



This is not an order.

INVITATION TO BID NUMBER (ITB)	<i>Return this bid to the issuing office below</i>
15068 Generators	Attention – Althea Clapp, Sr. Contracting Officer Alaska Energy Authority (AEA) or (Authority) 813 West Northern Lights Blvd. Anchorage, AK 99503-2495 aclapp@aidea.org , Ph. 907-771-3018 Fax 907-771-3044

This Bid in accordance with AS 36.30 and 2 AAC 12 with Alaska Energy Authority (AEA) on behalf of the City of Nunam Iqua. Funding for this procurement is a combination of State and Denali Commission federal funding.

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Invitation to Bid Schedule

Bid Issued	November 5, 2014
Pre-bid Conference	None
Bid Opening	ITB shall be publically opened at, 2:30 p.m. November 26, 2014 , in the Willow Conference Room.

Bid Submittals

a. Federal Certifications #2-Debarment and #21 Lobbying
b. Appendix D Bid Schedule
c. Insurance certificate will be required from successful Bidder only

Important

Interested firms shall register online to receive addenda and other information at <http://www.aideaaeprocmement.org/>

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

All addenda and other notices will be posted and available at <http://www.aidea.org/> "Quick Links" Procurement Opportunities.

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 - The Authority requires the following:

- a) Bidders must have 3-years prior experience producing the commodity described herein.
- b) Bidders must have staff with extensive experience in manufacturing or selling generators as described herein. If asked, Bidder must be able to provide examples of 3-projects similar to the one described herein.
- c) Bidders must have a fabrication facility with adequate space and appropriate equipment as required to perform the work. The Authority may inspect the bidder's shop after the bid opening and prior to award in order to verify Vendor qualifications.
- d) A bidder's inability to provide the requested documentation related to proof of their ability to meet the vendor 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: Althea Clapp, Sr. Contracting Officer
ITB 15068 Generators
Opening Date: 2:30 pm, November 26, 2014**

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 108.910. 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 Althea S. Clapp, Sr. 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 ultimate destination. 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. 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. Bidder Minimum Qualifications

Bidders must be in the business of routinely selling and supporting the commodities requested herein; and has the authorization to support warranties.

20. Liquidated Damages

It is expressly understood and agreed that in case of the failure on the part of the Vendor, for any reason, except with the written consent of the Authority, to furnish materials and the doing and performance of the work before the date(s) stipulated in the bid schedule, the Authority shall have the right to deduct from any money due or which may become due the Vendor, or if no money shall be due, the Authority shall have the right to recover the amount stipulated below, such deduction to be made, or sum to be recovered, not as a penalty but as liquidated damages. The amount of liquidated damages shall be **Six Hundred dollars (\$600.00) per day**, for each calendar day elapsing between the time stipulated for delivery and the actual date of delivery in accordance with the terms hereof.

- 21. 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.
- 22. Warranty**
Provide warranty in accordance with the Specifications.
- 23. 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.
- 24. 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.
- 25. 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.
- 26. 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.
- 27. 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 no later than November 10, 2011 to make any necessary arrangements.

Telephone: 907-465-5758
Fax: 907-465-3450
TDD:907465-5745

**Nunam Iqua Power System Upgrade
Generator Purchase & Assembly
ITB 15068**

Specifications

Section 16200

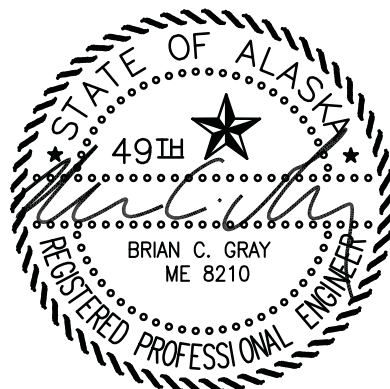
Drawing M1

Torsional Vibration Analyses

Prepared By:

Gray Stassel Engineering, Inc.

October 2014



PART 1 - GENERAL

1.1 SCOPE

- A. The Work included herein shall consist of furnishing generators and accessories and assembling them with Owner furnished engines into complete engine-generator packages.
- B. Each unit shall be harmonically balanced and shall be delivered complete and ready for installation. See Paragraph 2.1D for additional requirements regarding balancing.
- 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 for each engine-generator combination is attached to the end of the specification. The Contractor shall review these to determine applicability to the units provided under this Contract. If either of the prior analyses are not applicable for the new unit(s), a new analysis shall be provided.

1.3 Not used this specification.

1.4 MANUFACTURER'S WARRANTIES

- A. Note that the warranty requirements do not apply to the Owner furnished engines.
- 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 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. Verification of applicability for the prior torsional compatibility analysis for each engine-generator combination included with these specifications.

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 260kW continuous at 105°C rise, Newage/Stamford HCI434D or Kato equal, no other substitutes.
- C. Owner furnished engines shall be John Deere 6081HF070 and 6090AFM75 as indicated in the Bid Schedule.
- D. Note that the Owner furnished John Deere 6081HF070 engines shall be retrofit with an Option 1319 Damper and Pulley, see attached Torsional Vibration Analysis.

2.2 **ENGINE ACCESSORIES**

- A. Standard industrial engines (6081HF070) will be furnished by the Owner without a charging alternator, fan, and radiator. Marine engines (6090AFM75) will be furnished by the Owner without a charging alternator, heat exchanger, coolant expansion tank, or accessory reduction gear drive.
- B. ECU: The Owner furnished Engine Control Unit (ECU) shall be connected to the wiring harness but not permanently mounted to the genset. The Owner will be responsible for final fixed mounting of the ECU after delivery.
- C. Fuel supply and return lines and the lube oil drain line shall be connected to the front of generator skid for field connection to the plant piping. See attached drawing M1 for detailed configuration.
- D. Fuel and Oil Hoses: All hoses for fuel, lube oil, vents, mechanical gauges, etc., 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. Securely support hoses from engine and skid.

- E. 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.
- F. 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.
- G. Protective Guards: All moving parts and hot surfaces shall be provided with protective guards in accordance with U.L Standard 2200.
- H. Air Cleaners: The engine shall be provided with a dry-type, replaceable element air cleaner with a metal canister, Donaldson or equal. Open disposable type air filters or plastic canisters will not be accepted. Provide visual air restriction indicator, 20" water column limit, manual reset, Donaldson X002251, no substitutes.
- 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 as follows:
 - 1. The 6081HF070 engines are currently equipped with a 12VDC electric starting system. The existing starter assembly shall be removed and replaced with a new 24VDC starter assembly.
 - 2. The 6090AFM75 engines are currently equipped with a 24VDC electric starting system. No modifications are required.
- 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. See note 2 below.
 - 2. Air Filter Vacuum Sensor. 4-20mA, -30"Hg to 0 PSIG, 1/4" MPT. Noshok 100-30V-1-1-2-7, no substitutes.
 - 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 is only installed on 6081HF070 engines units with charge air coolers.

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.

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. AEA 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 SILENCER

- A. A critical grade silencer shall be furnished with each engine. Packed disc style, bottom center in and side out, ASA 125# flanges, internal acoustical/thermal wrap, critical grade, four mounting tabs, high temperature satin black finish. E.M. Products DCK2 or equal, 5" flanged connection size.
- B. 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 an ASA 125 lb. flange sized to match silencer 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.
- C. Provide one (1) each rain cap for each silencer, all stainless steel construction, G.T. Exhaust Systems or equal. Size rain cap to match silencer.

2.4 ACCESSORIES.

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

- A. Caldyn spring vibration isolators complete with mounting hardware, four (4) per each unit, sized for the complete engine/generator package weight.
- B. Drip pan, 14-gauge galvanized sheet metal, liquid tight joints, sized for each unit. Drip pan shall be large enough to cover all engine parts that can drip or leak oil. Drip pan volume shall be sized for the oil capacity of the engine with a minimum

of one inch from the top of the oil to the top of drip pan side. The maximum width of the drip pan shall not exceed 22" unless indicated otherwise.

- C. Each engine shall be provided with two 15 ft. long 2/0 AWG arctic flex battery cables plus one 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.
- D. Provide one battery charger for each engine-generator, 12/24-volt, 20A, solid state, auto equalizing 120 volt AC input power with AC pilot light. Provide with optional high and low DC voltage alarm relay, AC power failure relay, and remote summary relay. Charles Industries model 93-INCHGR20-A or SENS model NRG22-20-RCLS, no substitutes.

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.
- C. Provide one each low coolant level switch shipped loose, FW Murphy EL150K1 no substitutes.

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 400:5 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.
- 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. Each generator shall be provided with a standard sized terminal compartment. The terminal compartment shall be provided with a load connection block to allow easy field termination of the load, neutral, and ground conductors. The generator neutral connection shall not be connected to the mounting skid or the generator frame. The neutral shall be isolated for field grounding by others at the switchgear or transformer.
- J. 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.

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 John Deere green 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. Perform customary commercial factory tests on each engine-generator including, but not limited to, the following:
 - 1. Perform hydrostatic test on water jackets to assure that water seals and water jackets are watertight. Test report shall indicate pressure at which test was made and the results.
 - 2. Place engine in continuous operation without stoppage for a period of not less than eight hours. Operate not less than one hour at each load point (1/2, 3/4, and full load) and 1 hour at 110 percent of rated load. If stoppage becomes necessary during this period, repeat the 8-hour run. Also record the following data at the start, at 15-minute intervals, and at the end of each load run: Fuel consumption (correct fuel consumption results to guaranteed conditions); exhaust temperatures; and jacket water temperatures, lube oil temperatures and pressures, and crankcase vacuum.
- 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 following steps:
 - 1. Clean the outside of the engine and inspect and ensure that the engine and generator are covered by good quality paint. Correct any deficiencies.
 - 2. Flush the cooling system with 50/50 ethylene glycol mix, Shell Rotella ELC, no substitutes. Install covers over the connections.
- B. After preparing the equipment for shipping, package each engine/generator separately as follows:
 - 1. Coil wiring harnesses and secure control wiring to genset.

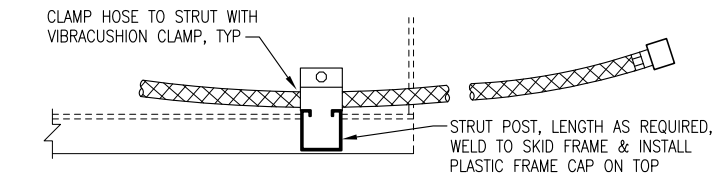
2. Put a waterproof cover over the entire engine/generator set. Make the cover tight, but loose enough to let air circulate around the unit to prevent damage to exposed metal parts from condensation.
3. All other included components (spare parts, loose items, etc.) shall be packaged in a box or crate.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

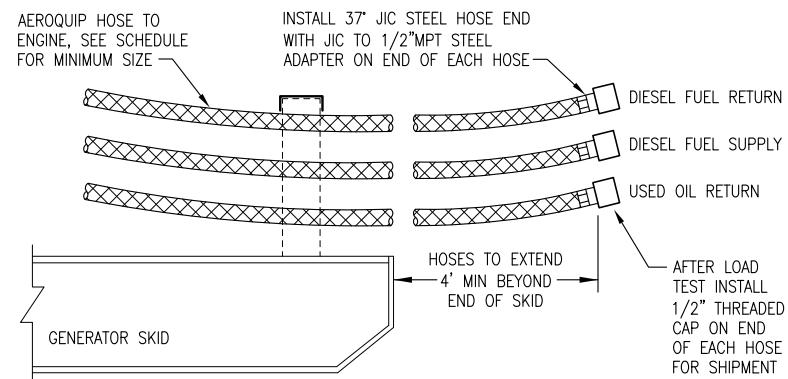
SEE ATTACHED DRAWING M1

AND

ATTACHED TORSIONAL VIBRATION ANALYSIS



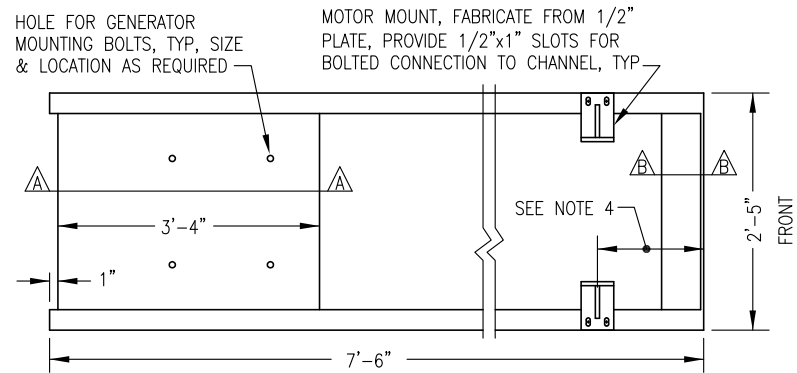
PLAN (TOP) VIEW



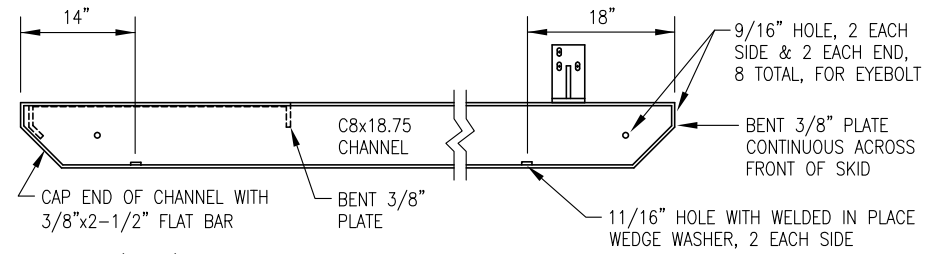
ELEVATION (SIDE) VIEW

MINIMUM HOSE SIZE SCHEDULE		
FUEL SUPPLY	FUEL RETURN	LUBE & USED OIL
#8	#8	#10

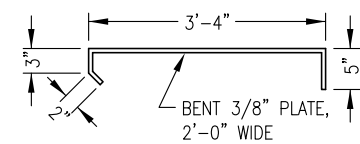
1 FUEL & OIL HOSE TERMINATIONS – OIL DRAIN TO PLANT PIPING
M1 NO SCALE



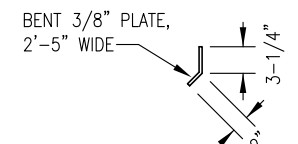
PLAN (TOP) VIEW



ELEVATION (SIDE) VIEW



SECTION A-A



SECTION B-B

NOTES:

- 1) FABRICATE FROM ASTM A-36 STEEL. BEND PLATES & CUT ENDS OF CHANNELS AT 90° & 45° AS SHOWN.
- 2) EXCEPT WHERE INDICATED AS BOLTED MAKE ALL CONNECTIONS WITH CONTINUOUS WELDS (FILLET OR FULL-PENETRATION GROOVE AS REQUIRED) IN ACCORDANCE WITH CURRENT AWS STANDARD CODE.
- 3) ROUND ALL CORNERS & GRIND WELDS SMOOTH AFTER FABRICATION. PAINT TO MATCH ENGINE-GENERATOR.
- 4) PLACE 6090AFM UNITS ON SKID WITH CENTERLINE OF THE EXHAUST RISER 4'-1" FROM THE FRONT OF THE SKID. PLACE 6081HF UNITS ON SKID WITH CENTERLINE OF THE EXHAUST RISER 1'-2" FROM THE FRONT OF THE SKID.

2 JOHN DEERE 6090AFM & 6081HF SKID DESIGN
M1 NO SCALE

State of Alaska
Department of Community and Economic Development
AIDEA/AEA
Rural Energy Group
813 West Northern Lights Blvd.
Anchorage, Alaska 99503

ALASKA ENERGY AUTHORITY

PROJECT: SOLICITATION #15068 GENERATOR PURCHASE

TITLE: FUEL/LUBE OIL TERMINATIONS & SKID DESIGN

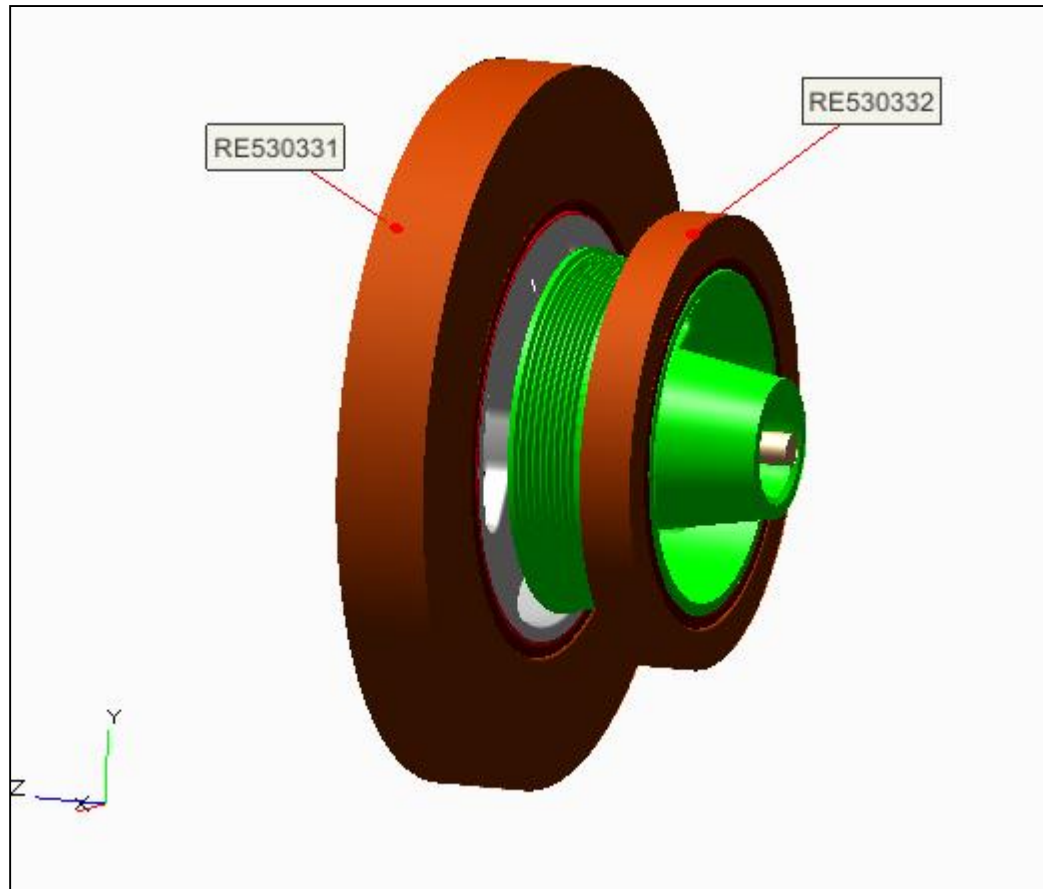
DRAWN BY: BCG	SCALE: NO SCALE
DESIGNED BY: BCG	DATE: OCT 2014
FILE NAME:	SHEET: M1 OF 1
PROJECT NUMBER:	

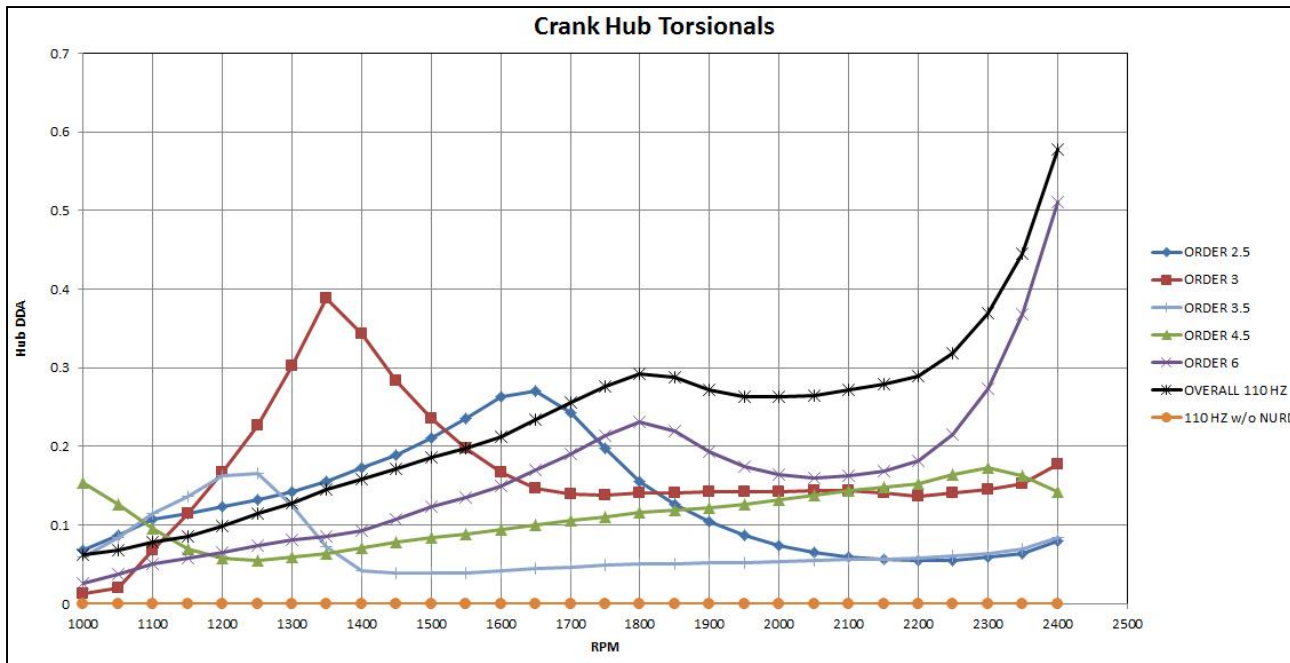
Gray Stassel Engineering, Inc.
P.O. 111405, Anchorage, AK 99511 (907)349-0100

TVA Summary

6081HF070 200 kWe @ 1800 Prime Power
Newage HCI434D
Damper & Pulley option:1319 (proposed)
Flywheel option: 1506

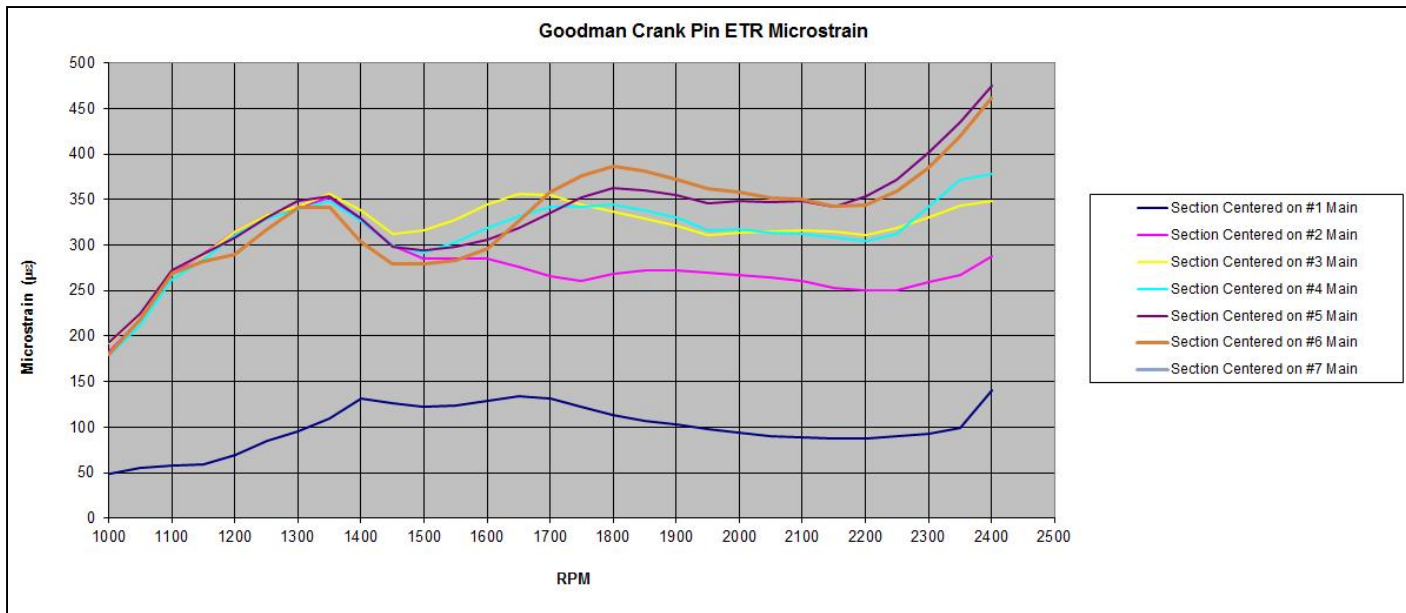
Damper & Pulley option:1319 (recommended)



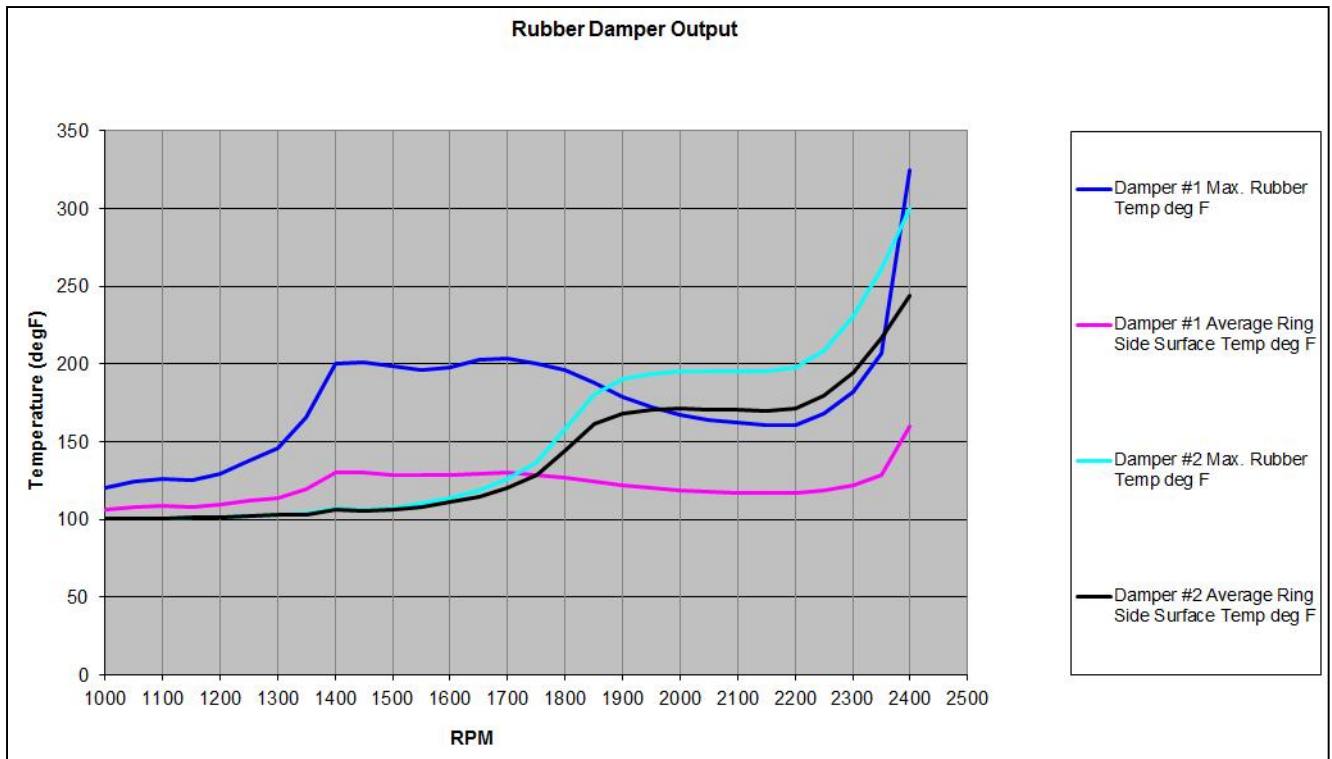


Maximum value plots shown (Accepted)

Maximum allowable value for all conditions: 0.32 DDA

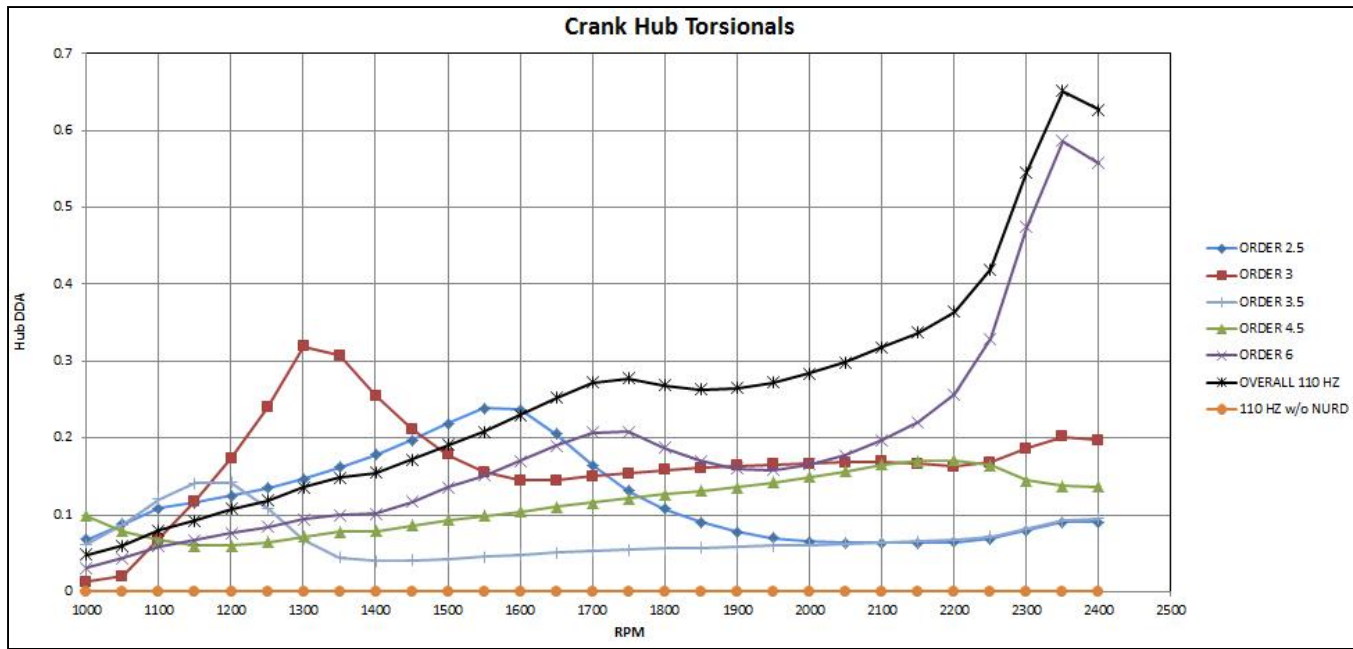


Maximum allowable value for all conditions: ~ 580 µε

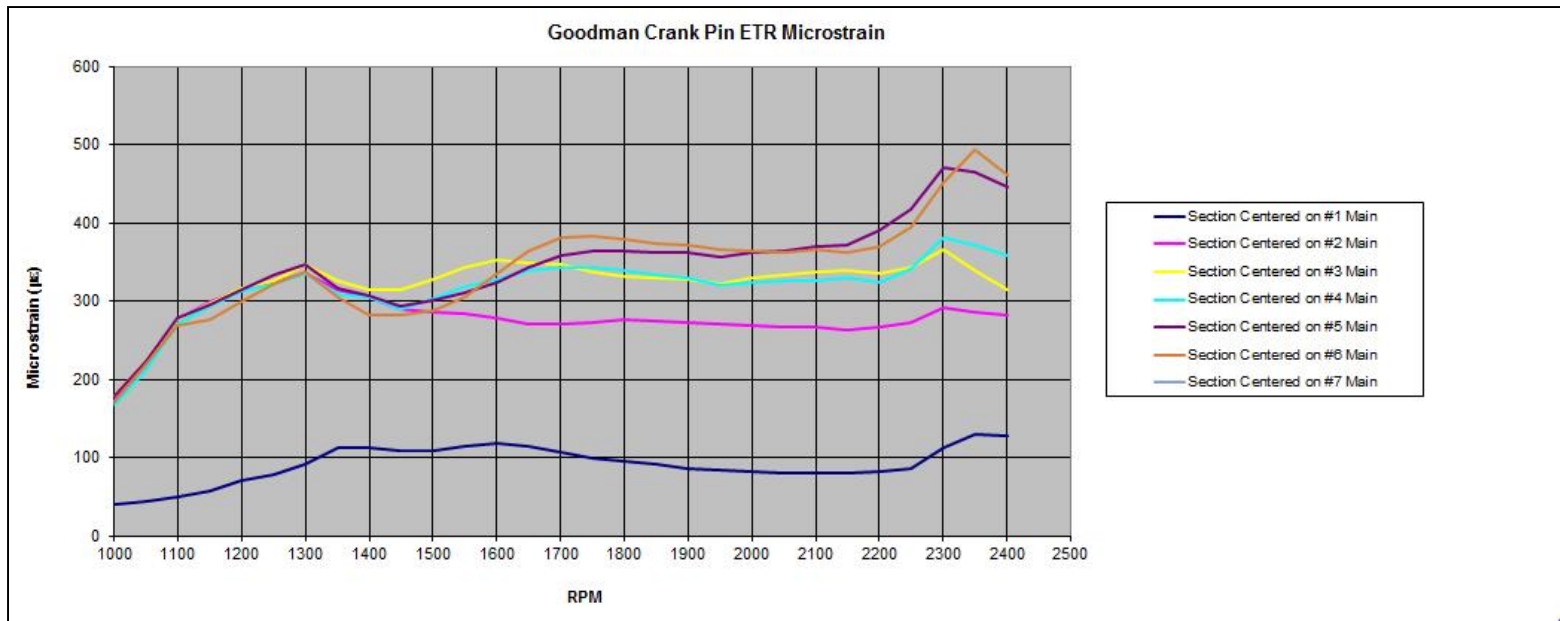


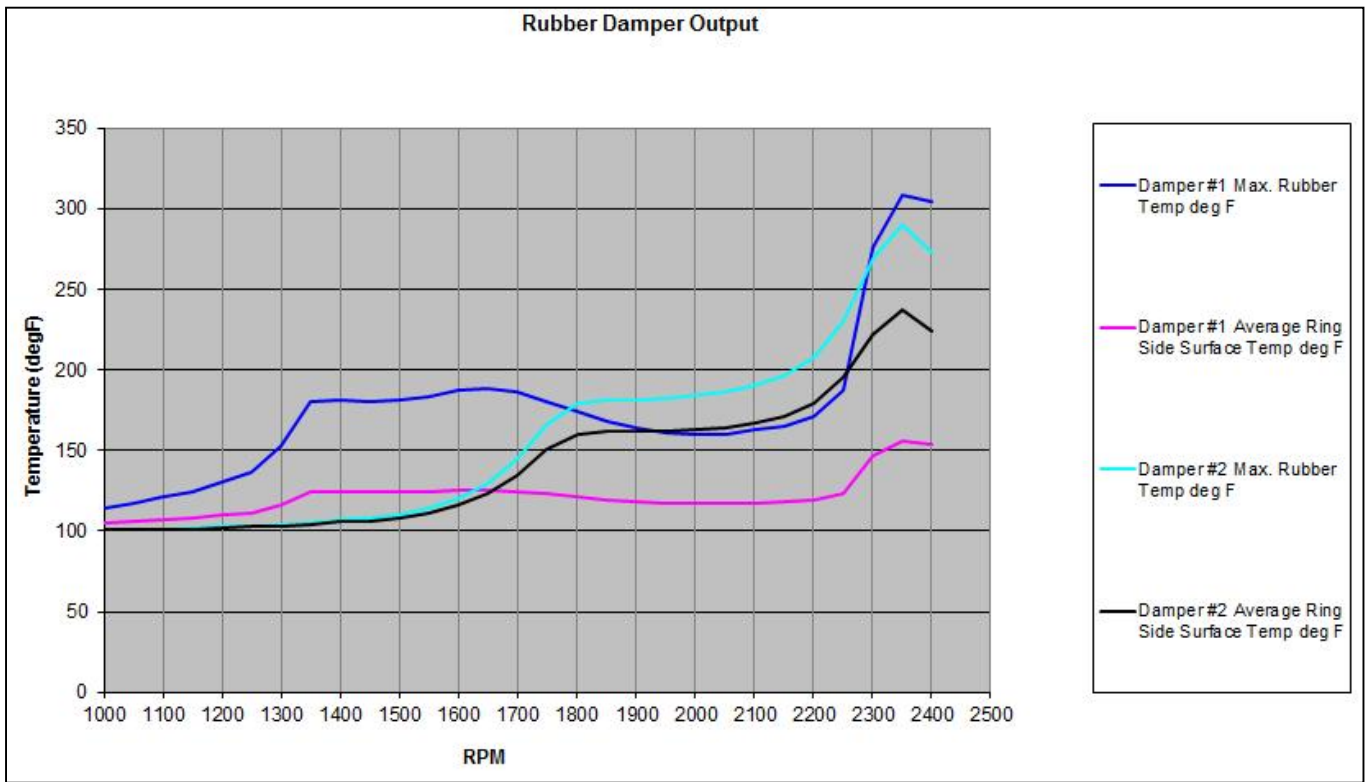
Maximum value plots shown (Accepted)

Maximum allowable value for all conditions: ~ 220 F

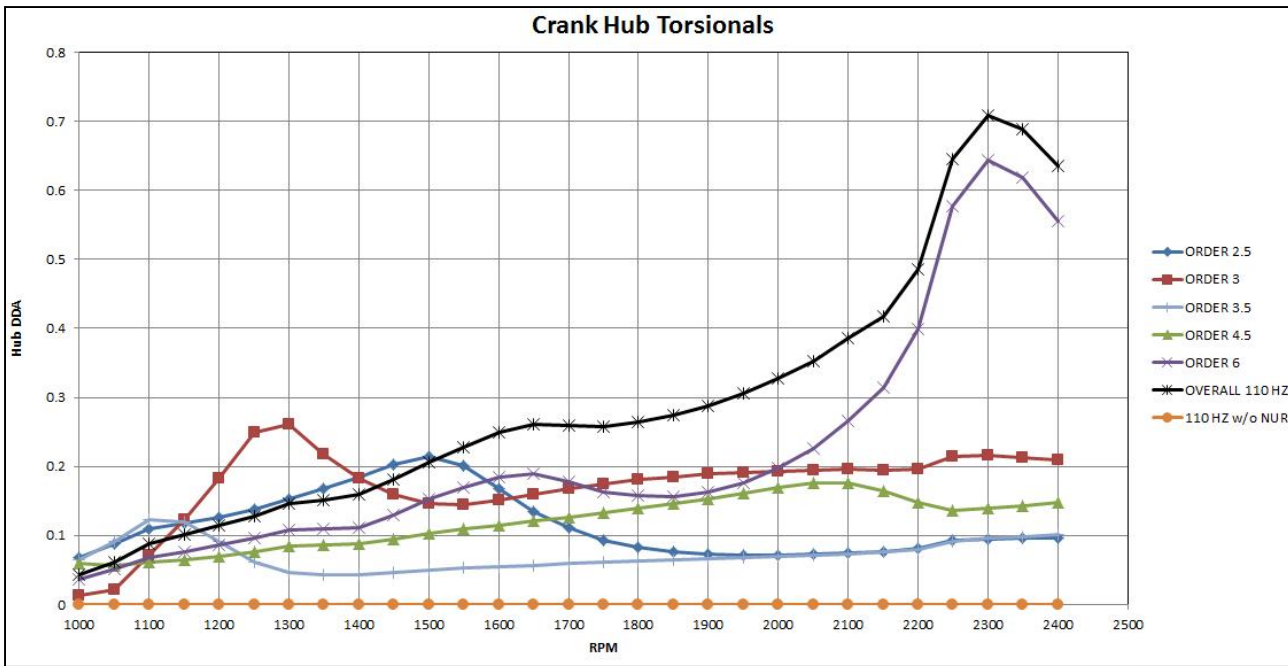


Nominal value plots shown (Accepted)

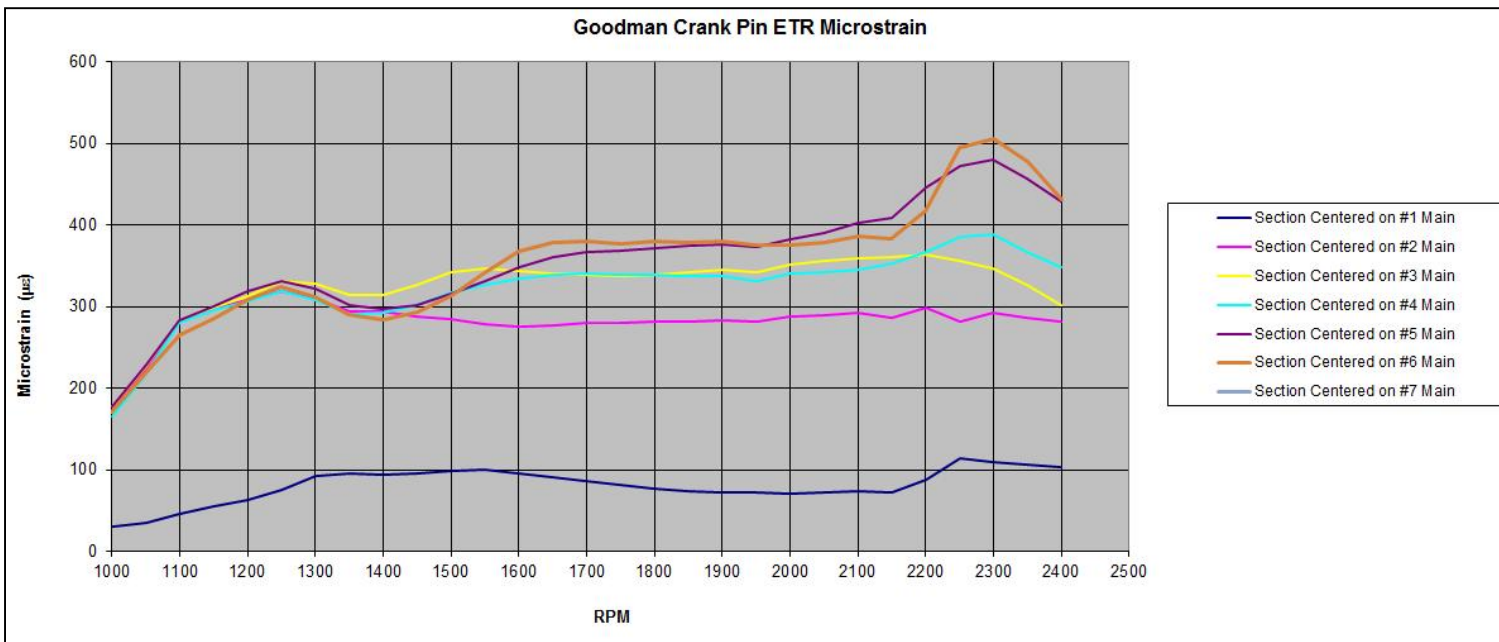


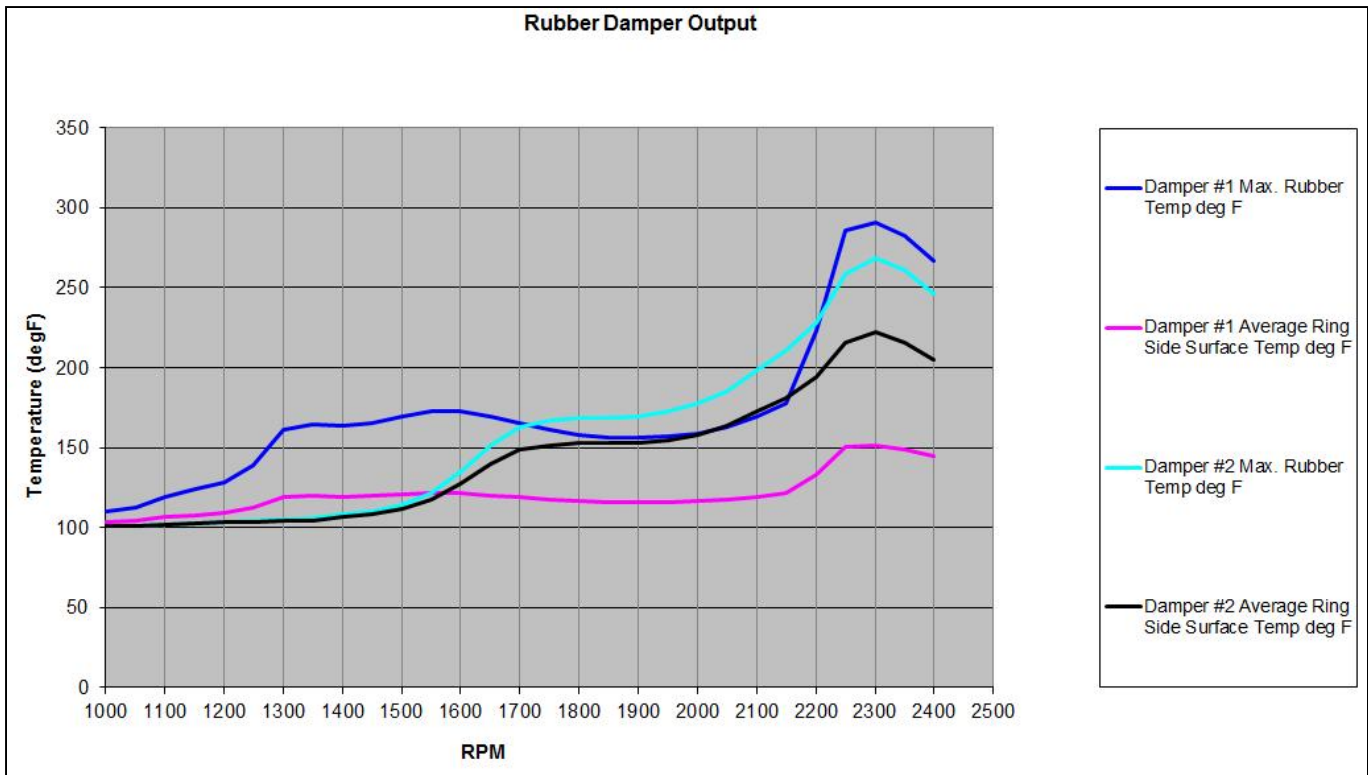


Nominal value plots shown (Accepted)



Minimum value plots shown (Accepted)





Minimum value plots shown (Accepted)

6081HF070 200 kWe @ 1800 Prime Power & Newage HCI434D

TVA Model Request Sheet - OEM Gen Set Engine Application

TVA Model Request Sheet Version 3.0

TVA Model Request Date	1-Mar-13	REF: TVR-2013-034	Allow 20 work days for normal processing
TVA Model Completion Date		STATUS: This genset application is torsionally approved as modelled.	Allow 10 work days for rapid processing
Requester	CASCADE ENGINE	Vishal Edake (28 March 2013)	
Location	TUKWILA, WA		
Office Phone #	253 867 2020		
Cell Phone #	206 914 6457		
PEC Account # to Charge (XXX)		AGIRX381XXX	
OEM Engine Customer	MARSH CREEK		
Location (City, State)	ANCHORAGE, AK		
OEM Distributor Involved	CASCADE ENGINE CENTER		
Location (City, State)	TUKWILA, WA		
Gen Set Make and Model	MARSH CREEK		
Power Rating	200 kWe	kWe or KVA	
Electrical Frequency (Hz)	60	Hz	
Power Unit Type	PRIME	Standby, Prime, or Continuous	
Alternator Make	NEWAGE-STAMFORD		
Alternator Model	HCI434D		
Alternator Drawing #	TBD	Marathon drawings must include 'Dash Number'	
Is Drawing already On-file ?		Yes, No	REQUESTED FROM NEWAGE 3/1/2013
Will PMG Option be Used ?	YES	Yes, No	
Engine Model	6090AFM75		
Emission Type (Tier__)	T2 MARINE		
Engine Performance Curve Sheet	6090AFM75_E		
Standby Power Rating (kW)	244	kW	327 Hp
Prime Power Rating (kW)	222	kW	297 Hp
Rated Speed (RPM)	1800	RPM	
Governor Type	ELECTRONIC	Electronic or Mechanical	
Speed Regulation	ISSOC	Isochronous or Droop	
Droop Percentage	0	%	
Crank Pulley Option	1350		
Damper Option	6899		
Flywheel Housing Option	1435		
Flywheel Option	1550		
Add-On Crank Pulley Option	4199		
Any Other Comments:	REP SN RG6090G011580 SOLICITATION 2013019		

Appendix C – Required Contract Provisions for Federal Aid Contracts

[Revised November 26, 2013]

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. Incorporation by reference shall not be allowed. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with all applicable Required Contract Provisions.

1. CARGO PREFERENCE REQUIREMENTS - 46 USC §1241, 46 CFR Part 381 [Applicable to all Federal-aid contracts involving equipment, materials or commodities which may be transported by ocean vessel]

Cargo Preference Use of United States - Flag Vessels - The contractor agrees: **a.** to use privately owned United States-Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to the underlying contract to the extent such vessels are available at fair and reasonable rates for United States-Flag commercial vessels; **b.** to furnish within twenty (20) working days following the date of loading for shipments originating within the United States or within thirty (30) working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in the preceding subsection to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590 and to THE AUTHORITY (through the contractor in the case of a subcontractor's bill-of-lading.) **c.** to include these requirements in all subcontracts issued pursuant to this contract when the subcontract may involve the transport of equipment, material, or commodities by ocean vessel.

2. DEBARMENT, SUSPENSION, INELIGIBILITY & VOLUNTARY EXCLUSION - 49 CFR Part 29; Executive Order 12549 [Applicable to all Federal-aid 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 Order 12549 [49 CFR Part 29]. 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 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 proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction", without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

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" [as defined at 49 CFR §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.

(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, 49 CFR §29 apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Official: _____

Name and Title of Contractor's Authorized Official: _____

Date: _____

3. **DAVIS-BACON AND COPELAND ANTI-KICKBACK ACTS - 40 USC 3141 et seq.; 18 USC 874; 29 CFR Part 5; 49 CFR 18.36(i)(5)** [Applicable to all Federal-aid construction contracts which exceed \$2,000] **Does not apply to fabrication work.**

5. **CLEAN WATER REQUIREMENTS - 33 USC 1251** [Applicable to all Federal-aid contracts which exceed \$100,000]

Clean Water - (1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 USC 1251 et seq. The Contractor agrees to report each violation to THE AUTHORITY and understands and agrees that THE AUTHORITY will, in turn, report each violation as required to assure notification to the Federal grantor agency and the appropriate EPA Regional Office. (2) The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal funds.

6. **CLEAN AIR REQUIREMENTS - 42 USC 7401 et seq., 40 CFR 15.61 & 49 CFR Part 18** [Applicable to all Federal-aid contracts which exceed \$100,000]

Clean Air - (1) The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 USC 7401 et seq. The Contractor agrees to report each violation to THE AUTHORITY and understands and agrees that THE AUTHORITY will, in turn, report each violation as required to assure notification to the Federal grantor agency and the appropriate EPA Regional Office. (2) The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal funds.

7. ACCESS TO RECORDS AND REPORTS - 49 CFR 18.36 [Applicable to all Federal-aid contracts]

Access to Records - The following access to records requirements apply to this Contract:

1. Contractor agrees to provide THE AUTHORITY, the Federal grantor agency, the Comptroller General, or any of their duly authorized representatives access to the Contractor's books, documents, papers and records which are directly pertinent to this contract for the purpose of making audit, examination, excerpts and transcriptions.
2. Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.
3. Contractor agrees to maintain all books, records, accounts and reports required under this contract for a period of not less than three years after the date of termination or expiration of this contract, except in the event of litigation or settlement of claims arising from the performance of this contract, in which case Contractor agrees to maintain the same until THE AUTHORITY, the Federal grantor agency, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto.

8. FEDERAL CHANGES - 49 CFR Part 18 [Applicable to all Federal-aid contracts]

Federal Changes - Contractor shall at all times comply with all applicable Federal regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Agreement between THE AUTHORITY and the Federal grantor agency, as they may be amended or promulgated from time to time during the term of this contract. Contractor's failure to so comply shall constitute a material breach of this contract.

9. NO GOVERNMENT OBLIGATION TO THIRD PARTIES [Applicable to all Federal-aid contracts]

(1) THE AUTHORITY and Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to THE AUTHORITY, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.

(2) The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

10. PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS AND RELATED ACTS - 31 USC 3801 et seq.; 49 CFR Part 31; 18 USC 1001 [Applicable to all Federal-aid contracts]

(1) The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 USC §3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 CFR Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the Federally assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.

(2) The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance, the Government reserves the right to impose the penalties of 18 USC §1001 on the Contractor, to the extent the Federal Government deems appropriate.

(3) The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

11. SEISMIC SAFETY REQUIREMENTS - 42 USC 7701 et seq. & 49 CFR Part 41 [Applicable only to Federal-aid contracts for the construction of new buildings or additions to existing buildings]

Seismic Safety - The contractor agrees that any new building or addition to an existing building will be designed and constructed in accordance with the standards for Seismic Safety required in Department of Transportation Seismic Safety Regulations, 49 CFR Part 41 and will certify to compliance to the extent required by the regulation. The contractor also agrees to ensure that all work performed under this contract including work performed by a subcontractor is in compliance with the standards required by the Seismic Safety Regulations and the certification of compliance issued on the project.

12. ENERGY CONSERVATION REQUIREMENTS - 42 USC 6321 et seq. & 49 CFR Part 18 [Applicable to all Federal-aid contracts]

Energy Conservation - The Contractor agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.

13. CIVIL RIGHTS REQUIREMENTS - 29 USC §623, 42 USC §2000, 42 USC §6102, 42 USC §12112, 42 USC §12132, 29 CFR Part 1630, & 41 CFR Parts 60 et seq. [Applicable to all Federal-aid contracts]

Civil Rights - The following requirements apply to the underlying contract:

1. **Nondiscrimination** - In accordance with Title VI of the Civil Rights Act, as amended, 42 USC §2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 USC §6102, and section 202 of the Americans with Disabilities Act of 1990, 42 USC §12132, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements the Federal grantor agency may issue.

2. **Equal Employment Opportunity** - The following equal employment opportunity requirements apply to the underlying contract:

(a) **Race, Color, Creed, National Origin, Sex** - In accordance with Title VII of the Civil Rights Act, as amended, and 42 USC §2000e, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 CFR Parts 60 et seq., (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 USC §2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Project. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements the Federal grantor agency may issue.

(b) **Age** - In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, and 29 USC § 623, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements the Federal grantor agency may issue.

(c) **Disabilities** - In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 USC §12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 CFR Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements the Federal grantor agency may issue.

3. The Contractor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance, modified only if necessary to identify the affected parties.

14. BREACHES AND DISPUTE RESOLUTION - 49 CFR Part 18 [Applicable to all Federal-aid contracts in excess of \$100,000]

Disputes - Disputes arising in the performance of this Contract which are not resolved by agreement of the parties shall be decided in accordance with THE AUTHORITY's Procurement Rules.

Performance During Dispute - Unless otherwise directed by THE AUTHORITY, Contractor shall continue performance under this contract while matters in dispute are being resolved.

Notification - In addition to the notice requirements set out elsewhere in this contract, if the contractor becomes aware of any act or occurrence which may form the basis of a claim by the contractor for additional compensation or an extension of time for performance, or if any dispute arises regarding a question of fact or interpretation of the contract, the contractor shall immediately inform the Project Manager. If the matter cannot be resolved by agreement within 7 days, the contractor shall, within the next 14 days, submit an Intent to Claim in writing to the Project Manager. The claim, if not resolved, shall be presented to the Project Manager, in writing, within 60 days following receipt of the Intent to Claim. Receipt of the claim will be acknowledged in writing by the Project Manager. The Contractor agrees that unless these written notices are provided, the contractor will have no entitlement to additional time or compensation for such act, event or condition.

Presenting Claim - A claim shall be submitted in accordance with THE AUTHORITY Procurement Rule 1800.12 and shall specifically include the following:

1. The act, event or condition giving rise to the claim.
2. The contract provisions which apply to the claim and under which relief is provided.
3. The item or items of contract work affected and how they are affected.
4. The specific relief requested, including additional contract time if applicable, and the basis upon which it was calculated.

Claim Validity, Additional Information, & Project Manager's Actions - The claim, in order to be valid, must not only show that the contractor suffered damages or delay but that those conditions were actually a result of the act, event or condition complained of and that the contract provides entitlement to relief to the contractor for such act, event, or condition. The Project Manager reserves the right to make written request to the contractor at any time for additional information which the contractor may possess relative to the claim. The contractor agrees to provide the Project Manager such additional information within 30 days of receipt of such a request. Failure to furnish such additional information may be regarded as a waiver of the claim. The claim, if not resolved by agreement within 60 days of its receipt, will automatically be forwarded to the Manager of Purchasing & Materials for formal written decision.

Decision on Claim - The contractor will be furnished the Manager of Purchasing & Materials' decision within the next 90 days, unless additional information is requested by the AUTHORITY. The Manager of Purchasing & Materials' decision is final and conclusive unless fraudulent as to the Claim.

Notice of Appeal - Within 14 days of receipt of the Manager of Purchasing & Materials' decision, the contractor may deliver a Notice of Appeal to THE AUTHORITY in accordance with THE AUTHORITY Procurement Rule 1800.13 and request a hearing. The Notice of Appeal shall include specific exceptions to the Manager of Purchasing & Materials' decision, including specific provisions of the contract, which the contractor intends to rely upon in the appeal. General assertions that the Manager of Purchasing & Materials' decision is contrary to law or to fact are not sufficient.

Decision on Appeal - The decision of the AUTHORITY on appeal will be rendered within 90 days after the conclusion of a hearing conducted under the AUTHORITY Procurement Rule 1800.15 or the date of receipt of the Notice of Appeal, whichever is later. The time limits given above may be extended by mutual consent. The decision of the AUTHORITY on appeal shall be final and conclusive unless the Contractor appeals to the superior court in accordance with the AUTHORITY Procurement Rule 1800.18.

15. NONSEGREGATED FACILITIES [Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more]

1. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the

EEO Provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability.

2. As used in this certification, the term “segregated facilities” means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, or national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).

3. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to the award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

16. NATIONAL HISTORIC PRESERVATION ACT REQUIREMENTS - 16 USC §470 et seq. [Applicable to all Federal-Aid contracts]

In the performance of this contract, neither Contractor nor its subcontractors shall take any action (which term includes but is not limited to the seeking of any required federal license or permit, and the extraction of material or natural resources from any source whatsoever) that may affect a district, site, building, structure or object that is included in or eligible for inclusion in the National Register of Historic Places without prior notice to THE AUTHORITY and compliance with the requirements of the National Historic Preservation Act of 1966, 16 USC § 470 et seq. Contractor is advised that both historic and cultural sites may be eligible for inclusion on the National Register.

17. FLY AMERICA REQUIREMENT - 49 USC §40118; 41 CFR § 301-3.61(b) & 301-10.131 et seq. [Applicable to all Federal-aid contracts which may involve the international air transportation of equipment, materials, commodities, products or personnel]

The Contractor agrees to comply with 49 U.S.C. 40118 (the “Fly America” Act) in accordance with the General Services Administration’s regulations at 41 CFR Part 301-10, which provide that recipients and subrecipients of Federal funds and their contractors are required to use U.S. Flag air carriers for U.S Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. The Contractor shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. The Contractor agrees to include the requirements of this section in all subcontracts that may involve international air transportation.

18. RECYCLED PRODUCTS - 42 USC §6962; 40 CFR PART 247 [Applicable to all Federal-aid contracts for items designated by the EPA, for the purchase of \$10,000 or more of one of these items during the fiscal year]

The contractor agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 USC 6962), including but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247. The contractor agrees to include this requirement in all subcontracts issued pursuant to this contract when the subcontract may involve the purchase of said items.

19. INCORPORATION OF FEDERAL TRANSIT ADMINISTRATION TERMS - FTA Circular 4220.1F [Applicable to all FTA funded contracts]

The provisions herein include, in part, certain Standard Terms and Conditions required by USDOT, whether or not expressly set forth in the contract provisions. All contractual provisions required by USDOT, as set forth in FTA Circular 4220.1F are incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this agreement. The contractor shall not perform any act, fail to perform any act, or refuse to comply with any THE AUTHORITY requests which would cause THE AUTHORITY to be in violation of the FTA terms and conditions.

20. **FHWA BUY AMERICA REQUIREMENTS** - 23 CFR §635.410 [Applicable only to FHWA funded construction contracts in excess of \$100,000] **Funding is not FHWA; does not apply to this procurement.**

21. **CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING** - 31 USC §1352, 49 CFR Parts 19, 20 [Applicable to all Federal-aid contracts and to all related subcontracts which exceed \$100,000]

A bidder must submit to THE AUTHORITY the below certification with its bid response for any Federally funded contract that exceeds \$100,000. Bids that are not accompanied by a completed certification may be rejected as nonresponsive.

1. The undersigned Contractor certifies, to the best of his or her knowledge and belief, that:
 - a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
 - b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
2. The undersigned also agrees that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.
3. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 USC 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

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 31 USC 3801, *et seq.*, apply to this certification and disclosure, if any.

Signature of Contractor's Authorized Official: _____

Name and Title of Contractor's Authorized Official: _____

Date: _____

APPENDIX D. BID SCHEDULE

1. **Scope** - This Invitation to Bid is for furnishing generators and accessories and assembling them with Owner furnished engines into complete engine-generator sets (Gensets). Bidder shall be responsible for transportation of Owner furnished engines from the Alaska Energy Authority shop at 2601 Commercial Drive, Anchorage, AK 99501, to the Bidder's shop. Bidder shall provide minimum 72 hours' notice before pick up. 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 Owner every week. Reports shall include a brief verbal 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 Owner'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. **F.O.B. Point** - 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**. Owner furnished engines shall be available at this address.
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 F.O.B. point by the date indicated. If awarded a contract, bidder's firm prices will be integrated into the contract.
7. **Required Delivery Date** – 12-weeks from date of order delivered to the F.O.B. point. If Bidder cannot meet the firm delivery date, Bidder shall seek guidance from the Authority prior to the bid opening date.
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.
9. **Progress Payments** - There will be no progress payments. Payments are NET30 on receipt of an invoice and acceptance of the materials at the F.O.B. point.

10. Bid Schedule

Item Description		Quantity	Unit Price (\$)	Extended Price (\$)
1	210 ekW Prime Rated Gensets Using John Deere 6081HF070	2 each		
2	210 ekW Prime Rated Gensets Using John Deere 6090AFM75	2 each		
Lot Total Price (\$)				

11. Acknowledge all addenda

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

12. Bidder Certification

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	Date

End of Bid Schedule.