



This is not an order.

INVITATION TO BID NUMBER (ITB)	<i>Return this bid to the issuing office below</i>
17001 Generator Sets	Attention – Rich Wooten, Contracting Officer Alaska Energy Authority (AEA) or (Authority) 813 West Northern Lights Blvd. Anchorage, AK 99503-2495 aclapp@aidea.org , Ph. 907-771-3019 Fax 907-771-3044

This procurement is issued according to 3AAC 109 Procurement for Alaska Energy Authority (AEA) managed grants on behalf of the Native Village of Kipnuk.

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Invitation to Bid Schedule

Bid Issued	June 22, 2016
Pre-bid Conference	None
Bid Opening	Note the Bid opening date has been shortened due to AEA's installation schedule. ITB shall be publically opened at, 2:00 p.m. July 12, 2016 , in the Willow Conference Room.

Important

Interested firms shall register online to receive addenda and other information at <http://www.aideaaeprocmnt.org/>. Addenda and other notices will be posted and available at <http://www.aidea.org/> "Quick Links" Procurement Opportunities.

AEA may provide periodic e-mail notices regarding addenda or clarifications regarding this bid to those companies who reply.

Important - Bid Submittals

- Appendix C – Bid Schedule
- Appendix D – Debarment Certification
- The successful Bidder will be required to provide proof of Insurance, naming AEA and the Native Village of Kipnuk as additional insured, including a waiver of subrogation.

Instructions to Bidders

1. Invitation to Bid (ITB) Review

Bidders shall carefully review this ITB for defects and questionable or objectionable material. Bidders' comments concerning defects and questionable or objectionable material in the ITB must be made in writing and received by the purchasing authority at least five (5) days before the bid opening date. This will allow time for an addendum if one is required. It will also help prevent the opening of a defective bid that will be rejected, and risk exposure of Bidders' prices. All correspondence will be addressed to the purchasing authority listed on the front of this ITB.

2. Bid Forms/Submittals

Bidders shall use and return the forms supplied with this invitation in submitting their bid. A photocopied bid can be submitted. **Bidders must return a signed copy of the Bid Schedule, and any/all required support documentation requested in this ITB.** The apparent low bidder may be required to provide additional documentation after bid opening and prior to award to assure compliance with all terms and conditions of the solicitation.

3. Minimum Qualifications

- a) Bidders shall meet the minimum qualifications listed in the attached specifications.
- b) A Bidder's inability to provide the requested documentation related to proof of their ability to meet the Bidder requirements may result in their bid being declared non-responsive.

4. Submitting Bids

Envelopes containing bids must be sealed, marked, and addressed as shown below. **DO NOT FAX YOUR BID.** Envelopes with ITB numbers annotated on the outside will not be opened until the scheduled date and time. Hand carried bids should be delivered to the receptionist at the front desk or to the Procurement Manager for processing. Failure to correctly submit a bid may result in it being unopened or rejected and returned to the bidder.

Bidder's return Address

**Alaska Energy Authority
813 West Northern Lights Blvd
Anchorage, Alaska 99503
ATTN: Rich Wooten, Contracting Officer
ITB 17001 Generator Sets
Opening Date: 2:00 July 12, 2016**

5. Modification and Withdrawal of Bids

A bidder may, without prejudice, modify or withdraw its bid by written request provided that such request is received by the Authority prior to the bid opening date and time.

6. Late Bids

Late bids are bids received after the time and date set for receipt of the bids; and late bids will not be accepted.

7. Offer Period

Bids must remain valid for a period of 90-days unless otherwise specified in the Bid Schedule.

8. Firm, Unqualified and Unconditional Offer

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

9. Prices

The bidder shall state prices in the units of issue on this ITB. Prices quoted for commodities must be in U.S. funds and include applicable federal duty, brokerage fees, packaging, and transportation cost to the F.O.B. point so that upon transfer of title the commodity can be utilized without further cost. Prices quoted for services will 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 in bids must be exclusive of federal, state, and local taxes. If the bidder believes that certain taxes are payable by the Authority, the bidder may list such taxes separately, directly below the bid price for the affected item.

The Authority 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.

10. 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.

11. Federal Excise Tax

Federal Excise Tax should not be included in the bid price(s). The Alaska Energy Authority is exempt from Federal Excise Tax.

12. Suitable Materials, Etc.

Unless otherwise specified, all materials, supplies or equipment offered by a bidder must be new per the attached specifications.

13. Supporting Information

The Authority strongly desires that bidders submit all required technical, specification, and other supporting information with their bid, so that a detailed analysis and determination can be made, by the Procurement Manager, that the product offered meets the ITB specifications and that other requirements of the ITB have been met. However, provided a bid meets the requirements for a definite, firm, and unqualified or 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 offered completely meet the ITB 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) or certification of compatibility of accessories or component parts with the specifications 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.

14. Brand and Model Offered

Bidders must clearly indicate the brand names and model numbers they intend to provide where required on the bid schedule. The bidder's failure to identify the brand and model offered - if different than what may be required by the specifications - may cause the Authority to consider the offer non-responsive and reject the bid.

15. Annotated Literature

If product literature is requested bidders must annotate their product literature to identify for the Authority the location of the supporting information for each product specification set out in this ITB. A bidder's failure to comply with this clause, within the time set by the Authority, will cause the Authority to consider the offer non-responsive and reject the bid.

16. Subcontractor(S)

Within five (5) working days of notice, 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.

17. Tax-Exempt Financing

No public offering or private placement of securities relating to the contracts issued as a result of this ITB may be made. If a bid contemplates the securitization of the Authority's payments, the Authority will reject the offer as non-responsive.

18. Notice of Intent to Award

After the responses to this ITB have been opened, a tabulation of the bids will be prepared. This tabulation, called a Notice of Intent, serves two purposes. It lists the name of each company or person that offered a bid and the price bid. It also serves as 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 sent to each company or person who responded to the ITB. Bidders, identified as the apparent low responsive bidders, are instructed not to proceed until a Purchase Order, Contract Award, Lease, or other form of notice is given by the Procurement Manager. A company or person who proceeds prior to receiving a Purchase Order, Contract Award, Lease, or other form of notice from the Procurement Manager does so without a contract and at his or her own risk.

19. Filing a Protest

A bidder may protest the award of a contract or the proposed award of a contract for supplies, services, or professional services. The protest must be filed in writing 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. Protests will be treated in accordance with AEA Regulations 3 AAC 109.570. A Protest based on alleged improprieties or ambiguities in a solicitation must be filed at least 10 days before the bid date of the bid or proposal, unless a later bid protest due date is specifically allowed in the solicitation. A Protest based upon alleged improprieties in an award of a contract or a proposed award of a contract must be filed within 10 days after a notice.

20. Order Documents

Except as specifically allowed under this ITB, 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 ITB. The Authority's Contract Award is the only order document that may be used to place orders against the contract(s) resulting from this ITB.

21. Consolidation of Awards

Due to high administrative costs associated with processing of purchase orders, a single low bid of \$50 or less may, at the discretion of the Authority be awarded to the next low bidder receiving other awards

for consolidation purposes. This paragraph is not subject to the protest terms enumerated in "INSTRUCTIONS TO BIDDERS", "FILING A PROTEST" above.

22. Bid Preparation Costs

The Authority is not liable for any costs incurred by the bidder in bid preparation.

23. Bid Security

The bid bond and other security bonds are waived in their entirety for this invitation to bid.

24. Contact

The administration of this contract is the responsibility of Rich Wooten, Contracting Officer, at the Authority.

Appendix A - Terms and Conditions

1. **Compliance**

In the performance of a contract, the Vendor 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.

2. **Suitable Materials, Etc.**

Unless otherwise specified, all materials, supplies or equipment offered by a bidder shall be new, unused, and of the latest edition, version, model or crop and of recent manufacture.

3. **No Assignment or Delegation**

The Vendor may not assign or delegate this contract, or any part of it, or have any right to any money to be paid under it, except with the written consent of the Contracting Officer. Conditioned assignments will be rejected.

4. **Force Majeure**

(Impossibility to perform) The Vendor is not liable for the consequences of any failure to perform, or default in performing, any of its obligations under this Agreement, if that failure or default is caused by any unforeseeable Force Majeure, beyond the control of, and without the fault or negligence of, the Vendor. 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.

5. **Contract Extension**

The Authority and the successful Vendor 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.

6. **Default**

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

7. **Disputes**

Any dispute arising out of this agreement shall be resolved under the laws of Alaska. Any appeal of an administrative order or any original action to enforce any provision of this agreement or to obtain any relief from or remedy in connection with this agreement may be brought only in the superior court for the State of Alaska.

8. **Severability**

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

9. Continuing Obligation of Vendor

Notwithstanding the expiration date of a contract resulting from this ITB, the Vendor is obligated to fulfill its responsibilities until warranty, guarantee, maintenance and parts availability requirements have completely expired.

10. 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 are located at the following website: <http://www.state.gov/g/tip/>; and failure to comply with this requirement will cause the state to reject the bid as non-responsive, or cancel the contract.

11. 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 that establishes a lower interest rate or precludes the charging of interest.

12. Shipping Damage

The Authority will not accept or pay for damaged goods. The Vendor must file all claims against the carrier(s) for damages incurred to items in transit from the point of origin to the F.O.B. point. The Authority will provide the Vendor 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 Vendor must file all claims against the carrier(s) for reimbursement of the loss.

13. Indemnification

The Vendor 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 Vendor under this agreement. The Vendor 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 Vendor and the independent negligence of the Contracting agency, the indemnification and hold harmless obligation shall be apportioned on a comparative fault basis. "Vendor" and "Contracting agency", as used within this and the following article, include the employees, agents and other Vendors 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 Vendor and in approving or accepting the Vendor's work.

14. Insurance

Without limiting Vendor's indemnification, it is agreed that Vendor 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 Vendor'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 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 Vendor'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 Vendor 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 Authority.

Commercial General Liability Insurance: covering all business premises and operations used by the Vendor 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 Vendor 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 will cause the Authority to declare the bidder non-responsible and to reject the bid.

15. Insurance Certificate

Shall name the Authority and the grantee as certificate holders and reference the contract number.

16. Delivery Confirmation

Bidders must obtain confirmation from manufacturers that the items offered are scheduled for production in sufficient time to meet the scheduled delivery dates.

17. Billing Instructions

Invoices will be addressed Alaska Energy Authority (AEA) 813 West Northern Lights Boulevard, Anchorage, AK 99503-2495; or emailed to aeapayables@aidea.org. Vendor will reference the contract number on all invoices and correspondence. It is customary for AEA to make payment within 30-days of receipt of the merchandise or service, and the Vendor's invoice. Direct all billing questions to the Contracting Officer.

18. Alterations

The Contracting Office must approve in writing any Vendor alterations to the specifications prior to the changes. The Authority will not pay for alterations that are not pre-approved in advance and in writing by the Contracting Officer.

19. Liquidated Damages

Liquidated damages shall not apply to this procurement.

20. Packaging

The cost of all packaging must be included in the price bid. All packaging must be new and suitable for shipment and short-term warehouse storage.

21. Workmanship & Materials

All work shall be performed in a thorough and competent manner and in accordance with current industry practices. The Vendor is responsible for the quality of the finished item. The Authority will reject any item that does not meet the specifications and return them to the Vendor. Vendors shall accept all rejected items at the Vendor's risk and expense.

22. Contract Cancellation

The Authority reserves the right to cancel any contract awarded as a result of this solicitation if; 1) the Vendor fails to properly perform the duties set out herein, 2) due to budget/funding issues, or 3) at its convenience upon 60 calendar days written notice to the Vendor. In the event of

cancellation at its convenience, the Authority will pay for any disassembly and shipping charges necessary to remove the machine and return it to the nearest in State dealer.

23. Brand and Model Offered

Unless otherwise specified, when brand names and model numbers identify the type and quality of the goods desired, bidders must clearly indicate the brand names and model numbers they intend to provide. The bidder's failure to identify the brand and model offered will cause the Authority to consider the offer non-responsive and reject the bid.

24. Order Documents

Except as specifically allowed under this ITB, 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 ITB. The Authority Contract Award is the only order document that may be used to place orders against the contract(s) resulting from this ITB.

25. Compliance with ADA

Services or activities furnished to the general-public on behalf of the Authority 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.

The Authority 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 Enterprise Technology Services at one of the following numbers to make any necessary arrangements.

Telephone: 907-465-5758

Fax: 907-465-3450

TDD:907465-5745

KIPNUK POWER SYSTEM UPGRADE

Invitation to Bid for Purchase of Detroit Diesel Series 60 Engine-Generator Sets (Genset)

ITB 17-001

Specifications

Section 16201

Section 16202

Drawing M1

Prepared By:

Gray Stassel Engineering, Inc.

June 2016



PART 1 - GENERAL

1.1 SCOPE

- A. The Work included herein shall consist of furnishing diesel engines as specified herein, quantity as indicated in the Bid Schedule.
- B. The purpose of this solicitation is to procure used diesel engine(s), rebuilt to original equipment manufacturer (OEM) tolerances, durability, and quality. The diesel engine(s) will be used in a prime power, 1800 rpm, genset application. Rebuilt engines shall be delivered complete, tested, and ready for installation.
- C. The Owner will not be furnishing cores. The Contractor shall furnish cores in compliance with Paragraph 1.2 A, Regulatory Compliance.
- D. See “PART 2 – PRODUCT” for a standard dry manifold engine rebuild.
- E. See “PART 4 – MARINE CONVERSION OPTION” for a marine wet manifold conversion option.
- F. See “PART 5 – LOW HOUR USED ENGINE OPTION” for an alternative to rebuilt engines.

1.2 REGULATORY COMPLIANCE

- A. The Environmental Protection Agency (EPA) has issued regulations governing the rebuilding of diesel engines for controlling and maintaining emissions and performance standards. In order to comply with EPA emissions requirements and also be compatible with the intended service applications, the used diesel engines furnished under this solicitation must have a block manufacture date on or before April 1st, 2006. In addition to the block, the rebuilt engine must also contain at least one other documented major component that is remanufactured.
- B. 40 CFR 60.4211(a)(3) of EPA's New Source Performance Standards (NSPS) stipulates that an Owner or operator of a stationary diesel engine must meet the requirements of 40 CFR parts 89, 94 and/or 1068, as they apply. 40 CFR 1068.120 describes the steps to take when rebuilding engines. 40 CFR 89.130, Rebuild Practices, states the provisions of 40 CFR 1068.120 apply to rebuilding of engines subject to the requirements of part 89, except Tier 1 engines rated at or above 37 kW shaft power. The rebuild requirements of 40 CFR 89 and 1068 do not apply to engines furnished under this solicitation because the engines are either;
 - 1. A Tier 0 (non-certified) engine and not subject to the provisions of NSPS, or
 - 2. A Tier 1 engine rated over 37 kW, and not subject to 40 CFR 89 or 1068.

1.3 QUALITY ASSURANCE

- A. Engines shall not have been in service at any time after rebuilding and prior to delivery except as required to comply with Part 3.1, Factory Tests.
- B. All new and refurbished parts, castings, assemblies and components furnished under these specifications shall meet original OEM specifications and be provided with contractor's warranty.

- C. All work shall be performed by certified and experienced technicians trained and authorized to work on the engines being rebuilt and furnished.
- D. All nondestructive testing (NDT) of castings and parts provided under these specifications to be performed to ASTM standards. All NDT inspections shall be performed by a Level II or Level III certified NDT inspector using a certified Quality System.
- E. Where items are described as factory rebuilt or remanufactured, the term factory shall mean a machine shop that is regularly engaged in the practice of remanufacturing the type of items required.

1.4 CONTRACTOR QUALIFICATIONS

The rebuilt engines shall be furnished and assembled by a qualified contractor who is regularly engaged in the business of rebuilding heavy duty diesel engines to original OEM specifications

- A. Bidders must have staff with extensive experience in rebuilding diesel engines. A list of three prior project that key staff have worked on may be requested by the Owner after the bid opening and prior to award in order to verify Bidder qualifications. The list must include date, description of work, and a reference contact for each project.
- B. Bidders must maintain a competent service organization that is available for warranty service calls. A description of the organization including resumes of key personnel may be requested by the Owner after the bid opening and prior to award in order to verify Bidder qualifications.
- C. Bidders must have a fabrication facility with adequate space and appropriate equipment as required to perform the work. The Owner may inspect the Bidder's shop after the bid opening and prior to award in order to verify Bidder qualifications.

1.5 CONTRACTOR'S WARRANTIES

- A. The Contractor shall warrant the engines for a period of not less than one-year after being placed into service in prime power genset application or 18 months after delivery to the F.O.B. point, whichever comes first. In the event of equipment or component failure during the warranty period, the Contractor shall replace such defective equipment or components and bear all associated costs. Costs shall include material, parts, and labor. The Contractor will be allowed to charge for travel within Alaska and per diem expenses related to warranty service at actual cost plus 10%. The Contractor shall pursue manufacturer's warranties to the extent necessary to obtain replacement equipment and provide proof of action taken upon request. Assist Owner as directed in determining cause of failure.
- B. The warranty shall state in clear terms exactly what warranty coverage the contractor provides for each engine. This shall include the terms, length of coverage, reporting responsibilities, how the warranty applies to accessory equipment, restrictions, locations of local facilities for handling warranty and

other repairs (including contact names), and any other available information pertaining to warranty.

- C. Provide a nametag on each engine that clearly identifies the party responsible for the warranty. Nametag shall include the name, address, and phone number, and shop order or Contractor's serial number.
- D. Proposal's that provide a warranty that does not meet these specifications shall be considered non-responsive.
- E. Used engines offered in accordance with "PART 5 – LOW HOUR USED ENGINE OPTION" shall be provided with the same warranty as rebuilt engines.
- F. New or used engines offered in accordance with "PART 4 – MARINE CONVERSION OPTION" require a non-standard mounting of the turbocharger. If the OEM does not approve the alternate mounting, the warranty requirements will be waived for the wet manifold only. All other components shall be covered under these warranty requirements.

1.6 SUBMITTALS

- A. The contractor shall furnish the following a minimum of seven days prior to beginning final engine assembly:
 - 1. An action plan specifying all work to be performed on existing engine components and a complete list of all new and remanufactured parts to be installed on each engine, with indication of new/remanufactured status as specified in Attachment A.
 - 2. All NDT inspection reports, existing component and original OEM dimensions and clearances, recorded by engine serial number for each engine. Note that if the contractor is furnishing OEM factory remanufactured engines the above information may not be available prior to final assembly. The information shall be provided as soon as available. If the results of the above inspections do not meet the requirements of these specifications for any engine that engine will be rejected.
- B. The contractor shall furnish engine test records a minimum of two days after performing dynamometer test on each engine, refer to Section 3.1, Factory Tests.
- C. The Contractor shall provide each submittal in a single electronic file in Adobe Acrobat PDF format. The file shall be e-mailed to the Engineer.
- D. See "PART 5 – LOW HOUR USED ENGINE OPTION" for additional submittal requirements for used engines.

1.7 OPERATION AND MAINTENANCE MANUALS.

- A. Provide one (1) complete bound set of operation and maintenance (O&M) manuals for each engine, including any new replacement and marine conversion option parts. For each engine provide all available factory service publications including parts manuals, service manuals, component technical manuals, etc.

- B. The operation and maintenance manuals shall be in addition to any instructions or parts list packed with or attached to the equipment when delivered, or any information submitted for review.
- C. All information in the O&M manuals shall be original or reproductions of original publications with revisions to indicate “as-delivered” conditions.
- D. Using the MTU/Detroit Diesel Unit History Record Maintenance Form, record all new and updated engine build codes to create a clear record of the final engine configuration, including optional marine conversion if applicable. Provide this information to the Owner.

1.8 FINAL PAYMENT

- A. Shipment of equipment will not be considered complete until all required manuals and data have been received as specified.
- B. Final payment will not be made until all equipment is received at the F.O.B. point in satisfactory condition and all O&M Manuals and other required data are received in the form and quantity specified.

PART 2 - PRODUCTS

2.1 USED ENGINE MANUFACTURER DATE AND MODEL YEAR

- A. All used engines furnished under this solicitation shall be model year 2006 or earlier and shall have a date of manufacture on or before April 1, 2006.

2.2 USED ENGINE MANUFACTURER AND MODEL

- A. Detroit Diesel, Series 60, 12.7 liter, Model 6063TK35, DDEC IV.
- B. See the Bid Schedule for quantities.

2.3 FINAL ENGINE CONFIGURATION

- A. The furnished diesel engine shall include all items listed by the OEM as a complete operational engine except do not include charging alternator, fan, radiator, air filter assembly, exhaust riser or electronic control panel.
- B. All engines shall be configured for 550 HP standby (495 HP Prime), at 1800 RPM, with DDEC IV ECM. The final assembly, including ECM programming, shall be equivalent to Serial No. 06R0664745.
- C. All engines shall have 24 VDC starting and control systems.
- D. All engines shall be furnished with an SAE#1/14 Flywheel, Part #23514751, and an SAE#1/14 Flywheel Housing, Part #23529959 for connection to a generator.

2.4 ENGINE REBUILD STANDARDS AND PROCEDURES

- A. Replacement Parts: These specifications require that some existing engine components be reconditioned and reused. Other components are required to be replaced with either new or factory remanufactured parts. For the remaining components, the contractor may recondition the existing part, or replace it with either a new or factory remanufactured part. All parts and components, whether

new, remanufactured, or reconditioned, shall meet or exceed original OEM specifications, tolerances, durability and quality. Refer to the specific components listed below in this section, and to Attachment A, Replacement/Reconditioned Parts Requirements, for specific replacement part requirements.

- B. Disassembly & Cleaning: The used engine furnished for rebuilding shall be fully disassembled for cleaning, part inspection, qualification and reconditioning. All cylinder liners, core plugs, passage plugs and other fittings shall be removed from all castings, including the cylinder block, cylinder head, oil cooler/filter housing, exhaust manifold, intake manifold, flywheel housing, front cover, etc., to enable complete and thorough cleaning. All bearings and bushings shall be removed. All castings and other parts to be inspected shall be cleaned in a caustic cleaning solution to remove all grease, oil, loose paint, surface corrosion, carbon deposits and any other foreign material. All oil passages shall be mechanically cleaned where possible and confirmed to be free of any obstructions. After cleaning, all parts subject to corrosion must be lightly oiled and wrapped.
- C. Inspection and Measurement: After disassembly and cleaning, the following castings shall be visually and magnetic particle NDT inspected for defects: cylinder block external surfaces, cylinder block main bearing housing bore, cylinder head, crankshaft and camshaft (remove galley plugs, counterweights and gears), flywheel housing, timing gear cover, intake manifold and exhaust manifold. All components that are to be reused in engine assembly shall be inspected and measured to confirm tolerances are within OEM specifications.
- D. Corrective Action Plan: After cleaning, inspecting, and measuring all engine components to be reused in the engine assembly, provide a corrective action plan, including a complete parts list with measured dimensions and OEM specified tolerances, for each engine serial number and submit to the Engineer for approval prior to proceeding with engine assembly. All engine components shall be upgraded to include the latest factory design improvements and shall be included in the corrective action plan.
- E. Threaded Connections, Hardware and Fasteners: All threaded holes shall be inspected and tapped. Fasteners and hardware that are corroded, damaged, or do not meet original OEM specifications shall be replaced with new. All head bolts, flywheel bolts and any other torque-to-yield bolts shall be replaced with new. Any locking devices (such as lock washers and lock nuts) shall be replaced with new. During reassembly all fasteners shall be paint pen marked at the conclusion of final torque tightening.
- F. Cylinder Block: After cleaning and inspection, the existing cylinder block shall be reconditioned.
 - 1. The cylinder block shall be measured for deck height and deck surface flatness. The condition of all gasket and sealing faces as well as all o-ring lands and bolt holes shall also be inspected. All block surfaces shall be

- machined as necessary to meet OEM specifications. Furnish all new expansion plugs.
2. The cylinder block main bearing housing bore shall be checked for proper fit of caps to block, bore roundness, diameters and alignment. If fit, dimensions, and alignment meet OEM specifications, hone existing caps. If fit, dimensions and alignment meet do not meet OEM specifications, replace caps and perform line bore.
 3. After resurfacing block, recut cylinder counter bores to proper dimensions. Note that upper and lower bore inserts are permitted as long as they meet or exceed factory repair procedures and factory new counter bore depth is maintained. Ensure that all cylinder parent bores meet OEM specifications and check o-ring and crevice ring liner sealing areas for pitting prior to installing new cylinder liners.
 4. If the reconditioned block does not meet all original OEM specifications, the block shall be replaced with a used block that that meets all original OEM specifications and has a manufacture date on or before April 1, 2006.
- G. Crankshaft: The crankshaft shall be either reconditioned or replaced with a factory remanufactured crankshaft. Undersized journals and repair sleeves shall not be allowed. As a minimum, reconditioning shall include confirmation that dimensional, hardness, alignment, wear surface finish, and seal surface finish conditions meet OEM specifications. If the crankshaft has passed all other inspections, the journals shall be polished and checked with a surface profilometer to meet or exceed OEM smoothness requirements.
- H. Camshaft: The camshaft shall be either reconditioned or replaced with new. As a minimum reconditioning shall include confirmation that dimensional, hardness, alignment, wear surface finish, and seal surface finish conditions meet OEM specifications. If the camshaft has passed all other inspections, the lobes shall be ground to meet or exceed OEM specifications.
- I. Connecting Rods: The connecting rods shall be reconditioned or replaced with new. If reconditioned only the castings shall be reused. After magnetic particle NDT inspection and checking for straightness, connecting rod big end shall be machined to OEM specifications using new bolts. Connecting rod small end shall receive a new bushing and be machined to OEM specifications.
- J. Cylinder Head: The cylinder head shall be either reconditioned or replaced with a factory remanufactured complete assembly that meets or exceeds OEM specifications. If reconditioned, only the casting shall be reused with all parts replaced new. Welded, spray welded or otherwise repaired cylinder head castings shall not be allowed. Following are guidelines for reconditioning the existing cylinder head:
1. After inspection, the cylinder head shall be measured for surface flatness and resurfaced as necessary to meet OEM specifications. Ensure that no pitted or corroded areas remain outside of the gasket sealing area.

2. The overhead camshaft bores shall be measured for size and checked to ensure that roundness, taper, and alignment meet OEM specifications. Machining, line boring and straightening are acceptable practices for restoration of camshaft alignment. Fitting of replacement bearing shells, installing oversize components or performing metal build up are not acceptable practices for restoration of camshaft alignment.
 3. All fuel injector sleeves, valves, seats, guides, springs, rotators and keepers shall be replaced new. Grind valves and seats to meet OEM specifications. After assembly, test valves and seats using a vacuum pump maintaining a minimum of 25in HG.
- K. Electrical and Controls: Furnish new DDEC IV ECM, new engine sensors, and new wiring harnesses. Furnish new or remanufactured starter.
- L. Fuel System: Furnish new or remanufactured fuel injection pump, fuel transfer (lift) pump, injectors, and metering valves, Furnish new governor springs, filters, screens, gaskets, seals, O-rings, and fuel hoses. All new fuel hoses shall be Aeroquip type FC300, Eaton Weatherhead H569, or 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. Inspect all metallic fuel tubing and replace with new if corroded, pitted, damaged, or otherwise not in compliance with OEM original specifications.
- M. Lubrication System: Furnish new or remanufactured oil pump and pressure valve. Furnish new oil cooler, thermetic regulating valve, filters, screens, gaskets, seals, o-rings and hoses. See section L "Fuel System" above for hose type and installation. Inspect all metallic lubrication tubing and replace with new if corroded, pitted, damaged, or otherwise do not meet OEM original specifications.
- N. Cooling System: Furnish new or remanufactured water pump. Furnish new thermostat, filters, gaskets and hoses. All new coolant hoses shall be 1/2" silicon heater hose, Parker 6621, no substitutes. Terminate on barbed fittings with stainless steel T-bolt hose clamps. Route hoses to avoid wear points and to ensure access to normal service points on the engine. Inspect all metallic coolant tubing and replace with new if corroded, pitted, damaged, or otherwise do not meet OEM original specifications.
- O. Air Intake and Exhaust Systems: The existing intake and exhaust manifolds shall be reconditioned and reinstalled if deemed suitable for reuse after NDT and visual inspections. If either casting is deemed unsuitable for reuse, replace with new OEM casting. Furnish a new or remanufactured turbocharger. Furnish all new gaskets, clamps and seals. No permanent air intake/filter assembly or exhaust flex are required. Provide temporary air intake filter and exhaust connection for dynamometer testing only. See "PART 4 – MARINE CONVERSION OPTION" for exhaust system marine conversion option.
- P. Painting: The engine shall be painted Detroit Diesel Blue, #TTF SD15237SP. Do not paint name plates, coolant connections, electrical terminals, sensors,

switches, fuel hoses, governor linkages, shutter linkages, exhaust manifold or flywheel mating surfaces. Seal or cap all air, fuel, coolant, etc. openings during painting.

PART 3 - EXECUTION

3.1 FACTORY TESTS

- A. Perform customary commercial factory tests on each engine including, but not limited to, the following:
1. 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.
 2. Dynamometer testing shall take place at the contractor's facility. Third party dynamometer testing is not allowed. Install a temporary air cleaner for testing. 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. Also record the following data at the start, at 15-minute intervals, and at the end of each load run: RPM, horsepower, fuel consumption, air intake manifold temperature, manifold (boost) pressure, exhaust temperature, jacket water temperature, lube oil temperature and pressure, and crankcase vacuum. Note that for engines being furnished as part of a complete genset package, in lieu of testing with a dynamometer the engine shall be load tested using an electric load bank. See Specification 16202.
 3. Oil samples shall be taken of the unused engine oil prior to the test and at the conclusion of the test and the oil test results shall be submitted to the Engineer for review. After completion of testing the oil filters shall be inspected for contamination.
 4. Tests shall indicate satisfactory operation and attainment of guarantees and specified performance. Contractor shall not ship equipment without approval by the Engineer of the shop test reports.

3.2 SHIPPING

- A. After testing, and immediately prior to shutdown for shipping perform the following steps:
1. Operate the engine three to five minutes with oil, which has 3% to 4% VCI (volatile corrosion inhibitor) oil per engine crankcase volume. The oil does not have to be removed from the engine.
 2. Put lubricant on all points given in the lubrication chart of the engine operation guide.
 3. Turn the engine at cranking speed with governor control in full off position and use a sprayer to add a mixture of 50% VCI oil and 50% 30-weight oil into the air intake or turbocharger inlet.
 4. Continue spraying the mixture of 50% VCI oil and 50% 30-weight engine oil into the air intake or turbocharger inlet to ensure the cylinders and exhaust ports are coated with the oily mixture.
 5. Clean the outside of the engine and inspect and ensure that the engine is covered by good quality paint. Correct any deficiencies.
 6. Spray a thin amount of 50% VCI oil and 50% 30-weight engine oil on the flywheel, ring gear teeth, and starter pinion. Install the covers to keep the vapors in.
 7. Put a heavy layer of multipurpose grease on all outside parts that move, i.e. threaded rod, ball joints, linkage, etc.
 8. Flush the cooling system with 50/50 ethylene glycol mix, Shell Rotella ELC, no substitutes. Install covers over the connections.
 9. Install a positive mechanical seal consisting of a fitting plate and gasket on exhaust opening. Then install all covers and/or tape on openings, air intake, exhaust openings, flywheel housing, etc. 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 breakage during transportation.
- B. After preparing the equipment for shipping, package each engine separately as follows:
1. Mount the engine on a shipping skid suitable for freight transport on LTL shipping.
 2. Put a waterproof cover over the entire engine. Make the cover tight, but loose enough to let air circulate around the unit to prevent damage to exposed metal parts from condensation.

PART 4 – MARINE CONVERSION OPTION

4.1 MARINE CONVERSION

- A. Furnish rebuilt engine identical to the standard engine described in “PART 2 – PRODUCTS” except provide with the following conversion parts to increase the jacket water heat available for heat recovery:
1. A new marine wet exhaust manifold kit, Part # E23535159 to replace the standard dry exhaust manifold.
 2. A new or remanufactured marine turbocharger assembly, Part #R23529009 to replace the standard dry turbocharger.
 3. All hoses, gaskets, brackets, fittings, fasteners, and accessories for a complete installation. See Attachment B for a representative list.
- B. The turbocharger shall be installed 180 degrees from the normal factory marine installation, with the exhaust outlet facing forward and the air intake facing aft as shown in the photo. Note that the photo below does not show the actual turbocharger specified in 4.1.A.2 but does show the correct installation position.



PART 5 – LOW HOUR USED ENGINE OPTION

5.1 GENERAL

- A. This section provides an option for the contractor to furnish used engines with low total hours that have not been rebuilt.
- B. The used engines shall meet all requirements of these specifications except for those portions directly related to rebuilding.
- C. The used engines shall meet additional requirements as indicated herein.
- D. The used engines shall have no more than 1,000 hours of total operating time and shall be qualified by inspection as described herein.

5.2 SUBMITTALS

- A. If used engines are offered the contractor shall attach to their bid the serial number and total hours for each engine. Total hours shall be verified by reading from the ECM.
- B. Prior to beginning disassembly the contractor shall submit the following data for each engine indexed by serial number:
 - 1. Digital photographs from multiple views.
 - 2. Copies of maintenance records.
 - 3. Digital photographs of split oil filters and description of element condition.
 - 4. Results of engine oil tests. Oil samples shall be pulled from each engine in current state and shall be tested by an independent laboratory specializing in oil testing.
- C. Upon completion of disassembly and prior to reassembling engines the contractor shall submit the following data for each engine indexed by serial number:
 - 1. Digital photographs from multiple angles including removed items.
 - 2. Written results of internal inspections documenting compliance with OEM specifications or indicating any areas of deficiency.
 - 3. Corrective action plan for any deficiencies found during inspection.
- D. Upon completion of reassembly the contractor shall submit cylinder leak down pressure test records for each engine indexed by serial number.

5.3 DISASSEMBLY AND INSPECTION

- A. The contractor shall provide a minimum of 48 hours' notice to the Engineer prior to disassembly and shall make provision for the Engineer to inspect the disassembled engines.
- B. The contractor shall remove the cylinder head and inspect the head and valves for corrosion, excessive carbon build up, and other deficiencies.
- C. The contractor shall remove the oil pan and bearing caps and inspect all rod and main bearings.

- D. The contractor shall remove the front and rear main seals and inspect the end bearings.
- E. The contractor shall remove the cylinder liners and O-rings and inspect liners and block for corrosion, pitting, and wear. Any cylinder liners that do not meet OEM specifications shall be replaced.
- F. The contractor shall remove the water pump.
- G. The contractor shall measure the turbocharger shaft tolerances. Note that this only applies if the original dry turbo charger is being reused.

5.4 REASSEMBLY

- A. The contractor shall not begin reassembly of engines until the results of the inspections and the corrective action plan have been approved by the Engineer.
- B. For all parts that utilize torque to yield hardware the contractor shall provide new hardware.
- C. The contractor shall re-install the cylinder liners with new O-rings.
- D. The contractor shall install new piston rings.
- E. The contractor shall install new valve stem seals and injector seals and shall adjust valve clearance and injector clearance in accordance with OEM specifications.
- F. The contractor shall re-install the cylinder head with a new head gasket and valve cover gasket.
- G. The contractor shall re-install bearing caps.
- H. The contractor shall re-install the oil pan with a new gasket.
- I. The contractor shall install new front and rear main seals.
- J. The contractor shall install a new water pump.

Attachment A - Replacement/Reconditioned Parts Requirements – Page 1 of 1					
Item #	Castings/Parts	Type *	Item #	Castings/Parts	Type *
1	Cylinder Block	RR	21	Water Pump	NR
2	Crankshaft	RRO	22	All Gears	N
3	Cylinder Head	RRO	23	Gear Train Idler Assemblies	N
4	Camshaft	O	24	Rocker Assemblies	NR
5	Intake Manifold	O	25	Intake/Exhaust Valves	NR
6	Exhaust Manifold	NR	26	Fuel Pump	NR
7	Flywheel Housing	O	27	Fuel Transfer Pump	NR
8	Timing Gear Cover	O	28	Turbocharger	NR
9	All Gaskets, O-Rings, Seals	N	29	Vibration Damper	NR
10	Injectors	NR	30	Starter	NR
11	Injector Coppers	N	31	ECM	N
12	All Bearings & Bushings	N	32	All Coolant & Air Hoses	N
13	Connecting Rods	NR	33	All Fuel & Lube Hoses	N
14	Pistons Complete with Wrist Pins, Keepers and Rings	N	34	Intake/Exhaust Valve Seats, Guides, Springs, Rotators & Keeper	N
15	Cylinder Liners	N	35	Sensors	N
16	Oil Pump	NR	36	Wiring Harnesses	N
17	Oil Pres Regulator Valve	NR	37		
18	Oil Thermetic Valve	N	38		
19	Oil Cooler	N	39		
20	Thermostat	N	40		
Type *	Definition				
RR	Reconditioned Reused original casting only				
RRO	At least one of the parts with this designation must be Type RR. The remaining items with this designation may be Type O.				
N	New parts only				
NR	New parts preferred, factory remanufactured parts acceptable if new parts not available				
O	Option by contractor – reconditioned existing, factory remanufactured, or new parts all acceptable				

Notes:

- 1) The above list is not intended to be complete but rather representative of required parts and to indicate type required for critical parts.
- 2) Some of the parts listed above will be eliminated and replaced with alternate parts under the Marine Conversion option.
- 3) Parts indicated as required to be new only are desired to be of new manufacture. If at the time of bidding any of the above listed new parts are not available new, the Contractor shall provide an attachment to their bid indicating the specific parts that will not be new and whether that part will be factory remanufactured or reconditioned existing.

Attachment B – Page 1 of 1

Marine Conversion Option Parts Requirements					
Item #	Castings/Parts	Type *	Item #	Castings/Parts	Type *
1	23501148 – CLAMP	N	31	23501941 – CLAMP	N
2	23501147 - GASKET	N	32	23506325 - HOSE	N
3	23514433 - ADAPTOR	N	33	23523260 – BRKT	N
4	2492119 - ELBOW	N	34	05141723 - CLIP	N
5	23527978 - TUBE ASM	N	35	11505299 - BOLT	N
6	23525212 - HOSE	N	36	11506101 - NUT TURBO	N
7	23525155 - TUBE	N	37	23525114 - SPACER	N
8	23525235 - HOSE	N	38	23535674 - HOSE ASM	N
9	23525099 - TUBE ASM	N	39	05170468 - GASKET	N
10	23538275 - HOSE ASM	N	40	11503454 - BOLT	N
11	WAHP0346 - HOSE ASM	N	41	23517240 - WASHER	N
12	23501883 - TEE	N	42	11501052 - NUT	N
13	08924145 - CONN	N	43	08924140 - DRAIN COCK*	N
14	23531274 - ELBOW	N	44	11509526 - BOLT	N
15	23516684 - BOLT	N	45	23516970 - PLATE	N
16	08924517 - PLUG	N	46	8924200 - TEE	N
17	23511573 - PLUG	N	47	23532436 - THERM 190 *	
18	05141723 - CLIP	N	48	08924147 - CONN	
19	11513811 - BOLT	N	49	23532922 - BRACKET	
20	11506101 - NUT TURBO	N	50	08922143 - BOLT	N
21	05186840 - CLAMP	N	51	23532923 - BRACKET	N
22	23511439 - CLAMP	N	52	23525269 - BRACKET	N
23	23502533 - HOSE	N	53	23520686 - CLAMP "E" KT	N
24	23520632 - ELBOW	N	54		
25	23525150 - ELBOW	N	55		
26	23535225 - HOSE	N	56		
27	23525126 - Y-TUBE	N	57		
28	23506962 - CLAMP HOSE	N	58		
29	23525326 - HOSE	N	59		
30	23525050 - TUBE	N	60		
*See part Type definitions below					
Type	Definition				
N	New parts only				
NR	New parts preferred, factory remanufactured parts acceptable if new parts not available				

Note: The above list is not intended to be complete but rather representative of required parts and to indicate type required for critical parts. Contractor is responsible to provide all required parts for a complete functioning system.

PART 1 - GENERAL

1.1 SCOPE

- A. The Work included herein shall consist of furnishing generators, skids, and accessories and assembling them with rebuilt engines into complete engine-generator packages. Note that the rebuilt engines are specified under Specification 16201.
- B. Each unit shall be harmonically balanced and shall be delivered complete and ready for installation.
- C. Provide all accessories as specified for all engine/generator units plus any additional components listed.

1.2 QUALITY ASSURANCE

- A. 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. Equipment shall not have been in service at any time prior to delivery, except as required by tests.
- B. Equipment and components furnished under these specifications shall be in accordance with the requirements of applicable UL, NEC, IEEE, NEMA, and ANSI standards.
- C. A torsional compatibility analysis shall be provided for the specified engine-generator combination.

1.3 CONTRACTOR QUALIFICATIONS

The entire system shall be designed, coordinated, and supplied by a qualified contractor who is regularly engaged in the business of providing diesel engine driven generator equipment.

- A. Bidders must have staff with extensive experience in packaging diesel engine driven electrical generators. A list of five successful installations that key staff has worked on may be requested by the Owner after the bid opening and prior to award in order to verify Bidder qualifications. The list must include installation date, description of installation, and a reference contact for each installation.
- B. Bidders 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 Owner after the bid opening and prior to award in order to verify Bidder qualifications.
- C. Bidders must have a fabrication facility with adequate space and appropriate equipment as required to perform the work. The Owner may inspect the bidders shop after the bid opening and prior to award in order to verify Vendor qualifications.

1.4 MANUFACTURER'S WARRANTIES

- A. Note that the engine warranty requirements are described under Specification 16201.
- B. The Contractor shall warrant the work for a period of not less than one-year after energization of the equipment or 18 months after delivery to the F.O.B. point, whichever comes first. In the event of equipment or component failure during the warranty period, the Contractor shall replace such defective equipment or components and bear all associated costs. Costs shall include material, parts, and labor. The Contractor will be allowed to charge for travel within Alaska and per diem expenses related to warranty service at actual cost plus 10%. The Contractor shall pursue manufacturer's warranties to the extent necessary to obtain replacement equipment and provide proof of action taken upon request. Assist Owner as directed in determining cause of failure.
- C. The warranty shall state in clear terms exactly what warranty coverage the seller provides, for each unit and attachments. This shall include the terms, length of coverage, reporting responsibilities, how the warranty applies to accessory equipment, restrictions, locations of local facilities for handling warranty and other repairs (including contact names), and any other available information pertaining to warranty.
- D. 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 Contractor's serial number.

1.5 SUBMITTALS

- A. Within 14 days after Notice to Proceed, the Contractor shall furnish the following:
 - 1. Electrical performance data and dimensional drawings for generators.
 - 2. Manufacturer's literature for all accessories.
 - 3. Torsional compatibility analysis.
- B. Specific Submittal Requirements.
 - 1. The Contractor shall provide each submittal in a single electronic file in Adobe Acrobat PDF format. The file shall be e-mailed if size allows. If the file is too large for e-mail, it shall either be mailed to the Owner on a CD, or it shall be made available for download on an FTP website. If made available on a website, all website, user name, and passwords shall be provided to the Owner by email. All submittal data and drawings shall be included in the single file directly from the Contractor. No additional files or other documents will be acceptable to be obtained, downloaded, or merged in a document to provide the complete submittal file.
 - 2. The single PDF file shall be organized in a manner that would allow printing the file where the printed document could then be inserted into a binder. All single pages shall be provided with a blank page following such that when printed, the first page of each chapter, tab, or manual will

always print on the front of a sheet of paper if the document is printed on two sides of a sheet of paper. At a minimum the submittal PDF file shall be organized as follows:

- a. Provide a cover sheet with the name and address of the Owner; the project name and contract number; the Contractor's complete name, address, and telephone number; the Contractor's job number; the date of submission; the name of the manufacture, if different from the Contractor; and the Contractor's stamp of approval.
- b. Provide a table of contents. The bookmarked tabs shall match the Table of Contents.
- c. The PDF file shall be organized into chapters or tabs that separate the different components of the equipment into logical groupings, i.e. engines, generators, engine mounted accessories, loose ship accessories, etc. At the beginning of each section, provide a page with the section number.
- d. The PDF file shall be provided with book marks that will allow easy navigation within the PDF file. Each chapter shall have its own book mark and the chapter shall be broken down into subsections based on each different items provided in that chapter, or tab. Each item in the chapter shall be bookmarked such that each item can be navigated to from the bookmark.

1.6 **Not used this specification.**

1.7 **FINAL PAYMENT**

- A. Final payment will not be made until all equipment is received at the F.O.B. point in satisfactory condition.

PART 2 - PRODUCTS

2.1 **CONFIGURATION AND MANUFACTURERS**

- A. All units shall be complete skid mounted engine-generators configured as specified herein. Furnish with all accessories as indicated.
- B. Provide generator rated minimum 470kW continuous at 105°C rise, Newage/Stamford HCI534D or Kato equal, no other substitutes.
- C. Engines shall be Detroit Diesel, Series 60, 12.7 liter, Model 6063TK35, DDEC IV in accordance with Specification 16201.

2.2 **ENGINE ACCESSORIES**

- A. In final assembly engines shall be configured without a charging alternator, fan, radiator, accessory reduction gear drive, or any other accessories not specifically required by these specifications.

- B. Fuel supply and return lines and the lube oil drain line shall be routed to the front of generator skid for field connection to the plant piping. See attached drawing M1 for detailed configuration.
- C. Fuel and Oil Hoses: All hoses for fuel, lube oil, vents, etc., shall be Aeroquip type FC300, Eaton Weatherhead H569, or equal. Minimum hose size shall be 13/32" (#8) except hoses for field connection shall be 1/2" (#10) minimum. 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.
- D. Glycol Hoses: All hoses for glycol shall be 1/2" silicone heater hose, Parker 6621, no substitutes. Terminate on barbed fittings with stainless steel T-bolt hose clamps. Route hoses to avoid wear points and to ensure access to normal service points on the engine. Securely support hoses from engine and skid.
- E. 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.
- F. Protective Guards: All moving parts and hot surfaces shall be provided with protective guards in accordance with U.L Standard 2200.
- G. Air Cleaners: The engine shall be provided with a dry-type, non-metallic, disposable air cleaner, Donaldson DuraLite ECB #B085056 or approved equal. See attached drawing M1 for detailed installation. The photo shows a similar installation on a different make and model engine.
- H. Air Cleaner Indicator: Provide visual air restriction indicator, 20" water column limit, manual reset, Donaldson X002251, no substitutes. Install in air intake tube near air cleaner as indicated on attached drawing M1.
- I. Starting: The starter auxiliary relay shall be Owner furnished and is not part of this Contract. The Contractor furnished engine starting systems shall be 24VDC.
- J. Control Power: To provide 24VDC power to the remote control system (by others), a 30A circuit breaker with switch shall be mounted on the engine in the vicinity of the starter, Cooper 187-030-F-00 or equal.
- K. Sensors and Safety Controls: The engine shall be equipped with the following:
1. Exhaust Gas Temperature. High temperature (650°C) 2 wire 100 ohm RTD with 2' high temperature lead wire, plug, and jack. Compression fitting with 1/4" MPT adapter. Eustis RGB7B203B02WT with NS7 adapter, no substitutes. Install in threaded tap in turbo discharge elbow.
 2. Air Filter Vacuum Sensor. 4-20mA, -30"Hg to 0 PSIG, 1/4" MPT. Noshok 100-30V-1-1-2-7, no substitutes. Install in air intake tube near air cleaner as indicated on attached drawing M1.



3. Air Intake Temperature Sensor. 4-20mA, 20-240°F, 1/2" MPT. Noshok 800-20/240-1-1-8-8-025-6, no substitutes. Note that this will be field installed by others in the charge air tubing remote from the engine. Leave a minimum 18" service loop on the conductors in the vicinity of the air inlet and tywrap the sensor to the engine in a secure location.

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. All lead wires from the sensors shall be clearly labeled and routed in wire loom to the location of the ECU with a minimum 10' long loop for final connection by others.

Note 2. Owner will furnish a custom oil level site gauge with high/low level switches. Provide minimum #8 hoses for connection to oil level indicator. 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.

- L. 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 restriction, 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.

2.3 EXHAUST SYSTEM

- A. A flexible, continuous, 18 inch long stainless steel exhaust flex connector with welded connections shall be furnished for each engine, Alaska Rubber or equal. Provide an appropriate engine mating connection at one end and a 6" diameter ASA 125 lb. flange at the opposite end. Slotted cuff connections are not acceptable. Provide gasket, bolts, v-clamp, or any other components required for connection to the engine. Provide a 90° elbow where required for the flex to be installed vertically. Note that if the exhaust temperature sensor cannot be installed directly in the outlet connection, a 1/4" FPT stainless steel thread-o-let shall be welded into the flex between the engine connection and the corrugated hose.

2.4 ACCESSORIES.

Provide the following accessories for each generating unit (unless otherwise indicated):

- A. Spring vibration isolators complete with mounting hardware, four per each unit. Caldyn RJC 3040 or approved equal.
- B. Drip pan, 14-gauge galvanized sheet metal, liquid tight joints, 30"x60"x2", one per each unit.
- C. Two 15 ft. long 2/0 AWG arctic flex battery cables plus one 12-inch long jumper per each unit. 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.

2.5 COOLING SYSTEM

- A. Engine cooling shall be by remote radiators (provided by others) with coolant circulation driven by the engine coolant pump.
- B. Glycol Filter: Provide screw-on canister style filter element with 3/8" NPT connections on head, Wix #24019 head with #24069 element. Mount head on steel bracket fixed to front or side of engine. Connect to engine with 1/2" silicone heater hose with 3/8" NPT quarter turn gauge cock isolation valves. Connect inlet to thermostat housing and connect outlet to water pump inlet. On thermostat housing connection provide 3/8" NPT tee fitting with plug for field connection of pre-heat line by others.

2.6 Not used this specification.

2.7 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. The generator shall be rated three phase, 277/480V, 60 Hz, 1800 RPM, brushless, 12 lead reconnectable, and winding pitch of 2/3 design. Windings shall be random wound and lashed at the end turns to provide superior mechanical strength.
- 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 3 minutes when operating at stable rated operating temperature.
- 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 50,000 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 shall be given multiple dips of resin, plus a final coating of epoxy for extra moisture and abrasion resistance. The rotor shall be layer wound with thermosetting 100% solids epoxy between each layer, plus a final coating of epoxy for moisture and abrasion resistance. The shaft exposed metal surfaces and rectifier assembly shall be coated with an epoxy varnish.
- F. The generator shall be equipped with a permanent magnet generator (PMG) excitation system. Both the PMG and the rotating brushless exciter shall be mounted outboard of the bearing. 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 3 times current.

- G. Voltage Regulator: The voltage regulator shall be Owner furnished and is not part of this Contract. The Contractor shall perform the following:
1. Furnish one each 600:5 ratio cross current transformer (CT) for paralleling operation. Installed on Phase B generator lead with H1 facing towards the generator.
 2. If the generator is supplied with a manufacturer's standard voltage regulator it shall be removed after testing.
- H. Nameplate: On the side of the generator housing, provide a nameplate that provides the following information. The nameplate shall be located in a clearly visible location and shall not be obscured by the terminal enclosure or located such that the nameplate is behind any part of the generator or housing.
1. Rated kW as specified.
 2. Full load amps.
 3. Rated voltage, phase, and power factor.
 4. Rated voltage and current of the field exciter.
- 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. Each generator shall be provided with a custom terminal compartment extension. The terminal compartment shall be provided with bus bars to allow easy field termination of the phase, neutral, and ground conductors. See attached drawing M1 for configuration of the extension and bus bars. The photo shows a similar installation on a prior project. 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.



2.8 MOUNTING SKID.

- A. The engine and generator shall be equipped with a suitable full length structural steel base frame 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. 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. Provisions shall be made in the skid for the mounting of vibration isolators at locations as indicated on drawing M1. Wedge washers shall be welded in place on the skid to provide a flat surface for the vibration isolator

lock nuts. **No formed or stamped steel base frame designs will be accepted.**
See attached drawing M1 for skid design layout.

- B. Each unit shall be placed on the skid at the location indicated on attached drawing M1.

2.9 **Not used this specification.**

2.10 **PAINTING**

Each unit shall be painted Detroit Diesel Blue, #TTF SD15237SP including engine, skid, and generator.

2.11 **SPARE FILTERS**

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

- A. Twelve (12) oil filters.
- B. Four (4) fuel filters.
- C. Three (3) air filters.
- D. Four (4) glycol filters.

PART 3 – EXECUTION

3.1 **FACTORY TESTS**

- A. The Contractor shall perform factory tests and inspection on each diesel engine, generator, and each component of the system prior to shipment. Provide certified copies of all manufacturers' test data and results. Supply sufficient notice to the Owner prior to performing tests. The Owner 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 Contractor shall provide all required mechanical and electrical equipment including but not limited to fuel supply, radiator, air cooler, load bank, and voltage regulator.
- C. The Contractor shall provide all required measuring and indicating devices. All devices shall be certified correct or correction data furnished for the device.
- D. Engine Tests: Shop test each engine-generator in accordance with Specification 16201 - 3.1 A, except instead of a dynamometer use an electric load bank.
- E. Contractor shall not ship equipment without approval by the Owner of the shop test reports.

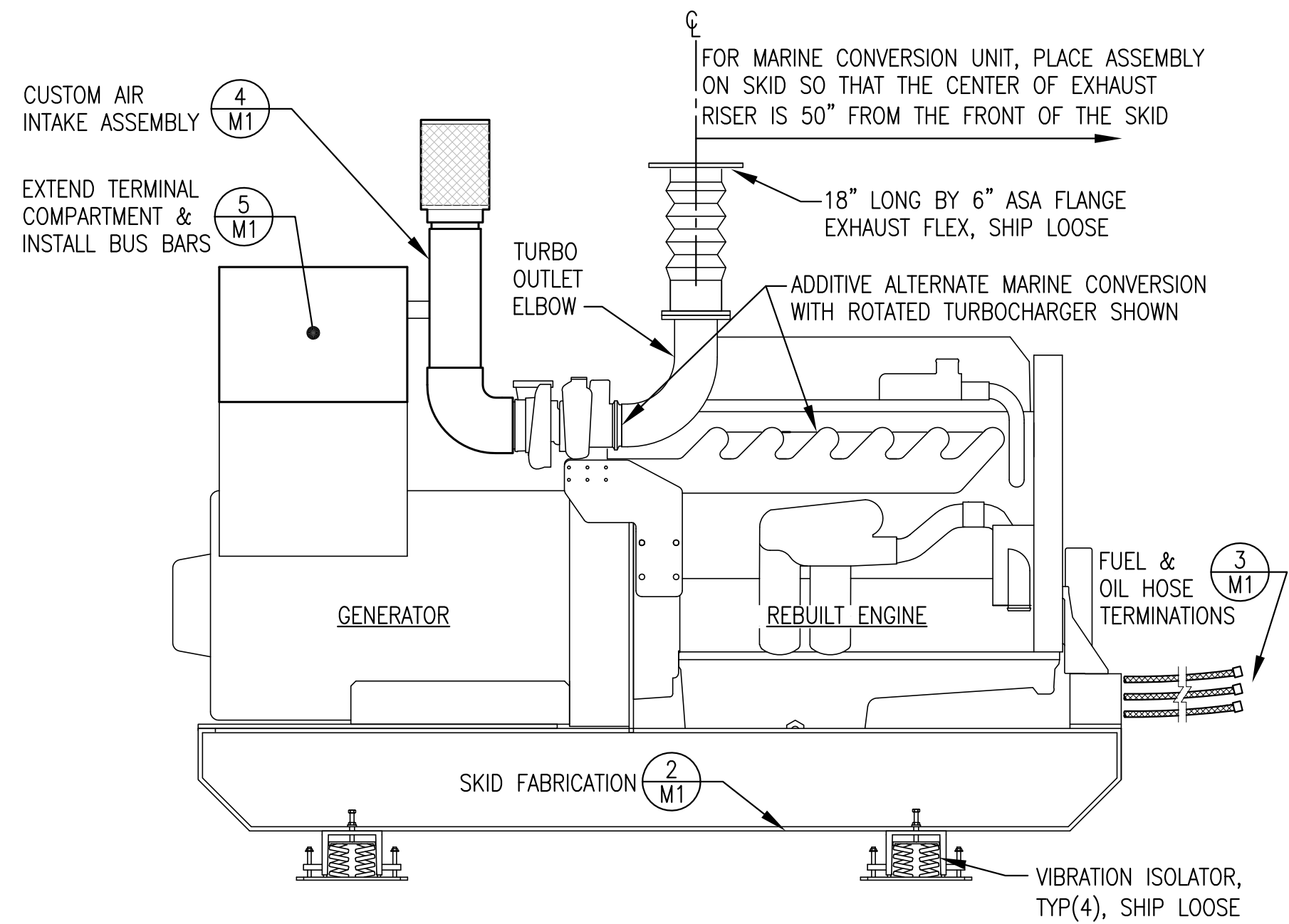
3.2 **SHIPPING**

- A. After testing, and immediately prior to shutdown for shipping perform the steps listed in Specification 16201 paragraph 3.2 A.
- B. After preparing the equipment for shipping, package each engine/generator separately as follows:

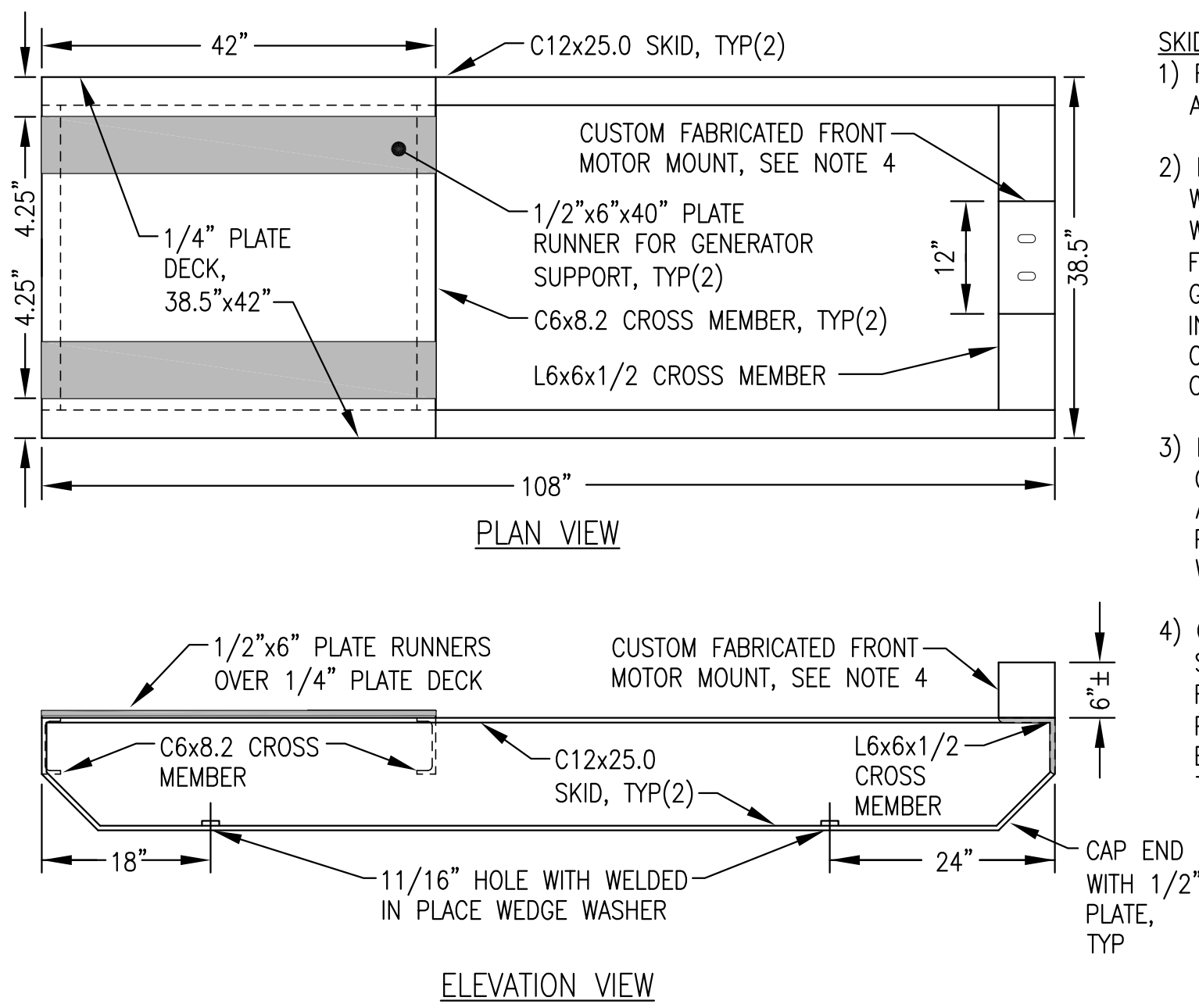
1. Coil wiring harnesses and secure control wiring to genset.
2. Put a waterproof cover over the entire engine/generator set. Make the cover tight, but loose enough to let air circulate around the unit to prevent damage to exposed metal parts from condensation.
3. All other included components (spare parts, loose items, etc.) shall be packaged in a box or crate. 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 purchase order number.
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 Owner.

END OF WRITTEN SPECIFICATION

SEE ATTACHED DRAWING M1

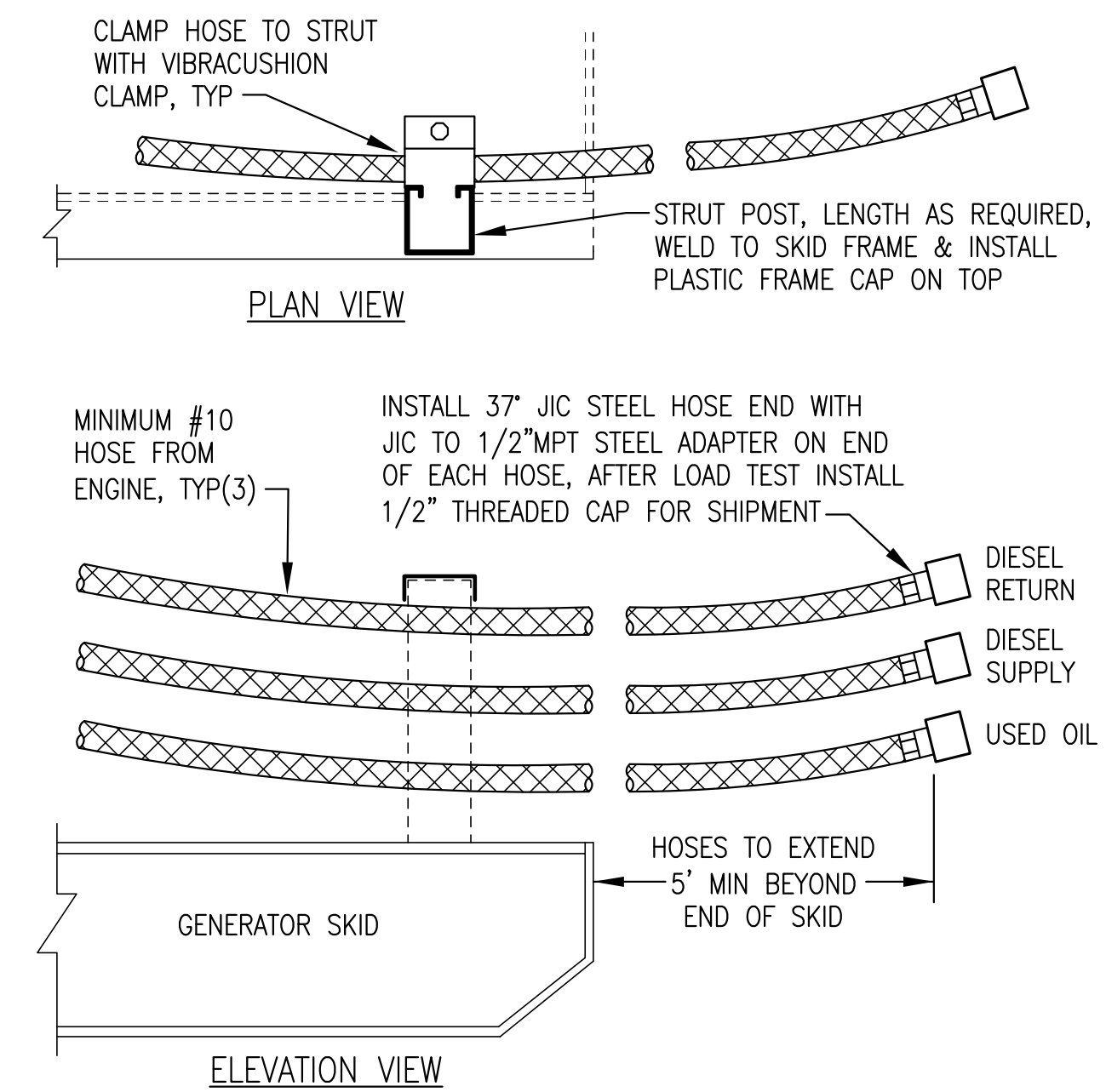


1 GENERATOR ASSEMBLY
M1 3/4"=1'-0"

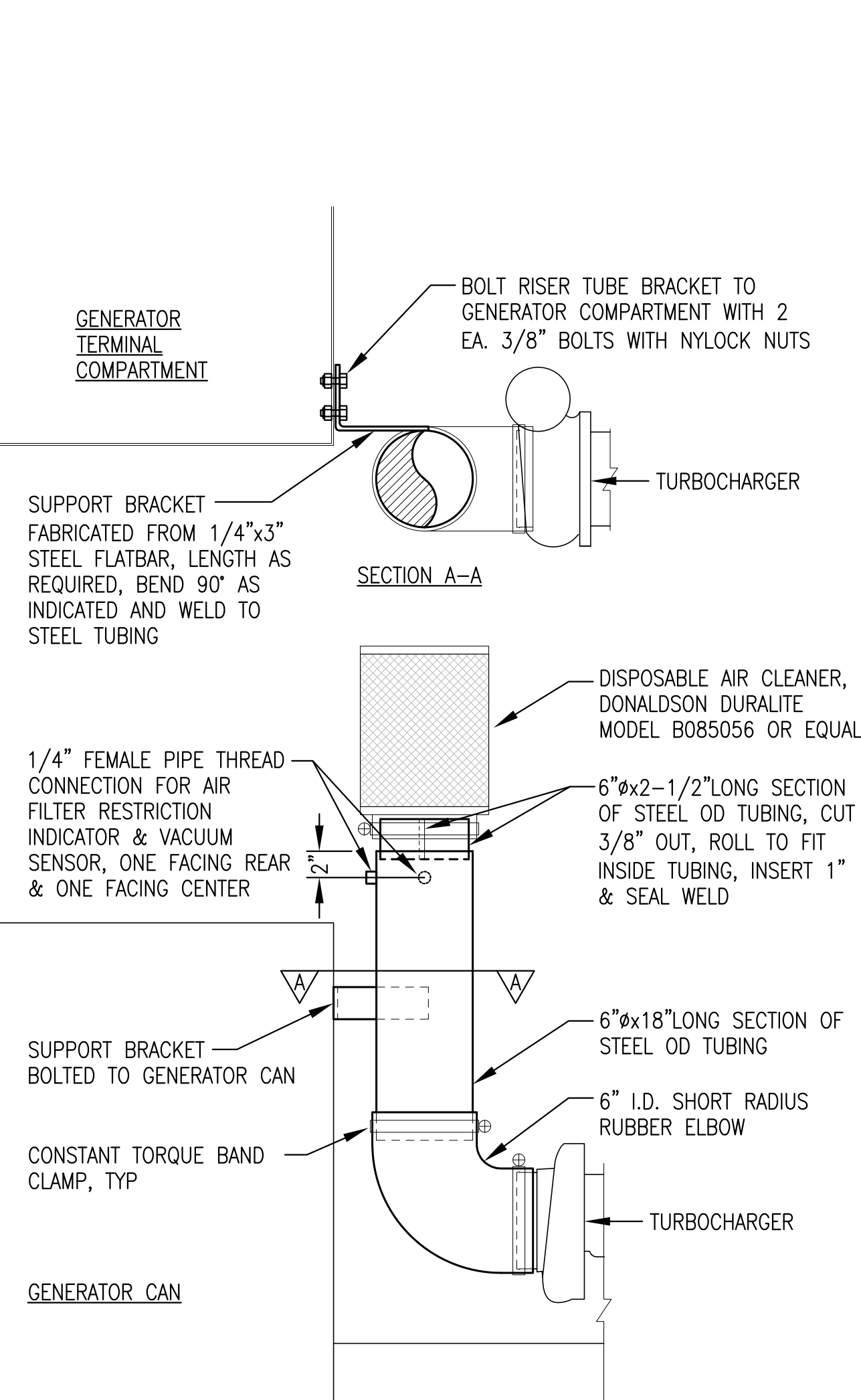


2 GENERATOR SKID FABRICATION
M1 3/4"=1'-0"

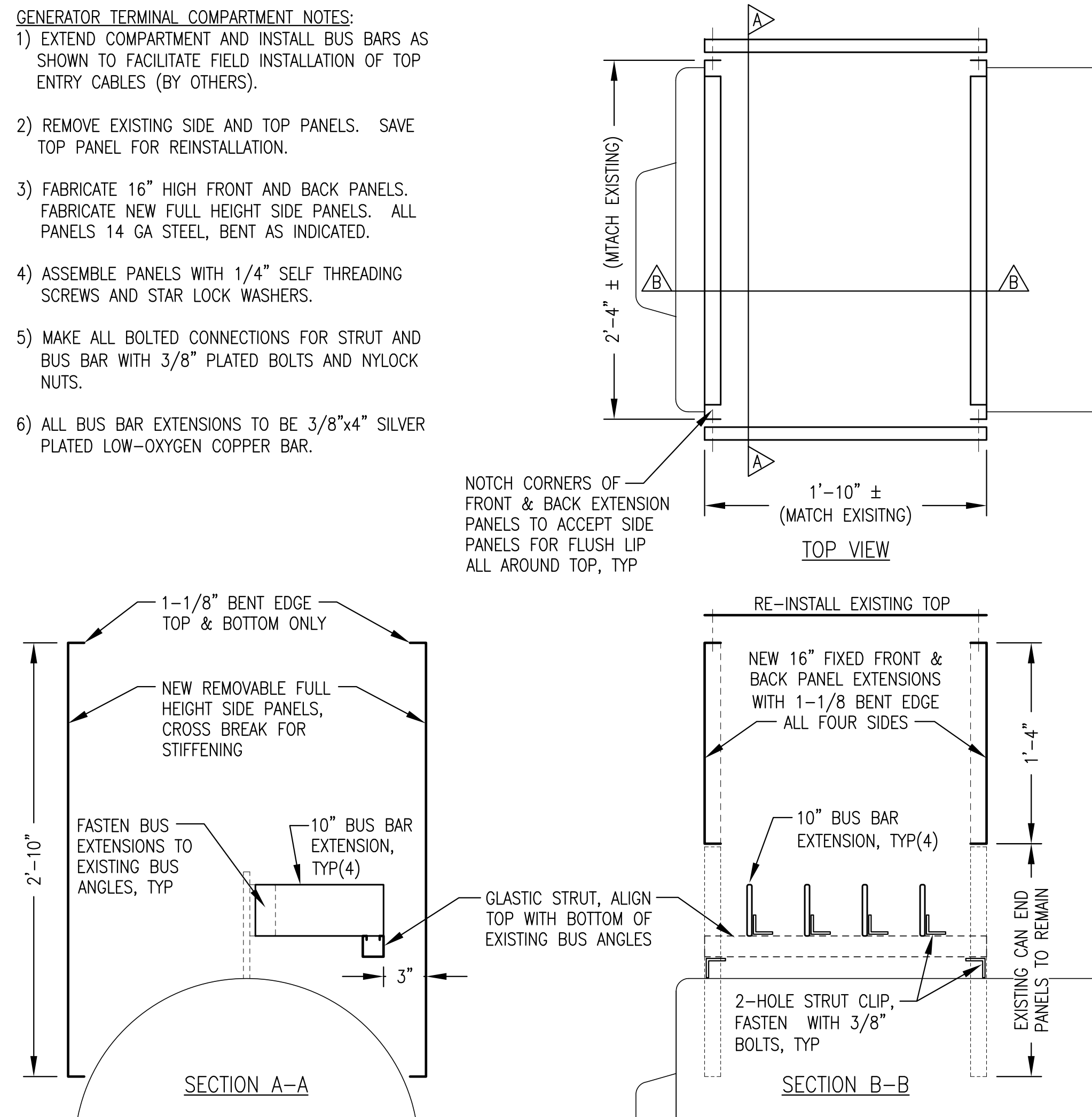
- SKID FABRICATION NOTES:**
- 1) FABRICATE FROM ASTM A-36 STEEL.
 - 2) MAKE ALL CONNECTIONS WITH CONTINUOUS WELDS (FILLET OR FULL-PENETRATION GROOVE AS REQUIRED) IN ACCORDANCE WITH CURRENT AWS STANDARD CODE.
 - 3) ROUND ALL CORNERS & GRIND WELDS SMOOTH AFTER FABRICATION. PAINT IN ACCORDANCE WITH SPECIFICATIONS.
 - 4) CUSTOM FABRICATE SUPPORT BRACKET FROM 3/4" STEEL PLATE TO SUPPORT ENGINE AT ELEVATION TO MATCH GENERATOR.



3 FUEL & OIL HOSE TERMINATIONS
M1 NO SCALE



4 GENERATOR AIR INTAKE ASSEMBLY
M1 1-1/2"=1'-0"

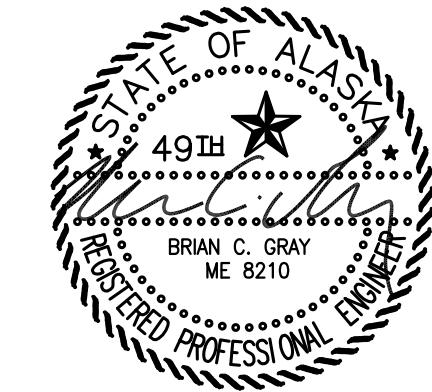


5 GENERATOR TERMINAL COMPARTMENT EXTENSION & BUS BAR INSTALLATION
M1 1-1/2"=1'-0"

- GENERATOR TERMINAL COMPARTMENT NOTES:**
- 1) EXTEND COMPARTMENT AND INSTALL BUS BARS AS SHOWN TO FACILITATE FIELD INSTALLATION OF TOP ENTRY CABLES (BY OTHERS).
 - 2) REMOVE EXISTING SIDE AND TOP PANELS. SAVE TOP PANEL FOR REINSTALLATION.
 - 3) FABRICATE 16" HIGH FRONT AND BACK PANELS. FABRICATE NEW FULL HEIGHT SIDE PANELS. ALL PANELS 14 GA STEEL, BENT AS INDICATED.
 - 4) ASSEMBLE PANELS WITH 1/4" SELF THREADING SCREWS AND STAR LOCK WASHERS.
 - 5) MAKE ALL BOLTED CONNECTIONS FOR STRUT AND BUS BAR WITH 3/8" PLATED BOLTS AND NYLOCK NUTS.
 - 6) ALL BUS BAR EXTENSIONS TO BE 3/8"x4" SILVER PLATED LOW-OXYGEN COPPER BAR.

NOTCH CORNERS OF FRONT & BACK EXTENSION PANELS TO ACCEPT SIDE PANELS FOR FLUSH LIP ALL AROUND TOP, TYP

ISSUED FOR
PROCUREMENT
JUNE 2016



PROJECT: KIPNUK POWER SYSTEM UPGRADE	
TITLE: ENGINE-GENERATOR ASSEMBLY DETAILS	
DRAWN BY: JTD	SCALE: AS NOTED
DESIGNED BY: BCG	DATE: 6/15/16
FILE NAME: 17-001 M1	SHEET: M1 OF 1
PROJECT NUMBER:	

APPENDIX C. BID SCHEDULE

1. **Scope** - This Invitation to Bid is for furnishing commodities as described in the specifications (rebuilt or low-hour used), generators, skids, and accessories and assembling them into complete engine-generator sets (Gensets). The Gensets shall be fabricated, assembled, tested, and packaged in strict compliance with the preceding specifications. The quantity shall be as indicated in the Bid Schedule below.
2. **Submittals** - Submittals shall be provided to the Engineer for review and approval prior to beginning fabrication. Submittals shall be prepared in accordance with the specifications.
3. **Progress Reports** – Upon commencement of assembly work, progress reports shall be provided to the Authority every week. Reports shall include a brief written description and digital photographs of work completed. Adequate photographs shall be provided to document each step in the fabrication procedure. Each report shall be submitted via email within one working day of completion of the work week.
4. **Inspection** - The work may be inspected by the Authority’s representative at the Bidder’s fabrication facility during the fabrication process. A final inspection will be performed and approval will be issued prior to items being released for shipment. The Vendor shall provide a minimum of two weeks’ notice prior to completion to allow the Authority adequate time to schedule the final inspection.
5. **Point of Delivery** - All completed Gensets shall be delivered F.O.B. to the **Alaska Energy Authority shop at 2601 Commercial Drive, Anchorage, AK 99501. (907) 771-3092.**
6. **Pricing** - The Bidder shall provide unit, extended, and total prices as indicated in the bid schedule below. All prices shall be firm fixed prices, which include all costs and profit associated with furnishing the items as specified to the point of delivery by the date indicated. If awarded a contract, bidder’s firm prices will be integrated into the contract.
7. **Required Delivery Date** – The bid schedule lists the required delivery for each unit. This is the maximum time in calendar weeks from award of order to delivery at the F.O.B. point. In order for a bid to be considered responsive the bidder must provide a firm delivery in calendar weeks. A firm delivery greater than the time indicated may result in a bid being declared non-responsive, unless no bidders can meet the delivery schedule.
8. **Method of Award** - An award will be made in accordance with the Bid Schedule to the responsive and responsible bidder based on the lowest total price for the Base Bid for Option 1 or Option 2. Due to Budget consideration, the Authority reserves the right to award the order for the Base Bid, with or without Additive Alternates. This shall be deemed in the best interest of the project.
9. **Progress Payments** - There will be no progress payments. Payments are NET30 on receipt of an invoice and acceptance of the materials at the point of delivery.
10. **Bid Schedule** – The following Bid Schedule is broken into two options based upon the use of rebuilt or low hour used engines. The Bidder can provide a bid for one or more options. Note that each option includes a Base Bid and Additive Alternates. In order for a bid on a specific option to be considered responsive, the Bidder must provide pricing for the Base Bid and all Additive Alternates under that option.

11. Option #1 - Rebuilt Engines

Option #1 is for furnishing complete Gensets in accordance with attached Specifications 16201 and 16202 using rebuilt engines.

11A. Base Bid

The Base Bid is for furnishing complete Gensets **including marine conversion** in accordance with all provisions of attached Specification 16201 Parts 1, 2, 3, and 4 and Specification 16202 in its entirety.

Item Description	Quan.	Delivery Date	Unit Price (\$)	Extended Price (\$)
Complete Gensets per Specifications	3 ea.	15 weeks		

11B. Additive Alternate #1

Additive Alternate #1 is for furnishing a standard rebuilt engine (engine only, **no marine conversion**) in accordance with all provisions of attached Specification 16201 Parts 1, 2, and 3.

Item Description	Quan.	Delivery Date	Unit Price (\$)	Extended Price (\$)
Standard Engine per Specifications	1 ea.	15 weeks		

11C. Additive Alternate #2

Additive Alternate #2 is for performing marine conversion on a standard rebuilt engine furnished under Additive Alternate #1 in accordance with Part 4 of attached Specification 16201.

Item Description	Quan.	Delivery Date	Unit Price (\$)	Extended Price (\$)
Marine Conversion per Specifications	1 ea.	15 weeks		

12. Option #2 – Low Hour Used Engines

Option #2 is for furnishing complete Gensets in accordance with attached Specifications 16201 and 16202 using low hour used engines.

12A. Base Bid

The Base Bid is for furnishing complete Gensets **including marine conversion** in accordance with all provisions of attached Specification 16201 in its entirety and Specification 16202 in its entirety.

Item Description	Quan.	Delivery Date	Unit Price (\$)	Extended Price (\$)
Complete Gensets per Specifications	3 ea.	15 weeks		

12B. Additive Alternate #1

Additive Alternate #1 is for furnishing a standard low hour used engine (engine only, **no marine conversion**) in accordance with all provisions of attached Specification 16201 Parts 1, 2, 3, and 5.

Item Description	Quan.	Delivery Date	Unit Price (\$)	Extended Price (\$)
Standard Engine per Specifications	1 ea.	15 weeks		

12C. Additive Alternate #2

Additive Alternate #2 is for performing marine conversion on a standard low hour used engine furnished under Additive Alternate #1 in accordance with Part 4 of attached Specification 16201.

Item Description	Quan.	Delivery Date	Unit Price (\$)	Extended Price (\$)
Marine Conversion per Specifications	1 ea.	15 weeks		

Acknowledge all addenda

Addendum No	Date Issued	Addendum No	Date Issued	Addendum No	Date Issued

BIDDER'S NOTICE: By signature on this form, the Bidder certifies that:

- a. The price(s) submitted are independent and without collusion.
- b. The Bidder will comply with the laws of the State of Alaska;
- c. The Bidder will comply with applicable portions of the Federal Civil Rights Act of 1964;
- d. The Bidder will comply with the Equal Employment Opportunity Act and the regulations issued there under by the State and Federal Government; and
- e. The Bidder has reviewed all terms and conditions in this Invitation to Bid.

If any Bidder fails to comply with any of these requirements, the Authority may reject its bid, terminate the contract, or consider the Vendor in default.

Company Submitting Bid	Telephone Number
Address	Fax Number
Authorized Signature	E-mail Address
Print Name	Alaska Business License number DATE: _____

End of Bid Schedule.

APPENDIX D. Debarment Certification

**ALASKA INDUSTRIAL DEVELOPMENT AND EXPORT AUTHORITY
AND ALASKA ENERGY AUTHORITY**

**CERTIFICATION OF CONTRACTOR AND LOWER-TIER PARTICIPANTS REGARDING
DEBARMENT, SUSPENSION, AND OTHER INELIGIBILITY AND VOLUNTARY EXCLUSION**

Contractor

PLEASE INSERT YOUR COMPANY'S NAME AND ADDRESS IN THIS BOX

I, _____ hereby certify on behalf
(Name and title of official)

Of _____ that:
(Name of contractor)

- (1) The prospective contractor and lower tier participant certifies, by submission of this bid or proposal, that neither it nor its "principals" [as defined at 49 C.F.R. § 29.105(p)] is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency. In the event, your company or any principals become ineligible from participating in federally funded transactions, you are required to notify us immediately.
- (2) When the prospective contractor and lower tier participant is unable to certify to the statements in this certification, such prospective participant shall attach an explanation to this proposal.

Executed this _____ day of _____, 20____

By:

(Signature of authorized official)

(Title of authorized official)