

Invitation to Bid
WSRE Generator
2015/2016



PENSACOLA
STATE COLLEGE

Due: March 3, 2015 @ 2:00 PM, Local Time

Pensacola State College is soliciting sealed bids for the purchase of a Generator.

Please review and deliver your formal bid as the original and two copies by the date and time shown on the Bid Form to:

SEALED BID # ITB -2015/2016
Cassie Boatwright, Director of Purchasing and Auxiliary Services
1000 College Blvd.
Pensacola, FL 32504

Please indicate the bid number on the outside of your sealed bid envelope to assist in identifying your bid.

All prices to be quoted are to be FOB destination, freight prepaid. Pensacola State College is a political subdivision of the State of Florida and as such is exempt from all Federal and State taxes. Pensacola State College reserves the right to reject any portion or all bids, to resolicit bids or not and to waive informalities as deemed in the best interest of the Pensacola State College

Public bid opening: Pensacola State College will conduct a Public bid opening at 2:00 PM, local time, on February 19, 2015 at Pensacola State College Board Room, 1000 College Blvd. Pensacola, FL 32504 Room 736. Pursuant to HB 7223/FS 119.071 the College is not required to read aloud the individual bid prices at the Public Opening. The College may choose to only open the individual bids and publicly announce who a bid was received from. The actual bid prices submitted will not be a public record until the date of posting or the number of days as defined in FS 119.071."

ANTI-COLLUSION STATEMENT: The Bidder by signing and submitting a bid has "not" divulged to, discussed or compared his/her bid with any other Bidders and has not colluded with any other Bidders or parties to a bid whatsoever. (NOTE: Including there have been No premiums, rebates or gratuities paid or permitted either with, prior to, or after any delivery or personal contact. Any such violation will result in the cancellation of award of any resulting contract from this bid and the Bidder being debarred for not less than three (3) years of doing business with Pensacola State College.)

1.0 Overview

Pensacola State College is soliciting qualified bids from qualified firms to provide a generator as defined in Attachment A.

1.01 Bidders may contact Cassie Boatwright, Director of Purchasing and Auxiliary Services by email cboatwright@pensacolastate.edu for questions related to the College's requirement relative to this ITB.

1.02 In order to maintain a fair and impartial competitive process, Pensacola State College shall avoid any oral communication with prospective bidders other than through the purchasing office during the bid process. However, all solicited bidders will be provided a copy of all written questions submitted and the Pensacola State College's responses to them, unless the written inquiry pertained to an administrative or procedural matter. Send all inquiries to the attentions of:

Cassie Boatwright, Director of Purchasing and Auxiliary Services
Pensacola State College
1000 College Blvd.
Pensacola, FL 32504

PHONE: (850) 484-1779 FAX: (850) 484-1839

Email: cboatwright@pensacolastate.edu

All written questions and inquiries are due no later than 2:00 p.m. February 11, 2015.

1.03 ADDENDA: Any addenda issued prior to the opening of the ITB for the purpose of changing the specifications of this request for proposal or related documents, or clarifying the meaning of the same, shall be binding in the same way as if originally written in the ITB specifications and related documents. Since all addenda are available to proposers at the office of the Pensacola State College Director of Purchasing and Auxiliary Services, it is each bidder's responsibility to check with the issuing office and immediately secure all addenda before submitting your bid. The Pensacola State College Director of Purchasing and Auxiliary Services emails addenda to all known prospective bidders, but no guarantee can be made that addenda will be received.

1.04 FAMILIARITY WITH LAWS: The bidder is assumed to be familiar with all Federal, State of Florida and local laws, ordinances, rules and regulations that in any manner affect the work. Ignorance on the part of the proposer will in no way relieve you from your contractual responsibility. Any resultant award shall include requirements that the resultant contract shall be governed by the laws of the State of Florida.

1.05 As deemed in the College's best interest, the College reserves the right to:

1. Reject any or all bids submitted.
2. To resolicit bids or not.
3. To award any portion(s) of this ITB.
4. To waive informalities.
5. To issue to all responsive bidders request for information (RFI's).
6. To issue requests to negotiate with finalist and solicit best and final offers.
7. To evaluate to determine technical equivalents.
8. To award this ITB on a Lot by Lot basis to the responsive low bidder meeting specifications.
9. To award on an outright purchase or lease basis.

2.00 Generator Specifications

Must meet or exceed the specifications listed in Attachment A.

3.00 SPECIAL CONDITIONS

- 3.01 PURCHASES BY OTHER STATE OF FLORIDA COLLEGES, UNIVERSITIES AND STATE AGENCIES: Purchases may be made under this ITB by other community colleges, state universities, district school boards, and other state agencies within the State of Florida. Such purchases shall be governed by the same terms and conditions stated in the ITB solicitation as provided in State Board of Education Rule 6A-14.0734(2)(d). If the period of time is not defined within the solicitation, the prices, terms and conditions shall be firm for 120 days from date of award.
- 3.02 Pensacola state college desires delivery within 30 days after receipt of an order. Pensacola State College reserves the right to consider delivery time along with other factors in evaluating bids. If vendor is unable to make delivery within the number of days indicated, they must provide the alternate delivery date.
- 3.03 Florida sales tax exemption no: 85-8012557294C-2
- 3.04 Pensacola state college reserves the right to reject any or all RFPs/proposals received, to resolicit or not and to waive informalities as deemed in the best interests of the College.
- 3.05 As a bidder/proposer our company attests we have not been convicted of a public entity crime of the State of Florida or any federal agency and are not listed in the excluded parties list system (EPLS) maintained by the General Services Administration(GSA).
- Pursuant to OMB Circular a-110,subpart b, section 13 a person or affiliate who has been placed on either the federal excluded parties list system or the state of Florida convicted vendor list following a conviction for a public entity crime may not submit a bid or enter into a contract to provide any goods or services to a public entity, may not submit a bid or enter into a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in section 287.017, for category two (i.e. \$25,000)while on the convicted vendor list. The excluded parties list system can be found at <http://epls.gov/epls/servlet/EPLSGETInputSearch>
- 3.06 Any entity or affiliate who has been placed on the discriminatory vendor list may not submit a ITB on a contract to provide goods or services to a public entity, may not submit a ITB on a contract with a public entity for the construction or repair of a public building or public work, may not submit ITBs on leases of real property to a public entity, may not award or perform work as a contractor, supplier, subcontractor, or consultant under contract with any public entity, and may not transact business with any public entity. This is in accordance with HB 2127, section 6(3)(a), all invitations to ITB, as defined by 287.012(11)FS, request for proposals, as defined by 287.012(15)FS, and any written contract document of the state shall contain a statement informing entities of the discrimination provisions.
- 3.07 Pensacola State College reserves the right to award an individual lot or a combination of lots; reject any or all lots, whatever seems in the best interest of the College.
- 3.08 The specifications listed are meant to demonstrate the work parameters required, and the functional limits listed are to be considered minimal unless changed by addendum to the bid. Bid evaluation will be made strictly from the minimal specification. However, vendors desiring to suggest different specifications shall submit a written detailed request and OEM technical specification sheets to the Director of Purchasing and Auxiliary Services for evaluation purposes not less than 14 days prior to the bid opening. Each particular specification which the equivalent offered which does not meet must be identified and submitted along with the detailed specification sheet of the equivalent offered. An addendum, if issued, will be issued at least 7 days prior to the bid opening adding equivalent items, if approved.

- 3.09 The successful bidder shall fully guarantee all items furnished against defect in materials and/or workmanship for a period of 365 days from date of final acceptance by Pensacola State College. Should any such defect, except for normal wear and tear, appear during the warranty period, the successful bidder shall commence repair or replace same at no cost to Pensacola State College within 72 hours after notice.
- 3.10 Any "notice of protest" involving the specifications, the terms and conditions or any other aspect of this invitation to bid (ITB), request for proposal (RFP) or request for qualification (RFQ) must be filed in writing within 72 hours after the receipt notice of the project plans and the solicitation specifications. Formal written protest must be filed within 10 days after the date of the notice of protest is filed. (Saturdays, Sundays and legal holidays shall be excluded in these computations.) The formal written protest shall state with particularity the facts and law upon which the protest is based. Failure to file a notice of protest or failure to file a formal written protest within the time prescribed in section 120.57(3), Florida Statutes shall constitute a waiver of proceedings under chapter 120, Florida Statutes.
- 3.11 Bid tabulations with recommended awards will be posted on the purchasing web page http://pensacolastate.edu/purchasing/current_solicitations.asp Unless changed by addendum, and will remain posted for a period of 72 hours (not including Saturdays, Sundays and legal holidays). Any notice of protest of award or recommendation of award shall be filed in writing to the purchasing manager, within 72 hours after the posting of the ITB/RFP/RFQ bid tabulation. "failure to file a protest within the time prescribed in section 120.57 (3), Florida statutes shall constitute a waiver of proceedings under chapter 120, Florida Statutes." a formal written protest must be filed within 10 days (excluding Saturdays, Sundays, and legal holidays) after the date the notice of protest was filed. The formal written protest shall state with particularity the facts and law upon which the protest is based upon. Failure to file a formal written protest within the time prescribed shall constitute a waiver of proceedings under chapter 120.57(3) Florida Statutes. Inspection or examination of sealed bids or proposals are available for inspection during normal working hours by appointment, upon notice of a decision or intended decision, or 10 days after invitation to bid or proposal public opening, whichever is earlier.
- 3.12 As this solicitation may be federally funded. The sections within this ITB are an overview of Federal Compliance Conditions and Regulations that all bidders must comply with.

BID FORM

Total Lump Sum Cost for item 2.01, as specified \$ _____ Useful Life _____

Guaranteed weeks lead-time after receipt of Pensacola State College PO: _____

Is leasing available? _____

Payment Terms: Net 30 days or prompt payment discount of _____%, _____ Days offered by Proposer.

Corporate Name	DBA Name (if applicable)
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Purchasing Address	Street/PO Box	City
	State	Zip
	Email Address	

Remit to Address	Street/PO Box	City
	State	Zip
	Email Address	

Contact Person	Name	Phone #
	Email Address	

Address of Parent Company (if applicable)	Street/PO Box	City
	State	Zip

Check applicable boxes for ownership of company

Black American
 Hispanic American
 Asian Pacific American
 Asian Indian American
 Native American
 Woman-Owned
 Disabled Veteran

Attach current MBE/WBE Certifications

_____	_____	_____
Authorized Agent Name	Signature	Date

Firms certify by their signature they have read and understand the conditions and specifications of this Statement of Qualifications and they have the authority, capacity, and capability to perform to the conditions and specifications of this Request for Qualifications.

CERTIFICATION OF DRUG-FREE WORKPLACE PROGRAM

IDENTICAL TIE BIDS - Whenever two or more bids which are equal with respect to price, quality, and service are received by the State or by any political subdivision for the procurement of commodities or contractual services, a bid received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie bids will be followed if none of the tied vendors have a drug-free workplace program, or if all of the tied vendors have drug-free workplace programs. In order to have a drug-free workplace program a business shall:

- (1) Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
- (2) Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
- (3) Give each employee engaged in providing the commodities or contractual services that are under bid a copy of the statement specified in subsection (1).
- (4) In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
- (5) Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community, by any employee who is so convicted.
- (6) Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

AS THE PERSON AUTHORIZED TO SIGN THE STATEMENT, I CERTIFY THAT THIS FIRM COMPLIES FULLY WITH THE ABOVE REQUIREMENTS.

SIGNATURE OF VENDOR REPRESENTATIVE: _____

TYPED OR PRINTED NAME OF VENDOR REPRESENTATIVE: _____

BIDDING FIRM OR ENTITY NAME: _____

MINORITY BUSINESS ENTERPRISE/WOMAN BUSINESS
ENTERPRISE CERTIFICATE

I HEREBY DECLARE AND AFFIRM that I am the _____ (Title) representative of the firm of _____ (Company Name) minority business enterprise (MBE/WBE) _____ (Minority Type) as defined by Pensacola State College in the specifications for _____ (ITB Name & Number) that I will provide information requested by PENSACOLA STATE COLLEGE to document this fact. The foregoing statements are true and correct and include all material necessary to identify and explain the operations of _____ (Company Name) as well as the ownership thereof. Further, the undersigned does agree to provide PENSACOLA STATE COLLEGE current, complete and accurate information regarding actual work performed on the project, the payment therefor and any proposed changes in any of the arrangements hereinabove stated and to permit and audit an examination of the books, records and files of the above named company by authorized representative of PENSACOLA STATE COLLEGE. It is recognized and acknowledged that the statements herein are being given under oath and material misrepresentation will be grounds for terminating any contract which may be awarded in reliance hereon. Termination is understood to forfeiture of payment for all work not performed at time of notification.

I DO SOLEMNLY DECLARE OR AFFIRM UNDER THE PENALTIES OF PERJURY THAT THE CONTENTS OF THE FOREGOING DOCUMENTS ARE TRUE AND CORRECT, AND THAT I AM AUTHORIZED, ON BEHALF OF THE ABOVE FIRM, TO MAKE THIS AFFIDAVIT.

Signature of Company's Authorized Representative

State of _____ County of _____ City of _____

On this _____ day of _____, 20____, before me, in the foregoing affidavit and acknowledged that he (she) executed the same in the capacity therein stated and for the purpose therein contained.

In witness thereof, I hereunto set my hand and official seal.

Signed: _____
Notary Public

(SEAL)

My commission Expires:

Minority Type: # M1 Black American Man; M2 Hispanic American; M3 Asian American; M4 Native American (Eskimo & Aleutian); M5 Native Hawaiian; M6 Small Business; M7 Disabled; M8 American Woman; M9 Black American Woman; and NM Not Minority. (Must have greater than 51% minority ownership). "Minority/Woman Business Enterprises that file false misrepresentation of their MBE/WBE status shall be found guilty of a felony of the second degree and be debarred from bidding no less than 36 months pursuant to 287.094 Florida Statute".

Pensacola State College does not discriminate on the basis of race, ethnicity, national origin, gender, age, religion, marital status, disability, sexual orientation and genetic information in its educational programs and activities. The following person has been designated to handle inquiries regarding nondiscrimination policies: Dr. Gael Frazer, Assoc. Vice President, Institutional Diversity at (850)484-1759, Pensacola State College, 1000 College Blvd. Pensacola, Florida 32504

PUBLIC ENTITY CRIMES

Any person submitting a Request for Proposal in response to this invitation must execute the enclosed for PUR 7068, SWORN STATEMENT UNDER PARAGRAPH 287.133(3)(A), FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES, including proper check(s), in the space(s) provided, and enclose it with the said statement. However, if you have provided the completed form to the submittal address listed in this invitation and it was received on or after January 1, 2009, another completed form is not required for the remaining calendar year.

THIS FORM **MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC** OR OTHER OFFICIAL AUTHORIZED TO ADMINISTER OATHS.

This sworn statement is submitted to:

(print name of the public entity)

By _____

(Print name of entity submitting sworn statement)

Whose business address is

And (if applicable) its Federal Employer Identification No. (FEIN) is:

(If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement:_____

I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or of the United States, including, but not limited to, any proposal or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, non-jury trial, or entry of a plea of guilty or nolo contendere.

I understand that an "affiliate" as defined in Paragraph 287.133(1)(a), Florida Statutes, means:

A predecessor or successor of a person convicted of a public entity crime: or

An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement, shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

I understand that a "person" as defined in Paragraph 287.133(1) (e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which proposals or applies to proposal on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement **(indicate which statement applies).**

_____ Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity, nor any affiliate of the entity have been charged with and convicted of a public entity crime subsequent to July 1, 1989.

_____The entity submitting this sworn statement, or one or more of the officers, directors, executive, partners, shareholders, employees, members, or agents who are active in management of the entity or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989.

_____The entity submitting this sworn statement, or one or more of its officers, directors, executives, partners, shareholders, employees, members, or agents who are active in the management of the entity or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989. However, there has been a subsequent proceeding before a Hearing Officer of the State of Florida, Division of Administrative Hearings and the Final Order entered by the Hearing Officer determined that it was not in the public interest to place the entity submitting this sworn statement on the convicted vendor list **(attach a copy of the final order).**

I UNDERSTAND THAT THE SUBMISSION OF THIS FORM TO THE CONTRACTING OFFICER FOR THE PUBLIC ENTITY IDENTIFIED IN PARAGRAPH 1 (ONE) ABOVE IS FOR THAT PUBLIC ENTITY ONLY AND, THAT THIS FORM IS VALID THROUGH DECEMBER 31 OF THE CALENDAR YEAR IN WHICH IT IS FILED. I ALSO UNDERSTAND THAT I AM REQUIRED TO INFORM THE PUBLIC ENTITY PRIOR TO ENTERING INTO A CONTRACT IN EXCESS OF THE

THRESHOLD AMOUNT PROVIDED IN SECTION 287.017, FLORIDA STATUTES FOR CATEGORY TWO OF ANY CHANGE IN THE INFORMATION CONTAINED IN THIS FORM.

Sworn to and subscribed before me this _____ day of _____ 20_____

Personally known _____

OR Produced identification _____ Notary Public - State of _____

_____ . My commission expires _____ (Type of identification)

(Printed, typed and/or stamped commissioned name of Notary Public)

A person or affiliate who has been placed on the convicted Firm list following a conviction for a public entity crime may not submit a proposal on a contract to provide any goods or services to a public entity, may not submit a proposal on a contract with a public entity for the construction or repair of a public building or public work, may not submit proposals on leases of real property to a public entity, may not be awarded or perform work as a Firm, supplier, Sub-Firm, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in Section 287.017, for CATEGORY TWO for a period of thirty-six (36) months from the date of being placed on the convicted Firm list.

UNITED STATES FEDERAL ATTESTATION FORM – (NON-CONSTRUCTION PROGRAMS)

Note: Certain of these assurances may not be applicable to sale of your products or services. If you have questions, please contact the Pensacola State College Purchasing and Auxiliary Services Department. Further, certain Federal awarding agencies may require PENSACOLA STATE COLLEGE certify additional assurances. If such is the case, you will be notified.

Our company understands this purchase has Federal funding and by signing this Federal Attestation Form we agree to:

1. Give the Federal Government, the Comptroller General of the United States, through their authorized representative, access to and the right to examine all records, books, papers or documents related to this purchase, as well as establish a proper accounting system in accordance with generally accepted accounting standards and to retain all records a minimum of five years.
2. Establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
3. Initiate and complete the scope of work within the applicable time frame after receipt of an approved PENSACOLA STATE COLLEGE purchase order.
4. Comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. 4728-4763 relating to prescribed standards for merit systems for programs funded under one of the nineteen statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
5. Comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88.352) which prohibits discrimination on the basis of race, color, or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. 1681 – 1683, and 1685 – 1686), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. 6101 – 6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92.255) as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91.616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. 290 dd.3 and 290 ee-3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. 3601 et seq.) as amended, relating to nondiscrimination in the sale, rental, or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.
6. Comply, or has already complied, with the requirements of Title II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91.646) which provides for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
7. Comply with the provision of the Hatch Act (U.S.C. 1501 – 1508 and 7324 – 7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.
8. Comply as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. 276a - 276a 7), the Copeland Act (40 U.S.C. 276c and 18 U.S.C. 874, and the Contract Work Hours and Standards Act (40.327 – 333), regarding labor standards for federally assisted construction sub-agreements.
19. Compliance with the Federal agency requirements and regulations (as applicable) pertaining to patent rights with respect to any discovery or invention which arises or is developed in the course of or under such contract, as well as awarding agency requirements and regulations pertaining to copy-rights and rights in data
 - B. Supplier agrees to provide access to the Federal grantor agency, the Comptroller General of the United States, or any of their duly authorized representatives to any books, documents papers, and records or documents of the supplier which are directly pertinent to this specific contract for the purpose of making audit, examination, excerpts, and transcriptions.
 - C. Supplier agrees to retain all records relative to this procurement for five full years after PENSACOLA STATE COLLEGE makes final payment and all other pending matters are closed.
9. Comply, as applicable, with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L.91.190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in flood plains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. 1451 et seq.) (f) conformity of Federal actions to State (Clear Air) implementation Plans under Section 176(c) of the Clear Air Act of 1955, as amended (42 U.S.C. 7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended, (P.L. 93.523; and (h) protection of endangered species under the Endangered Species Act of 1973, as amended. (P.L.93.205).
10. Comply, as applicable, with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
11. Assist the United States Federal Government (as requested) in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. 469a.1 et seq.).
12. Comply, as applicable, with P.L. 93.348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.
13. Comply, as applicable, with the Laboratory Animal Welfare Act of 1966 (P.L) 89.544, as amended, 7 U.S.C. 2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance
14. Comply with all applicable requirements of all other Federal laws, executive orders, regulations and policies governing this purchase.
15. Strongly strive to provide subcontracting opportunities to small businesses owned and controlled by socially and economically disadvantaged individuals (WBE/MBE) in accord with Executive Order 12928.
16. Compliance with Executive Order 11246 of September 24, 1965, entitled "Equal Employment Opportunity," as amended by Executive Order 11375 of October 13, 1967, and as supplemented in Federal regulations (41 CFR Chapter 60).
17. Compliance with all applicable standards, orders, or requirements issued under section 306 of the Clean Air Act (42 U.S.C. 1857(h)), section 508 of the Clean Water Act (33 U.S.C. 1368), Executive Order 11738, and Environmental Protection Agency Regulations (40 CFR part 15).
18. Compliance with mandatory standards and policies (as applicable) relating to energy efficiency which is contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. L. 94 – 163, 89 Stat. 871).

Our business _____ attests that it is in full compliance with all of the cited U.S. Federal Attestations.

Authorized Signature

Signer's Title

Date

Please return this signed form to with your bid submittal.

SECTION 26 32 13
ENGINE GENERATOR

PART 1 GENERAL

1.1 SUMMARY

- A This section includes the following items from a single supplier:
 - 1. Engine Generator Set.
 - 2. 150 MPH Wind Rated Enclosure
 - 3. FDEP approved and listed Fuel Tank
 - 4. Related Accessories as specified
- B Products Installed but not furnished or supplied-Generator must be compatible with existing ATS.
- C Related Requirements
 - 1. Any exceptions to the published specifications shall be subject to the approval of the engineer and submitted minimum 10 days prior to the closing of the bid with a line by line summary description of all the items of compliance, any items that have been omitted or have been taken exception to, and a complete description of all deviations.
 - 2. It is the intent of this specification to secure a generator set system that has been tested during design verification, in production, and at the final job site. The generator set will be a commercial design and will be complete with all of the necessary accessories for complete installation as shown on the plans, drawings, and specifications herein. The equipment supplied shall meet the requirements of the National Electrical Code and applicable local codes and regulations.
 - 3. All equipment shall be new and of current production by an international, power system manufacturer of generators, transfer switches, and paralleling switchgear. The manufacturer shall be a supplier of a complete and coordinated system. There will be single-source responsibility for warranty, parts, and service through a factory-authorized Distributor with factory-trained technicians.

1.2 ADMINISTRATIVE REQUIREMENTS

- A Coordination
- B Pre-installation Meeting
- C Sequencing
- D Scheduling

1.3 SUBMITTALS

- A Action Submittals
 - 1. Product Data
 - a The submittal shall include prototype test certification and specification sheets showing all standard and optional accessories to be supplied; schematic wiring diagrams, dimension drawings, and interconnection diagrams identifying by terminal number each required interconnection between the generator set, the transfer switch, and the remote annunciator panel if it is included elsewhere in these specifications.
 - 2. Shop Drawings
 - 3. Samples
- B Informational Submittal
 - 1. Certificates

- a The generator set shall be listed to UL 2200 or submitted to an independent third party certification process to verify compliance as installed.
 - 2. Test and Evaluation Reports
 - 3. Manufacture's Instruction
 - 4. Source Quality Control Submittals
 - 5. Field or Site Quality Control
 - 6. Manufacture's Report
 - 7. Special Procedure Submittal
 - 8. Qualification Statement
- C Closeout Submittal
- 1. Maintenance Contracts
 - 2. Operation And Maintenance Data
 - 3. Bonds
 - 4. Warranty Documentation
 - 5. Record Documentation
 - 6. Software
- D Maintenance Material Submittals
- 1. Provide one (1) copy of the following documents and manuals for the engine, the alternator, and the generator set:
 - a) Operation Manuals
 - b) Parts Catalogs
 - c) Wiring Diagrams.

1.4 Quality Assurance

- A Regulatory Agency
- 1. The generator set shall conform to the requirements of the following codes and standards:
 - a CSA C22.2, No. 14-M91 Industrial Control Equipment.
 - b EN50082-2, Electromagnetic Compatibility-Generic Immunity Requirements, Part 2: Industrial.
 - c EN55011, Limits and Methods of Measurement of Radio Interference Characteristics of Industrial, Scientific and Medical Equipment.
 - d IEC8528 part 4, Control Systems for Generator Sets.
 - e IEC Std 61000-2 and 61000-3 for susceptibility, 61000-6 radiated and conducted electromagnetic emissions.
 - f IEEE446 Recommended Practice for Emergency and Standby Power Systems for Commercial and Industrial Applications.
 - g NFPA 70, National Electrical Code, Equipment shall be suitable for use in systems in compliance to Article 700, 701, and 702.
 - h NFPA 99, Essential Electrical Systems for Health Care Facilities.
 - i NFPA 110, Emergency and Standby Power Systems. The generator set shall meet all requirements for Level 1 systems. Level 1 prototype tests required by this standard shall have been performed on a complete and functional unit. Component level type tests will not substitute for this requirement.
 - 2. Qualifications
 - a The equipment shall be produced by a manufacturer who is ISO 9001 certified for the design, development, production and service of its complete product line.
 - b The power system shall be produced by a manufacturer who has produced this type of equipment for a period of at least 10 years and who maintains a service organization available twenty-four hours a day throughout the year.

3. Manufactures
 - a The power system shall be furnished by a single manufacturer who shall be responsible for the design, coordination, and testing of the complete system. The entire system shall be installed as shown on the plans, drawings, and specifications herein.

1.5 Delivery, Storage, and Handling

- A Delivery shall be to 1000 College Blvd., Pensacola, FL 32504 and is FOB destination. All cost associated with transport and delivery are at the expense of the contractor.

1.6 Field or Site Conditions

- A Ambient Conditions
 1. Engine- generator set shall operate in the following conditions without any damage to the unit or its loads.
 - a Ambient Temperature: 122 °F
 - b Altitude : 100 ft
 - c Relative Humidity: 95%
- B Existing Conditions

1.7 Warranty or Bond

- A Manufacture Warranty
 1. The generator set shall include a standard warranty covering five (5) years or 3000 hours, whichever occurs first, to guarantee against defective material and workmanship in accordance with the manufacturer's published warranty from the date of initial startup.
 2. The generator set manufacturer and its distributor shall maintain a 24-hour parts and service organization. This organization shall regularly engage in maintenance contract programs to perform preventive maintenance and service on equipment similar to that specified. A service agreement shall be available and shall include system operation under simulated operating conditions; adjustment to the generator set, transfer switch, and switchgear controls as required, and certification in the owner's maintenance log of repairs made and functional tests performed on all systems.

PART 2 PRODUCTS

2.1 Owner-Furnished or Owner-Supplied

- A New Products
- B Existing Products

2.2 Equipment

- A Equipment
 1. The generator set shall be a Kohler model 350REOZJB with a 4M4019 alternator. It shall provide 360 KW/ 469.00 kVA when operating at 277/480 volts, 60 Hz, 0.80 power factor. The generator set shall be capable of a 130°C Standby rating while operating in an ambient condition of less than or equal to 122 °F and a maximum elevation of 100 ft above sea level. The standby rating shall be available for the duration of the outage.

B Engine

1. The minimum 13.5 liter displacement engine shall deliver a minimum of 538 HP at a governed engine speed of 1800 rpm, and shall be equipped with the following:
 - a. Electronic isochronous governor capable of 0.25% steady-state frequency regulation
 - b. 24-volt positive-engagement solenoid shift-starting motor
 - c. 60-ampere automatic battery charging alternator with a solid-state voltage regulation
 - d. Positive displacement, full-pressure lubrication oil pump, cartridge oil filters, dipstick, and oil drain
 - e. Dry-type replaceable air cleaner elements for normal applications
 - f. Engine-driven or electric fuel-transfer pump including fuel filter and electric solenoid fuel shutoff valve capable of lifting fuel
 - g. The turbocharged engine shall be fueled by diesel
 - h. The engine shall have a minimum of 6 cylinders and be liquid-cooled
2. The engine shall be EPA certified from the factory
3. The generator must accept rated load in one-step.

C Cooling System

1. The engine shall be liquid-cooled by a closed loop, unit mounted radiator rated to operate the generator set at full load at an ambient temperature of 50 degrees C (122 degrees F). The radiator fan and other rotating engine parts shall be guarded against accidental contact.

D Standard Air Cleaner

1. The air cleaner shall provide engine air filtration which meets the engine manufacturer's specifications under typical operating conditions.

a. Battery

1. Each genset requires a BCI group 31 batteries which must meet the engine manufactures' specifications for the ambient conditions specified in Part 1 Project Conditions and shall comply with the NFPA requirements for engine cranking cycles. Each battery shall be rated according to SAE Standards J-537 with a minimum cold cranking amp of 950 amps and a minimum reserve capacity of 185 Minutes at 80F. The battery plates shall be constructed of a Calcium-Lead alloy to provide long waterless operation and extended battery life. The battery elements must be anchor-locked with full-frame grids and tight-packed commercial plates to resist the effects of vibration. The battery must contain a handle to aid in lifting and the case must be constructed of polypropylene to resist breakage and extend service life. Removable cell covers shall be provided to allow for checking of electrolyte specific gravity.
2. Battery rack and battery cables capable of holding the manufacturer's recommended batteries shall be supplied.

E FDEP Approved Fuel Oil Storage Tank

1. Double Wall Secondary Containment Sub-base Fuel Tank
 - a. The generator set shall be supplied with a sub-base fuel tank of sufficient capacity to hold 1910 gallons of usable diesel fuel to run 72 hours at 100% load.
 - b. The sub-base fuel system shall be listed under UL 142, subsection entitled Special Purpose Tanks EFVT category, and will bear their mark of UL Approval according to their particular classification.
 - i. .3. The above ground steel secondary containment rectangular tank for use as a sub base for diesel generators is manufactured and intended to be installed in accordance with the Flammable and Combustible Liquids Code—NFPA 30, the Standard for Installation and Use of Stationary Combustible Engine and Gas Turbines—NFPA 37, and Emergency and Standby Power Systems—NFPA 110.
 - c. The primary tank shall be rectangular in shape and constructed in clam shell fashion to ensure maximum structural integrity and allow the use of a full throat fillet weld.
1. Steel Channel Support System. Reinforced steel box channel for generator support, with

- a load rating of 5,000 lbs. per generator mounting hole location. Full height gussets at either end of channel and at generator mounting holes shall be utilized.
- d. Normal venting shall be sized in accordance with the American Petroleum Institute Standard No 2000, Venting Atmospheric and Low Pressure Storage Tanks not less than 1-1/4" (3 cm.) nominal inside diameter.
 - e. The emergency vent opening shall be sized to accommodate the total capacity of both normal and emergency venting and shall be not less than that derived from NFPA 30, table 2-8, and based on the wetted surface area of the tank. The wetted area of the tank shall be calculated on the basis of 100 percent of the primary tank. The vent is to be spring-pressure operated: opening pressure is 0.5/psig and full opening pressure is 2.5 psig. The emergency relief vent is to be sized to accommodate the total venting capacity of both normal and emergency vents.
 - f. There shall be a 2" NPT opening within the primary tank and lockable manual fill cap.
 - g. A direct reading, UL listed, magnetic fuel level gauge with a hermetically sealed, vacuum tested dial, to eliminate fogging, shall be provided.
 - h. 0-5 VDC Fuel sender with local display indicating fuel level in gallons or percentage and Send to controller for remote monitor viewing.
 - i. A float switch for remote or local annunciation of a (50% standard) low fuel level condition shall be supplied.

F 150 MPH Wind Rated Weather Enclosure

1. All enclosures shall be constructed from high strength, low alloy steel, aluminum or galvanized steel.
 - a. The enclosure shall be finish coated with powder baked paint for superior finish, durability, and appearance. Enclosures will be finished in the manufacturer's standard color.
 - b. The enclosures shall allow the generator set to operate at full load in an ambient temperature of 40 - 45°C with no additional derating of the electrical output.
 - c. Enclosures shall be equipped with sufficient side and end doors to allow access for operation, inspection, and service of the unit and all options. Minimum requirements are two doors per side. When the generator set controller faces the rear of the generator set, an additional rear facing door is required. Access to the controller and main line circuit breaker shall meet the requirements of the National Electric Code.
 - d. Doors shall be equipped with lockable latches. Locks shall be keyed alike.
 - e. A duct between the radiator and air outlet shall be provided to prevent re-circulation of hot air.
 - f. The complete exhaust system shall be internal to the enclosure or optional with external mounted silencer.
 - g. The critical silencer shall be insulated with a tailpipe and rain cap.

F Controller

1. Decision-Maker® 550 Controller
 - a. The generator set controller shall be a microprocessor based control system that will provide automatic starting, system monitoring, and protection. The controller system shall also provide local monitoring and remote monitoring. The control system shall be capable of PC based updating of all necessary parameters, firmware, and software.
 - b. The controller shall be mounted on the generator set and shall have integral vibration isolation. The controller shall be prototype and reliability tested to ensure operation in the conditions encountered.
2. Codes and Standards
 - a. The generator set controller shall meet NFPA 110 Level 1 requirements and shall include an integral alarm horn as required by NFPA.
 - b. The controller shall meet NFPA 99 and NEC requirements.

- c. The controller shall be UL 508 listed.
- 3. Applicability
 - a. The controller shall be a standard offering in the manufacturer's controller product line.
 - b. The controller shall support 24volt starting systems.
 - c. The controller's environmental specification shall be: -40°C to 70°C operating temperature range and 5-95% humidity, non-condensing.
 - d. The controller shall mount on the generator.
- 4. Hardware Requirements
 - a. Control Panel shall include:
 - 1. The control shall have a run-off/reset-auto three-position selector switch
 - 2. Emergency Stop Switch. The controller mounted, latch type remote stop switch shall be red in color with a "mushroom" type head. Depressing the stop button will immediately stop the generator set and lockout the generator set for any automatic remote starting.
 - 3. Five indicating lights (LED):
 - a. System Ready - green
 - b. Not in Auto - yellow
 - c. Programming Mode - yellow
 - d. System Warning – yellow
 - e. System Shutdown – red
 - 4. Digital Display. The digital display shall be a vacuum fluorescent display with two lines of alphanumeric, with 2 lines of data and 20 characters. The display shall be viewable in all light conditions. The display shall display status of all faults and warnings. The display shall also display any engine faults. The 16-button keypad gives the user information access and local programming capability.
 - 5. Sixteen-position snap action environmentally sealed tactile-feel membrane keypad for menu selection and data entry.
 - 6. For ease of use, an operating guide shall be printed on the controller faceplate.
 - 7. Alarm Horn. The controller shall provide an alarm horn that sounds when any faults or warnings are present. The horn shall also sound when the controller is not in the AUTO mode.
 - 8. Lamp Test Button. When this button is depressed, it shall test all controller lamps.
 - 9. Alarm Off. This button will silence the alarm horn when the unit is AUTO.
 - 10. Panel lights shall be supplied as standard.
- 5. Control Functional Requirements
 - a. The generator controller shall display and monitor the following engine and alternator functions and allow adjustments of certain parameters at the controller:
 - 1. Field-programmable time delay for engine start. Adjustment range 0-5 minutes in 1 second increments.
 - 2. Field-programmable time delay engine cool down. Adjustment range 0-10 minutes in 1 second increments.
 - 3. Capability to start and run at user-adjustable idle speed during warm-up for a selectable time period (0-10 minutes), until engine reaches preprogrammed temperature, or as supported by ECM-equipped engine.
 - 4. The idle function including engine cooldown at idle speed.
 - 5. Real-time clock and calendar for time stamping of events.
 - 6. Output with adjustable timer for an ether injection starting system. Adjustment range, 0-10 seconds
 - 7. Output for shedding of loads if the generator set reaches a user programmable percentage of its kW rating. Load shed shall also be enabled if the generator

- set output frequency falls below 59 Hz.
8. Programmable cyclic cranking that provides up to 30 seconds of programmable cyclic cranking and up to 60 seconds rest with up to 6 cycles.
 9. The capability to reduce controller current battery draw, for applications where no continuous battery charging is available. The controller vacuum fluorescent display should turn off automatically after the controller is inactive for 5 minutes.
 10. Control logic with alternator protection for overload and short circuit matched to each individual alternator and duty cycle.
 11. Control logic with RMS digital voltage regulation. The system shall have integral microprocessor based voltage regulator system that provides +/- 0.25% voltage regulation no-load to full load with three phase sensing. A separate voltage regulator is not acceptable. The digital voltage regulator shall be applicable to single- or three-phase systems. The system shall be prototype tested and control variation of voltage to frequency. The voltage regulator shall be adjustable at the controller with maximum +/- 20% adjustable of nominal voltage.
 12. The capability to exercise the generator set by programming a running time into the controller. This feature shall also be programmable through the PC software.
 13. Alternator thermal overload protection. The system shall have integral alternator overload and short circuit protection matched to each alternator for the particular voltage and phase configuration.
 14. Control function shall include output voltage adjustment.
 15. Battle switch function selection to override normal fault shutdowns, except emergency stop and over speed shutdowns.
 16. The control shall detect the following conditions and display on control panel:
 - a. Customer programmed digital auxiliary input ON (any of the 21 inputs available)
 - b. Customer programmed analog auxiliary input out of bounds (any of 7 inputs for ECM equipped engines and 5 inputs for non ECM engines)
 - c. Emergency stop
 - d. High coolant temperature
 - e. High oil temperature
 - f. Controller internal fault
 - g. Locked rotor - fail to rotate
 - h. Low coolant level
 - i. Low oil pressure
 - j. Master switch error
 - k. NFPA common alarm
 - l. Overcrank
 - m. Overspeed with user-adjustable level, range 60-70 Hz.
 - n. Overvoltage with user adjustable level, range 105% to 135%
 - o. Overfrequency with user adjustable level, range 102% to 140%
 - p. Underfrequency with user adjustable level, range 80% to 90%
 - q. Undervoltage with user adjustable level, range 70% to 95%
 - r. Coolant temperature signal loss
 - s. Oil pressure gauge signal loss
 17. Conditions resulting in generator warning (generator will continue to operate):
 - a. Battery charger failure
 - b. Customer programmed digital auxiliary input on (any of the 21 inputs available)
 - c. Customer programmed analog auxiliary input on (any of the 7 inputs

- available on ECM engines and 5 inputs for non ECM engines)
 - d. Power system supplying load
 - e. Ground fault detected - detection by others
 - f. High battery voltage - Level shall be user adjustable. (Range 29-33 volts for 24-volt systems.)
 - g. High coolant temperature
 - h. Load shed
 - i. Loss of AC sensing
 - j. Underfrequency
 - k. Low battery voltage - level shall be user adjustable (Range 20-25 volts for 24-volt systems.)
 - l. Low coolant temperature
 - m. Low fuel level or pressure
 - n. Low oil pressure
 - o. NFPA common alarms
 - p. Overcurrent
 - q. Speed sensor fault
 - r. Weak battery
 - s. Alternator protection activated
6. Control Monitoring Requirements
- a. The generator set shall have alarms and status indication lamps that show non-automatic status and warning and shutdown conditions. The controller shall indicate with a warning lamp and or alarm and on the digital display screen any shutdown, warning or engine fault condition that exists in the generator set system. The following alarms and shutdowns shall exist as a minimum:
 - 1. All monitored functions must be viewable on the control panel display.
 - 2. The following generator set functions shall be monitored:
 - a. All output voltages - single phase, three phase, line to line, and line to neutral, 0.25% accuracy
 - b. All single phase and three phase currents, 0.25% accuracy
 - c. Output frequency, 0.25% accuracy
 - d. Power factor by phase with leading/lagging indication
 - e. Total instantaneous kilowatt loading and kilowatts per phase, 0.5% accuracy
 - f. kVARS total and per phase, 0.5% accuracy
 - g. kVA total and per phase, 0.5% accuracy
 - h. kW hours
 - i. A display of percent generator set duty level (actual kW loading divided by the kW rating)
 - 3. Engine parameters listed below shall be monitored: (*available with ECM equipped engines)
 - a. Coolant temperature both in English and metric units
 - b. Oil pressure in English and metric units
 - c. Battery voltage
 - d. RPM
 - e. Lube oil temperature*
 - f. Lube oil level*
 - g. Crankcase pressure*
 - h. Coolant level*
 - i. Coolant pressure*
 - j. Fuel pressure*
 - k. Fuel temperature*

- l. Fuel rate*
 - m. Fuel used during the last run*
 - n. Ambient temperature*
4. Operational records shall be stored in the control beginning at system startup.
 - a. Run time hours
 - b. Run time loaded hours
 - c. Run time unloaded hours
 - d. Number of starts
 - e. Factory test date
 - f. Last run data including date, duration, and whether loaded or unloaded
 - g. Run time kilowatt hours
 5. The following operational records shall be a resettable for maintenance purposes:
 - a. Run time hours
 - b. Run time loaded hours
 - c. Run time unloaded hours
 - d. Run time kilowatt hours
 - e. Days of operation
 - f. Number of starts
 - g. Start date after reset
 6. The controller shall store the last one hundred generator set system events with date and time of the event.
 7. For maintenance and service purposes, the controller shall store and display on demand the following information:
 - a. Manufacturer's model and serial number
 - b. Battery voltage
 - c. Generator set kilowatt rating
 - d. Rated current
 - e. System voltage
 - f. System frequency
 - g. Number of phases
7. Inputs and Outputs
- a. Inputs
 1. There shall be 21 dry contact inputs that can be user-configured to shut down the generator set or provide a warning.
 2. There shall be 7 user-programmable analog inputs for monitoring and control.
 3. Each analog input can accept 0-5 volt analog signals
 4. Resolution shall be 1:10,000
 5. Each input shall include range settings for 2 warnings and 2 shutdowns.
 6. All values shall be on the control panel display.
 7. Shall be user-assigned.
 8. Additional standard inputs required:
 - a. Input for an external ground fault detector. Digital display shall show "ground fault" upon detection of a ground fault.
 - b. Reset of system faults.
 - c. Remote two-wire start.
 - d. Remote emergency stop.
 9. Idle mode enable.
 - b. Outputs
 1. All NFPA 110 Level 1 outputs shall be available.
 2. Thirty outputs shall be available for interfacing to other equipment

- a. All outputs shall be user-configurable from a list of 25 functions and faults
 - b. These outputs shall drive optional dry contacts.
 - 3. A programmable user-defined common fault output with over 40 selections shall be available.
 - 8. Communications (Modbus protocol)
 - a. The controller shall communicate with the ECM for control, monitoring, diagnosis, and meet SAE J1939 standards.
 - b. Industry standard Modbus communication shall be available.
 - c. A Modbus master shall be able to monitor and alter parameters, and start or stop a generator.
 - d. The controller shall have the capability to communicate to a personal computer (IBM or compatible) running Windows XP, or Windows 7 or later.
 - e. Communications shall be available for serial, CAN, and Ethernet bus networks.
 - f. A variety of connections shall be available based on requirements:
 - 1. A single control connection to a PC.
 - 2. Multiple controls on an intranet network connected to a PC.
 - 3. A single control connection to a PC via phone line.
 - 4. Multiple controls to a PC via phone line.
 - g. Generator and transfer switch controls shall be equipped with communications modules capable of connecting to the same communication network.
 - h. The capability to connect up to 128 controls (any combination of generator sets and transfer switches) on a single network shall be supported.
 - i. Cabling shall not be limited to the controller location.
 - j. Network shall be self-powered.
 - 9. Communications (RBUS protocol)
 - a. The controller shall communicate with the ECM for control, monitoring, diagnosis, and meet SAE J1939 standards.
 - b. Kohler proprietary RBUS communication shall be available.
 - c. A RBUS shall be able to monitor and alter parameters, and start or stop a generator.
 - d. The controller shall have the capability to communicate to a personal computer (IBM or compatible) and appropriate application software.
 - e. A variety of connections shall be available based on requirements:
 - 1. A single control connection to a PC via USB
 - 2. Internet connection via Ethernet
 - f. Generator and transfer switch controls shall be equipped with communications modules capable of connecting to the same communication network.
- G Generator Overcurrent and Fault Protection
1. **Circuit Breaker.** The generator shall come with a primary, factory installed, 80% rated line circuit breaker of 600 amperes. Line circuit breakers shall be sized for the rated ampacity of the genset. Load side lugs shall be provided from the factory. Load side breaker connections made at the factory shall be separated from field connections.
- H Alternator
1. The alternator shall be salient-pole, brushless, 2/3-pitch, with 4 bus bar provision for external connections, self-ventilated, with drip-proof construction and amortisseur rotor windings, and skewed for smooth voltage waveform. The ratings shall meet the NEMA standard (MG1-32.40) temperature rise limits. The insulation shall be class H per UL1446 and the varnish shall be a vacuum pressure impregnated, fungus resistant epoxy. Temperature rise of the rotor and stator shall be limited to 130°C Standby. The PMG based excitation system shall be of brushless construction controlled by a digital, three phase sensing, solid-state, voltage regulator capable of maintaining voltage within $\pm 0.25\%$ at any constant load from 0% to 100% of rating with $< 0.5\%$ drift due to temperature variation. The AVR shall be capable of proper operation under severe

nonlinear loads and provide individual adjustments for voltage range, stability and volts-per-hertz operations. The AVR shall be protected from the environment by conformal coating. The waveform harmonic distortion shall not exceed 5% total RMS measured line-to-line at full rated load. The TIF factor shall not exceed 50.

2. The alternator shall have dual maintenance-free bearings, designed for 40000 hour B10 life. The alternator shall be directly connected to the flywheel housing with a semi-flexible coupling between the rotor and the flywheel.
3. The generator shall be inherently capable of sustaining at least 300% of rated current for at least 10 seconds under a 3-phase symmetrical short circuit without the addition of separate current-support devices.
4. Motor starting performance and voltage dip determinations shall be based on the complete generator set. The generator set shall be capable of supplying 1,325.00 LRKVA for starting motor loads with a maximum instantaneous voltage dip of 35%, as measured by a digital RMS transient recorder in accordance with IEEE Standard 115. Motor starting performance and voltage dip determination that does not account for all components affecting total voltage dip, i.e., engine, alternator, voltage regulator, and governor will not be acceptable. As such, the generator set shall be prototype tested to optimize and determine performance as a generator set system.

I Vibration Isolation

1. Vibration isolators shall be provided between the engine-alternator and heavy-duty steel base.

2.3 Description

- A Regulatory Requirements
- B Sustainability Characteristics

2.4 Performance / Design Criteria

- A Capacities

2.5 Operation

- A Operators
- B Controls
- C Operation Sequence

2.6 Materials

2.7 Assembly or Fabrication

- A Factory Assembly
- B Shop Fabrication
- C Assembly or Fabrication Tolerances

2.8 Mixes

2.9 Finishes

- A Primer Materials
- B Finish Materials
- C Shop Finishing Materials

2.10 Accessories

- A. Block Heater - The block heater shall be thermostatically controlled, 2,500 watt, with isolating valves, to maintain manufacturers recommended engine coolant temperature to meet the start-up requirements of NFPA 99 and NFPA 110, Level 1.
- B. The controller must have the capability to communicate to a personal computer (IBM or compatible) running Windows 7, Windows 8, or Windows NT.
- C. A variety of connections shall be available based on requirements:
 - i. A single connection to a PC. A cable length of up to 1220 m (4000 ft) must be supported.
 - ii. Multiple devices at a single location connected to a PC.
 - iii. A single connection from a device to a PC over phone lines.
 - iv. Multiple devices to a PC over phone lines.

- D. Cabling is to be device to device in a daisy chain fashion with no limitation on device locations within the network.
- E. The network must be self- powered. No power wiring between devices is allowed.
- F. Supply a Modbus to Ethernet Converter that provides one RJ45 jack for standard Ethernet 10/100 connection, and a terminal block for RS-485 connection, and is powered by 12 VDC. The Baud rate on the Modbus RTU side shall be selectable 9600 or 19200. The converter shall support Simple Network Management Protocol (SNMP) users to poll or issue trap commands.
- G. A single software package with the following capabilities is required:
 - i. Monitor and control any combination of transfer switches and generator controls.
 - ii. Support up to 247 devices at a single site.
 - iii. Support communications over phone lines. The software shall allow communications with up to 247 sites (phone numbers) including phone number fields large enough for International communication.
 - iv. Password-protected data access to individual devices.
 - v. Expandable to up to 247 devices without changing to a different software package.
 - vi. View up to 100 recent events including engine starts, faults, shutdowns, and warnings.
 - vii. A single software screen must be capable of displaying data from multiple devices simultaneously.
 - viii. If a transfer switch is used, it must be possible to start the generator set and transfer the loads to the generator.
 - ix. All displays, data inquires, and program functions allowed on the controllers, both generator set and ATS, shall also be available through the software.
 - x. The software must be menu driven with separate menus for transfer switches and for generator set functions.
 - xi. It shall be possible to reset shutdown faults, and restart the generator set using the software.
- H. The generator set shall be provided with a run relay which shall provide a three-pole, double-throw relay with 10-amp/ 250 VAC contacts to indicate that the generator is running. The run relay dry contacts can be used for energizing or de-energizing customer devices while the generator is running (e.g. louvers, indicator lamps, etc.)
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- J. The generator set shall be supplied with a common failure relay to provide means of signaling fault and/or shutdown conditions.
 - i. The common failure relay shall remotely signal auxiliary faults, emergency stop, high engine temperature, low oil pressure, overcrank, and over speed via one single-pole, double-throw relay with 10 amps at 120 VAC contacts.
 - ii. The relay contacts shall be gold flashed to allow use of low current draw devices (100ma @ 28VDC min.).
 - iii. Once energized the relay shall remain latched until the system is reset by the main controller switch.
- K. Flexible fuel lines – Flexible fuel line rated for diesel fuel will be supplied to connect between the generator set and the sub-base tank.
- L. The air cleaner restriction indicator shall indicate the need for maintenance of the air cleaners.
- M. Battery rack and battery cables capable of holding the manufacturer's recommended batteries shall be supplied.
- N. The generator set shall be supplied with a 10-ampere automatic float/equalize battery charger capable of charging both lead-acid and ni-cad type batteries, with the following features:
 - i. Automatic 3-stage float to equalization charge
 - ii. Voltage regulation of 1% from no to full load over 10% AC input line voltage variations
 - iii. Battery charging current Ammeter and battery voltage voltmeter with 5% full-scale accuracy
 - iv. LED lamp for power ON indication

- v. Current limited during engine cranking, short circuit, and reverse polarity conditions
 - vi. Temperature compensated for ambient temperatures for -40°C to 60°C
 - vii. Alarm circuit board featuring alarm contacts for low battery voltage, high battery voltage, and battery charger malfunction.
 - viii. UL 1012 Listed
 - ix. CSA Certified
- O. The generator shall be supplied with a thermostatically controlled strip heater to prevent the accumulation of moisture and dampness and to maintain the stator windings above the dew point. The heater shall be wired to be “on” at all times that the generator set is not operating.

2.11 Source Quality Control

A. Non-Conforming Work

1. To ensure that the equipment has been designed and built to the highest reliability and quality standards, the manufacturer and/or local representative shall be responsible for three separate tests: design prototype tests, final production tests, and site tests.
 - a. **Design Prototype Tests.** Components of the emergency system, such as the engine/generator set, transfer switch, and accessories, shall not be subjected to prototype tests because the tests are potentially damaging. Rather, similar design prototypes and preproduction models shall be subject to the following tests:
 - i. Maximum power (kW)
 - ii. Maximum motor starting (kVA) at 35% instantaneous voltage dip.
 - iii. Alternator temperature rise by embedded thermocouple and/or by resistance method per NEMA MG1-32.6.
 - iv. Governor speed regulation under steady-state and transient conditions.
 - v. Voltage regulation and generator transient response.
 - vi. Harmonic analysis, voltage waveform deviation, and telephone influence factor.
 - vii. Three-phase short circuit tests.
 - viii. Alternator cooling air flow.
 - ix. Torsional analysis to verify that the generator set is free of harmful torsional stresses.
 - x. Endurance testing.
 - b. **Final Production Tests.** Each generator set shall be tested under varying loads with guards and exhaust system in place. Tests shall include:
 - i. Single-step load pickup
 - ii. Safety shutdown device testing
 - iii. Rated Power @ 0.8 PF
 - iv. Maximum power
 - v. Upon request, a witness test, or a certified test record sent prior to shipment.
 - c. **Site Tests.** The manufacturer's Distributor technicians shall perform an installation check, startup, and building load test. The engineer, regular operators, and the maintenance staff shall be notified of the time and date of the site test. The tests shall include:
 - i. Fuel, lubricating oil, and antifreeze shall be checked for conformity to the manufacturer's recommendations, under the environmental conditions present and expected.
 - ii. Accessories that normally function while the set is standing by shall be checked prior to cranking the engine. These shall include: block heaters, battery chargers, alternator strip heaters, remote annunciators, etc.
 - iii. Generator set startup under test mode to check for exhaust leaks, path of exhaust gases outside the building, cooling air flow, movement during starting and stopping, vibration during operation, normal and emergency line-to-line voltage and frequency, and phase rotation.
 - iv. Automatic start by means of a simulated power outage to test remote-automatic starting, transfer of the load, and automatic shutdown. Prior to

this test, all transfer switch timers shall be adjusted for proper system coordination. Engine coolant temperature, oil pressure, and battery charge level along with generator set voltage, amperes, and frequency shall be monitored throughout the test.