Failure to supply satisfactory proof of insurance within the time required may cause Owner to declare the bidder non-responsible and to reject the bid.

The Certificate of Insurance shall name Alaska Vocational Technical Center, Alaska Energy Authority, and Denali Commission as certificate holders and reference the project title "AVTEC Series 60 Renovation".

APPENDIX B – FEDERAL ASSURANCES

Because this contract is funded with federal funds, the following contract provisions shall apply, where applicable, to all work performed on the contract by the contractor's own organization and by subcontractors. As provided in this Section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions and further require their inclusion in any lower tier subcontracts or purchase orders that may in turn be made. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with all applicable Required Contract Provisions.

B.1 BREACHES AND DISPUTE RESOLUTION.

Contracts in excess of \$250,000. Any dispute arising under this Contract which is not disposed of by mutual agreement shall be resolved in accordance with 3 AAC 108.915.

B.2 TERMINATION.

Contracts in excess of \$10,000. This Contract may be terminated by either party upon 10 days written notice if the other party fails substantially to perform in accordance with its terms through no fault of the party initiating the termination ("Default Termination"). If the Authority terminates this agreement, the Authority will pay the Contractor a sum equal to the percentage of Work completed that can be substantiated either by the Contractor to the satisfaction of the Authority, or by the Authority. If the Authority becomes aware of any non-conformance with the Work or this agreement by the Contractor, the Authority will promptly notify the Contractor in writing of the non-conformance. Should the Contractor's Work remain in non-conformance after having received written notification, the percentage of total compensation attributable to the non-conforming Work may be withheld. The Authority may at any time suspend or terminate ("Convenience Termination") this Agreement for its needs or convenience with or without cause upon written notice. In the event of a Convenience Termination, the Contractor will be compensated for all authorized Work and authorized expenditures performed to the date of receipt of written notice of termination plus reasonable expenses. No fee or other compensation will be due for any incomplete portion of the Work.

B.3 EQUAL EMPLOYMENT OPPORTUNITY.

Except as otherwise provided under [41 CFR Part 60](#), **all construction contracts** must include, and all contractors and subcontractors must comply with, the equal opportunity clause provided under [41 CFR 60-1.4\(b\)](#), in accordance with Executive Order 11246, "Equal Employment Opportunity" ([30 FR 12319](#), [12935](#), [3 CFR Part, 1964-1965](#) Comp., p. 339), as amended by Executive Order 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," and implementing regulations at [41 CFR part 60](#), "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor."

B.4 DAVIS-BACON ACT, AS AMENDED ([40 U.S.C. 3141-3148](#)).

Construction contracts in excess of \$2,000 are required to comply with the Davis-Bacon Act ([40 U.S.C. 3141-3144](#), and [3146-3148](#)) as supplemented by Department of Labor regulations ([29 CFR Part 5](#), "Labor Standards Provisions Applicable to Contracts Covering Federally Financed and Assisted Construction"). Contractors are required to pay wages to laborers and mechanics at a rate not less than the prevailing wages specified in a wage determination made by the Secretary of Labor. In addition, contractors must pay wages not less than once a week. **A copy of the current prevailing wage determination issued by the Department of Labor is included in this solicitation.** Contract and subcontract awards must be conditioned upon the acceptance of the wage determination. All suspected or reported violations must be reported to the Federal awarding agency.

B.5 COPELAND “ANTI-KICKBACK” ACT ([40 U.S.C. 3145](#))

Construction contracts in excess of \$2,000 are required to comply with the **Copeland “Anti-Kickback” Act ([40 U.S.C. 3145](#))**, as supplemented by Department of Labor regulations ([29 CFR Part 3](#), “Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States”). Each contractor or subrecipient is prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. All suspected or reported violations must be reported to the Federal awarding agency.

B.6 CONTRACT WORK HOURS/SAFETY STANDARDS ACT ([40 U.S.C. 3701-3708](#)).

Construction contracts in excess of \$100,000 that involve the employment of mechanics or laborers are required to comply with [40 U.S.C. 3702](#) and [3704](#), as supplemented by Department of Labor regulations ([29 CFR Part 5](#)). Under [40 U.S.C. 3702](#) of the Act, each contractor is required to compute the wages of every mechanic and laborer on the basis of a standard work week of 40 hours. Work in excess of the standard work week is permissible provided that the worker is compensated at a rate of not less than one and a half times the basic rate of pay for all hours worked in excess of 40 hours in the work week. The requirements of [40 U.S.C. 3704](#) are applicable to construction work and provide that no laborer or mechanic must be required to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous. These requirements do not apply to the purchases of supplies or materials or articles ordinarily available on the open market, or contracts for transportation or transmission of intelligence.

B.7 RIGHTS TO INVENTIONS MADE UNDER A CONTRACT OR AGREEMENT.

If the recipient or subrecipient wishes to enter into a contract with a small business firm or nonprofit organization regarding the substitution of parties, assignment or performance of experimental, developmental, or research work under that “funding agreement,” the recipient or subrecipient must comply with the requirements of [37 CFR Part 401](#), “Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements,” and any implementing regulations issued by the awarding agency.

B.8 CLEAN AIR ACT ([42 U.S.C. 7401-7671Q](#).) AND THE FEDERAL WATER POLLUTION CONTROL ACT ([33 U.S.C. 1251-1387](#)), AS AMENDED

Contracts in excess of \$150,000 are required to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act ([42 U.S.C. 7401-7671q](#)) and the Federal Water Pollution Control Act as amended ([33 U.S.C. 1251-1387](#)). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

B.9 DEBARMENT AND SUSPENSION (EXECUTIVE ORDERS 12549 & 12689)

A contract award **greater than or equal to \$25,000** (see [2 CFR 180.220](#)) must not be made to parties listed on the government wide exclusions in the System for Award Management (SAM), in accordance with the OMB guidelines at [2 CFR 180](#) that implement Executive Orders 12549 (3 CFR part 1986 Comp., p. 189) and 12689 (3 CFR part 1989 Comp., p. 235), “Debarment and Suspension.” **Contractors that apply or bid for an award exceeding \$25,000 must sign and submit the attached “Debarment” certification with their bid.**

B.10 BYRD ANTI-LOBBYING AMENDMENT ([31 U.S.C. 1352](#))

Each contractor and subcontractor must certify that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or

employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by [31 U.S.C. 1352](#). Each tier must also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Disclosures shall be forwarded from tier to tier up to the Authority. **Contractors that apply or bid for an award exceeding \$100,000 must sign and submit the attached “Lobbying” certification with their bid.**

B.11 PROCUREMENT OF RECOVERED MATERIALS.

A state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at [40 CFR part 247](#) that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition, **where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000**; procuring solid waste management services in a manner that maximizes energy and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

B.12 PROHIBITION ON CERTAIN TELECOMMUNICATIONS AND VIDEO SURVEILLANCE SERVICES OR EQUIPMENT.

Contractors and subcontractors are prohibited from entering into a contract (or extending or renewing a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in [Public Law 115-232](#), section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities). See [§ 200.216](#).

B.13 DOMESTIC PREFERENCES FOR PROCUREMENTS.

As appropriate and to the extent consistent with law, and to the greatest extent practicable, Contractor’s are required to provide a preference for the purchase, acquisition, or use of goods, products, or materials produced in the United States (including but not limited to iron, aluminum, steel, cement, and other manufactured products). The requirements of this section must be included in all contracts and purchase orders for work or products under this award. See [§ 200.322](#).

The funding for this project is exempt from the Buy America Act and therefore this purchase is not subject to the Buy America Act.

DEBARMENT, SUSPENSION, INELIGIBILITY & VOLUNTARY EXCLUSION – 2 CFR 200.214; Executive Orders 12549 and 12689 [Applicable to all federally assisted contracts which exceed \$25,000]**Instructions for Certification:**

1. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective contractor and lower tier participants knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the Authority may pursue available remedies, including suspension and/or debarment.
2. The prospective contractor and lower tier participants shall provide immediate written notice to the Authority if at any time the prospective contractor and lower tier participants learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
3. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "persons," "lower tier covered transaction," "principal," "proposal," and voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Orders [12549](#) and 12689. You may contact the Authority for assistance in obtaining a copy of those regulations.
4. The prospective contractor and lower tier participants agrees by submitting this bid or proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized in writing by the Authority.
5. The prospective contractor and lower tier participants further agrees by submitting this bid or proposal that it will require the language of this certification be included in all subcontracts and all lower tier participants shall certify compliance with this requirement.
6. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Non-procurement List issued by U.S. General Service Administration.
7. Nothing contained in the foregoing shall be construed to require establishment of system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
8. Except for transactions authorized under Paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to all remedies available to the Federal Government, the Authority may pursue available remedies including suspension and/or debarment.

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion Lower Tier Covered Transaction

- (1) The prospective contractor and lower tier participants certifies, by submission of this bid or proposal, that neither it nor its "principals" is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- (2) When the prospective contractor and lower tier participants is unable to certify to the statements in this certification, such prospective participant shall attach an explanation to this proposal.

The Contractor, _____ certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 2 CFR §180 apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Official: _____

Name and Title of Contractor's Authorized Official: _____

Date: _____

End of Federal Assurances

**SECTION 26 32 13.50
ENGINE GENERATOR MODIFICATIONS**

PART 1 - GENERAL

1.1 SCOPE

- A. The Work included herein shall consist of renovating and shop testing an existing Owner Furnished skid mounted engine generator as specified herein.
- B. Provide all accessories as specified for the engine generator plus any additional components listed.
- C. Upon completion of renovation the engine generator shall be delivered complete and ready for installation.

1.2 RELATED REQUIREMENTS – not used

1.3 SUBMITTALS – not used

1.4 REGULATORY COMPLIANCE – not used

1.5 QUALITY ASSURANCE

- A. Equipment and components furnished under these specifications shall of new manufacture or factory remanufactured and be meet OEM requirements.

1.6 FABRICATOR QUALIFICATIONS

The engine generator shall be renovated 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 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 – not used

1.8 OPERATION AND MAINTENANCE MANUALS – not used

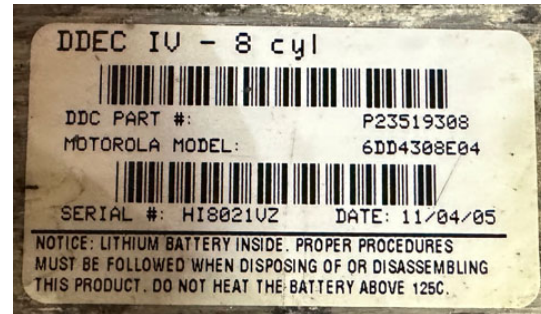
PART 2 - PRODUCTS

2.1 GENERAL CONFIGURATION OF ENGINE AND GENERATOR

The engine generator has been rebuilt by staff and students of the AVTEC diesel mechanic program but it has not been test run. The generator has only had limited work and has not been tested.

2.2 SPECIFIC CONFIGURATION OF ENGINE AND GENERATOR

Owner Furnished Engine - 550 HP at 1800 rpm, 350ekW prime power. Detroit Diesel, Series 60, 12.7 liter, Model 6063TK35, DDEC IV. See identification tag photos.



Owner Furnished Generator – Marathon 433RSL4021 with DVR2000E Regulator, no PMG.

2.3 ENGINE RENOVATIONS

- A. ECM and Isochronous Governor: Provide harnesses as required for connection to the terminal strip, see Paragraph 2.10.
- B. Verify function of Engine Control Unit (ECM) and that it is programmed for nominal 1800 RPM operation at 2.5 VDC input, variable RPM above and below 2.5 VDC input, and idle operation at input less than or equal to 0.5 VDC.
- C. Fuel System: Replace the existing fuel filters with new manufacturer's standard replaceable elements. A hand pump shall be installed for priming the fuel system, Part # 5110760 or equal. Fuel supply and return lines shall be routed to the right generator skid for field connection to the plant piping. See Attachment B Drawings for detailed configuration.
- D. Lubrication: Drain and replace the lubricating oil with OEM approved lubricating oil. Replace the existing oil filter with new manufacturer's standard replaceable element. The oil drain line shall be routed to the right generator skid for field connection to the plant piping. See Attachment B Drawings for detailed configuration.
- E. Oil Level: Provide 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 avoid any low point traps 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. Install as indicated in Attachment B Drawings.
- F. 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. Route for final field termination as indicated in Attachment B Drawings.

- G. Small Glycol Hoses: All small 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.
- H. Large Glycol Hoses: All large hoses for glycol shall be silicone rubber stainless steel T-bolt clamps, Ideal-Tridon 30051 or approved equal.
- I. 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.
- J. Protective Guard: Provide a protective guard for the damper, see photo in Attachment A and details in Attachment B Drawings.
- K. Air Cleaner: Provide 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. Support from engine block and provide tubing and fittings for connection to the turbocharger.
- L. Starting: Provide a new or remanufactured 24 VDC electric starter. Provide a 24 VDC starter auxiliary 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 B Drawing.
- M. Turbocharger: Provide charge air discharge 15° elbow with band clamp and gasket. Replace existing copper tube lube oil line with high temp teflon hose.
- N. Control Power: To provide 24VDC power to the terminal strip, provide a 30A circuit breaker with switch mounted on the engine in the vicinity of the starter, Cooper 187-030-F-00 or approved equal. A second identical circuit breaker shall be installed to provide dedicated power to the engine ECU.
- O. Sensors and Safety Controls: The engine shall be equipped with the following:
 - 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 or approved equal. Shop adjust switch to close at 20" water column and verify function.
 - 2. Exhaust Gas Temperature. High temperature (650°C) 2 wire 100 ohm RTD with 2' high temperature lead wire, spring strain relief, Deutsch DT06-2S-E008 male connector, Deutsch DT04-2P-E008 female connector, and compression fitting with 1/4" MPT adapter. Eustis RGB7B203B02X0 with NS44 adapter or approved equal. See note 2 below for installation.
 - 3. Intake Air Temperature Sensor. 4-20mA, 20-240°F, 1/2" MPT. Noshok 800-20/240-1-1-8-8-025-6 or approved equal. Note that this is only installed on units with charge air coolers as indicated in the prior Specific Configuration requirements. See note 3 below for installation.

- Note 1. The above listed sensors shall be independent from engine gauges and all other devices and sensors. Where standard factory furnished sensors for the above listed functions are required for operation of the ECU, provide additional duplicate sensors as specified. All sensors shall be installed on the engine and wired to terminal blocks as indicated in the Drawings.
- Note 2. 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.
- Note 3. Install the intake air temperature sensor in the engine intake air manifold and route lead wire in loom secured to engine.
- P. Safety Controls: The automatic switchgear provided by others shall be equipped with automatic safety controls which will shut down the engine in the event of high jacket water temperature (primary), high lubricating oil temperature, low lubricating oil pressure, high or low lubricating oil level, high air filter vacuum, and engine overspeed based on J1939 CANbus and engine mounted sensors. Note that a single low water shut down switch will be installed on the external cooling system.

2.4 EXHAUST FLEX

- A. Provide an 18 inch long stainless steel exhaust flex connector with welded connections, Alaska Rubber, DME, Harco, or approved equal. Configure with a 90° elbow for the flex to be installed vertically Provide an appropriate engine mating connection at the elbow complete with band clamp and gasket. Provide a 4" size ASA 125 lb. floating flange at the opposite end. Provide a 1/4" FPT stainless steel thread-o-let welded into the flex between the engine connection and the corrugated hose for installation of the exhaust temperature sensor.

2.5 ACCESSORIES

Provide the following accessories for each engine generator (unless otherwise indicated):

- A. Spring vibration isolators complete with mounting hardware, four (4) per each unit, sized for the complete engine generator unit weight. Caldyn Type RJC 3040 or approved equal.
- B. Provide two each #2/0 AWG arctic flex battery cables, 15 ft. long, plus 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.

2.6 COOLING SYSTEM – not used

- A. Replace all existing engine mounted coolant hoses and connectors with new.

2.7 DIAGNOSTIC CONNECTOR

- A. A diagnostic connector with accessories shall be installed through the side of the generator terminal enclosure. The connector shall be connected to the engine and the terminal strip as indicated in Attachment B Drawings.

2.8 GENERATOR/ALTERNATOR

- A. The existing generator is in poor condition and in need of minor repairs, see photos in Attachment A.
- B. The existing generator terminal enclosure has been dented on the upper left side. Remove the voltage regulator and straighten the sheet metal. Note that metal needs to be straightened adequately to create flat vertical and horizontal surfaces but does not need to be perfectly smooth. Reinstall voltage regulator.
- C. The existing generator rectifier assembly is corroded and appears to be unsuitable for use. Provide a new rectifier assembly.
- D. Reinstall voltage regulator and connect to field, exciter, and to new terminal strip.

2.9 MOUNTING SKID

- A. Determine the center of gravity (balance point) on the existing skid and layout locations in the skid 36” either side as indicated in Attachment B Drawing. Drill out skid and weld wedge washers to provide a flat surface for the vibration isolator lock nuts.

2.10 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 B Drawings.

2.11 PAINTING (Additive Alternate #2)

Thoroughly clean the complete engine generator assembly including engine, skid, and generator and paint Detroit Diesel Blue, #TTF SD15237SP.

2.12 SPARE FILTERS

In addition to the filters installed on the engines, provide the following quantities of replacement filters for each engine plus break in oil. Package spare filters and oil in boxes and label each box with the engine model and the community name.

- A. Two (2) oil filters.
- B. One (1) fuel filter.
- C. One (1) air filter service kit.

PART 3 - EXECUTION

3.1 SHOP TEST (Additive Alternate #1)

- A. Prior to shipment perform a limited load test at the shop where the renovation work is performed. Supply sufficient notice to the Authority prior to performing tests. The Authority reserves the right to witness all tests.
- B. The Fabricator shall provide all required mechanical and electrical equipment including but not limited to fuel supply, radiator, charge air cooler, exhaust, load bank, etc. Note that the generator is connected 208V so the load test must be performed at 208V.
- 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. 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.
 - 2. Install thermometer to monitor coolant return temperature entering the engine for comparison against the coolant discharge temperature.
 - 3. Connect engine air piping to charge air cooler.
 - 4. Connect generator to the load bank.
- E. Engine Tests: Perform a limited 2 hour load test including, but not limited to, the following:
 - 1. Prior to the 2 hour run, connect the ECU to an analog throttle input and verify that it is correctly responding including 900 RPM idle operation at 0 VDC, 1800 RPM at 2.5 VDC, and variable RPM above and below 2.5 VDC. Note confirmation on the load test.
 - 2. Take a screen shot to document the ECU throttle programming and include with the load test report.
 - 3. Place engine in continuous operation without stoppage for a period of not less than two hours. Operate not less than fifteen minutes at 50kW, 100kW, 150kW, and 200kW. If stoppage becomes necessary during this period, repeat the 2 hour run.
 - 4. 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.
- F. Provide completed test reports to the Authority. Reports shall include but not be limited to the following:
 - 1. Complete 8-hour load test data.
 - 2. Screen shots of throttle programming and confirmation of response.

3. Laboratory analysis of the clean lube oil sample and the sample pulled after the test as described below.

3.2 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. 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.
 4. Continue spraying the VCI-oil mixture into the air intake or turbocharger inlet long enough to ensure the cylinders and exhaust ports are coated.
 5. Clean the outside of the engine and inspect and ensure that the engine and generator are covered by good quality paint. Correct any deficiencies.
 6. 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.
 7. 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 equipment for shipping, package the engine generator as follows:
 1. Put a waterproof cover over the entire engine generator unit. Make the cover tight, but loose enough to let air circulate around the unit to prevent damage to exposed metal parts from condensation.
 2. 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.
 3. 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. All engine-generators and all loose ship parts have been accepted by the Authority at the F.O.B. Point.
 2. All test reports have been received and approved by the Authority.

END OF WRITTEN SPECIFICATIONS

SEE ATTACHMENT A PHOTOS WHICH FOLLOW

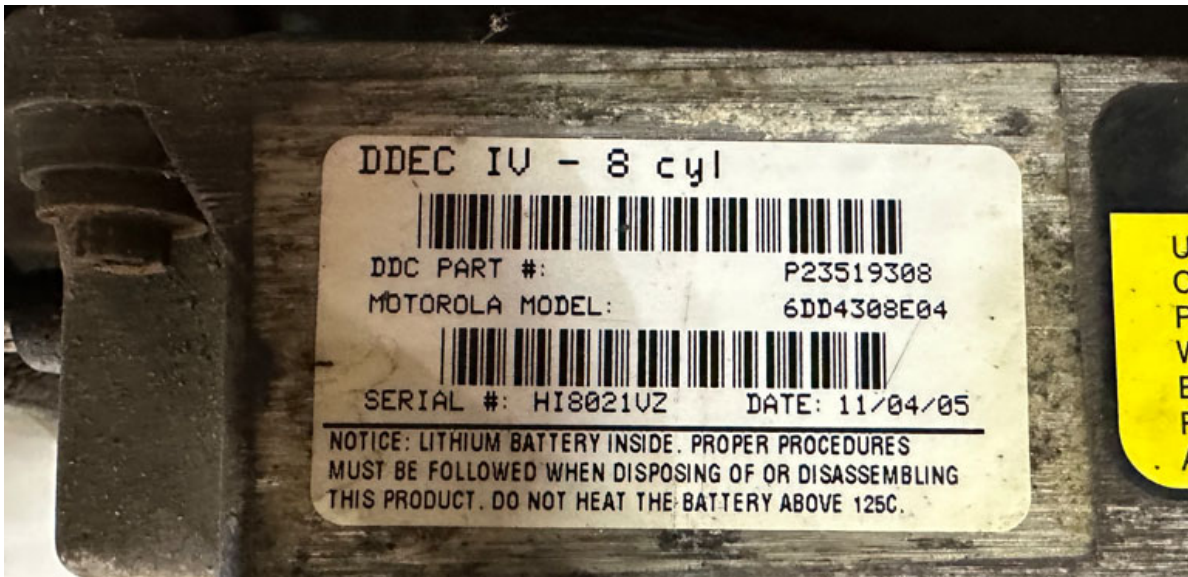
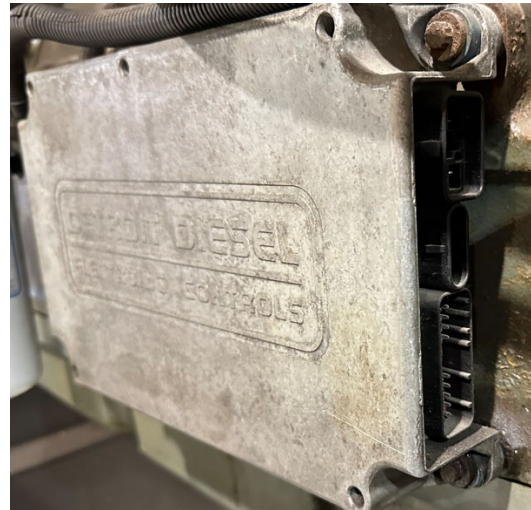
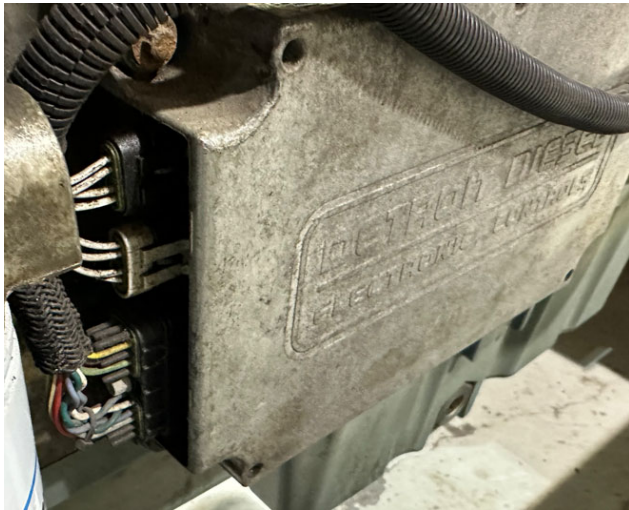
SEE ATTACHMENT B DRAWINGS WHICH FOLLOW

**SECTION 26 32 13.50 ATTACHMENT A
ENGINE GENERATOR PHOTOGRAPHS**

Engine identification.



Engine Control Module and harnesses.



Overview from right front.



Overview from left front.



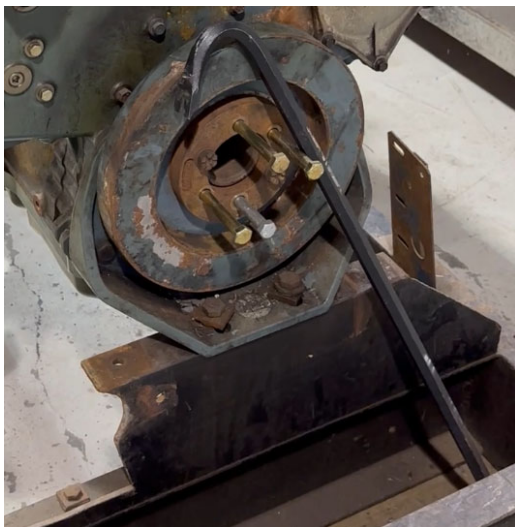
Overview from right rear.



Overview from left rear. Note dented enclosure.



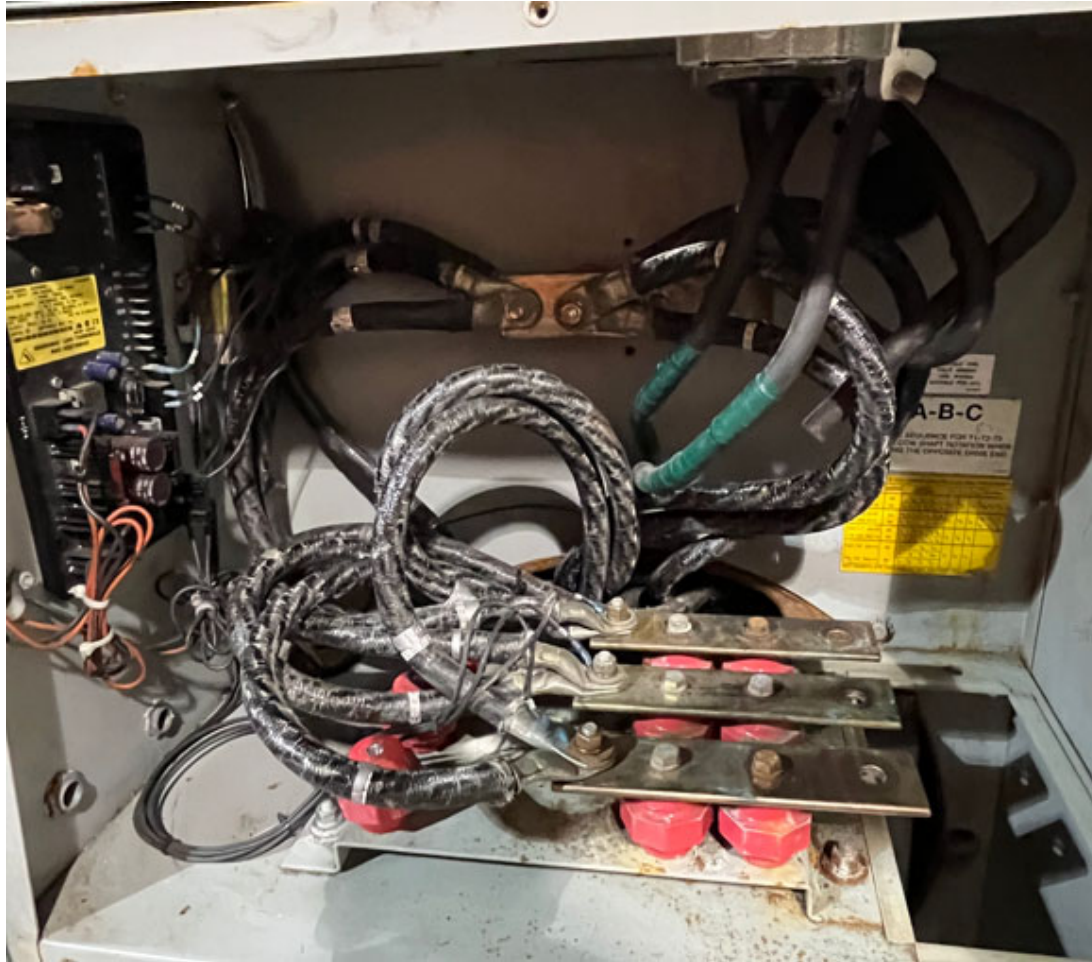
Damper needs cover.



Turbo need connecting elbows & new lube hose.

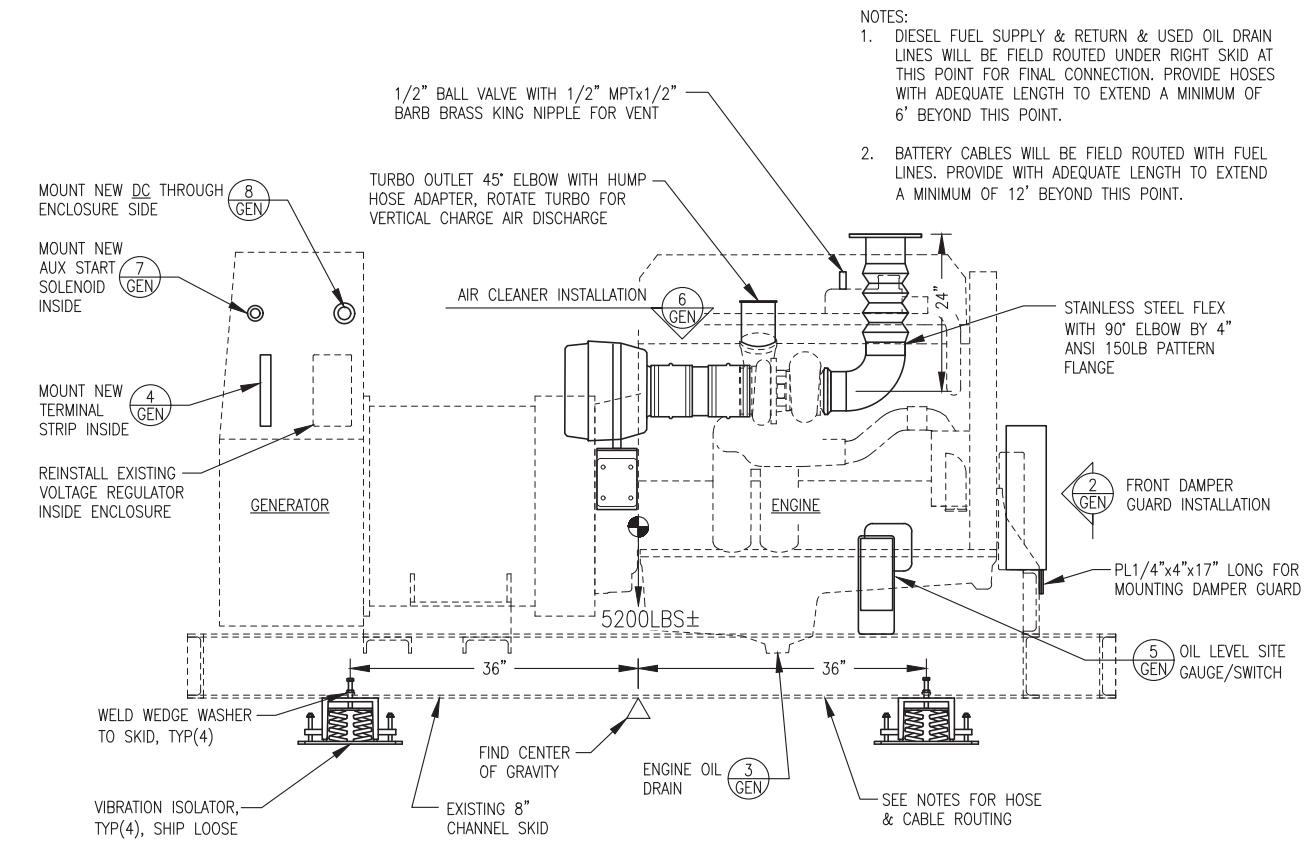


Generator end terminal compartment after work by AVTEC to remove CT's and reconnect T leads for 208V wye delivery.

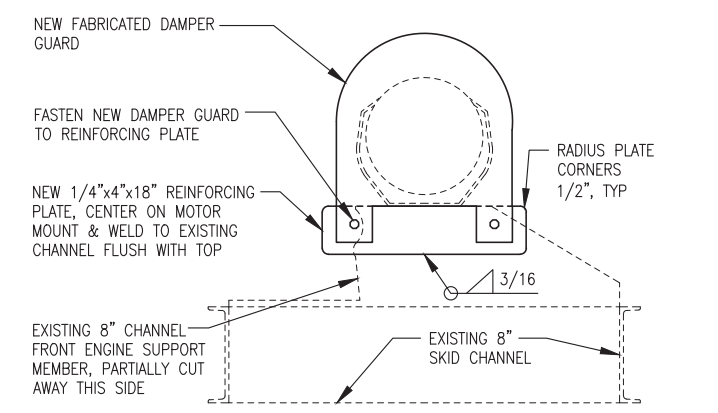


Rectifier assembly needing replacement.

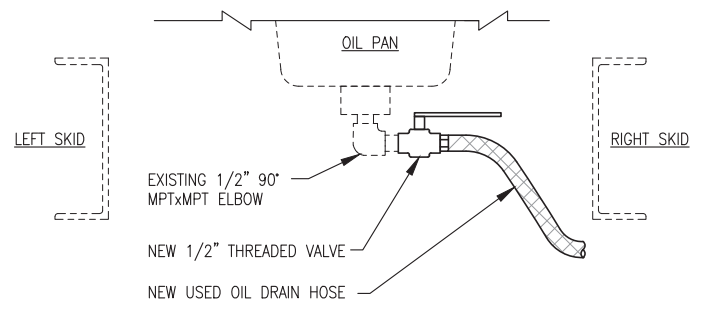




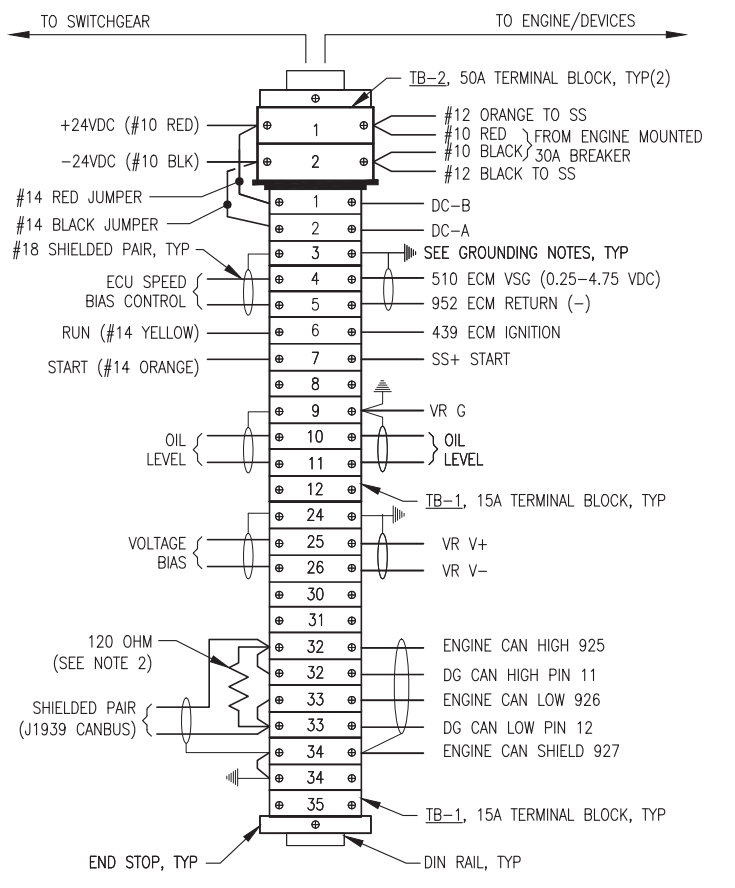
1 GEN GENSSET RENOVATION ELEVATION
1"=1'-0"



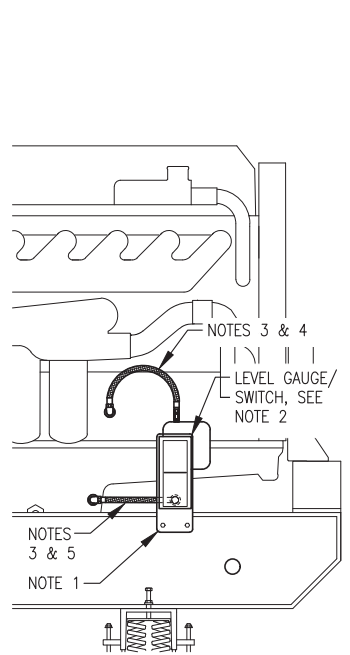
2 GEN FRONT DAMPER GUARD INSTALLATION
NO SCALE



3 GEN ENGINE OIL DRAIN
NO SCALE

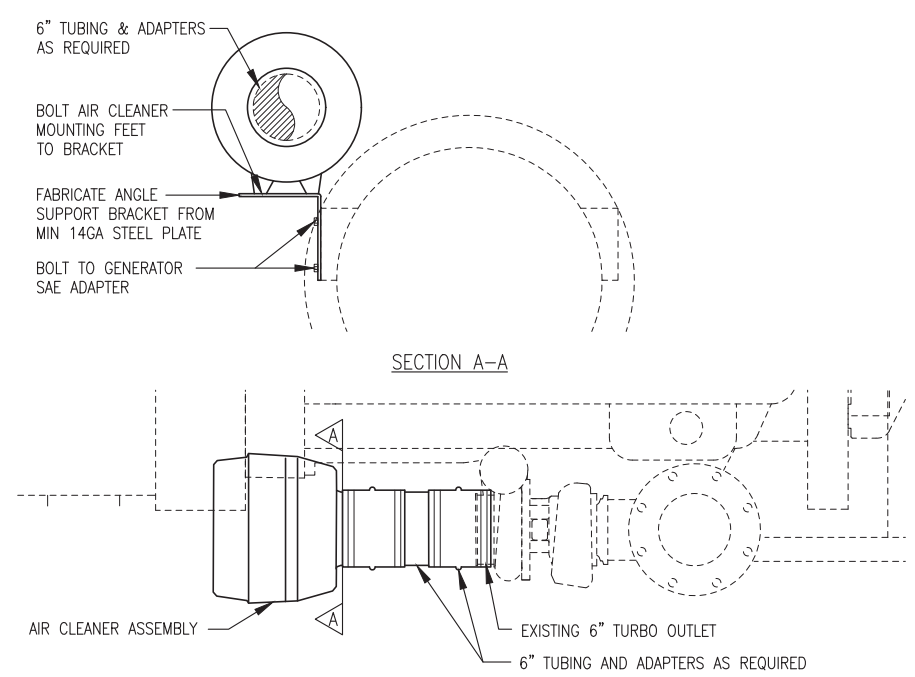


4 GEN TERMINAL STRIP CONNECTIONS
NO SCALE

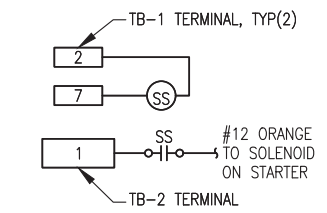


- NOTES:**
- 1/4" STEEL SUPPORT PLATE PRE-DRILLED TO MATCH GAUGE/SWITCH MOUNTS, CHANNEL SKID HOLES AND BOTTOM HOSE ENTRANCE. BOLT TO INSIDE (BACK) OF CHANNEL SKID AT HEIGHT AS REQUIRED TO CENTER GAUGE AT NORMAL FULL OIL LEVEL. ADJUST SWITCH CONTACTS 1/2" ABOVE & BELOW.
 - MOUNT OIL LEVEL GAUGE/SWITCH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

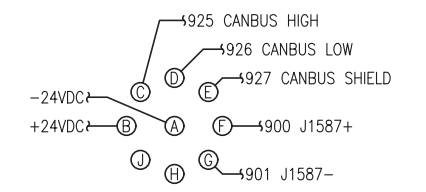
5 GEN OIL LEVEL GAUGE/SWITCH INSTALLATION
1"=1'-0"



6 GEN AIR CLEANER INSTALLATION
2"=1'-0"



7 GEN STARTER AUX SOLENOID SS WIRING
NO SCALE



8 GEN DIAGNOSTIC CONNECTOR WIRING
NO SCALE

ALASKA ENERGY AUTHORITY

PROJECT: AVTEC POWER PLANT TRAINING FACILITY UPGRADE

TITLE: GEN#3 SERIES 60 RENOVATION DETAILS

Gray Stassel Engineering, Inc. P.O. 111405, Anchorage, AK 99511 (907)349-0100	DRAWN BY: JTD	SCALE: AS NOTED
	DESIGNED BY: BCG	DATE:
FILE NAME: AVTEC GEN	SHEET: GEN	OF 1
PROJECT NUMBER:		