ALASKA ENERGY AUTHORITY
INVITATION TO BID (ITB)

EMERGENCY INVENTORY MAINTENANCE ENGINES

ITB 21036

ISSUE DATE SEPTEMBER 24, 2020

Alaska Energy Authority AEA is looking to purchase two 4045 John Deere engines of different horse powers and two fully enclosed engine generator sets (gensets) with fuel tanks to be used in responding to smaller rural Alaska utility electrical emergency generation power outages.

IMPORTANT NOTICE: If you received this solicitation from the State of Alaska's "Online Public Notice" web site, you must register with the contracting officer listed below in order to receive notification of subsequent amendments to the solicitation. Failure to register with the contracting officer may result in the rejection of your offer.

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

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

(2) the price(s) submitted was arrived at independently and without collusion, under penalty of perjury, and that the bidder is complying with:
- the laws of the State of Alaska;
- the applicable portion of the Federal Civil Rights Act of 1964;
- the Equal Employment Opportunity Act and the regulations issued thereunder by the state and federal Government;
- the Americans with Disabilities Act of 1990 and the regulations issued thereunder by the state and federal government;
- the bid will remain open and valid for at least 90 days;
- all terms and conditions set out in this Invitation to Bid (ITB).

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

Lois Lemus
Contracting Officer

813 West Northern Lights Blvd
Anchorage, AK 99503

Phone: (907) 771-3909
FAX: (907) 771-3044

Email: llemus@aidea.org

_____
COMPANY SUBMITTING BID

_____
AUTHORIZED SIGNATURE

_____
PRINTED NAME

_____
DATE

*DOES YOUR BUSINESS QUALIFY FOR THE ALASKA BIDDER'S PREFERENCE?
[ ] YES [ ] NO

*DOES YOUR BUSINESS QUALIFY FOR THE ALASKA VETERAN PREFERENCE?
[ ] YES [ ] NO

*SEE ITB FOR EXPLANATION OF CRITERIA TO QUALIFY

_____
TELEPHONE NUMBER

_____
ALASKA BUSINESS LICENSE NUMBER

_____
FEDERAL TAX ID NUMBER

_____
E-MAIL ADDRESS

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SECTION 1. INTRODUCTION & INSTRUCTIONS

SEC. 1.01 PURPOSE OF THE ITB

Alaska Energy Authority (AEA) is looking to purchase two 4045 John Deere engines of different horse powers and two fully enclosed engine generator sets (gensets) with fuel tanks to be used in responding to smaller rural Alaska utility electrical emergency generation power outages.

SEC. 1.02 DEADLINE FOR RECEIPT OF BIDS

Bids must be received no later than **2:00 pm** Alaska Time on **October 15, 2020**, at which time they will be publicly opened. Late bids or amendments will be disqualified and not opened or accepted for evaluation. **Due to the COVID-19 the bid opening will be conducted telephonically.** Potential bidder may attend telephonically by calling **1-888-585-9008,** when prompted enter **508-917-314#**.

SEC. 1.03 PRIOR EXPERIENCE

No specific minimums have been set for this ITB.

A bidder's failure to meet these minimum prior experience requirements will cause their bid to be considered non-responsive and rejected.

SEC. 1.04 INVITATION TO BID (ITB) REVIEW

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

SEC. 1.05 QUESTIONS PRIOR TO DEADLINE FOR RECEIPT OF BIDS

All questions must be in writing and directed to the contracting officer. The interested party must confirm telephone conversations in writing. Two types of questions generally arise. One may be answered by directing the questioner to a specific section of the ITB. These questions may be answered over the telephone. Other questions may be more complex and may require a written amendment to the ITB. The contracting officer will make that decision. **No further question will be allowed after October 12, 2020 at 1:30 pm Alaska prevailing time.**

CONTRACTING OFFICER: Lois Lemus – PHONE 907-771-3909 - FAX 907-771-3044

SEC. 1.06 SITE INSPECTION

N/A

SEC. 1.07 SUBMITTING BIDS

Bidders must submit one hard copy of their bid, in writing, to the contracting officer in a sealed package. The sealed bid package must be addressed as follows:

Alaska Energy Authority
Attention: **LOIS LEMUS**
Invitation to Bid (ITB) Number: **21036**
ITB Title: **ENERGENCY INVENTORY MAINTENANCE ENGINES**
813 W NORTHERN LIGHTS BLVD
ANCHORAGE, AK 99503

If using U.S. mail, please use the following address:

813 W NORTHERN LIGHTS BLVD
ANCHORAGE, AK 99503

If using a delivery service, please use the following address:

813 W NORTHERN LIGHTS BLVD
ANCHORAGE, AK 99503

It is the bidder's responsibility to contact the issuing agency at **907-771-3909** to confirm that the bid has been received. The Authority is not responsible for unreadable, corrupt, or missing attachments.

SEC. 1.08 BID FORMS

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

BIDDER'S CERTIFICATION

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

A. the laws of the State of Alaska;

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

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

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

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

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

G. that the bid will remain open and valid for at least 90 days.

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

CONFLICT OF INTEREST

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

SEC. 1.09 PRICES

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

SEC. 1.10 PRE-BID CONFERENCE

A non-mandatory pre-bid meeting is scheduled for October 6, 2020, 9:00 am. **Due to the COVID-19 the pre-bid meeting will be conducted telephonically. Potential bidder may attend telephonically by calling 1-888-585-9008, when prompted enter 508-917-314#.** We respectfully request you call in from a conference room speaker phone and have all people together. If calling in, please be respectful of other callers and call from a phone that can be muted so as to cancel out background noise and the possibility of feedback. Contact the Contracting Officer, Lois Lemus, at (907) 771-3909 for more information. This is not a mandatory meeting.

SEC. 1.11 ASSISTANCE TO BIDDERS WITH A DISABILITY

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

SEC. 1.12 AMENDMENTS TO BIDS

Amendments to or withdrawals of bids will only be allowed if acceptable requests are received prior to the deadline that is set for receipt of bids, in accordance with 2 AAC 12.140. No amendments or withdrawals will be accepted after the deadline unless the delay is due to an error of the procurement agency, in accordance with 2 AAC 12.160.

SEC. 1.13 AMENDMENTS TO THE ITB

If an amendment is issued, it will be provided to all who were notified of the ITB and to those who have registered with the contracting officer after receiving the ITB from the State of Alaska Online Public Notice website.

SEC. 1.14 ITB SCHEDULE

The ITB schedule set out herein represents the Authority's best estimate of the schedule that will be followed. If a component of this schedule, such as the deadline for receipt of bids, is delayed, the rest of the schedule may be shifted accordingly. All times are Alaska Time.

ACTIVITY	TIME	DATE
Issue Date / ITB Released	10:00 AM	9/24/2020
Pre-Bid Conference	9:00 AM	10/6/2020
Deadline for Receipt of Bids / Bid Due Date	2:00 PM	10/15/2020
Notice of Intent to Award	NA	10/16/2020
Contract Issued	NA	10/26/2020

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

SEC. 1.15 ALTERNATE BIDS

Bidders may only submit one bid. In accordance with 2 AAC 12.830 alternate bids (bids that offer something different than what is asked for) will be rejected.

SEC. 1.16 SUPPORTING INFORMATION

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

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

SEC. 1.17 FIRM, UNQUALIFIED, AND UNCONDITIONAL OFFER

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

SECTION 2. CONTRACT INFORMATION

SEC. 2.01 CONTRACT TERM

The length of the contract will be from the date of award, approximately **October 26, 2020**, for approximately **Final completion February 12, 2021** until completion.

SEC. 2.02 CONTRACT ADMINISTRATION

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

SEC. 2.03 CONTRACT FUNDING

AEA estimates a budget of between $**125,000.00** and **$150,000.00** dollars for this contract. Bids priced at more than **$150,000.00** will be considered non-responsive.

Payment for the contract is subject to funds already appropriated and identified.

SEC. 2.04 CONTRACT EXTENSION

Unless otherwise provided in this ITB, the Authority and the successful bidder/contractor agree: (1) that any extension 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) the contracting officer will provide written notice to the contractor of the intent to cancel the month-to-month extension at least thirty (30) days before the date of cancellation. A month-to-month extension may only be executed by the contracting officer via a written contract amendment.

SEC. 2.05 CONTRACT CHANGES – UNANTICIPATED AMENDMENTS

During the course of this contract, the contractor may be required to perform additional work. That work will be within the general scope of the initial contract. When additional work is required, the Authority will provide the contractor a written description of the additional work and request the contractor to submit a firm time schedule for accomplishing the additional work and a firm price for the additional work. Cost and pricing data must be provided to justify the cost of such amendments per AS 36.30.400.

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

SEC. 2.06 SUBCONTRACTORS

Subcontractors will not be allowed.

SEC. 2.07 JOINT VENTURES

Joint ventures will not be allowed.

SEC. 2.08 CONTRACT PERFORMANCE LOCATION

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

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

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

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

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

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

SEC. 2.09 RIGHT TO INSPECT PLACE OF BUSINESS

N/A

SEC. 2.10 SCOPE OF WORK AND SPECIFICATIONS

AEA is looking to purchase two 4045 John Deere engines of different horse powers and two fully enclosed engine generator sets (gensets) with fuel tanks to be used in responding to smaller rural Alaska utility electrical emergency generation power outages.
The low and high horsepower 4.5 liter, tier 3 marine, John Deere engine is a commonly used engine in the power plants that AEA designs and builds. These engines will be quickly deployed in power outages and used to repower existing generator skids with existing generator ends, exhaust, fuel cooling etc.
The fully enclosed gensets will also be quickly deployed in responding to rural Alaska power outages. These units would be deployed where there is not a suitable engine immediately available for repower. The specified enclosed genset must be able to fit in a Cassa 212-200 cargo plane minus the muffler and the standalone fuel tank. Those items will/may require one additional Cassa trip. In the past, AEA has taken the enclosure off, split the engine from the generator and/or removed the underneath fuel tank. This extra effort requires additional time and delays restoring the power. These enclosed gensets would be connected safely, semi-permanent until a suitable replacement engine can be delivered and installed or an in-frame rebuild can be performed.
See Attachment A for specifications.

SEC. 2.11 F.O.B. POINT

The F.O.B. point for all items purchased under this contract is the final destination anywhere within the State of Alaska. Ownership of and title to the ordered items remains with the contractor until the items have been delivered to their final destination and are accepted by the Authority.

The cost of shipping and delivery within Anchorage is to be included in the bid price. There will be no additional charge for shipping and delivery within Anchorage.

SEC. 2.12 SHIPPING DAMAGE

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

SEC. 2.13 DELIVERY TIME

The elapsed time between the time the Authority places an order and the time that order is actually shipped from the contractor's place of business must be entered in the space provided on the Bid Schedule. This processing time shall remain constant throughout the life of the contract(s).

SEC. 2.14 INSPECTION & MODIFICATION - REIMBURSEMENT FOR UNACCEPTABLE DELIVERABLES

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

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

SEC. 2.15 CONTINUING OBLIGATION OF CONTRACTOR

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

SEC. 2.16 ESTIMATED QUANTITIES

The quantities referenced in this ITB are an estimate of the of the Authority's initial purchase. The Authority expects to make this purchase approximately **October 26, 2020**. The Authority does not guarantee any minimum or maximum purchase.

SEC. 2.17 CONTRACT PRICE ADJUSTMENTS

NA

SEC. 2.18 INFORMAL DEBRIEFING

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

SEC. 2.19 INDEMNIFICATION

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

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

SEC. 2.20 INSURANCE

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

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

Proof of insurance is required for the following:

- Workers' Compensation Insurance: The contractor shall provide and maintain, for all employees engaged in work under this contract, coverage as required by AS 23.30.045, and; where applicable, any other statutory obligations including but not limited to Federal U.S.L. & H. and Jones Act requirements. The policy must waive subrogation against the state.

- Commercial General Liability Insurance: covering all business premises and operations used by the contractor in the performance of services under this agreement with minimum coverage limits of $300,000 combined single limit per occurrence.

- Commercial Automobile Liability Insurance: covering all vehicles used by the contractor in the performance of services under this agreement with minimum coverage limits of $300,000 combined single limit per occurrence.

SEC. 2.21 MANDATORY REPORTING

NA

SECTION 3. CONTRACT INVOICING AND PAYMENTS

SEC. 3.01 BILLING INSTRUCTIONS

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

SEC. 3.02 PAYMENT FOR AUTHORITY PURCHASES

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

Any single contract payments of $1 million or higher must be accepted by the contractor via Electronic Funds Transfer (EFT).

SEC. 3.03 THIRD-PARTY FINANCING AGREEMENTS NOT ALLOWED

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

SECTION 4. EVALUATION AND CONTRACTOR SELECTION

SEC. 4.01 EVALUATION OF BIDS

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

SEC. 4.02 APPLICATION OF PREFERENCES

Certain preferences apply to all Authority contracts, regardless of their dollar value. The Alaska Bidder and Alaska Veteran preferences are the most common preferences involved in the ITB process. Additional preferences that may apply to this procurement are listed below. Guides that contain excerpts from the relevant statutes and codes, explain when the preferences apply and provide examples of how to calculate the preferences are available at the following website:

http://doa.alaska.gov/dgs/pdf/pref1.pdf

- Alaska Products Preference - AS 36.30.332
- Recycled Products Preference - AS 36.30.337
- Local Agriculture and Fisheries Products Preference - AS 36.15.050
- Employment Program Preference - AS 36.30.321(b)
- Alaskans with Disabilities Preference - AS 36.30.321(d)

The Division of Vocational Rehabilitation in the Department of Labor and Workforce Development keeps a list of qualified employment programs and individuals who qualify as persons with a disability. As evidence of a business' or an individual's right to the Employment Program or Alaskans with Disabilities preferences, the Division of Vocational Rehabilitation will issue a certification letter. To take advantage of these preferences, a business or individual must be on the appropriate Division of Vocational Rehabilitation list prior to the time designated for receipt of proposals. Bidders must attach a copy of their certification letter to the proposal. **A bidder's failure to provide this certification letter with their proposal will cause the Authority to disallow the preference**.

SEC. 4.03 ALASKA BIDDER PREFERENCE

An Alaska Bidder Preference of 5% will be applied to the total bid price. The preference will be given to a bidder who:

1) holds a current Alaska business license prior to the deadline for receipt of bids;
2) submits a bid for goods or services under the name appearing on the bidder's current Alaska business license;
3) has maintained a place of business within the state staffed by the bidder, or an employee of the bidder, for a period of six months immediately preceding the date of the bid;

4) is incorporated or qualified to do business under the laws of the state, is a sole proprietorship and the proprietor is a resident of the state, is a limited liability company (LLC) organized under AS 10.50 and all members are residents of the state, or is a partnership under AS 32.06 or AS 32.11 and all partners are residents of the state; and

5) if a joint venture, is composed entirely of ventures that qualify under (1)-(4) of this subsection.

Alaska Bidder Preference Certification Form
In order to receive the Alaska Bidder Preference, the bid must include the Alaska Bidder Preference Certification Form attached to this ITB. A bidder does not need to complete the Alaska Veteran Preference questions on the form if not claiming the Alaska Veteran Preference. A bidder's failure to provide this completed form with their bid will cause the Authority to disallow the preference.

SEC. 4.04 ALASKA VETERAN PREFERENCE

An Alaska Veteran Preference of 5%, not to exceed $5,000, will be applied to the total bid price. The preference will be given to a bidder who qualifies under AS 36.30.990(2) as an Alaska Bidder and is a:

a) sole proprietorship owned by an Alaska veteran;

b) partnership under AS 32.06 or AS 32.11 if a majority of the partners are Alaska veterans;

c) limited liability company organized under AS 10.50 if a majority of the members are Alaska veterans; or

d) corporation that is wholly owned by individuals, and a majority of the individuals are Alaska veterans.

In accordance with AS 36.30.321(i), the bidder must also add value by actually performing, controlling, managing, and supervising the services provided, or for supplies, the bidder must have sold supplies of the general nature solicited to other state agencies, other government, or the general public.

Alaska Veteran Preference Certification
In order to receive the Alaska Veteran Preference, the bid must include the Alaska Bidder Preference Certification Form attached to this ITB. A bidder's failure to provide this completed form with their bid will cause the Authority to disallow the preference.

SEC. 4.05 USE OF LOCAL FOREST PRODUCTS

In a project financed by state money in which the use of timber, lumber and manufactured lumber is required, only timber, lumber and manufactured lumber products originating in this state from Alaska forests shall be used unless the use of those products has been determined to be impractical, in accordance with AS 36.15.010 and AS 36.30.322.

SEC. 4.06 LOCAL AGRICULTURAL AND FISHERIES PRODUCT PREFERENCE

When agricultural, dairy, timber, lumber, or fisheries products are purchased using state money, a seven percent (7%) preference shall be applied to the price of the products harvested in Alaska, or in the case of fisheries products, the products harvested or processed within the jurisdiction of Alaska, in accordance with AS 36.15.050.

SEC. 4.07 ALASKA PRODUCT PREFERENCE

A bidder that designates the use of an Alaska Product which meets the requirements of the ITB specifications and is designated as a Class I, Class II or Class III Alaska Product by the Department of Community & Economic Development (DCCED) may receive a preference in the bid evaluation in accordance with AS 36.30.332 and 3 AAC 92.010.

To qualify for the preference, the product must have received certification from DCCED, be listed in the current published edition of the Alaska Products Preference List, and the bidder must provide the qualified product on a 100% basis. There are no provisions under Alaska Statutes or Regulations that allow for a product exchanges/substitutions or permit the product to be co-mingled with other products. Rather, AS 36.30.330 provides for a penalty for failing to use the designated Alaska products.

Products are classified in one of three categories:

- Class I products receive a 3% preference.
- Class II products receive a 5% preference.
- Class III products receive a 7% preference.

When the bids are evaluated, the preference percentage will be deducted from the product price. If a bidder fails to specify the brand being offered, no preference will be given. For more information on the Alaska Product Preference and to see the list of products currently on the Alaska Product Preference List, use the following web link:

https://www.commerce.alaska.gov/web/dcra/AlaskaProductPreferenceProgram.aspx

Brand Offered

If offering a product that qualifies for the Alaska Product Preference, the bidder must indicate the brand of product they intent to provide. If a bidder is not offering a product that qualifies for the Alaska Product Preference, the bidder does not need to indicate a product brand.

Brand of Product Changes

During the course of the contract including all renewal options, a contractor that offered a product that qualified for the Alaska Product Preference wishes to change the product brand, the contractor must first provide a written request, along with evidence that the replacement brand also qualifies for the Alaska Product Preference, for approval by the contracting officer. A contract amendment must be issued by the contracting officer to authorize the change.

If a bidder offers a product brand in the original bid that does not qualify for the Alaska Product Preference, a change in the product brand may be made at any time during the course of the contract, including all renewals, as long as the product band continues to meet the required specifications. A contract amendment is not required if the product brand originally offered did not qualify for the Alaska Product Preference.

SEC. 4.08 EMPLOYMENT PROGRAM PREFERENCE

If a bidder qualifies for the Alaska Bidder Preference and is offering goods or services through an employment program as defined under AS 36.30.990(12), an Employment Program Preference of 15% will be applied to the total bid price.

In accordance with AS 36.30.321(i), the bidder must also add value by actually performing, controlling, managing, and supervising the services provided, or for supplies, the bidder must have sold supplies of the general nature solicited to other state agencies, other government, or the general public.

SEC. 4.09 ALASKANS WITH DISABILITIES PREFERENCE

If a bidder qualifies for the Alaska Bidder Preference and is a qualifying entity as defined in AS 36.30.321(d), an Alaskans with Disabilities Preference of 10% will be applied to the total bid price.

In accordance with AS 36.30.321(i), the bidder must also add value by actually performing, controlling, managing, and supervising the services provided, or for supplies, the bidder must have sold supplies of the general nature solicited to other state agencies, other government, or the general public.

SEC. 4.10 PREFERENCE QUALIFICATION LETTER

Regarding the Employment Program Preference and the Alaskans with Disabilities Preference, the Division of Vocational Rehabilitation in the Department of Labor and Workforce Development maintains lists companies who qualify for those preferences. As evidence of a company's right to the preferences, the Division of Vocational Rehabilitation will issue a certification letter. To take advantage of the preferences, a bidder must be on the appropriate Division of Vocational Rehabilitation list at the time the bid is opened and must attach a copy of their certification letter to their bid. The bidder's failure to provide this certification letter with their bid will cause the Authority to disallow the preference.

SEC. 4.11 EXTENSION OF PRICES

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

SEC. 4.12 METHOD OF AWARD

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

SEC. 4.13 NOTICE OF INTENT TO AWARD

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

SECTION 5. GENERAL PROCESS AND LEGAL INFORMATION

SEC. 5.01 ALASKA BUSINESS LICENSE AND OTHER REQUIRED LICENSES

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

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

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

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

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

SEC. 5.02 AUTHORITY

This ITB is written in accordance with AS 36.30 and 2 AAC 12.

SEC. 5.03 COMPLIANCE

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

SEC. 5.04 SUITABLE MATERIALS, ETC.

Unless otherwise specified in this ITB, 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.

SEC. 5.05 SPECIFICATIONS

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

SEC. 5.06 CONTRACTOR SITE INSPECTION

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

SEC. 5.07 ORDER DOCUMENTS

Except as specifically allowed under this 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. Unless otherwise specified in this ITB, the Authority Purchase Order, Contract Award and Delivery Order are the only order documents that may be used to place orders against the contract(s) resulting from this ITB.

SEC. 5.08 HUMAN TRAFFICKING

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

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

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

SEC. 5.09 RIGHT OF REJECTION

Bidders must comply with all of the terms of the ITB, the State Procurement Code (AS 36.30), and all applicable local, state, and federal laws, codes, and regulations. The contracting officer may reject any bid that does not comply with all of the material and substantial terms, conditions, and performance requirements of the ITB.

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

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

may be waived by the contracting officer.

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

SEC. 5.10 AUTHORITY NOT RESPONSIBLE FOR PREPARATION COSTS

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

SEC. 5.11 DISCLOSURE OF BID CONTENTS

All bid prices become public information at the bid opening. After the deadline for receipt of bids, all other bid material submitted become the property of the State of Alaska and may be returned only at the Authority's option. AS 40.25.110 requires public records to be open to reasonable inspection. All other bid information will be held in confidence during the evaluation process and prior to the time a Notice of Intent to Award is issued. Thereafter, bids will become public information.

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

SEC. 5.12 ASSIGNMENTS

Per 2 AAC 12.480, the contractor may not transfer or assign any portion of the contract without prior written approval from the contracting officer. Bids that are conditioned upon the Authority's approval of an assignment will be rejected as non-responsive.

SEC. 5.13 FORCE MAJEURE (IMPOSSIBILITY TO PERFORM)

The parties to a contract resulting from this ITB are not liable for the consequences of any failure to perform, or default in performing, any of its obligations under the contract, if that failure or default is caused by any unforeseeable Force Majeure, beyond the control of, and without the fault or negligence of, the respective party.

For the purposes of this ITB, 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.

SEC. 5.14 DEFAULT

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

SEC. 5.15 DISPUTES

If the contractor has a claim arising in connection with the contract that it cannot resolve with the Authority by mutual agreement, it shall pursue the claim, if at all, in accordance with the provisions of AS 36.30.620 – AS 36.30.632.

SEC. 5.16 SEVERABILITY

If any provision of the contract or agreement is found to be invalid or 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.

SEC. 5.17 CONTRACT CANCELLATION

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

SEC. 5.18 GOVERNING LAW; FORUM SELECTION

A contract resulting from this ITB is governed by the laws of the State of Alaska. To the extent not otherwise governed by Section 5.15 of this ITB, any claim concerning the contract shall be brought only in the Superior Court of the State of Alaska and not elsewhere.

SEC. 5.19 SOLICITATION ADVERTISING

Public notice has been provided in accordance with 2 AAC 12.220.

SEC. 5.20 QUALIFIED BIDDERS

Per 2 AAC 12.875, unless provided for otherwise in the ITB, to qualify as a bidder for award of a contract issued under AS 36.30, the bidder must:

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

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

If the bidder leases services or supplies or acts as a broker or agency in providing the services or supplies in order to meet these requirements, the contracting officer may not accept the bidder as a qualified bidder under AS 36.30.

SEC. 5.21 FEDERALLY IMPOSED TARIFFS

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

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

- **After-imposed or Increased Taxes and Duties:** Any federal excise tax or duty for goods or services covered by this contract that was exempted or excluded on the contract award date but later imposed on the contractor during the contract period, as the result of legislative, judicial, or administrative action may result in a price increase provided:
    a) The tax or duty takes effect after the contract award date and isn't otherwise addressed by the contract;
    b) The contractor warrants, in writing, that no amount of the newly imposed federal excise tax or duty or rate increase was included in the contract price, as a contingency or otherwise.

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

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

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

SEC. 5.22 PROTEST

AS 36.30.560 provides that an interested party may protest the content of the ITB.

An interested party is defined in 2 AAC 12.990(a) (7) as "an actual or prospective bidder or offeror whose economic interest might be affected substantially and directly by the issuance of a contract solicitation, the award of a contract, or the failure to award a contract."

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

AS 36.30.560 also provides that an interested party may protest the award of a contract or the proposed award of a contract.

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

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

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

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

The contracting officer will issue a written response to the protest. The response will set out the contracting officer's decision and contain the basis of the decision within the statutory time limit in AS 36.30.580. A copy of the decision will be furnished to the protester by certified mail, fax or another method that provides evidence of receipt.

All bidders will be notified of any protest. The review of protests, decisions of the contracting officer, appeals, and hearings, will be conducted in accordance with the State Procurement Code (AS 36.30), Article 8 "Legal and Contractual Remedies."

SECTION 6. ATTACHMENTS

SEC. 6.01 ATTACHMENTS

Attachments:

1) Attachment A – Sections 26 32 13.10, 26 32 13.20, and 33 56 13
2) Attachment B - Bid Schedule

SECTION 26 32 13.10

SPECIFIC ENGINES

PART 1 - GENERAL

1.1 SCOPE

A. The Work included herein shall consist of providing, fabricating, and factory testing complete engine generator unit(s) as specified herein.

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 SUBMITTALS

A. Within one week of contract award, provide a complete submittal in a single Adobe Acrobat PDF format file with bookmarks for each item.

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

C. Provide mechanical and electrical performance data including intake and exhaust air flow, charge air cooling requirements (if applicable), heat rejection, engine coolant pump curve at rated speed, fuel flow rate, fuel consumption at 100%, 75%, 50%, and 25% of rated prime power; and other relevant data.

D. Provide manufacturer’s catalog literature for all accessories and equipment.

E. A torsional vibration analysis (TVA) shall be provided for each of the proposed engines within 14 days of contract award.

1.3 REGULATORY COMPLIANCE

The Environmental Protection Agency (EPA) has issued New Source Performance Standards (NSPS) regulations governing the use of stationary diesel engines in remote areas of Alaska. The following provisions of 40 CFR Subpart IIII apply to this solicitation:

A. On November 13, 2019, 40 CFR 60.4216 (c) was revised as follows: manufacturers, owners, and operators of stationary CI ICE that are located in remote areas of Alaska may choose to meet the applicable emission standards for emergency engines in §§ 60.4202 and 60.4205, and not those for non-emergency engines in §§ 60.4201 and 60.4204, except that for 2014 model year and later non-emergency CI ICE, the owner or operator of any such engine must have that

engine certified as meeting at least the Tier 3 PM standards in 40 CFR 89.112 or 40 CFR 1042.101.

In order to comply with EPA emissions requirements and also be compatible with the intended service applications, the diesel engines furnished under this solicitation shall be a new Tier 3 Marine certified engine.

1.4 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. Except where specific allowance is made in this specification for rebuilt or remanufactured engines, 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.

1.5 FABRICATOR QUALIFICATIONS

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

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

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

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

1.6 CONTRACTOR WARRANTIES

A. 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 Authority as directed in determining cause of failure.

B. 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.

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

1.7 OPERATION AND MAINTENANCE MANUALS.

A. Provide one (1) complete bound set of operation and maintenance (O&M) manuals for each unique engine generator unit. Identification symbols for all replaceable parts and assemblies shall be included. Provide manuals for the following equipment:

1. Engine
2. Generator
3. Voltage Regulator
4. All accessories

B. For each engine provide all available factory service publications including parts manuals, service manuals, component technical manuals, etc.

C. For all other components of each engine generator unit provide:

1. Equipment function, normal operating characteristics, and limiting conditions.
2. Assembly, installation, alignment, adjustment, and checking instructions.
3. Operating instructions for start-up, routine and normal operation, regulation and control, shutdown, and emergency conditions.
4. Lubrication and maintenance instructions.
5. Guide to "troubleshooting."

6. Parts list and predicted life of parts subject to wear.

7. Outline, cross section, elevation, and assembly drawings.

8. Engineering data including all mechanical and electrical performance characteristics.

9. Complete AC connection and three-line diagrams.

10. Complete DC schematics including voltage regulator, fuel injector pump, sensors, switches, fuses, and all other devices.

D. 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.

E. Each copy of the final O&M manual shall be provided with original copies of the manufacturer's instruction books. Copies of manufacturer's instruction books shall not be inserted in any of the final O&M manuals.

F. Bind materials in locking three ring "D" style binders. Binder capacities shall not exceed 3 inches, nor shall material included exceed the designed binder capacity. If material to be bound exceeds capacity rating, multiple volumes shall be furnished. Binder capacity shall not be less than approximately 1/2 inch greater than the thickness of the material within the binder. Permanently label with project information on the front cover and edge.

G. Where reduction is not practical, larger drawings shall be folded separately and placed in envelopes, which are bound into the manuals. Each envelope shall bear suitable identification on the outside.

H. All information in the O&M manuals shall be new and original publications.

I. The complete O&M Manual and all as-built drawings shall be provided in Adobe PDF format on CD.

PART 2 - PRODUCTS

2.1 GENERAL CONFIGURATION AND MANUFACTURERS

A. All units shall be new engines.

B. All units shall be configured as specified herein and shall include all accessories as indicated.

C. Engines shall be rated for prime power duty at the horsepower (shaft) and electrical kilowatt t (generator) ratings indicated for each unit. All engines shall be 1800 RPM unless specifically indicated otherwise. All starting systems shall be 24 VDC and all engine control (ECU) systems shall be 24 VDC.

D. Provide engines of the manufacturer and model as indicated in Paragraph 2.2 Specific Configuration. Substitutes shall not be permitted except as specifically noted below.

E. Approved equal substitutions of engines will be allowed only by Engineer's approval. To obtain approval, submittals must clearly demonstrate the following:

1. The substitute engine must meet all of the requirements of Section 2.3.

2. The substitute engine manufacturer must have at least one factory authorized service representative with a permanent shop in Southcentral Alaska.

3. The size and weight of the substitute engine must not exceed that of the specified engine by more than 10%.

4. The physical layout, piping connections, and service access area of the substitute engine must be sufficiently similar to that of the specified engine so that no major changes will be required to the power plant design. The engine must not be equipped, or require to be equipped, with any exhaust emissions equipment including Exhaust Gas Recirculation, Diesel Oxidation Catalyst, Diesel Particulate Filter, or Selective Catalytic Reduction.

5. The substitute engine must meet or exceed the fuel efficiency rate of the specified engine. Provide fuel curve showing fuel consumption (kWh/gallon) at 25%, 50%, 75% and 100% of prime rated capacity.

6. The substitute engine must be provided with a single jacket water cooling circuit without a separate aftercooler circuit.

7. The substitute engine must meet or exceed the heat rejection to the jacket water circuit of the specified engine.

2.2 SPECIFIC CONFIGURATION

Furnish an engine of the capacity and configuration listed below:

A. **Engine** – 148 hp, 100 ekW prime, John Deere 4045AFM85, Tier 3 Marine. ECU Control Voltage = 24 VDC Starting Voltage = 24 VDC.
Generator/Accessories – None. Furnish complete engine with ECU only.

B. **Engine** - 99 hp, 65 ekW prime, John Deere 4045TFM85, Tier 3 Marine. ECU Control Voltage = 24 VDC Starting Voltage = 24 VDC. **Generator/Accessories** - None. Furnish complete engine with ECU, only.

2.3 ENGINE

A. Provide an 1800 RPM diesel engine, as specified herein, ready for service. Engines shall be of newest design and of recent manufacture.

B. Marine engines shall be furnished without a charging alternator, heat exchanger, coolant expansion tank, or accessory reduction gear drive. Factory installed components shall be removed as required.

C. The engine shall be a four-cycle, water-cooled, direct injection diesel engine of 4 or 6 cylinder in-line configuration as indicated by model number and shall be provided with a gear driven coolant pump where offered by manufacturer.

D. Cylinder Liners: The engines shall be provided with removable cylinder liners to facilitate field rebuilding.

E. Horsepower: Certified engine power curves and fuel consumption at 25%, 50%, 75%, and 100% loading, shall be submitted showing the manufacturer's approval of the engine rating for engine generator prime power application. Special ratings or "continuous standby" ratings will not be acceptable.

F. Engine Control: All engine control functions will be performed by remote switchgear which will perform all start/stop, speed, paralleling, and load sharing control functions in addition to all engine function monitoring and safety shut downs. Engine manufacturer’s electronic control panels shall not be provided as part of this package.

G. ECU and Isochronous Governor: The engine speed shall be 1800 RPM over the entire load range. The frequency at any constant load, including no load, shall remain within +/- 0.5% isochronous control for rated frequency operation. Provide an Engine Control Unit (ECU) for interface with the switchgear.

H. Fuel: The engine shall be capable of satisfactory performance on No. 1 Arctic Grade Fuel or No. 2 Domestic Burner Oil.

I. Fuel System: The engine shall have manufacturer’s engine mounted fuel filters with replaceable elements. Fuel supply and return lines shall be routed to the front of the unit for field connection to the plant piping.

J. Lubrication: The engine shall have a gear type lubricating oil pump for supplying oil under pressure to the main bearings, crankshaft bearings, pistons, piston pins, timing gears, camshaft bearings and valve rocker mechanism. Threaded spin-on type, full flow lubricating oil filters shall be provided. The oil drain line shall be terminated with a ball valve.

K. Fuel and Oil Hoses: All hoses for fuel, lube oil, vents, mechanical gauges, etc., shall be Aeroquip type FC300, Eaton Weatherhead H569 or approved equal. Minimum hose size shall be 5/16” (#6). Provide with re-useable JIC swivel type fittings. Push-on or barb type hose connections will not be allowed. Route hoses

to avoid wear points and to ensure access to normal service points on the engine. Securely support hoses from engine.

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

M. 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.

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

O. Air Cleaners: The engine shall be provided with a dry-type, replaceable element air cleaner with a metal canister, Donaldson or approved 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 or approved equal.

P. Starting: The engine shall be equipped with a 24 VDC electric starting system. The starting system shall be of sufficient capacity to crank the engine at a speed which will allow full diesel starting.

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

R. 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.

S. Provide lifting eyes for engine installation in the field.

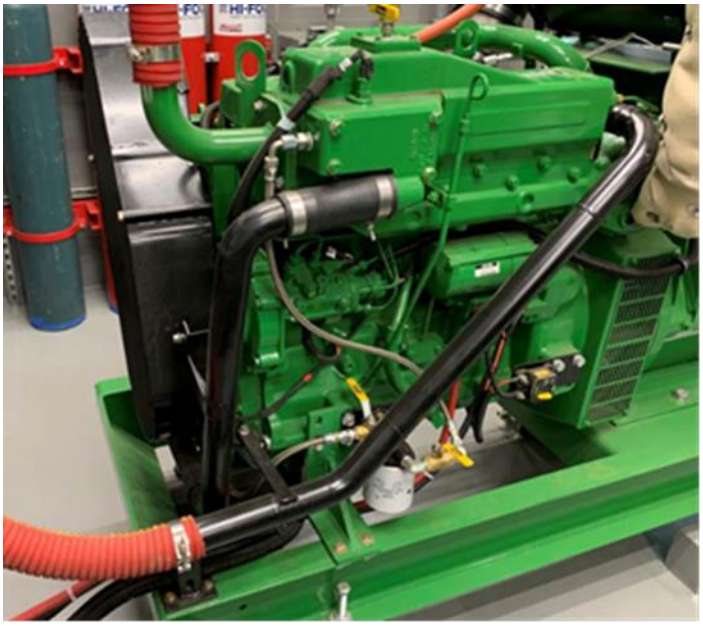
2.4 COOLING SYSTEM

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

thermostat housing connection provide 3/8" NPT tee fitting with plug for field connection of pre-heat line by others. When filters are provided as part of engine manufacturer's assembly the standard factory filters may be substituted for the above specified parts, however, equivalent mounting, connections, and isolation valves shall be included.

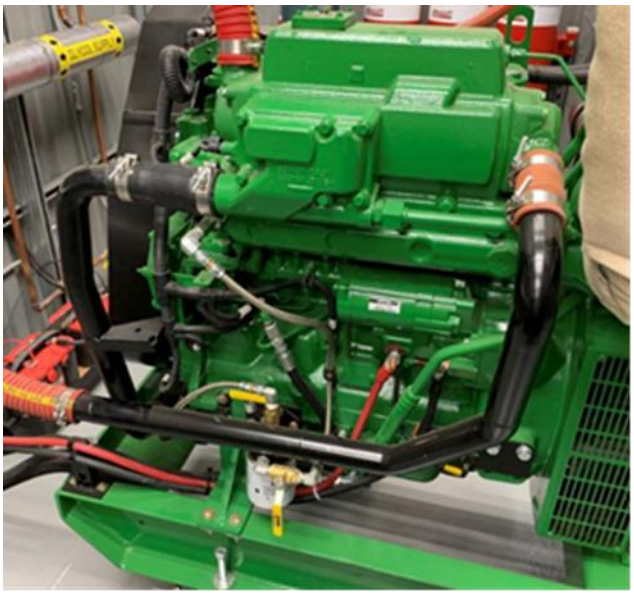
B. Modify marine engines as follows:

1. John Deere 4045TFM - Remove coolant tank and other accessories that are not required. Install a bent or welded section of 2 inch steel tube routed to the front of the left skid and supported from the skid. See photograph below for representative installation.



2. John Deere 4045AFM - Remove coolant tank and other accessories that are not required. Note that the 4045AFM85 engines have small ports in the coolant hose connection fittings that are overly restrictive. To provide adequate flow for prime power application remove the coolant discharge and suction connection fittings. Cut off hose ends and drill or bore out a 2.5 inch hole. Furnish new 2 inch aluminum king nipples, cut off threads, and weld to housings. Reinstall connection fittings with discharge oriented vertically and suction oriented horizontally. Install a bent or welded section of 2 inch steel tube routed to the front of the left skid and supported from the skid. Provide hose barbs on each end and connect to

engine suction fitting with short section of silicone hose as required. See photographs below for representative installation.



2.5 PAINTING

Each engines shall be painted John Deere industrial tan.

2.6 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 community name.

A. Twelve (12) oil filters.

B. Six (6) fuel filters.

C. Three (3) air filters.

D. Three (3) glycol filters.

PART 3 - EXECUTION

3.1 FACTORY TESTS

A. Prior to shipment, the engine Fabricator shall perform factory tests on each unit at the shop where the engine is assembled. Provide certified copies of all Fabricators' test data and results. Supply sufficient notice to the Authority prior to performing tests. The Authority reserves the right to witness all tests. Test procedures shall conform to ASME, IEEE, and ANSI standards, and NEMA standard practices section on testing, as appropriate and applicable.

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

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

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

1. Verify that engine is filled with break in oil. The break in oil shall be approved by the engine manufacturer for 100 to 500 hour run time, John Deere Break-In Plus or approved equal.

2. 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.

3. Connect engine coolant piping to radiator or heat exchanger. Note that all engine coolant circulation must be performed by the engine water pump without the benefit of any external pump or pressurized system.

4. Install thermometer to monitor coolant return temperature entering the engine for comparison against the coolant discharge temperature.

D. Engine Tests: Shop test each engine generator with the associated control wiring junction box permanently connected. Note that for an engine provided without a

generator, tests may be performed with a dynamometer. Perform customary commercial factory tests on each engine generator including, but not limited to, the following:

1. Prior to the 8 hour run, connect the ECU to an analog throttle input and verify that it is correctly responding including idle operation at input less than or equal to 0.5 VDC, 1800 RPM at 2.5 VDC, and variable RPM above and below 2.5 VDC. Note confirmation on the load test.

2. Take a screen shot to document the ECU throttle programming and include with the load test reports for each engine.

3. 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.

4. Record the following data at the start, at 15-minute intervals, and at the end of each load run: Hz, kW load, fuel consumption, exhaust temperature, intake air temperature, jacket water temperature, coolant return temperature, lube oil temperature, lube oil pressure, manifold (boost) pressure, and crankcase vacuum.

F. Tests shall indicate satisfactory operation and attainment of guarantees and specified performance. Provide test reports including certified copies of all Fabricators' test data and results. Include laboratory analysis for the clean lube oil sample and the sample pulled after the test. Final payment will not be made without approval by the Authority 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. Remove any dirt from the air cleaner; check all seals and gaskets. 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 and generator are 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 extended life 50/50 ethylene glycol mix, Shell Rotella ELC or approved equal. 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 coves 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 generator separately as follows:

1. Coil wiring harnesses and secure control wiring junction box to generator.

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.

3. All other included components (spare parts, loose items, etc.) shall be package individually in waterproof wrapping. Each individual component package shall then be packed in a box or crate, and each box/crate wrapped in waterproof wrapping to prevent corrosion to the components during extended periods of outside storage. All boxes or crates shall be palletized onto the minimum number of pallets, as required for the quantity and size of the boxes/crates.

4. Each pallet shall be provided with a packing slip identifying the number of each box/crate on the pallet, and a list of items within each box/crate. Each pallet shall be marked (with 2-inch high letters/numbers), on all four sides and the top, with the purchase order number and XXXX. Provide to the Authority, in a single Adobe Acrobat PDF format file, a copy of each packing slip.

END OF SECTION

SECTION 26 32 13.20

ENCLOSED ENGINE GENERATORS

PART 1 - GENERAL

1.1 SCOPE

A. The Work included herein shall consist of providing, fabricating, and factory testing complete engine generator units and accessories as specified herein.

B. Each unit shall be delivered complete and ready for installation.

C. Provide all accessories as specified.

1.2 SUBMITTALS

A. Within one week of contract award provide a complete submittal in a single Adobe Acrobat PDF format file with bookmarks for each item.

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

C. Provide mechanical and electrical performance data including; intake and exhaust air flow, charge air cooling requirements (if applicable), heat rejection, engine coolant pump curve at rated speed, fuel flow rate, fuel consumption at 100%,75%, 50%, and 25% of rated prime power, and other relevant data.

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

E. A torsional vibration analysis (TVA) shall be provided for each of the proposed engine generator combinations within 14-days of contract award.

1.3 REGULATORY COMPLIANCE

The Environmental Protection Agency (EPA) has issued New Source Performance Standards (NSPS) regulations governing use of stationary diesel engines in remote areas of Alaska. The following provision of 40 CFR Subpart IIII applies to this solicitation:

A. On November 13, 2019, 40 CFR 60.4216 (c) was revised as follows: Manufacturers, owners, and operators of stationary CI ICE that are located in remote areas of Alaska may choose to meet the applicable emission standards for emergency engines in §§ 60.4202 and 60.4205, and not those for non-emergency engines in §§ 60.4201 and 60.4204, except that for 2014 model year and later

nonemergency CI ICE, the owner or operator of any such engine must have that engine certified as meeting at least the Tier 3 PM standards in 40 CFR 89.112 or 40 CFR 1042.101 intended service applications, the diesel engines furnished under this solicitation shall be a new Tier 3 Marine certified engine.

1.4 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. Except where specific allowance is made in this specification for rebuilt or remanufactured engines, 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.

1.5 FABRICATOR QUALIFICATIONS

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

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

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

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

1.6 CONTRACTOR WARRANTIES

A. 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 Authority as directed in determining cause of failure.

B. 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.

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

1.7 OPERATION AND MAINTENANCE MANUALS.

A. Provide one (1) complete bound set of operation and maintenance (O&M) manuals for each unique engine generator unit. Identification symbols for all replaceable parts and assemblies shall be included. Provide manuals for the following equipment:

1. Engine.
2. Generator.
3. Voltage Regulator.
4. All accessories.

B. For each engine provide all available factory service publications including parts manuals, service manuals, component technical manuals, etc.

C. For all other components of each engine generator unit provide:

1. Equipment function, normal operating characteristics, and limiting conditions.
2. Assembly, installation, alignment, adjustment, and checking instructions.

3. Operating instructions for start-up, routine and normal operation, regulation and control, shutdown, and emergency conditions.

4. Lubrication and maintenance instructions.

5. Guide to "troubleshooting."

6. Parts list and predicted life of parts subject to wear.

7. Outline, cross section, elevation, and assembly drawings

8. Engineering data including all mechanical and electrical performance characteristics.

9. Complete AC connection and three-line diagrams.

10. Complete DC schematics including voltage regulator, fuel injector pump, sensors, switches, fuses, and all other devices.

D. 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.

E. Each copy of the final O&M manual shall be provided with original copies of the manufacturer's instruction books. Copies of manufacturer's instruction books shall not be inserted in any of the final O&M manuals.

F. Bind materials in locking three ring "D" style binders. Binder capacities shall not exceed 3 inches, nor shall material included exceed the designed binder capacity. If material to be bound exceeds capacity rating, multiple volumes shall be furnished. Binder capacity shall not be less than approximately 1/2 inch greater than the thickness of the material within the binder. Permanently label with project information on the front cover and edge.

G. Where reduction is not practical, larger drawings shall be folded separately and placed in envelopes, which are bound into the manuals. Each envelope shall bear suitable identification on the outside.

H. All information in the O&M manuals shall be new and original publications.

I. All as-built drawings shall be provided in Adobe PDF format on CD.

PART 2 - PRODUCTS

2.1 GENERAL CONFIGURATION AND MANUFACTURERS

A. All units shall be complete skid mounted enclosed engine generators utilizing all new components.

B. All units shall be configured as specified herein and shall include all accessories as indicated.

C. Engines shall be rated for prime power duty at the horsepower (shaft) and electrical kilowatt (generator) ratings indicated for each unit. All engines shall be 1800 RPM unless specifically indicated otherwise. All starting and control systems shall be 12 or 24 VDC.

D. Provide engines with technical specifications as indicated in Paragraph 2.2

1. The engine manufacturer must have at least one factory authorized service representative with a permanent shop in Southcentral Alaska.

2. The engine must not be equipped, or require to be equipped, with any exhaust emissions equipment including Exhaust Gas Recirculation, Diesel Oxidation Catalyst, Diesel Particulate Filter, or Selective Catalytic Reduction.

E. The generator shall be rated for continuous output at the value and temperature rise indicated at 0.8 power factor. The generator shall be 2/3 pitch winding, 3 phase, 277/480 volt, 12 lead reconnectable, with PMG excitation.

2.2 SPECIFIC CONFIGURATION

A. Enclosed Emergency Engine-Generators Sets. Furnish Engine Generators of the capacity and configuration listed below:

1. Overall enclosure with engine generator must be able to fit inside a Casa 212-200 airplane. Max dimensions with muffler removed from enclosure 67”wide x 67”tall x 252” long. Max weight 5000 pounds.
2. Minimum 160kW rated prime power.
3. Easily removable muffler that mounts to enclosure.
4. Skid mounted radiator.

2.3 ENGINE

A. Provide a skid mounted, 1800 RPM, diesel engine complete with generator/alternator and ready for service. The unit shall be of newest design and of recent manufacture.

B. The engine shall be a four-cycle, water-cooled, direct injection diesel engine of 4 or 6 cylinder in-line configuration and shall be provided with a gear driven coolant pump where offered by manufacturer.

C. Horsepower: Certified engine power curves and fuel consumption at 25%, 50%, 75%, and 100% loading, shall be submitted showing the manufacturer's approval of the engine rating for engine generator prime power application. Special ratings or "continuous standby" ratings will not be acceptable.

D. Engine Control: Engine manufacturer’s electronic control panels shall be provided.

E. ECU Mounting: When available from the engine manufacturer, provide an ECU mounting panel for installation of the ECU and accessories. Mount in a readily accessible location on the engine or on the generator enclosure. Provide service loops in wiring harnesses as required.

F. Fuel: The engine shall be capable of satisfactory performance on No. 1 or No. 2 Ultra Low Sulphur Diesel (ULSD) Fuel.

G. Fuel System: The engine shall have manufacturer’s engine mounted fuel filters with replaceable elements.

H. Lubrication: The engine shall have a gear type lubricating oil pump for supplying oil under pressure to the main bearings, crankshaft bearings, pistons, piston pins, timing gears, camshaft bearings and valve rocker mechanism. Threaded spin-on type, full flow lubricating oil filters shall be provided.

I. Oil Level: The engine shall have a combination visual oil level site gauge with adjustable high and low level switches, Murphy L129CK1 or approved equal. Mount on rubber isolators and connect to engine with minimum #8 hoses. Carefully route upper vent hose to avoid any low point traps and connect directly into crankcase. Route lower hose to a connection directly on the oil pan.

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

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

L. 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.

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

N. Air Cleaners: The engine shall be provided with a dry-type, replaceable element air cleaner with a metal canister. Provide visual air restriction indicator, 20" water column limit, manual reset, Donaldson X002251 or approved equal.

O. Starting: The engine shall be equipped with a 12 or 24 VDC electric starting system. The starting system shall be of sufficient capacity to crank the engine at a speed which will allow full diesel starting.

P. Safety Controls: The engine controller provided for the engine generator shall be equipped with automatic safety controls which will shut down the engine in the event of high jacket water temperature (primary), 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 radiator.

Q. 120 VAC block heater.

2.4 ENGINE CONTROLLER

A. Mounted inside engine generator enclosure on vibration isolators.

B. Provide start and stop function.

C. Safety controls and shut offs listed above 26 32 13.20 2.3P. Controller must have read out of alarms.

2.5 ELECTRONIC POWER METER

A. Revenue grade.

B. Must be able to read: Voltage (L-L and L-N), Current (all 3 phases separately), Apparent Power, Real Power, Reactive Power, Power Factor, kWh, and Peak Demand.

C. Mounted inside engine generator enclosure next to the engine controller on vibration isolators.

2.6 ACCESSORIES

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

A. Vibration pad isolators complete with mounting hardware, six (6) per each unit, sized for the complete engine generator unit weight.

C. Provide minimum 800 cold crank amp 12-volt starting batteries, two for each engine. Batteries shall be sealed maintenance free, Optima Red Top NAPA Part Number BAT N993478RED or approved equal. Furnish and install battery racks sized to hold the batteries with hardware to secure the battery for shipping.

D. Each engine shall be provided with two each #2/0 AWG arctic flex battery cables, long enough to reach the batteries, plus one each #2/0 AWG by 12-inch long jumper. One battery cable shall be red for the positive lead and the other shall be black for the negative lead. The jumper shall be black with red heat shrink one end.

2.7 COOLING SYSTEM

A. Properly sized skid mounted radiator.
B. Low water shut down switch mounted to radiator.

2.8 ENGINE JACKET COOLING SYSTEM

A. Glycol Filter: Provide screw-on canister style filter element with 3/8" NPT connections on head, Wix #24019 head with #24069 element or approved equal. Mount head on steel bracket fixed to front or side of engine. Connect to engine with glycol hoses with 3/8” NPT quarter turn gauge cock isolation valves. Connect inlet to thermostat housing and connect outlet to water pump inlet. When filters are provided as part of engine manufacturer’s assembly the standard factory filters may be substituted for the above specified parts; however, equivalent mounting, connections, and isolation valves shall be included.

2.9 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 2 minutes in accordance with NEMA MG1-32.

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

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

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

F. The generator shall be equipped with a permanent magnet generator (PMG) excitation system. The system shall supply a minimum short circuit support current of 300% of the rating for 10 seconds. The rotating exciter shall use a three-phase full wave rectifier assembly with hermetically sealed silicon diodes protected against abnormal transient conditions by a multi-plate selenium surge protector. The diodes shall be designed for safety factors of 5 times voltage and 1.5 times current.

G. Voltage Regulator: The voltage regulator shall be compatible with the PMG excitation and shall control the output of the brushless AC generator by regulating the current into the exciter field. The regulator shall include an autotuning feature with two PID stability groups. The voltage regulation shall be 0.25% accuracy. Basler DECS-150 5NS1V1N1S or approved equal.

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.

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.

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

2.10 GENERATOR BREAKER

A. Mounted to generator.

B. Sized appropriately for generator size.

C. Terminate wire connections between generator and breaker.

2.11 MOUNTING SKID

A. The engine, generator, and radiator shall be equipped with a suitable full length base frame (skid) for mounting the engine, generator, and radiator.

B. Provisions shall be made in the skid for the mounting of vibration isolation pads underneath the contact point of the radiator, engine, and generator.

C. Provisions shall be made in the skid for sliding/lifting unit to the site of installation.

2.12 ENCLOSURE

A. Coated steel and weather proof.

B. Locking doors that are all keyed alike. Doors must provide access to all serviceable parts. Provide 4 sets of keys.

C. Must be removable from skid and have lifting hooks or eyes.

D. Proper ventilation to ensure proper engine temp.

2.13 SPARE FILTERS

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

A. Twelve (12) oil filters.

B. Four (4) fuel filters.

C. Three (3) air filters

D. Four (4) glycol filters.

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

PART 3 - EXECUTION

3.1 FACTORY TESTS

A. Prior to shipment, the engine generator Fabricator shall perform factory tests on each unit at the shop where the engine generator is assembled. The Authority reserves the right to witness all tests. Supply sufficient notice to the Authority prior to performing tests. Test procedures shall conform to ASME, IEEE, and ANSI standards, and NEMA standard practices section on testing, as appropriate and applicable.

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

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

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

1. Verify that engine is filled with break in oil. The break in oil shall be approved by the engine manufacturer for 100 to 500 hour run time, John Deere Break-In Plus or approved equal.

2. 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.

3. Connect engine coolant piping to radiator or heat exchanger. Note that all engine coolant circulation must be performed by the engine water pump without the benefit of any external pump or pressurized system.

4. Install thermometer to monitor coolant return temperature entering the engine for comparison against the coolant discharge temperature.

E. Engine Tests: Perform customary commercial factory 8-hour load test on each engine generator including, but not limited to, the following:

1. 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.

2. Record the following data at the start, at 15-minute intervals, and at the end of each load run: Hz, kW load, fuel consumption, exhaust temperature, intake air temperature, jacket water temperature, coolant return temperature, lube oil temperature, lube oil pressure, manifold (boost) pressure, and crankcase vacuum.

F. Tests shall indicate satisfactory operation and attainment of guarantees and specified performance. Provide test reports including certified copies of all Fabricators' test data and results. Include laboratory analysis for the clean lube oil sample and the sample pulled after the test. Final payment will not be made without approval by the Authority of the shop test reports.

3.2 SHIPPING

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

1. Pull a sample of the lube oil. Send to a laboratory for analysis. Include the sample of clean lube oil pulled prior to the load test for reference comparison.

2. Remove any dirt from the air cleaner; check all seals and gaskets. Put lubricant on all points given in the lubrication chart of the engine operation guide.

3. Turn the engine at cranking speed with throttle control in full off position and use a sprayer to add a mixture of 50% VCI (volatile corrosion

inhibitor) oil and 50% 30 weight 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 and generator are 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. Flush the cooling system with extended life 50/50 ethylene glycol mix, Shell Rotella ELC or approved equal. Install covers over the connections.

   Note: that if testing was performed with extended life ethylene glycol solution the engine does not need to be flushed.

B. After preparing the equipment for shipping, package each engine generator separately as follows:

1. All other included components (spare parts, loose items, etc.) shall be packaged individually in waterproof wrapping. Each individual component package shall then be packed in a box or crate, and each box/crate wrapped in waterproof wrapping to prevent corrosion to the components during extended periods of outside storage. All boxes or crates shall be palletized onto the minimum number of pallets, as required for the quantity and size of the boxes/crates.

END OF SECTION

SECTION 33 56 13

ABOVE GROUND FUEL STORAGE TANKS

PART 1 - GENERAL

1.1 WORK INCLUDED

A. This section includes the furnishing of all labor, tools, equipment, and materials necessary to fabricate, coat, package for shipment, deliver, and install the appropriate number of the following tanks in accordance with the awarded Contract schedule(s):

1. CONTRACTOR PROVIDED two hundred minimum (200) nominal gallon, double-wall, horizontal, steel, skid mounted, above ground storage tank for diesel service.

2. ALL TANK APPURTANCES for Contractor provided tanks.

1.2 SUBMITTALS

A. Submit shop drawings for the following components:

1. Submittals shall include all tank appurtenances including but not limited to tank liquid level indicators, normal/emergency vents, etc. as listed in these specifications and shown on the drawings.

2. Submit tank shop drawings, prior to fabrication, showing all principal dimensions of the tanks, details and locations of all accessories, penetrations and appurtenances, thickness of sheets and plates, details of joints and welds and description of coating system. All deviations from these Specifications and the Contract Drawings shall be clearly shown and identified on the shop drawings.

3. Submit material lists with catalog cuts for any proposed substitutions.

4. Tank Coating Schedule.

1.3 REFERENCED STANDARDS

A. American National Standards Institute (ANSI):

1. B1.20.1, Pipe Threads, General Purpose (Inch).

B. American Society for Testing Materials (ASTM):

1. A53, Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless.

2. A105, Specification for Forgings, Carbon Steel, for Piping Components.

3. A106, Standard for Seamless Carbon Steel Pipe.

4. A181, Forgings, Carbon Steel, for General Purpose Piping.

5. A183, Carbon Steel Track Bolts and Nuts.

6. A234, Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and Elevated Temperatures.

C. American Society of Mechanical Engineers (ASME):

1. ASME B31.4, Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids.

2. ASME B31.9, Building Services Piping.

3. B16.3, Malleable-Iron Threaded Fittings.

4. B16.5, Pipe Flanges and Flanged Fittings.

5. B16.34, Valves—Flanges, Threaded, and Welding End.

6. B16.39, Pipe Unions, Malleable Iron Threaded.

D. Underwriters Laboratories (UL):

1. UL 142, Steel Aboveground Storage Tank Installation & Testing.

E. National Fire Protection Association (NFPA):

1. NFPA 30/30A Flammable and Combustible Liquids Code.

1.4 QUALITY ASSURANCE

A. Piping, fittings, and valves manufactured or procured from sources beyond territorial boundaries of the United States will not be acceptable.

B. Comply with all applicable city and state codes and ordinances. In case of conflict with drawings or specifications, the codes and ordinances shall govern.

C. Tank manufacturers shall have a minimum 10 years of experience including the manufacture of at least five similar tanks in the previous three years.

D. Tank Leak Test: Provide tank integrity testing in the form of a hydrostatic / air test or other approved method in accordance with UL 142.

PART 2 - PRODUCTS

2.1 GENERAL

A. Materials and apparatus shall be new unless otherwise specified, and each shall have all necessary accessories to make it functionally complete. All items of the same type shall be of the same manufacturer.

B. Tank manufacturer to provide shop-welded standoffs as required for bolting on appurtenances in the field.

2.2 200 MINIMUN GALLON DOUBLE WALL AST

C. 200 minimum gallon tanks shall be CONTRACTOR furnished. All tank appurtenances shall be provided by the Contractor.

D. Must fit inside a CASA 212-200 airplane. Max dimensions 67" wide x 67" tall x 252" long. Max weight 5000 pounds.

E. Must have towing/lifting hooks or eyes welded to skid.

F. Tank Appurtenances for 200 minimum Gallon Tank:

1. Provide all tank appurtenances as required by applicable codes. Appurtenances shall include fill tubes & internal piping.

2. Labeling: Provide labeling on tank in accordance with the International Fire Code and NFPA 704, including but not limited to product identification, hazard identification, tank numbering, compartment storage capacity, etc.

3. Provide atmospheric and emergency venting for the storage tank in accordance with UL 142.
    a. Primary Tank Combination Atmospheric Vent/Alarm: Threaded 3" pressure/vacuum vent with integral whistle overfill alarm set to activate at 6 oz/sq. inch pressure. Provide Morrison Bros., Co Fig 922, or approved equal. Set whistle to start at 90% of tank capacity.
    b. Emergency Vents: Aluminum body, flanged connection emergency vent set to open at 16 oz/sq. inch pressure. Emergency vent shall be sized in accordance with UL142. Morrison Bros, Co. Model 244F, with flanged adapter, or approved equal. Loose manholes not permitted.

4. Liquid Level Clock Gauge: Stainless Steel float operated clock gauge with readout in feet and inches, up to 12 feet in ¼" increments installed in stilling well. Morrison Bros, Co. Model No. 818, or approved equal.

5. Gauge Hatch: Brass cap, brass adapter, and brass chain, Buna-N gasket, 2-inch FPT connection. Morrison Figure 307, or approved equal.

6. Locking bulk fill port.

7. Fuel supply and return ports. See 26 32 13.20 2.3J for connection type and hose type.

2.3 COATINGS FOR EXTERNAL TANK SURFACES

A. The tank exterior, saddles, and skids shall be shop coated in accordance with the following specification and in accordance with the coating manufacturer's recommendations.

1. Surfaces to be coated: All exterior surfaces of tanks, including bottom of vertical tanks, nozzles, skids, pipe supports, fittings and pipe.

2. Surfaces not coated: Flange and nozzle faces, penetration threads, flange and manhole bolts.

3. Surface Preparation: All surfaces to be coated shall be sand blasted in accordance with the Structural Steel Painting Council SSPC-SP10, near white blast criteria. Alternate methods of surface preparation which provide equal, or better, surface preparation will be considered. Identify proposed alternate surface preparation methods, if any, on bid.

4. Coatings:

   a. Prime Coat- Devoe Catha-Coat 302H (3 mils minimum dry finish thickness (DFT)

   b. Intermediate Coat – Devoe Bar-Rust 236 (5-6 mils minimum DFT)

   c. Top Coat- Devoe Devthane 389 (2-3 mils DFT)

5. Coat Colors: All coats shall be contrasting colors. Top coat color shall be white.

B. Coating Application

1. The Contractor shall submit to the Project Manager, for his/her approval, the tank manufacturer's proposed painting schedule. At minimum, this shall include the spreading rate in square feet per gallon for each coat, minimum dry film thickness for each coat, application temperature, curing time and temperature, humidity limits, and paint and paint thinner to be used for the final coat. The painting schedule shall be in accordance with the paint manufacturer's recommendation and this specification, and shall be approved, in writing, by the Project Manager prior to application.

2. If paint is diluted for application by spray gun, the coating shall be built up to the same film thickness achieved with undiluted material. Deficiencies in film thickness shall be corrected by the application of an additional coat(s) of paint.

PART 3 – EXECUTION (NOT USED)

END OF SECTION

ATTACHMENT B

BID SCHEDULE

Emergency Inventory Maintenance Engines
Project No. 21036

Bidders Please Note: Before preparing this bid schedule, read carefully, "Information to Bidders", and the following:

The Bidder shall insert a fixed price in figures opposite each pay item that appears on the bid schedule to furnish all labor, material, equipment, supervision and provide all work for each item listed. No price is to be entered or tendered for any item not appearing in the bid schedule. In case of error in the extension of prices in the bid, the unit prices will govern.

Contract award shall be made on the basis of the total Base Bid. If Bid Alternates are included in the Bid Documents, the Alaska Energy Authority reserves the right to award some, none, or all of the alternates. Alternates may be awarded in any order in the best interest of the Alaska Energy Authority.

Bidder is required to bid on all Base bid items, including all Additive Alternates.

Conditioned or qualified bids will be considered non-responsive.

Base Bid

Item	Description	Quant.	Unit	Unit Price	Extended Total Amount
1	148hp, 100ekW prime, John Deere 4045AFM85, Tier 3 Marine, 24VDC	1	each	$	$
2	99hp, 65ekW prime, John Deere 4045TFM85, Tier 3 Marine, 24VDC	1	each	$	$
3	Minimum 160ekW prime enclosed engine generator set with removable muffler and standalone minimum 200 gallon fuel tank	1	PKG	$	$
Total Base Bid					$

Additive Alternates

Item	Description	Quan	Unit	Unit Price	Extended Total Amount
ALT 1	Minimum 160ekW prime enclosed engine generator set with removable muffler and standalone minimum 200 gallon fuel tank	1	PKG	$	$
Total Additive Alternates					$

ATTACHMENT B

2. Acknowledge all addenda

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

3. 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:** **_____ EXPRES DATE:_____**
	Alaska Contractor's Registration # **_____ EXPRES DATE:_____**

End of Bid Schedule.