

EAST BAY MUNICIPAL UTILITY DISTRICT

REQUEST FOR QUOTATION (RFQ) No. 1924 for Four Mobile Diesel Generator Sets for WW

Contact Person: Dominic La Marche
Phone Number: (510) 287-0779
E-mail Address: dominic.lamarche@ebmud.com

For complete information regarding this project, see RFQ posted at <https://www.ebmud.com/business-center/materials-and-supplies-bids/current-requests-quotation-rfqs/> or contact the EBMUD representative listed above. Please note that prospective bidders are responsible for reviewing this site during the RFQ process, for any published addenda regarding this RFQ.

RESPONSE DUE
by
1:30 p.m.
on
August 7, 2019
at
EBMUD, Purchasing Division
375 Eleventh St., First Floor
Oakland, CA 94607



375 Eleventh Street, Oakland, CA 94607
Website: ebmud.com

EAST BAY MUNICIPAL UTILITY DISTRICT

RFQ No. 1924

for

Mobile DIESEL GENERATOR SET for WW

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I. STATEMENT OF WORK

A. SCOPE

The East Bay Municipal Utility District (District) intends to purchase four trailer mounted mobile diesel generator sets. The generator sets will be used to support critical wastewater operations when a backup power source is needed.

It is the intent of these specifications, terms, and conditions to describe the purchase and delivery of the four mobile diesel generator sets.

East Bay Municipal Utility District intends to award a contract to the lowest cost bidder(s) whose response meets the District's requirements.

B. BIDDER QUALIFICATIONS

1. Bidder Minimum Qualifications

- a. Power system manufacturer shall have been regularly engaged in the business of manufacturing power systems for at least 10 years.
- b. Bidder shall possess all permits, licenses, and professional credentials necessary to supply product and perform services as specified under this RFQ.

C. SPECIFIC REQUIREMENTS

1. Furnish four trailer mounted, towable, diesel generator sets with all associated accessories as described in the Technical Specifications.
2. All products shall be in new and unused condition and shall be of the most current and up to date model.
3. Delivery – Refer to Exhibit D for delivery requirements.

D. DELIVERABLES

Prior to shipment of generator sets, Supplier shall provide submittals for District review and approval. Required submittals are specified in Exhibit D.

E. INSPECTION

The District will participate in witness testing at a facility certified by the generator set manufacturer. Supplier is solely responsible for ensuring the equipment arrives at the District's ship-to location free of defects and manufactured in strict conformance with the specifications.

In the case that an item is lost or rejected, District Inspectors will provide Supplier and the EBMUD Purchasing Division with an Inspectors Job Report which will itemize the product deficiencies and required corrective action.

The District reserves the right-of-access to the Supplier's facility to verify conformance to this specification at the District's expense.

F. FAILURE TO MEET SPECIFICATIONS

In the event any shipment or shipments of a Supplier's product do not meet the specification or delivery requirements, the District may reject the shipment or shipments and, at its option, may purchase this equipment from any supplier on the open market who can meet the District's specification requirements or the District may demand immediate replacement by Supplier of the non-conforming product. Any costs over and above the original contract price will be charged back to the Supplier. In addition, Supplier shall bear the costs of removal and disposition for any delivery which fails to conform to the specifications.

II. CALENDAR OF EVENTS

EVENT	DATE/LOCATION
RFQ Issued	July 25, 2019
Deadline For Submission of Questions	July 31, 2019
Response Due	August 7, 2019 by 1:30 p.m.
Anticipated Contract Start Date	September 17, 2019

Note: All dates are subject to change.

Bidders are responsible for reviewing <https://www.ebmud.com/business-center/materials-and-supplies-bids/current-requests-quotation-rfqs/> for any published addenda. Hard copies of addenda will not be mailed out.

III. DISTRICT PROCEDURES, TERMS, AND CONDITIONS

A. RFQ ACCEPTANCE AND AWARD

1. RFQ responses will be evaluated to determine that they are responsive, responsible, and that they meet the specifications as stated in this RFQ.
2. The District reserves the right to award to a single or to multiple Suppliers, dependent upon what provides the lowest overall cost to the District.
3. The District has the right to decline to award this contract or any part of it for any reason.
4. Any specifications, terms or conditions, issued by the District, or those included in the bidder's submission, in relation to this RFQ, may be incorporated into any purchase order or contract that may be awarded as a result of this RFQ.
5. Award of contract. The District reserves the right to reject any or all proposals, to accept one part of a proposal and reject the other, unless the bidder stipulates to the contrary, and to waive minor technical defects and administrative errors, as the interest of the District may require. Award will be made or proposals rejected by the District as soon as possible after bids have been opened.

B. BRAND NAMES, APPROVED EQUIVALENTS, DEVIATIONS, AND EXCEPTIONS

Any references to manufacturers, trade names, brand names, and/or catalog numbers are intended to be descriptive, but not restrictive, unless otherwise stated, and are intended to indicate the quality level desired. Bidders may offer an equivalent product that meets or exceeds the specifications.

The District reserves the right to be the sole judge of what shall be considered equal and/or acceptable, and may require the bidder to provide additional information and/or samples. If the bidder does not specify otherwise, it is understood that the brand and/or product referenced in this RFQ will be supplied.

Taking exception to the RFQ, or failure on the part of the bidder to comply with all requirements and conditions of this RFQ, may subject the RFQ response to rejection. If no deviations are shown, the bidder will be required to furnish the material exactly as specified. The burden of proof of compliance with the specifications will be the responsibility of the bidder.

This RFQ is subject to acceptance only on the terms and conditions stated in this RFQ. Any additional or different terms and conditions proposed by the bidder are hereby

rejected, and shall be of no force or effect unless expressly assented to in writing by the District.

RFQ responses based on equivalent products must use Exhibit A “Exceptions, Clarification and Amendments” to:

- a. Clearly describe the alternate offered and indicate specifically how it differs from the product specified in this RFQ
- b. Include complete descriptive literature and/or specifications as proof that the proposed alternate will be equal to or better than the product named in this RFQ

C. PRICING

1. All prices are to be F.O.B. destination. Any freight/delivery charges are to be included.
2. All prices quoted shall be in United States dollars.
3. Price quotes shall include any and all payment incentives available to the District.
4. Bidders are advised that in the evaluation of cost, if applicable, it will be assumed that the unit price quoted is correct in the case of a discrepancy between the unit price and extended price.

D. NOTICE OF INTENT TO AWARD AND PROTESTS

At the conclusion of the RFQ response evaluation process, all entities who submitted a bid package will be notified in writing by e-mail or USPS mail with the name of the Bidder being recommended for contract award. The document providing this notification is the Notice of Intent to Award.

Protests must be in writing and must be received no later than seven (7) business days after the District issues the Notice of Intent to Award. The District will reject the protest as untimely if it is received after this specified time frame. Protests will be accepted from bidders or potential bidders only.

If the protest is mailed and not received by the District, the protesting party bears the burden of proof to submit evidence (e.g., certified mail receipt) that the protest was sent in a timely manner so that it would be received by the District within the RFQ protest period.

Bid protests must contain a detailed and complete written statement describing the reason(s) for protest. The protest must include the name and/or number of the bid, the

name of the firm protesting, and include a name, telephone number, email address and physical address of the protester. If a firm is representing the protester, they shall include their contact information in addition to that of the protesting firm.

Protests must be mailed or hand delivered to the Manager of Purchasing, East Bay Municipal Utility District, 375 Eleventh Street, Oakland, CA 94607 or P.O. Box 24055, Oakland, California 94623. Facsimile and electronic mail protests must be followed by a mailed or hand delivered identical copy of the protest and must arrive within the seven day time limit. Any bid protest filed with any other District office shall be forwarded immediately to the Manager of Purchasing.

The bid protester can appeal the determination to the requesting organization's Department Director. The appeal must be submitted to the Department Director no later than five working days from the date of receipt of the requesting organization's determination on the protest.

Such an appeal must be made in writing and must include all grounds for the appeal and copies of the original protest and the District's response. The bid protester must also send the Purchasing Division a copy of all materials sent to the Department Director. The Department Director will make a determination of the appeal and respond to the protester by certified mail in a timely manner. If the appeal is denied, the letter will include the date, time, and location of the Board of Directors meeting at which staff will make a recommendation for award and inform the protester it may request to address the Board of Directors at that meeting.

The District may transmit copies of the protest and any attached documentation to all other parties who may be affected by the outcome of the protest. The decision of the District as to the validity of any protest is final. This District's final decision will be transmitted to all affected parties in a timely manner.

E. METHOD OF ORDERING

1. Written POs *may* be issued upon approval of written itemized quotations received from the Contractor.
2. Individual order price quotations shall be provided upon request per project and shall include, but not be limited to, an identifying (quotation) number, date, requestor name and phone number, ship to location, itemization of products and/or services with complete description (including model numbers, fabric and finish grade, description, color, etc.) and price per item, and a summary of total cost for product, services, shipping, and tax. POs and payments for products and/or services will be issued only in the name of Contractor.

3. Any and all change orders shall be in writing and agreed upon, in advance, by Contractor and the District.

F. TERM / TERMINATION / RENEWAL

1. This Agreement may be terminated for convenience by the District provided the Contractor is given written notice of not less than 30 calendar days. Upon such termination, the District shall pay the Contractor the amount owing for the products ordered and satisfactorily received by the District. This shall be the sole and exclusive remedy to which the Contractor is properly entitled in the event of termination by the District.
2. This Agreement may be terminated for cause at any time, provided that the District notifies Contractor of impending action.

G. WARRANTY

1. Bidder expressly warrants that all goods and services to be furnished pursuant to any contract awarded it arising from the Bid will conform to the descriptions and specifications contained herein and in supplier catalogs, product brochures and other representations, depictions or models, and will be free from defects, of merchantable quality, good material, and workmanship. Bidder expressly warrants that all goods and services to be furnished pursuant to such award will be fit and sufficient for the purpose(s) intended. This warranty shall survive any inspections, delivery, acceptance, payment, or contract termination for any reason, by the District. Bidder warrants that all work and services furnished hereunder shall be guaranteed for a period of 2 years from the date of acceptance by the District.

H. INVOICING

1. Payment will be made within thirty (30) days following receipt of a correct invoice and upon complete satisfactory receipt of product and/or performance of services.
2. The District shall notify Contractor of any invoice adjustments required.
3. Invoices shall contain, at a minimum, District purchase order number, invoice number, remit to address, and itemized products and/or services description.
4. The District will pay Contractor in an amount not to exceed the total amount quoted in the RFQ response.

IV. RFQ RESPONSE SUBMITTAL INSTRUCTIONS AND INFORMATION

A. DISTRICT CONTACTS

All contact during the competitive process is to be through the contact listed on the first page of this RFQ. The following persons are to be contacted only for the purposes specified below.

TECHNICAL SPECIFICATIONS:

Attn: Dominic La Marche, Assistant Engineer

EBMUD-Wastewater Division

E-Mail: dominic.lamarche@ebmud.com

PHONE: (510) 287-0779

CONTRACT EQUITY PROGRAM:

Attn: Contract Equity Office

PHONE: (510) 287-0114

AFTER AWARD:

Attn: Dominic La Marche, Assistant Engineer

EBMUD-Wastewater Division

E-Mail: dominic.lamarche@ebmud.com

PHONE: (510) 287-0779

B. SUBMITTAL OF RFQ RESPONSE

1. Responses must be submitted in accordance with Exhibit A – RFQ Response Packet, including all additional documentation stated in the “Required Documentation and Submittals” section of Exhibit A.
2. Late and/or unsealed responses will not be accepted.
3. RFQ responses submitted via electronic transmissions will not be accepted. Electronic transmissions include faxed RFQ responses or those sent by electronic mail (“e-mail”).
4. RFQ responses will be received only at the address shown below, must be SEALED, and must be received at the District Purchasing Division by 1:30 p.m. on the due date specified in the Calendar of Events. Any RFQ response received after that time or date, or at a place other than the stated address cannot be considered and will be returned to the bidder unopened.

All RFQ responses must be received and time stamped at the stated address by the time designated. The Purchasing Division's timestamp shall be considered the

official timepiece for the purpose of establishing the actual receipt of RFQ responses.

5. RFQ responses are to be addressed/delivered as follows:

Mailed:

Kelley Smith, Manager of Purchasing
East Bay Municipal Utility District
Mobile DIESEL GENERATOR SET for WW
RFQ No. 1924
EBMUD–Purchasing Division
P.O. Box 24055
Oakland, CA 94623

Hand Delivered or delivered by courier or package delivery service:

Kelley Smith, Manager of Purchasing
East Bay Municipal Utility District
Mobile DIESEL GENERATOR SET for WW
RFQ No. 1924
EBMUD–Purchasing Division
375 Eleventh Street, First Floor
Oakland, CA 94607

Bidder's name, return address, and the RFQ number and title must also appear on the mailing package.

6. All costs required for the preparation and submission of an RFQ response shall be borne by the bidder.
7. California Government Code Section 4552: In submitting an RFQ response to a public purchasing body, the bidder offers and agrees that if the RFQ response is accepted, it will assign to the purchasing body all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 15) or under the Cartwright Act (Chapter 2, commencing with Section 16700, of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, materials, or services by the bidder for sale to the purchasing body pursuant to the RFQ response. Such assignment shall be made and become effective at the time the purchasing body tenders final payment to the bidder.
8. Bidder expressly acknowledges that it is aware that if a false claim is knowingly submitted (as the terms “claim” and “knowingly” are defined in the California False Claims Act, Cal. Gov. Code, §12650 et seq.), the District will be entitled to civil remedies set forth in the California False Claim Act.

9. The RFQ response shall remain open to acceptance and is irrevocable for a period of one hundred eighty (180) days, unless otherwise specified in the RFQ documents.
10. It is understood that the District reserves the right to reject any or all RFQ responses.
11. RFQ responses, in whole or in part, are NOT to be marked confidential or proprietary. The District may refuse to consider any RFQ response or part thereof so marked. RFQ responses submitted in response to this RFQ may be subject to public disclosure. The District shall not be liable in any way for disclosure of any such records.



EXHIBIT A

RFQ RESPONSE PACKET

RFQ No. 1924 – Four Mobile Diesel Generator Sets for WW

To: The EAST BAY MUNICIPAL UTILITY District (“District”)

From: _____
(Official Name of Bidder)

RFQ RESPONSE PACKET GUIDELINES

- **BIDDERS ARE TO SUBMIT ONE (1) ORIGINAL HARDCOPY RFQ RESPONSE WITH ORIGINAL INK SIGNATURES, ONE COPY, AND ONE (1) ELECTRONIC COPY (in PDF format on a CD or flash drive) CONTAINING THE FOLLOWING, IN THEIR ENTIRETY:**
 - **EXHIBIT A – RFQ RESPONSE PACKET**
 - **INCLUDING ALL REQUIRED DOCUMENTATION AS DESCRIBED IN “EXHIBIT A-REQUIRED DOCUMENTATION AND SUBMITTALS”**
- **ALL PRICES AND NOTATIONS MUST BE PRINTED IN INK OR TYPEWRITTEN; NO ERASURES ARE PERMITTED; ERRORS MAY BE CROSSED OUT AND CORRECTIONS PRINTED IN INK OR TYPEWRITTEN ADJACENT, AND MUST BE INITIALED IN INK BY PERSON SIGNING THE RFQ RESPONSE.**
- **BIDDERS THAT DO NOT COMPLY WITH THE REQUIREMENTS, AND/OR SUBMIT AN INCOMPLETE RFQ RESPONSE MAY BE SUBJECT TO DISQUALIFICATION AND THEIR RFQ RESPONSE REJECTED IN TOTAL.**
- **IF BIDDERS ARE MAKING ANY CLARIFICATIONS AND/OR AMENDMENTS, OR TAKING EXCEPTION TO ANY PART OF THIS RFQ, THESE MUST BE SUBMITTED IN THE EXCEPTIONS, CLARIFICATIONS, AND AMENDMENTS SECTION OF THIS EXHIBIT A – RFQ RESPONSE PACKET. THE DISTRICT, AT ITS SOLE DISCRETION, MAY ACCEPT AMENDMENTS/EXCEPTIONS, OR MAY DEEM THEM TO BE UNACCEPTABLE, THEREBY RENDERING THE RFQ RESPONSE DISQUALIFIED.**
- **BIDDERS SHALL NOT MODIFY DISTRICT LANGUAGE IN ANY PART OF THIS RFQ OR ITS EXHIBITS, NOR SHALL THEY QUALIFY THEIR RFQ RESPONSE.**



BIDDER INFORMATION AND ACCEPTANCE

1. The undersigned declares that all RFQ documents, including, without limitation, the RFQ, Addenda, and Exhibits, have been read and that the terms, conditions, certifications, and requirements are agreed to.
2. The undersigned is authorized to offer, and agrees to furnish, the articles and services specified in accordance with the RFQ documents.
3. The undersigned acknowledges acceptance of all addenda related to this RFQ.
4. The undersigned hereby certifies to the District that all representations, certifications, and statements made by the bidder, as set forth in this RFQ Response Packet and attachments, are true and correct and are made under penalty of perjury pursuant to the laws of California.
5. The undersigned acknowledges that the bidder is, and will be, in good standing in the State of California, with all the necessary licenses, permits, certifications, approvals, and authorizations necessary to perform all obligations in connection with this RFQ and associated RFQ documents.
6. It is the responsibility of each bidder to be familiar with all of the specifications, terms, and conditions and, if applicable, the site condition. By the submission of an RFQ response, the bidder certifies that if awarded a contract it will make no claim against the District based upon ignorance of conditions or misunderstanding of the specifications.
7. Patent indemnity: Contractors who do business with the District shall hold the District, its Directors, officers, agents, and employees, harmless from liability of any nature or kind, including cost and expenses, for infringement or use of any patent, copyright, or other proprietary right, secret process, patented or unpatented invention, article, or appliance furnished or used in connection with the contract or purchase order.
8. Insurance certificates are not required at the time of submission. However, by signing Exhibit A – RFQ Response Packet, the bidder agrees to meet the minimum insurance requirements stated in the RFQ. This documentation must be provided to the District prior to execution of an agreement by the District, and shall include an insurance certificate which meets the minimum insurance requirements, as stated in the RFQ.
9. The undersigned acknowledges that RFQ responses, in whole or in part, are NOT to be marked confidential or proprietary. The District may refuse to consider any RFQ response or part thereof so marked. RFQ responses submitted in response to this RFQ may be subject to public disclosure. The District shall not be liable in any way for disclosure of any such records.
10. The undersigned bidder hereby submits this RFQ response and binds itself on award to the District under this RFQ to execute in accordance with such award a contract and to furnish the bond or bonds

and insurance required by the RFQ. The RFQ, subsequent Addenda, bidder's Response Packet, and any attachments, shall constitute the Contract, and all provisions thereof are hereby accepted.

11. The undersigned acknowledges **ONE** of the following (please check only one box)*:

- ☐ Bidder is not an SBE and is ineligible for any bid preference; **OR**
- ☐ Bidder is an SBE or DVBE as described in the Contract Equity Program (CEP) and Equal Employment Opportunity (EEO) Guidelines, is requesting a 7% bid preference, and has completed the CEP and EEO forms at the hyperlink contained in the CEP and EEO section of this Exhibit A.

*If no box is checked, it will be assumed that the bidder is ineligible for bid preference and none will be given. For additional information on SBE bid preference, please refer to the Contract Equity Program and Equal Employment Opportunity Guidelines at the above referenced hyperlink.

Official Name of Bidder (exactly as it appears on Bidder's corporate seal and invoice): _____

Street Address Line 1: _____

Street Address Line 2: _____

City: _____ State: _____ Zip Code: _____

Webpage: _____

Type of Entity / Organizational Structure (check one):

- | | |
|--|--|
| <input type="checkbox"/> Corporation | <input type="checkbox"/> Joint Venture |
| <input type="checkbox"/> Limited Liability Partnership | <input type="checkbox"/> Partnership |
| <input type="checkbox"/> Limited Liability Corporation | <input type="checkbox"/> Non-Profit / Church |
| <input type="checkbox"/> Other: _____ | |

Jurisdiction of Organization Structure: _____

Date of Organization Structure: _____

Federal Tax Identification Number: _____

Department of Industrial Relations (DIR) Registration Number: _____

Primary Contact Information:

Name / Title: _____

Telephone Number: _____ Fax Number: _____

E-mail Address: _____

Street Address Line 1: _____

City: _____ State: _____ Zip Code: _____

SIGNATURE: _____

Name and Title of Signer (printed): _____

Dated this _____ day of _____ 20_____



BID FORM(S)

Cost shall be submitted on this Bid Form as is. The prices quoted shall not include Sales Tax or Use Tax; said tax, wherever applicable, will be paid by the District to the contractor, if licensed to collect, or otherwise directly to the State.

No alterations or changes of any kind to the Bid Form(s) are permitted. RFQ responses that do not comply may be subject to rejection in total. The cost quoted below shall be the cost the District will pay for the term of any contract that is a result of this RFQ process.

Quantities listed herein are annual estimates based on past usage and are not to be construed as a commitment. No minimum or maximum is guaranteed or implied.

Description	Unit of Measure	Estimated Quantity	Unit Cost	Extended Cost
Material and delivery of four (4) mobile diesel generator sets, including related accessories, spare parts, and field services per this RFQ and specifications.	Lump Sum	1	\$	\$
TOTAL COST				\$



REQUIRED DOCUMENTATION AND SUBMITTALS

All of the specific documentation listed below is required to be submitted with the Exhibit A – RFQ Response Packet. Bidders shall submit all documentation, in the order listed below, and clearly label each section of the RFQ response with the appropriate title (i.e. Table of Contents, Letter of Transmittal, Key Personnel, etc.).

Description of the Proposed Equipment/System: RFQ response shall include a description of the proposed equipment, as it will be finally configured during the term of the contract. The description shall specify how the proposed equipment will meet or exceed the requirements of the District and shall explain any advantages that this proposed equipment would have over other possible equipment. The description shall include any disadvantages or limitations that the District should be aware of in evaluating the RFQ response. Finally, the description shall describe all product warranties provided by bidder.

1. **Implementation Plan and Schedule:** The RFQ response shall include an implementation schedule. The schedule shall include a Witness Testing Plan. In addition, the schedule shall indicate how the bidder will ensure adherence to the timetables for the final equipment.
2. **Sustainability Statement:** Contractors shall submit a statement regarding any sustainable or environmental initiatives or practices that they or their suppliers engage in. This information can be in relation to the specific products procured under this RFQ or in relation to the manufacture, delivery, or office practices of your firm.

If applicable, please also provide any information you have available on the below:

- a. Has your firm taken steps to enhance its ability to assess, track and address issues regarding Greenhouse Gas (GHG) Emissions in answer to recent legislations such as the [Buy Clean California Act](http://www.buycleanca.org/)? If so, please attach any data you can on the embedded greenhouse gas emissions in the production and transport of the products and/or services which will be provided via this RFQ. If this is not available, please describe the approach you plan to take in order to gather and report this information in the future. For further information in this topic, please see: <http://www.ghgprotocol.org/scope-3-technical-calculation-guidance>
3. **Exceptions, Clarifications, Amendments:**
 - (a) The RFQ response shall include a separate section calling out all clarifications, exceptions, and amendments, if any, to the RFQ and associated RFQ documents, which shall be submitted with Bidder's RFQ response using the template in the "Exceptions, Clarifications, Amendments" section of this Exhibit A – RFQ Response Packet.

- (b) **THE DISTRICT IS UNDER NO OBLIGATION TO ACCEPT ANY EXCEPTIONS, AND SUCH EXCEPTIONS MAY BE A BASIS FOR RFQ RESPONSE DISQUALIFICATION.**

4. **Contract Equity Program:**

- (a) Every bidder must fill out, sign, and submit the appropriate sections of the Contract Equity Program and Equal Employment Opportunity documents located at the hyperlink contained in the last page of this Exhibit A. Special attention should be given to completing Form P-25, "Contractor Employment Data and Certification". Any bidder needing assistance in completing these forms should contact the District's Contract Equity Office at (510) 287-0114 prior to submitting an RFQ response.



EXCEPTIONS, CLARIFICATIONS, AMENDMENTS

RFQ No. 1924 - Four Mobile Diesel Generator Sets for WW

Bidder Name: _____

List below requests for clarifications, exceptions, and amendments, if any, to the RFQ and associated RFQ Documents, and submit with bidder's RFQ response. **The District is under no obligation to accept any exceptions and such exceptions may be a basis for RFQ response disqualification.**

Reference to:			Description
Page No.	Section	Item No.	
p. 23	D	1.c.	<i>Bidder takes exception to...</i>

*Print additional pages as necessary



CONTRACT EQUITY PROGRAM & EQUAL EMPLOYMENT OPPORTUNITY

The District's Board of Directors adopted the Contract Equity Program (CEP) to enhance equal opportunities for business owners of all races, ethnicities, and genders who are interested in doing business with the District. The program has contracting objectives, serving as the minimum level of expected contract participation for the three availability groups: white-men owned businesses, white-women owned businesses, and ethnic minority owned businesses. The contracting objectives apply to all contracts that are determined to have subcontracting opportunities, and to all contractors regardless of their race, gender or ethnicity.

All Contractors and their subcontractors performing work for the District must be Equal Employment Opportunity (EEO) employers, and shall be bound by all laws prohibiting discrimination in employment. There shall be no discrimination against any person, or group of persons, on account of race, color, religion, creed, national origin, ancestry, gender including gender identity or expression, age, marital or domestic partnership status, mental disability, physical disability (including HIV and AIDS), medical condition (including genetic characteristics or cancer), genetic information, or sexual orientation.

Contractor and its subcontractors shall abide by the requirements of 41 CFR §§ 60-1.4(a), 60-300.5(a) and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities, and prohibit discrimination against all individuals based on their race, color, religion, sex, sexual orientation, gender identity, or national origin in the performance of this contract. Moreover, these regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, national origin, protected veteran status or disability.

All Contractors shall include the nondiscrimination provisions above in all subcontracts. Please include the required completed forms with your bid.

Non-compliance with the Guidelines may deem a bid non-responsive, and therefore, ineligible for contract award. Your firm is responsible for:

- 1) Reading and understanding the CEP guidelines.
- 2) Filling out and submitting with your bid the appropriate forms.

The CEP guidelines and forms can be found at the following direct link:

[Contract Equity Guidelines and Forms](#)

The CEP guidelines and forms can also be downloaded from the District website at the following link:

<http://ebmud.com/business-center/contract-equity-program/>

If you have questions regarding the Contract Equity Program please call (510) 287-0114.



EXHIBIT B

INSURANCE REQUIREMENTS

Insurance certificates are not required at the time of submission; however, by signing Exhibit A – RFQ Response Packet, the bidder agrees to meet the minimum insurance requirements stated in the RFQ. This documentation must be provided to the District, prior to award.

For any coverage that is provided on a claims-made coverage form (which type of form is permitted only where specified) the retroactive date must be shown and must be before the date of this Agreement, and before the beginning of any Services related to this Agreement.

The insurance requirements under this Agreement shall be the greater of (1) the minimum coverage and limits specified in this Agreement; or (2) the broader coverage and maximum limits of coverage of any insurance policies or proceeds available to the Named Insured. It is agreed that these insurance requirements shall not in any way act to reduce coverage that is broader or that includes higher limits than the minimums required herein. No representation is made that the minimum insurance requirements of this Agreement are sufficient to cover the obligations of the CONTRACTOR.

The following are the minimum insurance limits, required by the District, to be held by the Contractor performing on this RFQ:

INSURANCE

A. Insurance Requirements

CONTRACTOR shall take out and maintain during the life of the Agreement all the insurance required in this section, and if requested shall submit certificates for review and approval by the District. The Notice to Proceed shall not be issued, and CONTRACTOR shall not commence work until such insurance has been approved by the District. The certificates shall be on forms approved by the District. Acceptance of the certificates shall not relieve CONTRACTOR of any of the insurance requirements, nor decrease the liability of CONTRACTOR. The District reserves the right to require CONTRACTOR to provide insurance policies for review by the District.

B. Workers Compensation Insurance

CONTRACTOR shall take out and maintain during the life of the Agreement Workers Compensation Insurance for all of its employees on the project. In lieu of evidence of Workers Compensation Insurance, the District will accept a Self-Insured Certificate from the State of California. CONTRACTOR shall require any subcontractor to provide it with evidence of Workers Compensation Insurance.

Waiver of Subrogation. Workers' Compensation insurance must contain a waiver of subrogation endorsement providing that each insurer waives any rights of recovery by subrogation, or otherwise, against the DISTRICT, its directors, officers, officials, agents, volunteers, and employees. CONSULTANT shall defend and pay any damages as a result of failure to provide the waiver of subrogation from the insurance carrier.

C. Professional Liability Insurance (Errors and Omissions)

GENERAL OR PROFESSIONAL SERVICE PROVIDER shall maintain during the life of the agreement professional liability insurance with a minimum of \$3,000,000/Occurrence. A three year tail is required if coverage on a claims-made basis. A deductible may be acceptable upon approval by the District. The policy will provide 30 days advance written notice to the District for cancellation or reduction in coverage. The Consultant shall require any subcontractor to provide evidence of the same professional liability insurance coverage.

D.. Commercial General Liability Insurance

CONTRACTOR shall take out and maintain during the life of the Agreement Automobile and General Liability Insurance that provides protection from claims which may arise from operations or performance under this Agreement. If CONTRACTOR elects to self-insure (self-fund) any liability exposure during the contract period above \$50,000, CONTRACTOR is required to notify the District immediately. Any request to self-insure must first be approved by the District before the changed terms are accepted. CONTRACTOR shall require any subcontractor to provide evidence of liability insurance coverages.

The amounts of insurance shall be not less than the following:

\$5,000,000/Occurrence, Bodily Injury, Property Damage -- Automobile.

\$5,000,000/Occurrence, Bodily Injury, Property Damage -- General Liability.

The following coverages or endorsements must be included in the policy(ies):

1. The District, its Directors, officers, and employees are Additional Insureds in the policy(ies) as to the work being performed under the contract.
2. The coverage is *Primary and non-contributory* to any other applicable insurance carried by the District.
3. The policy(ies) covers *contractual liability*.
4. The policy(ies) is written on an *occurrence* basis.
5. The policy(ies) covers the District's Property in Consultant's care, custody, and control.
6. The policy(ies) covers *personal injury* (libel, slander, and wrongful entry and eviction) liability.
7. The policy(ies) covers *products and completed operations*.

8. The policy(ies) covers the use of *owned, non-owned* and hired automobiles.
9. The policy(ies) and/or a separate pollution liability policy(ies) shall cover pollution liability for claims related to the release or the threatened release of pollutants into the environment arising out of or resulting from Consultant's performance under this agreement.
10. The policy(ies) will not be canceled nor the above coverages/endorsements reduced without 30 days written notice to East Bay Municipal Utility District at the address above.

GENERAL REQUIREMENTS

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1. DEFINITIONS

The following terms shall be given the meaning shown, unless context requires otherwise or a unique meaning is otherwise specified.

- a. **"Change Order"** A Change Order is a written instrument used for modifying the contract with regards to the scope of Work, contract sum, and/or Contract Time. An approved Change Order is a Change Order signed by the District. An executed Change Order is a Change Order signed by both the District and the Contractor.

- b. **“Contract”** means the agreement between the District and Contractor as memorialized in the Contract Documents.
- c. **“Business Entity”** means any individual, business, partnership, joint venture, corporation, sole proprietorship, or other private legal entity recognized by statute.
- d. **“Buyer”** means the District’s authorized contracting official.
- e. **“Contract Documents”** comprise the entire agreement between the District and the Contractor and can include the District’s contract form if used, any purchase order, RFP, RFQ or Contractor response packet, and any addenda, appendices and District approved changes or amendments. The Contract Documents are intended to be complementary and include all items necessary for the Contractor’s proper execution and completion of the Work. Any part of the Work not shown or mentioned in the Contract Documents that is reasonably implied, or is necessary or usual for proper performance of the Work, shall be provided by the Contractor at its expense.
- f. **“Contractor”** means the Business Entity with whom the District enters into a contractual agreement. Contractor shall be synonymous with “supplier”, “vendor”, “consultant” or other similar term.
- g. **“Day”** unless otherwise specified, days are calendar days, measured from midnight to the next midnight.
- h. **“District”** means the East Bay Municipal Utility District, its employees acting within the scope of their authority, and its authorized representatives.
- i. **“Goods”** means off the shelf software and all types of tangible personal property, including but not limited to materials, supplies, and equipment.
- j. **“Project Manager”** shall be the District designated individual responsible for administering and interpreting the terms and conditions of the Contract Documents, for matters relating to the Contractor’s performance under the Contract with the District, and for liaison and coordination between the District and Contractor.
- k. **“Work”** means all labor, tasks, materials, supplies, and equipment required to properly fulfill the Contractor’s obligations as required in the Contract Documents.
- l. **“Work Day”** Unless otherwise specified, work day includes all days of the year except Saturdays, Sundays and District holidays.

2. BOND

- a. When required in the District’s bid or proposal solicitation documents, the Contractor to whom award is made shall furnish a good and approved faithful performance bond and/or payment bond within ten business days after receiving the forms for execution.
- b. The bonds shall be executed by a sufficient, admitted surety insurer (i.e.: as listed on website [http://interactive.web.insurance.ca.gov/webuser/idb_co_list\\$.startup](http://interactive.web.insurance.ca.gov/webuser/idb_co_list$.startup)) admitted to transact such business in California by the California Department of Insurance. After acceptance of the bond(s) by the District, a copy of the bond(s) will be

returned to the Contractor.

- c. If, during the continuance of the Contract, any of the sureties, in the opinion of the District, are or become irresponsible, the District may require other or additional sureties, which the Contractor shall furnish to the satisfaction of the District within ten days after notice. If the Contractor fails to provide satisfactory sureties within the ten-day period, the Contract may be terminated for cause under Article 18.

3. CONTRACTOR'S FINANCIAL OBLIGATION

The Contractor shall promptly make payments to all persons supplying labor and materials used in the execution of the contract.

4. SAMPLES OR SPECIMENS

The Contractor shall submit samples or prepare test specimens of such materials to be furnished or used in the work as the Project Manager may require.

5. MATERIAL AND WORKMANSHIP

- a. All goods and materials must be new and of the specified quality and equal to approved sample, if samples have been required. In the event any goods or materials furnished or services provided by the Contractor in the performance of the Contract fail to conform to the requirements, or to the sample submitted by the Contractor, the District may reject the same, and it shall become the duty of the Contractor to reclaim and remove the item promptly or to correct the performance of services, without expense to the District, and immediately replace all such rejected items with others conforming to the Contract. All work shall be done and completed in a thorough, workmanlike manner, notwithstanding any omission from these specifications or the drawings, and it shall be the duty of the Contractor to call attention to apparent errors or omissions and request instructions before proceeding with the work. The Project Manager may, by appropriate instructions, correct errors and supply omissions, which instructions shall be binding upon the Contractor as though contained in the original Contract Documents.
- b. All materials furnished and all Work must be satisfactory to the Project Manager. Work, material, or machinery not in accordance with the Contract Documents, in the opinion of the Project Manager, shall be made to conform.

6. DEFECTIVE WORK

The Contractor shall replace at its own expense any part of the work that has been improperly executed, as determined by the Project Manager. If Contractor refuses or neglects to replace such defective work, it may be replaced by the District at the expense of the Contractor, and its sureties shall be liable therefor.

7. WARRANTY OF TITLE

Contractor shall warrant to the District, its successors and assigns, that the title to the materials, supplies or equipment covered by the Contract, when delivered to the District or to its successors or assigns, is free from all liens and encumbrances.

8. WARRANTY OF FITNESS

Contractor hereby warrants that all materials furnished shall meet the requirements and conditions of the Contract Documents; shall be fit for the purposes intended and fulfill its design functions; be free of all patent and latent defects in design, materials and workmanship; and perform satisfactorily. It is understood and agreed that by acceptance of this warranty and the acceptance of the materials or supplies to be manufactured or assembled pursuant to these specifications, the District does not waive any warranty either expressed or implied in Sections 2312 to 2317, inclusive, of the Commercial Code of the State of California or any products liability of the Contractor as determined by any applicable decision of a court of the State of California or of the United States.

9. SAFETY AND ACCIDENT PREVENTION

In performing work under the Contract on District premises, Contractor shall conform to any specific safety requirements contained in the Contract or as required by law or regulation. Contractor shall take any additional precautions as the District may reasonably require for safety and accident prevention purposes. Any violation of such rules and requirements, unless promptly corrected, shall be grounds for termination of this Contract or Contractor's right to precede in accordance with the default provisions of the Contract Documents.

10. CHARACTER OF WORKFORCE

The Contractor shall employ none but skilled competent qualified personnel to perform the Work, and shall maintain discipline and order in the conduct of the Work at all times.

11. PREVAILING WAGES & DIR REGISTRATION

- a. Please see www.dir.ca.gov for further information regarding the below.
- b. All Contractors and Subcontractors of any tier bidding on, or offering to perform work on a public works project shall first be registered with the State Department of Industrial Relations (DIR) pursuant to Section 1725.5 of the Labor Code. No bid will be accepted nor any contract entered into without proof of the Contractor and Subcontractors' current registration with the DIR (LC § 1771.1).
- c. All public works projects awarded after January 1, 2015, are subject to compliance monitoring and enforcement by the DIR (LC § 1771.4) and all Contractors are required to post job site notices, "as prescribed by regulation" (LC § 1771.4).
- d. To the extent applicable, pursuant to Section 1773 of the Labor Code, the District has obtained from the Director of Industrial Relations of the State of California, the general prevailing rates of per diem wages and the general prevailing rates for holiday and overtime work in the locality in which the Work is to be performed, for each craft, classification, or type of worker needed to execute the contract. Pursuant to Section 1773.2 of the Labor Code, a copy of the prevailing wage rates is on file with the District and available for inspection by any interested party at www.dir.ca.gov.
- e. The holidays upon which such rates shall be paid shall be all holidays recognized in the collective bargaining agreement applicable to the particular craft, classification, or type

of worker employed on the Work.

- f. The Contractor shall post a copy of the general prevailing rate of per diem wages at the jobsite pursuant to Section 1773.2 of the Labor Code.
- g. Pursuant to Section 1774 of the Labor Code, the Contractor and any of its Subcontractors shall not pay less than the specified prevailing rate of wages to all workers employed in the execution of the contract.
- h. As set forth with more specificity in Section 1773.1 of the Labor Code, "per diem" wages include employer payments for health and welfare, pension, vacation, travel, subsistence and, in certain instances, apprenticeship or other training programs, and shall be paid at the rate and in the amount spelled out in the pertinent prevailing wage determinations issued by the Director of Industrial Relations.
- i. The Contractor shall, as a penalty to the State or the District, forfeit not more than the maximum set forth in Section 1775 of the Labor Code for each calendar day, or portion thereof, for each worker paid less than the prevailing rates for the work or craft in which the worker is employed under the contract by the Contractor or by any Subcontractor under him. The difference between the prevailing wage rates and the amount paid to each worker for each calendar day or portion thereof for which such worker was paid less than the stipulated prevailing wage rate shall be paid to such worker by the Contractor.
- j. The specified wage rates are minimum rates only and the District will not consider and shall not be liable for any claims for additional compensation made by the Contractor because of its payment of any wage rate in excess of the general prevailing rates. All disputes in regard to the payment of wages in excess of those specified herein shall be adjusted by the Contractor at its own expense.
- k. General prevailing wage determinations have expiration dates with either a single asterisk or a double asterisk. Pursuant to California Code of Regulations, Title 8, Section 16204, the single asterisk means that the general prevailing wage determination shall be in effect for the specified contract duration. The double asterisk means that the predetermined wage modification shall be paid after the expiration date. No adjustment in the Contract Sum will be made for the Contractor's payment of these predetermined wage modifications.

12. PAYROLL RECORDS & ELECTRONIC SUBMISSION

- a. The Contractor and each Subcontractor shall keep an accurate payroll record, showing the name, address, social security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker or other employee employed in connection with the Work. The payroll records shall be certified and shall be available for inspection in accordance with the provisions of Section 1776 of the Labor Code. Certified payroll records shall be on the forms provided by the DIR or contain the same information required on the Department's form.

- b. The Contractor shall submit for each week in which any contract Work is performed a copy of all payroll records to the Project Manager. The Contractor shall be responsible for submission of copies of payroll records of all Subcontractors.
- c. The Contractor or Subcontractor shall certify the payroll records as shown on the DIR form. In addition, the records shall be accompanied by a statement signed by the Contractor or Subcontractor certifying that the classifications truly reflect the Work performed and that the wage rates are not less than those required to be paid.
- d. For public works projects awarded on or after April 1, 2015, or that are still ongoing after April 1, 2016, no matter when awarded, each Contractor and Subcontractor shall furnish the certified payroll related records as more specifically described above and in Labor Code section 1776 directly to the Labor Commissioner (see LC § 1771.4). These records shall be provided to the Labor Commissioner at least monthly or more frequently if required by the terms of the Contract. For exception on projects covered by collective bargaining agreements like a PLA, please see Labor Code section 1771.4.
- e. In the event of noncompliance with the requirements of Section 1776 of the Labor Code, the Contractor shall have 10 days in which to comply subsequent to receipt of written notice specifying in what respects such Contractor must comply with said Section. Should noncompliance still be evident after such 10-day period, the Contractor shall, as a penalty to the State or the District, forfeit the amount set forth in Section 1776 of the Labor Code for each calendar day, or portion thereof, for each worker, until strict compliance is effectuated. Upon the request of the Division of Apprenticeship Standards or the Division of Labor Standards Enforcement, such penalties shall be withheld from progress payments then due.
- f. The Contractor and every Subcontractor shall post at the workplace and comply with all required wage related workplace postings. Copies of the required postings may be downloaded or ordered electronically from the Department of Industrial Relations website at <http://www.dir.ca.gov/wpnodeb.html>.

13. HOURS OF LABOR

Pursuant to the provisions of Sections 1810, et seq. of the Labor Code and any amendments thereof:

- a. Eight hours of labor constitutes a legal day's Work under the contract.
- b. The time of service of any worker employed upon the work shall be limited and restricted to eight hours during any one calendar day, and forty hours during any one calendar week except as provided in Article 13.iv below.
- c. The Contractor shall, as a penalty to the State or the District, forfeit the amount set forth in Section 1813 of the Labor Code for each worker employed in the execution of the contract by the Contractor or by any Subcontractor for each calendar day during which such worker is required or permitted to work more than eight hours in any calendar day and forty hours in any one calendar week in violation of this Article and the provisions of Labor Code, Sections 1810, et seq.

- d. Work performed by employees of the Contractor in excess of eight hours per day, and forty hours during any one calendar week, shall be permitted upon compensation for all hours worked in excess of eight hours per day at not less than one and one-half times the basic rate of pay.
- e. The Contractor and every Subcontractor shall keep an accurate record showing the name of and the actual hours worked each calendar day and each calendar week by each worker employed by him in connection with the Work; the record shall be kept open at all reasonable hours to the inspection of the District and to the Division of Labor Standards Enforcement of the State of California.

14. EMPLOYMENT OF APPRENTICES

- a. In the performance of the contract, the Contractor and any Subcontractor shall comply with the provisions concerning the employment of apprentices in Section 1777.5 of the Labor Code and any amendments thereof.
- b. In the event the Contractor or any Subcontractor willfully fails to comply with the aforesaid section, such Contractor or Subcontractor shall be subject to the penalties for noncompliance in Labor Code, Section 1777.7.

15. CHANGES

- a. Changes in the Work can only be made in writing signed by an authorized employee of the District. If the change causes an increase or decrease in the contract sum, or a change in the time for performance under the Contract, an adjustment may be made as determined by the Project Manager.
- b. The District reserves the right to make changes in the design of materials, equipment, or machinery, to make alterations or additions to or deviations or subtractions from the Contract and any specifications and drawings, to increase or decrease the required quantity of any item or portion of the Work or to omit any item or portion of the Work, as may be deemed by the Project Manager to be necessary or advisable and to order such extra work as may be determined by the Project Manager to be required for the proper execution and completion of the whole Work contemplated. Any such changes will be ordered in writing by the Project Manager. The determination of the Project Manager on all questions relating to changes, including extra work, shall be conclusive and binding.
- c. Prior to issuing an amendment or change to the Contract, the Project Manager may request that the Contractor submit a proposal covering the changes. Within 10 business days of receiving the request, the Contractor shall submit its proposal to the Project Manager of all costs associated with the proposed amendment or change and any request for an extension of Contract time. Contractor's proposal shall include detailed estimates with cost breakdowns, including labor, material, equipment, overhead, and profit. Labor shall be broken down into hours and rate per hour. If applicable, the proposal shall include a breakdown for off-site labor (including factory labor, engineering, etc.). The Contractor's proposal shall include an analysis of schedule impact when the Contractor is requesting an adjustment in contract time. The Contractor shall be responsible for any delay associated with its failure to submit its change proposal within the time specified. If the Project Manager decides not to issue an amendment or

change after requesting a proposal from the Contractor, the Contractor will be notified in writing. The Contractor is not entitled to reimbursement for Change Order preparation costs if the Contractor's proposal is not accepted by the Project Manager.

- d. If the Contractor agrees with the terms and conditions of the approved Change Order, the Contractor shall indicate its acceptance by signing the original copy and returning it to the Project Manager within 10 Work Days after receipt or with reasonable promptness and in such sequence as to not delay the Work or activities of the District or of separate contractors, whichever is sooner. If notice of any change is required to be given to a surety by the provisions of any bond, the Contractor shall provide notice and the amount of each applicable bond shall be adjusted separately. Payment in accordance with the terms and conditions set forth in the executed Change Order shall constitute full compensation for all Work included in the Change Order and the District will be released from any and all claims for direct, indirect, and impact expenses and additional time impact resulting from the Work. If the Contractor disagrees with the terms and conditions of the approved Change Order, the Contractor shall indicate specific areas of disagreement and return the approved Change Order to the Project Manager with a detailed written dispute. No payment will be made on the disputed work until the approved Change Order is returned to the Project Manager. However, whether or not the Contractor agrees with the terms and conditions of an approved Change Order, the Contractor shall immediately revise its sequence of operations as required to facilitate timely completion of the changed work and shall proceed with the revised work sequence.
- e. The Project Manager may, after having received a written cost quotation from the Contractor, order the Contractor, in writing, to proceed with the work prior to issuance of an approved Change Order through a change directive. The change directive will authorize the Contractor to proceed with the work subject to the cost quotation submitted by the Contractor. Within five days following receipt of the change directive, the Contractor shall submit a detailed change proposal documenting the amount of compensation. The Project Manager will review the change proposal and, at its option, will either issue an approved Change Order for the work or direct the Contractor to perform the work through Force Account. Until the method of compensation is determined and the approved Change Order is received, the Contractor shall keep full and complete time and material records of the cost of the ordered work and shall permit the Project Manager to have access to such records. An approved Change Order shall supersede any previously issued written change directive covering the same Work.

16. EFFECT OF EXTENSIONS OF TIME

The granting, or acceptance, of extensions of time to complete the Work or furnish the labor, supplies, materials or equipment, or any one of the aforementioned, will not operate as a release of Contractor or the surety on Contractor's faithful performance bond.

17. DELAYS

- a. The Contractor shall take reasonable precautions to foresee and prevent delays to the Work. When the Contractor foresees a delay event, and upon the occurrence of a delay event, the Contractor shall immediately notify the Project Manager of the probability or the actual occurrence of a delay, and its cause. With respect to all delays (compensable, excusable or inexcusable), the Contractor shall reschedule the Work and revise its

operations, to the extent possible, to mitigate the effects of the delay. Within 15 days from the beginning of a delay the Contractor shall provide the Project Manager with a detailed written description of the delay, its cause, its impact and the Contractor's mitigation plans. Failure to provide the notification required above waives the Contractor's right to any additional time or compensation resulting from the delay for whatever cause. The Project Manager will investigate the facts and ascertain the extent of the delay, and the Project Manager's findings thereon shall be final and conclusive, except in the case of gross error. An extension of time must be approved by the Project Manager to be effective, but an extension of time, whether with or without consent of the sureties, shall not release the sureties from their obligations, which shall remain in full force until the discharge of the contract.

- b. For inexcusable delays (delays caused by circumstances within the Contractor's control, the control of its subcontractors or supplies of any tier, or within the scope of the Contractor's contract responsibilities) the Contractor shall not be entitled to an extension of time or additional compensation for any loss, cost, damage, expense or liability resulting directly or indirectly from the inexcusable delay.
- c. For excusable delays (delays to completion of the Work within the time limits set forth in the Contract Documents directly caused by events beyond the control of both the Contractor and the District, which delay is not concurrent with an inexcusable delay and which could not have been avoided by the Contractor through reasonable mitigation measures).
- d. For compensable delays (delays to completion of the Work within the time limits set forth in the Contract Documents that could not be avoided by Contractor mitigation, caused directly and solely by the District or by causes within the exclusive control of the District, and which were not concurrent with any other type of delay) the Project Manager will grant the Contractor an extension of the time to perform under the Contract and compensation in an amount that represents the Contractor's actual direct costs incurred as a direct result of the compensable delay. The Contractor may recover its direct costs only and may not recover (and waives) all other types of indirect, consequential, special and incidental damages.
- e. For concurrent delays (two or more independent causes of delay directly preventing the Contractor from completing the Work within the time limits set forth in the Contract Documents where the delays occur at the same time during all or a portion of the delay period being considered, and where each of the delays would have caused delay to the Contractor even in the absence of any of the other delays, and none of the delays could have been avoided by Contractor mitigations) the following rules apply:
 - i. One or more of the concurrent delays are excusable or compensable, then the period of concurrent delay will be treated as an excusable delay; and
 - ii. All of the concurrent delays are inexcusable, then the period of concurrent delay will be inexcusable.

18. TERMINATION

- a. Termination by the District for Cause:

- i. District may terminate the Contractor's right to proceed under the Contract, in whole or in part, for cause at any time after the occurrence of any of the following events, each of which constitutes a default:
 - 1. The Contractor becomes insolvent or files for relief under the bankruptcy laws of the United States.
 - 2. The Contractor makes a general assignment for the benefit of its creditors or fails to pay its debts as the same become due.
 - 3. A receiver is appointed to take charge of the Contractor's property.
 - 4. The Contractor fails to supply skilled supervisory personnel, an adequate number of properly skilled workers, proper materials, or necessary equipment to prosecute the Work in accordance with the Contract Documents.
 - 5. The Contractor fails to make progress so as to endanger performance of the Work within the contractually required time.
 - 6. The Contractor disregards legal requirements of agencies having jurisdiction over the Work, the Contractor, or the District.
 - 7. The Contractor fails to provide the District with a written plan to cure a District identified default within five business days after the District's request for a plan to cure; the District does not accept the Contractor's plan for curing its default; or the Contractor does not fully carry out an accepted plan to cure.
 - 8. The Contractor abandons the Work. Abandonment is conclusively presumed when the District requests a written plan to cure a default and the Contractor does not submit the plan within five business days of the District's request.
 - 9. The Contractor materially fails to meet its obligations in accordance with the Contract Documents.
 - 10. The Contractor is in default of any other material obligation under the Contract Documents.
- ii. If any of the above events occur, the District may, in its discretion, require that the Contractor submit a written plan to cure its default, which plan must be provided to the District within 5 business days of the request and must include a realistic, executable plan for curing the noted defaults.

- iii. Upon any of the occurrences referred to in Article 18.a.i. above, the District may, at its election and by notice to the Contractor, terminate the Contract in whole or in part; accept the assignment of any or all of the subcontracts; and then complete the Work by any method the District may deem expedient. If requested by the District, the Contractor shall remove any part or all of the Contractor's materials, supplies, equipment, tools, and machinery from the site of the Work within seven days of such request; and, if the Contractor fails to do so, the District may remove or store, and after 90 days sell, any of the same at the Contractor's expense. District shall pay to the Contractor the portion of the contract price allocable to Work completed in accordance with the Contract before the effective date of termination.
- iv. No termination or action taken by the District after termination shall prejudice any other rights or remedies of the District provided by law or by the Contract Documents.
- v. Conversion: If, after termination for other than convenience, it is determined that the Contractor was not in default or material breach, or that the default or material breach was excusable, the rights and obligations of the parties shall be the same as if the termination had been issued for convenience pursuant to Article 18.b. below.

b. Termination by the District for Convenience:

- i. The District may, at its option, and for its convenience, terminate the Contract at any time by giving written notice to the Contractor specifying the effective date of termination. Upon such termination, the Contractor agrees to comply with the notice and further agrees to waive any claims for damages, including loss of anticipated profits, on account of the termination; and, as the sole right and remedy of the Contractor, the District shall pay the Contractor as set forth below.
- ii. Upon receipt of a notice of termination for convenience, the Contractor shall, unless the notice directs otherwise, do the following:
 - 1. Immediately discontinue its performance of the Contract to the extent specified in the notice.
 - 2. Place no further orders or subcontracts for materials, equipment, services, or facilities, except as may be necessary for completion of a portion of the Work that is not discontinued or that is necessary for an orderly cessation of the Work.
 - 3. Promptly cancel, on the most favorable terms reasonably possible, all subcontracts to the extent they relate to the

performance of the discontinued portion of the Work.

4. Thereafter, do only such Work as may be necessary to preserve and protect Work already in progress and to protect materials, plants, and equipment in transit to or on the site of performance.
- iii. Upon such termination for convenience, the District will pay to the Contractor the sum of the following:
 1. The amount of the contract sum allocable to the portion of the Work properly performed by the Contractor as of the effective date of termination, less sums previously paid to the Contractor.
 2. Previously unpaid costs of any items delivered to the project site that were already fabricated for subsequent incorporation into the Work.
 3. Any proven losses with respect to materials and equipment directly resulting from the termination.
 4. Reasonable demobilization costs.
 - iv. The above reimbursement is the sole and exclusive remedy to which the Contractor is entitled in the event the contract is terminated for convenience; and the Contractor expressly waives any other claims, damages, demands, compensation or recovery related to this contract or project. The Contractor agrees to sign a general release incorporating this waiver.
- c. Effect of Termination: Upon termination, the obligations of the Contract shall continue as to portions of the Work already performed and, subject to the Contractor's obligations under Article 18.b.ii, as to bona fide obligations assumed by the Contractor prior to the date of termination.
 - d. Force Majeure: If the contract is suspended or terminated by the District because Contractor's performance is prevented or delayed by an event including an irresistible, superhuman cause, or by the act of public enemies of the State of California or of the United States ("Force Majeure"), the Contractor will be paid for Work performed prior to the Force Majeure event at either (i) the unit prices named in the Contract; or (ii) in the event no unit prices are named, a sum equal to the percentage of the total contract amount that matches the percentage of the total contract Work performed prior to the Force Majeure event.

19. DAMAGES

All losses or damages to material or equipment to be furnished pursuant to the Contract Documents occurring prior to receipt and final acceptance of the Work shall be sustained by the

Contractor. The Contractor shall sustain all losses arising from unforeseen obstructions or difficulties, either natural or artificial, encountered in the prosecution of the Work, or from any action of the elements prior to final acceptance of the work, or from an act or omission on the part of the Contractor not authorized by the Contract Documents.

20. ORDER OF PRECEDENCE

- a. In the case of conflicts, errors, or discrepancies in any of the Contract Documents, the order of precedence is as follows. Within the same order of precedence, specific requirements shall take precedence over general requirements.
 - i. Approved Change Orders.
 - ii. Addenda.
 - iii. RFQ or RFP.
 - iv. Referenced Standard Specifications and Drawings.
 - v. Contractor's Response Packet.
- b. With reference to drawings:
 - i. Numerical dimensions govern over scaled dimensions.
 - ii. Detailed drawings govern over general drawings.
 - iii. Addenda/Change Order drawings govern over contract drawings.
 - iv. Contract drawings govern over standard drawings.
 - v. Notes apply only to the drawing where the notes appear, unless classified as "typical" or intended to apply elsewhere in which case they apply to all drawings where the conditions or circumstance noted occurs.
 - vi. Typical details apply to all drawings unless a specific different detail is shown.

21. INDEMNIFICATION/RESPONSIBILITY

- a. Contractor shall indemnify, keep and save harmless the District and each of its directors, officers, agents and employees against any and all suits, claims or actions arising out of any of the following:
 - i. Any injury to persons or property that may occur, or that may be alleged to have occurred, arising from the performance or implementation of this Contract; or
 - ii. Any allegation that materials or services developed, provided or used for this Contract infringe or violate any copyright, trademark, patent, trade secret, or any other intellectual-property or proprietary right of any third party.

- b. Contractor further agrees to defend any and all such actions, suits or claims and pay all charges of attorneys and all other costs and expenses of defenses as they are incurred. If any judgment is rendered, or settlement reached, against the District or any of the other agencies or individuals enumerated above in any such action, Contractor shall, at its expense, satisfy and discharge the same.
- c. This indemnification shall survive termination or expiration of the Contract.

22. PROHIBITION OF ASSIGNMENT

The Contractor shall not assign, transfer, or otherwise dispose of any of its rights, duties or obligations under this Contract.

23. NEWS RELEASES

The Contractor, its employees, subcontractors, and agents shall not refer to the District, or use any logos, images, or photographs of the District for any commercial purpose, including, but not limited to, advertising, promotion, or public relations, without the District's prior written consent. Such written consent shall not be required for the inclusion of the District's name on a customer list.

24. SEVERABILITY

Should any part of the Contract be declared by a final decision by a court or tribunal of competent jurisdiction to be unconstitutional, invalid or beyond the authority of either party to enter into or carry out, such decision shall not affect the validity of the remainder of the Contract, which shall continue in full force and effect, provided that the remainder of the Contract can be interpreted to give effect to the intentions of the parties.

25. COVENANT AGAINST GRATUITIES

The Contractor warrants that no gratuities (in the form of entertainment, gifts, or otherwise) were offered or given by the Contractor, or any agent or representative of the Contractor, to any officer or employee of the District with a view toward securing the Contract or securing favorable treatment with respect to any determinations concerning the performance of the Contract. For breach or violation of this warranty, the District shall have the right to terminate the Contract, either in whole or in part, and any loss or damage sustained by the District in procuring on the open market any items which Contractor agreed to supply shall be borne and paid for by the Contractor. The rights and remedies of the District provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or in equity.

26. RIGHTS AND REMEDIES OF THE DISTRICT

The rights and remedies of the District provided herein shall not be exclusive and are in addition to any other rights and remedies provided by law or under the Contract.

27. WAIVER OF RIGHTS

Any action or inaction by the District or the failure of the District on any occasion, to enforce any right or provision of the Contract, shall not be construed to be a waiver by the District of its

rights and shall not prevent the District from enforcing such provision or right on any future occasion. Rights and remedies are cumulative and are in addition to any other rights or remedies that the District may have at law or in equity.

28. CONFIDENTIALITY

Contractor agrees to maintain in confidence and not disclose to any person or entity, without the District's prior written consent, any trade secret or confidential information, knowledge or data relating to the products, process, or operation of the District. Contractor further agrees to maintain in confidence and not to disclose to any person or entity, any data, information, technology, or material developed or obtained by Contractor during the term of the Contract. The covenants contained in this paragraph shall survive the termination of this Contract for whatever cause.

SECTION 26 32 13.13
DIESEL ENGINE ELECTRICAL GENERATOR

PART 1 - GENERAL

1.1 DESCRIPTION

A. Work included:

1. Furnish four (4) mobile diesel engine electrical generator set systems meeting California Air Resources Board (CARB)/EPA Tier 4 Final emission standards. Each system shall include trailer-mounted diesel engine generator units, control panels, parallel function (or standalone paralleling control panel), low voltage distribution circuit breakers, panelboards, generator starting batteries and battery chargers, sound attenuation weather-proof outdoor enclosure, wiring and conduit, cooling and ventilation equipment, exhaust components, and appurtenances as specified herein.
2. Provide factory performance tests and witnessed tests at certified dealer facility as specified herein.
3. Provide training to operate and maintain, and startup of the mobile electrical generator and all associated equipment.

1.2 DEFINITIONS

- A. DISTRICT shall be the East Bay Municipal Utility District.
- B. SUPPLIER shall be defined as the authorized agent, dealer, or distributor of the diesel engine electrical generator system manufacturer. The SUPPLIER is the successful bidder under this proposal.

1.3 JOB CONDITIONS

- A. The operating environment of the mobile diesel engine electrical generator sets and the generator set parallel enclosures shall be:
 1. Altitude: Approximately 5 feet above Mean Sea Level.
 2. Outside temperature, maximum: 120 degrees F.
 3. Outside temperature, minimum: 25 degrees F.
 4. Exposure: Outdoors, uncovered.
- B. Operating hours: Standby-duty, 24 continuous hours per day, 7 days a week.

1.4 REFERENCES

- A. US EPA Nonroad Tier 4 Final Regulations.
- B. California Code of Regulations:
 - 1. Title 17, §93115 - Airborne Toxic Control Measures for Stationary CI Engines.
 - 2. Title 24, Part 3 – California Electrical Code (CEC).
- C. Institute of Electrical and Electronics Engineers (IEEE):
 - 1. IEEE 446 - Recommended Practice for Emergency and Standby Power Systems for Commercial and Industrial Applications.
- D. International Electrotechnical Commission (IEC):
 - 1. IEC 8528 part 4, Control Systems for Generator Sets.
 - 2. IEC 61000-2 and 61000-3 for susceptibility, 61000-6 radiated and conducted electromagnetic emissions.
- E. National Electrical Manufacturers Association (NEMA) Publications:
 - 1. MG 1 Motors and Generators.
- F. National Fire Protection Association (NFPA):
 - 1. NFPA 70 – National Electrical Code
 - 2. NFPA 110 – Standard for Emergency and Standby Power Systems.
- G. Underwriters Laboratories (UL):
 - 1. UL 2201 – Standard for Carbon Monoxide (CO) Emission Rate of Portable Generators.

1.5 QUALITY ASSURANCE

- A. The engines, generators, and all major items of auxiliary equipment shall be manufactured in the U.S. by manufacturers currently engaged in the production of such equipment. The units shall be factory assembled and tested by the engine manufacturer and may be shipped to the local certified dealer facility where parts and services are performed. The performance of the mobile diesel engine generators and all associated equipment shall be certified by manufacturer as functional and to the full power rating stability, and the voltage and frequency regulation, and load testing shall be performed and witness tested at the presence of the DISTRICT staff at the certified dealer facility.

- B. The mobile diesel engine generators and all associated equipment and software offered under these Contract Documents shall be covered by the manufacturer's standard warranty for parts and labor for a minimum of two (2) years.
- C. Before the equipment is shipped to the certified dealer facility, an unwitnessed factory certified test log of each generator set and all associated equipment showing a minimum of $\frac{3}{4}$ hour testing with a $\frac{1}{2}$ hour at 100 percent rated load, continuously, shall be submitted to the DISTRICT. Additionally, each generating system shall be full-load tested at the certified dealer facility in the presence of the DISTRICT staff for a period of 2 hours, with SUPPLIER providing necessary load banks, fuel, testing and recording equipment, and setup labor. Any defects which become evident during this test shall be corrected by the SUPPLIER at his own expense.
- D. 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 the SUPPLIER shall have at least 10 years of experience in the sales and service of the equipment specified herein.
- E. All equipment and products specified herein shall be the responsibility of one SUPPLIER with factory-trained and certified service personnel.
- F. Equipment furnished shall meet the requirements of the California Electrical Code (CEC) and all applicable local codes and regulations.
- G. Equipment shall be fully assembled and shop tested at the manufacturing facility prior to shipment.

1.6 SUBMITTALS

- A. Submittals for approval shall be made in accordance with this specification.
- B. Submit the product data of the complete and assembled system specified herein.
- C. Submitted data shall be fully sufficient in detail for determination of compliance with the provisions and intent of this Proposal, and for coordination of all connections for installation by others.
 - 1. Air emission compliance certification including, but not limited to:
 - a. Manufacturer data on air emissions
 - b. Stack height and diameter
- D. All information necessary for Data Form C from the Bay Area Air Quality Management District which can be obtained from their web site at:
<http://www.baaqmd.gov>
- E. Complete O&M Manual.
- F. Complete recommended spare parts.

- G. Factory Test Report: Submit unwitnessed factory test report prior to shipping to the local certified dealer facility or service center for witness factory test.
- H. Witnessed Test Report: Submit witnessed certified dealer facility test report for review within fifteen days of the time of completion of the witnessed factory test
- I. Within 10 days of contract award, provide submittals including the following:
 - 1. Model number of the four (4) mobile diesel engine generators and all associated equipment, including standalone paralleling control panels.
 - 2. Component List - A breakdown of all components and options, including quantity, description, manufacturer, and model number.
 - 3. Technical Data - Manufacturer produced specifications or data sheets for all mobile diesel engine generator supplied, including the following tabular data:
 - a. Engine type, aspiration, compression ratio, and combustion cycle, bore, stroke, displacement, and number of cylinders.
 - b. Power rating at 0.8 power factor with and without fan.
 - c. Engine lubricating oil capacity.
 - d. Engine coolant capacity without radiator.
 - e. Engine coolant capacity with radiator.
 - f. Coolant pump external resistance (maximum).
 - g. Coolant pump flow at maximum resistance.
 - h. Fuel consumption: 50, 75, and 100 percent standby load (gallons per hour).
 - i. Maximum continuous duty horsepower with fan.
 - j. Total operating weight including all coolant, engine oil, fuel, diesel exhaust fluid, and all other material necessary for operation.
 - k. Diesel Exhaust Fluid (DEF) tank volume
 - l. DEF consumption: 50, 75, and 100 percent standby load (gallons per hour).
 - m. Generator:
 - 1) Ratings, prime and standby power kW.

- 2) Line to Line Voltage.
 - 3) Phases.
 - 4) Connections.
 - 5) Parallel function.
 - 6) Frame number.
 - 7) Insulation class.
 - 8) Number of leads.
 - 9) Total weight.
 - 10) Rotor weight.
 - 11) Air flow required.
 - 12) Fuel to line and generator efficiency at 0.8 power factor for 25, 50, 75, and 100 percent load.
 - 13) Time constants, short circuit transient (T'D).
 - 14) Time constants, armature short circuit (T_A).
 - 15) Reactance, subtransient - direct axis (X''D).
 - 16) Reactance, transient - saturated (X'D).
 - 17) Reactance, synchronous - direct axis (X_D).
 - 18) Reactance, negative sequence (X₂).
 - 19) Reactance, zero sequence (X₀).
 - 20) Reactance, fault current, 3 phase symmetrical.
- n. Radiator:
- 1) Fan drive ratio.
 - 2) Fan power.
 - 3) Air flow and maximum external pressure differential.
 - 4) Radiator coolant capacity and protection level in degrees F.
- o. Engine-generator Set:

- 1) Dimensions: Length, width, height, access clearances.
 - 2) Sound level.
 - 3) Total weight.
 - 4) Mounting bolt pattern.
- p. Exhaust silencer:
- 1) Dimensions: Length, width, height.
 - 2) Weight (pounds).
 - 3) Inlet and outlet sizes (inches).
 - 4) Attenuation (db vs. frequency).
 - 5) Pressure loss.
- q. Sound-attenuating weatherproof enclosure:
- 1) Dimensions: Length, width, height.
 - 2) Weight (pounds).
 - 3) Insulation material, thickness, flame rating
 - 4) Attenuation (db vs. frequency).
 - 5) Nominal (free-field) exterior sound level at 23 feet.
 - 6) Configuration and size of: access doors; control panels; fluid connections, fill ports, and drains; electrical connections; air inlet and discharge; exhaust discharge.
 - 7) Mounting details.
- r. Trailer:
- 1) Dimensions: Length, width, height.
 - 2) Gross Vehicle Weight Rating (GVWR) (pounds).
 - 3) Hitch mount type
 - 4) Brake type
 - 5) Electrical connector type.

- s. Fuel Tank:
 - 1) Dimensions: Length, width, height.
 - 2) Materials of construction.
 - 3) Size (Gallons).
 - 4) Double wall containment volume (Gallons).
- t. Lube oil sump capacity.
- u. Vibration Isolators:
 - 1) Load ratings.
 - 2) Dimensions: Length, width, height.
- v. High Temperature Insulation Blankets:
 - 1) Materials of construction and dimension details.
 - 2) R-factor and personnel protection capability; touch temperature.
- w. Generator Distribution Circuit Breakers and Control Panels:
 - 1) Distribution Circuit Breakers Rated Maximum Voltage.
 - 2) Distribution Circuit Breakers Operating Voltage.
 - 3) Distribution Circuit Breaker Continuous current and short circuit ratings.
 - 4) Distribution circuit breaker types.
 - 5) Current transformer type, ratings, and accuracy.
 - 6) Potential transformer type, ratings, and accuracy.
 - 7) Control power transformer type and capacity.
 - 8) Internal control wiring conductor and insulation information.
 - 9) Instruments, human machine interface (HMI) display, meters, protective relays, circuit breaker control switches, alarms and indicating lights.
 - 10) Genset parallel ready and status connections.

- 11) Terminal blocks.
 - 12) Nameplates.
 - 13) Enclosure NEMA rating and materials type.
- x. Camlock Distribution Panel:
- 1) The mobile generator shall have Camlock connector type for load connection, paralleling connection, and loadbank connection.
 - 2) Camlock connectors model number, dimension, rating, and colors.
- y. Starting Batteries:
- 1) Type.
 - 2) Dimensions.
 - 3) Weight.
 - 4) Volume.
 - 5) Number of plates.
 - 6) Ratings.
 - 7) Battery sizing calculations.
 - 8) Battery container information.
- z. Battery Charger:
- 1) Nominal voltage and current ratings.
 - 2) Adjustable float and equalize voltages.
 - 3) Recommended float voltages.
 - 4) Voltage regulation.
 - 5) Input voltage.
 - 6) Weight.
 - 7) Dimensions.
 - 8) Ambient temperature ratings.

- 9) Enclosure NEMA rating.
 - aa. Distribution panelboard and circuit breakers.
 - bb. Light fixtures, switches, and convenience receptacles.
 - cc. Nameplates.
- 4. Certification that the engine generator meets the specified CARB/EPA emissions standards.
- 5. Complete specifications, outline dimensional drawings, and descriptive literature.
- 6. General assembly drawings.
- 7. Front, side, and section views.
- 8. Three-line and control schematic (elementary) diagrams in ladder type format for the entire system.
- 9. Complete schematic, wiring, and interconnection diagrams showing all terminal and destination markings for all equipment, as well as the functional relationship between all electrical components.
- 10. Factory and certified dealer facility test procedures.
- 11. Warranty Statements: Warranty verification published by the manufacturers of the components and the generator and parallel enclosure manufacturer.
- 12. Written certification from the SUPPLIER that it has reviewed the proposed installed operating conditions, operating environment, and range of operating conditions as shown described in these specifications, and that equipment proposed is in all respects suitable for these conditions.
- 13. Extended maintenance service contract: A detailed list and schedule of the maintenance services to be performed for the duration of the contract.
- 14. Provide proof that the diesel engine electrical generator set systems have been designed and constructed to withstand the specified requirements.
- 15. Provide proof that the generator set parallel enclosures have been designed and constructed to withstand the specified requirements.
- 16. Complete bills of material accounting for all equipment including loose spare parts.

17. Weather proof and sound attenuated enclosure dimensions and mounting details.
- J. Manufacturer's Certificate of Proper Installation:
1. The SUPPLIER shall submit the manufacturers' certificates of proper installation of equipment. A sample certificate is attached.
- K. Prior to contract closeout:
1. Operating, maintenance, and testing manuals for all equipment, including, but not limited to the following:
 - a. Engine.
 - b. Generator.
 - c. Voltage Regulator.
 - d. Electronic Governor.
 - e. Distribution Circuit Breakers and Control Panels.
 - f. Batteries.
 - g. Battery Charger.
 - h. Coolant or block heaters.
 - i. Silencer.
 - j. Generator set parallel enclosures.
 2. Recommended spare parts and current price list.
 3. The name, address, and phone number of the local sales representative and technical assistance for each piece of equipment.
 4. The name, address, and phone number of the local parts distributor for each piece of equipment.
 5. Certification shall be supplied with each system that verifies the torsional vibration compatibility of the rotating element of the prime movers and generators for the intended use.
 6. O&M Manuals shall be made in 3-ring bound hard copy and electronic PDF on a CD-ROM. Provide four (4) hard copies and two (2) electronic CD-ROM copies.

- a. Include all final factory and certified dealer facility test reports.
Test reports to be inserted after testing completed.
- b. Any modifications made to equipment shall be documented in the O&M manuals.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Ship equipment, material, and spare parts complete except where partial disassembly is required by transportation regulations or for protection of components.
- B. All mechanical and electrical equipment shall be coated, wrapped, and otherwise protected from snow, rain, drippings of any sort, dust, dirt, mud, flood and condensed water vapor during shipment and while stored or installed in place during construction. The protective coverings shall remain in place until the work areas are substantially free of all construction dust, dirt, mud, accumulated water, moisture, and debris.

1.8 MANUFACTURER'S FIELD SERVICES

- A. Field services including field startup assistance and training shall be provided.
- B. Certified factory-trained manufacturer's representative shall be present at the site or classroom designated by the DISTRICT, for the minimum person-days listed, travel time excluded.

Person-Days	Manufacturer's Services
1	Training of District personnel (person-days listed is total training days): <ul style="list-style-type: none"> 2 training sessions of 4 hours with no more than 10 persons maximum per session, schedule to be determined. Provide all training and presentation materials.

- C. Training shall include operations of the mobile diesel engine-generators and the associated equipment, function of each component, alarms and control logic, principles of power generation, startup and shutdown procedures, safety precautions, emergency and lockout procedures, interconnections, towing safety and procedures, procedures for contacting manufacturer's representative for field service, discussion of warranty, and basic troubleshooting and preventative maintenance.

1.9 WARRANTY

- A. The manufacturer of the diesel engine electrical generator systems and all the associated equipment including the generator parallel control panels shall have

within a one hundred (100) mile radius of the project site an authorized dealer who can provide factory-trained servicemen, the required stock of replacement parts, technical assistance, and warranty administration. Standard service and replacement parts shall be available within 24 hours of service call.

- B. Warranty shall be manufacturer's standard, but in no event be for a period of less than two (2) years with 2,000 runtime hours, whichever comes first. In the first year of the warranty, runtime hours are unlimited.
- C. Warranty shall be of all components of the system.
- D. Warranty shall include repair labor, travel expense necessary for repairs at the jobsite, and expendables (lubricating oil, filters, antifreeze, and other service items made unusable by the defect) used during the course of repair.
- E. Warranty date and runtime shall start from the date of acceptance of the system. Runtime incurred during startup and testing does not count.

PART 2 - PRODUCTS

2.1 GENERAL

- A. Unless otherwise noted, all products shall be factory installed into an integrated, mobile unit, UL 2200 listed enclosed diesel engine electrical generator set package.
- B. Diesel engine electrical generator set system shall be new. Total engine runtime shall be certified by the SUPPLIER.
- C. The mobile diesel generator units shall have connectivity mechanism (via Camlock connectors) that is allowed for paralleling two generators to provide standby output power up from 250kw to 300kw at 480Vac, three-phase, 60 Hz. The paralleling function shall be integrated into the mobile generator unit. If a standalone parallel control panel is to be used for paralleling the generators, two (2) parallel control panels shall be included in the bid.
- D. Each mobile diesel generator set shall provide a rated standby power of a minimum of 125kw (156kVA) but not exceeding a maximum of 150kw (188kVA) when operating at 277/480 volts delta connected, three-phase, 60 Hz, 0.80 power factor.
- E. The mobile diesel generator and associated equipment (including parallel control panels) shall be outdoor rated.
- F. Acceptable manufacturers for the engine-generator set system:
 - 1. Cummins,
 - 2. Generac,

3. Kohler,
4. Or equal.

2.2 DIESEL ENGINE

- A. The diesel engine electrical generator system shall meet or exceed CARB/EPA Tier 4 Final emission requirements for non-road compression ignition engines.
- B. The system shall meet or exceed NFPA 110 requirements for providing Level 1, Type 10 life safety emergency power.
- C. The engine shall be liquid cooled, four-cycle design, turbocharged, compression ignition diesel design. Continuous rated standby power of a minimum of 125kw (156kVA) but not exceeding a maximum of 150kw (188kVA) when operating at 277/480 volts delta connected, three-phase, 60 Hz, 0.80 power factor, when driving a synchronous generator at a speed not to exceed 1,800 RPM. The engine shall have 6 cylinders minimum, and be designed to use ultra low sulfur diesel fuel.
- D. The engine shall be equipped with air filters, fuel filters and pressure gauge, water pump and temperature gauge, fuel level gauge, battery voltage gauge, and service hour meter.
- E. The engine shall be provided with a full pressure lubricating oil system arranged to distribute oil to all moving parts of the engine and to cool the pistons. The system shall include pressure regulating valves, oil filter, oil strainer, oil cooler, oil level indicator, low oil pressure shutdown, crankcase ventilator, and necessary piping and fittings.
- F. Provide lubricating oil filters of the full-flow type, capable of filtering the full rate of oil flow of the oil pump at maximum engine speed. The filter shall provide a means of automatically bypassing lubricating oil if the condition of the filter so requires.
- G. Lubricating oil strainer and filter shall be cleanable, or replaceable, without disconnecting any piping.
- H. The engine shall be electronically controlled, fuel injected, and shall be provided with all necessary fuel system equipment including piping, fittings, valves, pump, filters, strainer and appurtenances.
- I. A fuel oil filter shall be installed in the piping ahead of the injection pumps on each unit. Pressure transducers shall be provided on both sides of the filter to indicate condition of the filter.
- J. Install a fuel oil solenoid valve in the piping ahead of the fuel filters on the unit, if required to prevent flooding of the engine's fuel system.

K. Acceptable manufacturers for diesel engine:

1. Cummins,
2. John Deere,
3. Or equal.

2.3 FUEL TANK, DEF TANK

- A. Provide double walled, subbase fuel tank constructed of corrosion resistant steel for a minimum of 24-hour run time with 75% load at prime rating.
- B. Secondary containment for engine fluids shall be sized for 110%.
- C. Provide fuel fill and fuel level gauge or level transmitter. Access to fuel shall be protected with locking cap or locking door.
- D. Provide auxiliary connections for connection of a user-supplied external fuel tank.
- E. Fuel tank shall meet requirements of NFPA 30.
- F. Provide DEF tank sized for a minimum of 24-hour run time at full load at standby rating with lockable caps or locking door.

2.4 TRAILER

- A. Provide generators sets mounted on towable USDOT compliant trailers with approved tail, side, brake, and directional lights, rear stabilizer trailer jacks, and heavy duty front tongue jack.
- B. Provide Lunette Eye hitch for connection to vehicles equipped with Pintle Hitch.
- C. Provide trailer with hydraulic surge brakes and 7 way RV flat electronic connector or furnish appropriate adapter.

2.5 GOVERNOR, ELECTRONIC-SPEED CONTROL

- A. The engine governor shall control engine speed while optimizing both steady state and transient engine performance. The governor shall monitor all significant engine parameters, and adjust engine performance according to speed, altitude, temperature, after cooler or combustion air temperature, jacket water temperature, and filtered fuel pressures.
- B. The governor shall incorporate programmable control software capable of adjusting engine operation to desired performance levels. The governor shall be configured to avoid interruption of power; it shall be programmed such that in the event of system faults which do not require shutdowns, the engine shall continue operation at power levels sufficient to remain within performance limits.

- C. The governor shall display real time and historical data to allow the user to optimize operation and provide accurate service information in the event of a malfunction. The service information shall be accessible through a data link for remote monitoring, or through an RS-232 or RS-485 serial communication port. A data link failure shall not cause an interruption of engine operation.
- D. The engine governor shall maintain +/-0.5 percent steady state speed regulation, and be adjustable from a remote location. Speed drop shall be adjustable from 0 (isochronous) to 10 percent from no load to full rated load. Ramping up to rated speed during startup shall be delayed with a controlled rate of acceleration until engine oil pressure is assured. In the event of a DC power loss, the fuel system shall remain closed.
- E. Acceptable manufacturers for governor:
 - 1. John Deere,
 - 2. Cummins,
 - 3. Or equal.

2.6 RADIATOR, ENGINE MOUNTED

- A. The radiator shall be sized to cool the engine continuously while operating at full rated load and at site conditions.
- B. A thermostatic valve shall be installed to maintain a constant temperature of the water leaving the engine.
- C. The fan, fan drive, and fan belts shall be covered by a strong grille for personnel protection.
- D. The cooling system shall be filled with a permanent anti-freeze solution capable of protecting the engine at a temperature of +15 degrees F.

2.7 INLET AIR SYSTEM

- A. The air cleaner shall be engine mounted with dry element requiring replacement no more frequently than 250 operating hours or once each year. The air cleaner shall be designed to permit easy replacement of the element.

2.8 EXHAUST SYSTEM

- A. The exhaust silencer shall effectively reduce exhaust noise and arrest spark propagation. Exhaust silencer shall be sized as recommended by engine manufacturer. Exhaust piping system shall not exceed engine manufacturer's engine backpressure requirements. Exhaust silencer shall be housed inside enclosure.

- B. If exhaust direction is upward, provide a stub stack and suitable rain cap. If exhaust direction is horizontal, miter the pipe end to prevent intrusion of rainwater, and direct the exhaust into the upward discharge of the radiator fan.

2.9 WIRING AND CONDUIT

- A. Engine and generator control wiring shall be multi-strand, minimum 14 gauge, insulated copper wire rated at 600 volts AC, 90 degrees C dry or wet, resistant to heat, abrasion, oil, water, antifreeze, and diesel fuel. Each cable will be heat stamped throughout the entire length to identify the cable's origin and termination. Cables shall be enclosed in nylon flexible conduit which is slotted to allow easy access and moisture to escape. Reusable bulkhead fittings will attach the conduit to generator set mounted junction boxes.

2.10 COOLANT OR BLOCK HEATER

- A. The engine shall be provided with a general purpose coolant or block heater with thermostats. All heaters shall be automatically deactivated while the engine is running.

2.11 STARTING SYSTEM

- A. The engine starting system shall include 12 or 24 volt DC batteries, starting motor, starting relay, and automatic reset circuit breaker to protect against butt engagement. Starting system equipment shall meet the requirements of NFPA 110, Paragraph 5.6.4 – Prime Mover Starting Equipment for Level 1 installations.
- B. The storage batteries for each unit shall be low maintenance, high output, lead-acid type, 12 or 24 volt system. Batteries shall be mounted in a leak-proof rubber or plastic lined caustic resistant frame and enclosure. Battery shall be provided with intercell connectors, bolts, racks, etc., as required for a complete system. The batteries shall have full warranty for two (2) years and shall have a minimum one-minute rating of 850 amperes for 12 volt system or 1400 amperes for 24 volt system to a voltage of 1.0 volts per cell.
- C. The batteries shall be accessible from the outside of the sound enclosure using lockable doors.

2.12 BATTERY CHARGER

- A. Provide a 12 or 24 volt automatic float battery charger with constant voltage regulation, suitable for maintaining the diesel engine generator set starting batteries. The rated output shall be such that this rating is not exceeded when charging the batteries from a totally discharged condition back up to equalize voltage. Chargers shall operate at 120 volts AC, single phase 60 HZ, with shore power connection.
- B. Provide battery chargers that meet the requirements of NFPA 110, Paragraph 5.6.4 – Prime Mover Starting Equipment for Level 1 systems.

- C. The battery chargers shall be accessible from the outside of the sound enclosure using lockable doors.

2.13 SOUND ENCLOSURE

A. General:

1. Enclosure shall be designed and constructed for use with UL 2200 listed generator set package. Enclosure shall be factory installed as part of the package generator assembly.
2. Louvers: Provide screens for all louvers to permit air circulation when engine is not running while excluding birds and rodents.
3. Provide lockable, hinged doors with hold back hardware to keep door fully open during maintenance. Doors shall fully open (180 degrees).
4. Lockable access for oil fill, coolant fill, DEF fill, distribution circuit breakers, local panelboard, battery, and battery charger access.
5. Externally mounted emergency stop pushbutton, appropriately identified for the purpose.
6. Acoustic insulation - Reduce the sound level of the engine generator while operating at full rated load to a maximum of 78 dBA measured at any location 23 feet from the engine generator in a free field environment.
7. No wood or other combustible or flammable materials shall be incorporated as part of the enclosure.

2.14 GENERATOR

A. General:

1. The generator set shall provide a rated standby power of a minimum of 125kw (156kVA) but not exceeding a maximum of 150kw (188kVA) when operating at 277/480 volts connected, three-phase, 60 Hz, 0.80 power factor, at 1800 rpm alternator speed.
2. The generator set shall be capable providing the following selectable output voltages:
 - a. 120/240 Volt, 1 Phase, 60 Hz;
 - b. 120/208 Volt, 3 Phase, 60 Hz;
 - c. 277/480 Volt, 3 Phase, 60 Hz.

3. The generator shall be capable of starting loads with a transient voltage dip on application of each step not exceeding 15 percent of rated voltage.
 4. The generator shall be close-coupled, open drip-proof, single bearing construction, brushless revolving field, synchronous alternating current type with windings in the pole faces of the rotating field.
 5. The generator shall be supplied with a side mounted terminal box which is designed to accommodate the connections to the load. The terminal box shall be equipped with hardware for padlock.
 6. The rotor assembly shall demonstrate 125 percent over speed capability at 170 degrees C for 2 hours. Rotor dynamic, two plane balance shall not exceed 0.002 inch peak to peak amplitude at operating speed.
 7. All winding insulation materials shall be at least Class F with no more than a Class B temperature rise in accordance with NEMA standards. No materials shall be used which support fungus growth. Materials shall be impervious to oil, dirt, and fumes encountered in diesel engine operating environments.
 8. The alternator shall be brushless, 4 pole, has a minimum of winding insulation Class H and 150 degree C rating.
 9. The generator shall be supplied with permanent magnet generators (PMG) to provide power to the voltage regulator.
- B. Frame: The generator frame shall be fabricated from heavy steel members welded to the end bell or bearing bracket pilot rings. The generator feet shall be welded to the frame. Eye bolts shall be fastened to the generator frame to facilitate lifting of the generator with an overhead hoist. Steel wrapper cover shall enclose the frame assembly.
- C. Stator: The generator stator core shall be constructed of laminated electrical grade steel. The laminations shall be secured under pressure and clamped to steel end rings. Windings shall be inserted into the stator slots and the entire assembly shall be vacuum pressure impregnated with 100 percent epoxy resin. The stator leads shall terminate in standard connection lugs for connection to bus bar terminal assemblies.
- D. Rotor:
1. The shaft shall be machined from high strength steel stock or forging. The mechanical centerline shall be scribed on the drive end for proper alignment.
 2. The spider shall be laminated, and be an integral part of the rotor pole.

3. The poles shall be individually punched of high strength laminations which are held together with rivets or bolts. The field windings shall use insulated copper wires which are wet layer wound on the laminated poles. The wound poles shall be anchored to the spider with specially made tapered keys. Damper bars shall be inserted below the surface of the pole face and shall be welded/brazed to a continuous shorting ring or plate. The rotor assembly shall be shrunk and keyed on the shaft. The rotor shall be dynamically balanced to assure compliance with NEMA vibration limits and long bearing life. A dynamically balanced blower shall be mounted on the shaft at the drive end.

E. Exciter:

1. The generator exciter shall be brushless with the circuit consisting of an inverted synchronous AC generator with the field winding stationary and three-phase armature windings rotating with the generator rotor. The AC output shall be rectified through a three-phase full wave semiconductor bridge rectifier mounted on the rotor shaft.
2. The exciter armature shall be constructed from laminations and riveted under pressure. The three-phase windings shall be inserted in the slots and the entire assembly shall be vacuum pressure impregnated with 100 percent epoxy resin. The exciter armature shall be pressed on a tubing and keyed into position.
3. The three-phase full wave rectifier shall be constructed of three forward and three reverse diodes, and shall be mounted on two separate rings acting as negative and positive polarity heat sinks. The rectifier assembly shall be keyed on the same tubing as the exciter armature. Both the exciter armature and the rectifier assembly shall be dynamically balanced. The sleeve tubing shall be pressed and keyed on the main rotor shaft.
4. The exciter stator shall be constructed of laminations stacked under pressure and welded. Field windings shall be inserted and the entire assembly vacuum pressure impregnated with 100 percent epoxy resin. The stator shall be mounted on the bearing bracket.

F. Permanent Magnet Generator: The permanent magnet generator (PMG) shall provide power to the voltage regulator under all operating conditions regardless of the main generator output. The PMG shall be a single-phase AC generator with rotating permanent magnets providing excitation.

G. Bearings: Provide regreasable type bearings with grease fill and drain ports.

H. Acceptable manufacturers for generator:

1. Baldor/Generac,

2. Marathon Electric,
3. Or equal.

2.15 STANDALONE PARALLEL CONTROL PANEL

- A. The standalone parallel control panel shall be provided if the paralleling function integrated into the mobile diesel generator is not available. Two (2) standalone control panels shall be provided to limit up to two generators connecting into one standalone parallel control panel to limit the output power to 300kw max.
- B. The paralleling controller shall utilize advance micrologic function to perform load management and manage power from parallel generators to match varying load patterns and performing line-to-line sensing, phasing, synchronization, isochronous load sharing, and load shedding
- C. The standalone parallel control panel shall meet the following specifications:
 1. Input voltage source range: 120-600Vac
 2. Load output voltage range: 120-600Vac
 3. Source current limit: 1000A/generator and 2000A total, Max
 4. Operating temperature: 23 to 113degree F
 5. Humidity: 5% to 95%
 6. Comformance: UL
- D. The parallel controller shall have status indications including generator set is connected to bus, voltage from different generators, output power in kW, kVAR, PF, current, and frequency.
- E. The panel shall be equipped with voltage selector switch, color coded Camlock connectors, and control cable connection point. Connectors shall be clearly labeled with weatherproof lacmoid nameplates. Lockable security mechanism for blocking out unused input and output Camlock.
- F. The parallel control panel shall be capable of handling different kW model mobile generators with parallel up to 1000A per generator set.
- G. The standalone parallel control panel shall have enclosure rated for NEMA Type 3R and for outdoor use, forklift pockets, single point lifting eye, and rolling wheels and position locking mechanism for easy job-site placement.
- H. The standalone parallel control panel shall have ground lug and removable neutral/ground bus for application flexibility and all necessary control harness and cables for paralleling the generators.

- I. The standalone parallel control panel shall come equipped with lifting eye and shall be suitable for lifting with forklift or hand truck.

2.16 VOLTAGE REGULATOR

- A. The voltage regulator shall be digital, microprocessor based, with fully programmable operating and protection characteristics. The regulator shall be capable of sensing true RMS voltage in all three phases of the generator output, or operating in single phase sensing mode. The regulator shall exhibit the following operational characteristics:
 - 1. Generator output voltage maintained within +/- 0.25 percent at steady state conditions.
 - 2. Generator output voltage maintained within +/- 0.25 percent of rated value for any load variation between no load and full load.
 - 3. Generator output voltage drift less than +/- 0.25 percent of rated value at constant temperature.
 - 4. Generator output voltage drift less than +/- 0.5 percent of rated value within a 40 degree change in temperature over an ambient temperature range of -40 degrees C to 70 degrees C.
 - 5. Response time of less than 20 milliseconds.
 - 6. Voltage buildup with generator output as low as 6 volts.
 - 7. At full throttle engine starting, the regulator output voltage overshoot shall be less than 5 percent of its rated value with respect to the volts per hertz curve (meets ISO 8325-3 Class G2 Specifications).
 - 8. Power dissipation of 55 watts at 15 amperes under normal operating conditions; less than 55 mA while at rest.
 - 9. Telephone Influence Factor (TIF) of less than 50.
 - 10. Electromagnetic Interference/Radio Frequency Interference (EMI/RFI) suppressed to MIL Standard 461C, Part 9, and VDE 875, level N.
 - 11. Maintain stable voltage control with less than 5 percent total harmonic distortion.
- B. The regulator shall include the following features:
 - 1. A voltage level rheostat to provide generator output voltage adjustment from -10 percent to +10 percent of nominal voltage, in addition to a programmable output voltage level from -25 percent to +25 percent.

2. Automatic gain adjustment to provide output voltage compensation for changes in load or frequency.
 3. Manual gain adjustment from 0 to 10 percent to provide compensation for line losses between generator output terminals and the load.
 4. In parallel mode the system shall adapt power match varying load demand, line and phase sensing, synchronization, and capable of sharing of information among parallel generator sets.
- C. The regulator shall allow system parameter setup and monitoring, and provide fault alarm and shutdown information through a diagnostic interface allowing connection to an external personal computer (not provided). The regulator shall be factory set and field programmable for the following:
1. Voltage output.
 2. Minimum voltage.
 3. Voltage droop/crosscurrent adjustment.
 4. Voltage gain (IR compensation).
 5. Internal voltage gain.
 6. Current output.
 7. Field current variation.
 8. Single or three phase sensing.
 9. Dual voltage/frequency slopes.
 10. Slope intersect (knee) frequency.
 11. Under frequency set point.
 12. Overvoltage trip.
 13. Overvoltage trip time.
- D. The regulator shall include the following alarm and shutdown features:
1. Overvoltage/undervoltage.
 2. Overfrequency/underfrequency.
 3. Overcurrent.
 4. Over Speed.

5. Over Temperature.
 6. Overexcitation.
 7. Loss of excitation.
 8. Rotating diode failure.
 9. Instantaneous overcurrent trip.
 10. Loss of sensing.
 11. Loss of frequency.
 12. EEPROM failure.
- E. The regulator shall be protected against long term overcurrent conditions. Generator output shall shut off when shorted, or when the excitation current exceeds normal values for more than 15 seconds. The regulator shall not be damaged or operate improperly when subjected to an open or shorted input due to sensing loss, or when the sensing source has shorted to ground or an adjacent conductor.
- F. The regulator shall be suitable for operation in a temperature range from -40 degrees C to 70 degrees C.
- G. The regulator shall be salt spray resistant as described by MIL Standard 810-C, Method 509.1 and ASTM B117.
- H. The regulator shall be manufactured by the manufacturer of the engine-generator set.

2.17 HIGH TEMPERATURE INSULATION BLANKETS

- A. General: Exhaust silencer and exhaust piping shall be insulated with high temperature insulation blankets, as required by the manufacturer.

2.18 ENGINE MOUNTED CONTROL PANEL

- A. General: Provide an engine mounted UL 508 listed control panels for local monitoring, control, and indication of engine parameters. Control panels shall be a NEMA Type 3R enclosure or weatherproof, vibration isolated, and approved for NFPA 110 Level 1 system installations.
- B. Panels shall include an LCD display to monitor the following parameters:
1. Speed.
 2. Engine Intake Manifold Temperature.

3. Exhaust Temperature.
4. Engine Oil Pressure.
5. Fuel Pressure.
6. Coolant Temperature.
7. DC battery voltage.
8. Fuel consumption rate.
9. Total fuel consumption.
10. Operating hours.
11. Generator AC Voltage, each phase, line to line, 1 percent accuracy.
12. Generator AC current, each phase, 1 percent accuracy.
13. Generator power, kW total and per phase.
14. Generator power, kVA total and per phase.
15. Generator power, kVAR, total and per phase.
16. Generator power, kWh total.
17. Generator power, kVARh total.
18. Generator power factor, average and per phase.
19. Generator percent of rated power, total.
20. Generator frequency.
21. Real time clock.
22. Stamps event code, hour of first and last, total occurrences.
23. Sensor diagnostics, open, shorted.
24. Fault History.

C. Provide panels with a local annunciator that includes all the safety indicator functions that meets the requirements of NFPA 110, Table 5.6.5.2 – Safety Indications and Shutdowns for Level 1 systems, and include the following additional status/fault indicators and optional shutdowns:

1. Diagnostic LED status indicators, one red, one amber.

2. Engine status indicators, run, auto, stop.
 3. Engine protection alarms with configurable High/Low limits.
 4. High coolant temperature alarm indication.
 5. Any distribution circuit breaker (serving loads within the packaged engine-generator assembly) trip alarm indication.
 6. Low coolant level shutdown.
 7. The battery charger AC failure alarm shall be provided with an adjustable time delay (on delay) with a range of 1 to 999 seconds.
- D. Panels shall accept an external dry contact closure for low fuel main tank safety indication from the aboveground diesel fuel storage tank level monitoring panel. This circuit shall be powered from the generator control system 24VDC batteries, and shall be provided with an adjustable time delay (on delay) with a range of 1 to 999 seconds.
- E. The panel shall include the following controls:
1. Three position lockable switch for the following voltages:
 - a. 120/240 Volt, 1 Phase, 60 Hz;
 - b. 120/208 Volt, 3 Phase, 60 Hz;
 - c. 277/480 Volt, 3 Phase, 60 Hz.
 2. Emergency stop pushbutton (externally mounted on the outside of the sound enclosure).
 3. Three position control switch: Run, Auto, Off.
 4. Lamp test pushbutton.
 5. Alarm acknowledge pushbutton.
 6. Keypad for access to LCD display values.
- F. The panel shall be provided with a minimum of 600VAC and 400A rated Camlock style load connectors in different colors for paralleling and connecting to load. The Camlock connectors shall be sized to carry the maximum current capacity when the generator is performing parallel function.
- G. The panel shall have the following receptacles:
1. Two 20A, 120V, 1 phase, GFCI duplex (includes circuit breakers);

2. Three 50A, 240V, 3-pole, 4-wire twistlock (includes circuit breakers);
- H. The panel shall be provided with an optional programmable relay output module with relay outputs for customer external alarm and status signal interconnections. Relay outputs shall be programmed to provide the following:
1. Generator in auto (two outputs).
 2. Generator running (two outputs).
 3. Battery system common alarm (two outputs).
 4. Generator common alarm (two outputs).
 5. Two spare output contacts minimum.
 6. One output powered from the generator control system 24 VDC batteries to energize the fuel oil solenoid open when the generator is running.
 7. Two outputs powered from the generator control system 24 VDC batteries to energize fuel system anti-siphon solenoid valves to open when the generator is not running.
 8. Two outputs powered from the generator control system 24 VDC batteries to shunt trip the low voltage distribution circuit breakers.
- I. The control panel shall be provided with a Modbus RS-232 or RS-485 serial communication interface port available for customer connection for remote monitor, upload/download historical fault info, and service/maintenance activities.
- J. The panel shall be manufactured by the diesel engine generator set manufacturer.

2.19 LOW VOLTAGE DISTRIBUTION CIRCUIT BREAKERS

- A. Provide generator mounted low voltage distribution circuit breakers. Circuit breakers shall be UL listed, three pole, 600V rated with shunt trip and auxiliary contacts, and shall be capable of being padlocked in the OPEN position or shall be in a padlockable enclosure.
- B. The distribution circuit breakers shall be accessible from the outside of the sound enclosure using pad-lockable doors.

2.20 INSTRUCTION AND NAMEPLATES

- A. The engine and generator shall have corrosion resistant nameplates at a visible location on the generator.

- B. Placards shall be a summary of start-up, running, and shutdown operations for the engine and generator. Each operational step shall be covered by direct or succinct statements.

2.21 DESCRIPTION OF OPERATION

- A. Manual operation: The diesel engine electrical generator shall manually start and stop in response to controls located at the local control panel. Manual operation shall occur in the following steps:
 - 1. To start the engine generator set:
 - a. Place the Engine Control Switch in the "RUN" position.
 - 2. To stop the engine generator set:
 - a. Place the Engine Control Switch in the "STOP" position.
- B. Automatic operation: NONE
- C. Provide an adjustable time delay from 0 to 30 minutes which shall delay the "STOP" signal to the engine generator set so that it may run unloaded after a "STOP" signal is received. The timer circuits shall be active during both manual and automatic operations.
- D. Shutdowns: The diesel engine electrical generator set shall stop immediately, and shall be prevented from starting, after one or more of the shutdown alarms listed in NFPA 110, Table 5.6.5.2 – Safety Indications and Shutdowns for Level 1 systems or any the following alarms have occurred, regardless of the mode of operation (MANUAL or AUTO):
 - 1. High coolant temperature.
 - 2. Low coolant level.
 - 3. Overcurrent.
 - 4. Any distribution circuit breaker trip.

PART 3 - EXECUTION

3.1 GENERAL

- A. Testing and initial startup of the mobile diesel engine generator set equipment shall be supervised by qualified factory-trained manufacturer's employees.

3.2 FACTORY QUALITY CONTROL

- A. General:

1. The mobile diesel engine generator set and all associated equipment and systems shall be factory tested by the manufacturer to demonstrate ability to generate power without distress to any component prior to shipment. Initial factory testing can be unwitnessed.
 2. Witnessed testing shall be performed at the engine-generator set factory or at the engine-generator set certified dealer facility in the United States. The facility shall be capable of making adjustment and repairs of equipment on site, provide load banks, fuel, and labor for Factory Acceptance Test.
 3. Submit detailed test procedures to the DISTRICT for review. Tests shall not begin until the DISTRICT has approved the test procedures.
 4. The SUPPLIER shall give the District two weeks advance notice of witnessed testing. Testing shall consist of no less than one trip, two (2) 8-hour days for the assembled diesel engine generator set systems. The SUPPLIER shall pay for all District travel expenses for three (3) DISTRICT employees related to the inspection and witness testing including hotel fees, airfare, rental car fees, and meals. The travel expenses shall be reimbursed at cost to the SUPPLIER using the Allowance in the bid form. Any unused travel allowance shall be returned to the DISTRICT.
 5. Tests are to determine proper operation and capacity of the equipment and to demonstrate compliance with the specifications. All equipment that fails any test will be rejected, and complete retesting will be required after the manufacturer corrections or modifications to equipment which has previously failed any test.
 6. The equipment shall be tested to assure compliance with the specifications, NEMA MG 1, and the manufacturer's quality control provisions. Provide copies of all factory test reports.
 7. Provide load banks, fuel, test equipment, labor, materials, and all other equipment and services required for all tests.
- B. The following measurements and tests shall be made on the generator and the exciter:
1. Resistance of armature and field windings.
 2. Exciter field current at no load with normal voltage and frequency on the generator.
 3. High potential tests of the generator field windings, exciter armature windings, and exciter field windings.
- C. Load Tests:
1. The engine-generator set shall be tested under load.

2. Demonstrate motor starting capability of the engine-generator. Voltage dips shall be measured and recorded to demonstrate conformity to the specifications. Stepped testing using the skid-mounted load bank is acceptable for purposes of this test.
3. The engine-generator shall be operated for 1/2 hour at one-half the kW rating at 0.8 power factor.
4. The engine-generator shall also operate for four hours continuously at 100 percent of its kW rating at 0.8 power factor. The engine water temperatures shall not exceed manufacturer's recommended operating temperature during this test.
5. The temperature rise of the windings of the generators shall be measured using the embedded temperature detectors.
6. During the load tests, the following parameters shall be recorded at 15 minute intervals:
 - a. Time.
 - b. Water temperature.
 - c. Oil pressure.
 - d. Fuel pressure.
 - e. Exhaust temperature.
 - f. Speed.
 - g. Voltage output (phase-to-phase).
 - h. Amperage (each phase).
 - i. Power factor.
 - j. Kilowatts.
 - k. Generator winding temperature.
 - l. Frequency.

D. Distribution Circuit Breaker Tests:

1. Visual and Mechanical Inspection:
 - a. Compare equipment nameplate data with drawings and specifications.

- b. Inspect physical and mechanical condition.
 - c. Inspect anchorage and alignment.
 - d. Verify the unit is clean.
 - e. Operate the circuit breaker to insure smooth operation.
 - f. Verify tightness of accessible bolted electrical connections by calibrated torque-wrench method in accordance with manufacturer's published data.
 - g. Inspect operating mechanism, and contacts.
 - h. Alarm, Control, and Monitoring Equipment Tests:
 - 2. Each alarm and safety shutdown provision shall be demonstrated by being caused by the abnormal condition unless an alternative test condition has been approved by the DISTRICT prior to the scheduling of the tests.
 - 3. Each protective device, control circuit and monitoring device shall be operated to demonstrate its proper operation.
- E. Batteries and Battery Charger:
 - 1. Inspect and test the batteries and battery charger for conformance with these specifications prior to shipment. The SUPPLIER shall provide factory test procedures for the batteries and battery charger to the District for review and approval in accordance with these specifications.
 - 2. Each protective device, control circuit and monitoring device shall be operated to demonstrate its proper operation.
- F. Parallel Control Panel Test:
 - 1. Load and synchronization test with two (2) generators paralleling.

3.3 DELIVERY

- A. Upon successful completion of the factory witness test and approval of the delivery plan the SUPPLIER shall coordinate with the District to deliver the mobile diesel generators to the following locations:
 - 1. Pump Station H: 4399 Oakport Street, Oakland, CA. 94621
 - a. Two (2) mobile diesel generators with one parallel control panel (if standalone parallel is supplied).
 - 2. Pump Station N: 2755 Isabel Street, Richmond, CA. 94804

- a. Two (2) mobile diesel generators with one parallel control panel (if standalone parallel is supplied).
3. SUPPLIER shall be responsible for unloading all equipment from the transport vehicle(s) to the location designated by the DISTRICT. Any cranes, hoists, or other equipment necessary for unloading shall be the responsibility of the SUPPLIER.

3.4 FIELD TRAINING

A. General:

1. SUPPLIER shall provide factory-trained manufacturer's employees for the diesel engine generator set and the generator set parallel enclosure to be present at the jobsite for the full duration of the field training to DISTRICT engineers and electricians.
2. SUPPLIER shall provide training materials for up to 16 DISTRICT staff.
3. Field training shall be in class and field environments.
4. At minimum training shall include the following topics:
 - a. Theory and operations of the mobile diesel engine electrical generators;
 - b. Theory and operation of the generator set parallel enclosures;
 - c. Interconnection of the mobile diesel engine electrical generators to the parallel enclosures;
 - d. Maintenance of the mobile diesel engine electrical generators and the generator set parallel enclosures;
5. DISTRICT shall provide fuel for the training.

END OF SECTION

MANUFACTURER'S CERTIFICATE OF PROPER CONSTRUCTION

This is to certify that the equipment supplied by (MANUFACTURER'S NAME) and described as (NAME OF EQUIPMENT) has been constructed in accordance with manufacturer's recommendations. The equipment was inspected by an authorized manufacturer's representative on (DATE) and has been serviced with the proper initial lubricants and is free from any undue stress. Applicable safety equipment has been properly constructed and proper electrical and mechanical connections have been made. Proper adjustments have been made and the equipment is ready for operation. All reports have been submitted to the DISTRICT and the equipment and or system is certified for field testing and startup.

Authorized Manufacturer's
Representative

SUPPLIER's Representative

Title

Date

Title

Date

MANUFACTURER'S CERTIFICATE OF FUNCTIONAL TESTING ASSISTANCE

Functional testing, including checks for proper rotation, alignment, speed, excessive vibration, and noisy operation has been performed, and the equipment has been operated under full-load conditions and is ready for full-time operation. Controls, protective devices, instrumentation, and control panels are properly installed and calibrated. The control logic for startup, shutdown, sequencing, interlocks, etc. has been tested and is properly operating. This testing, including initial equipment and system adjustment and calibrations, was performed in the presence of the manufacturer's representative on (DATE).

Authorized Manufacturer's
Representative

SUPPLIER's Representative

Title

Date

Title

Date