

University of South Carolina

Belle W. Baruch Marine Field Laboratory

Georgetown, SC

DM12 COLUMBIA CAMPUS BARUCH GENERATOR REPLACEMENT

PROJECT NUMBER: H27-6100 / CP00400065

March 27, 2014

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Project Number: H27-6100 / CP00400065

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SE-311 Invitation for Minor Construction Quotes

SCBO NOTES 2, 4 and 5 APPLY TO THIS INVITATION FOR QUOTES

PROJECT NAME: DM12 COLUMBIA CAMPUS BARUCH GENERATOR REPLACEMENT

PROJECT NUMBER: CP00400065 PROJECT LOCATION: Baruch Marine Lab, Georgetown SC

BID SECURITY REQUIRED? Yes No

PERFORMANCE BOND REQUIRED? Yes No

PAYMENT BOND REQUIRED? Yes No CONSTRUCTION COST RANGE: \$30,000 - \$40,000

DESCRIPTION OF PROJECT:

Remove existing 45 Kw Kohler LP gas powered generator and replace with a new 60 Kw LP gas Powered Generator in the same location. The generator location is on the roof in the mechanical well of the Baruch Marine Research Facility located in Georgetown SC. This project requires a complete turnkey installation of the new generator to include all electrical, and mechanical required to be the 60 Kw online and in full operation. The existing transfer switch will need to be replaced with new 225 Amp ATS 208 Volt 3 phase neutral bar.

A/E NAME: University of South Carolina A/E CONTACT: Dwight Cathcart, USC PM
ADDRESS: 743 Greene Street PHONE: 803-777-9824 Fax: 803-777-8739
CITY: Columbia STATE: SC ZIP: 29208 E-MAIL: dcathcar@fmc.sc.edu

PLANS ON FILE AT: AGC: _____
DODGE: _____
OTHER: _____

PLANS MAY BE OBTAINED FROM: http://purchasing.sc.edu (See Facilities Construction Solicitations & Awards)

PLAN DEPOSIT AMOUNT: \$0.00 IS DEPOSIT REFUNDABLE? Yes No

PRE-QUOTE CONFERENCE? Yes No MANDATORY ATTENDANCE? Yes No

DATE: 4/10/2014 TIME: 10:30 am PLACE: 22 Hobcaw Rd. Georgetown SC 29440 Discovery Center

AGENCY: University of South Carolina

NAME AND TITLE OF AGENCY COORDINATOR: Juaquana Brookins, Procurement Specialist II

ADDRESS: 743 Greene Street PHONE: 803.777.3596 Fax: 803.777.3596

CITY: Columbia STATE: SC ZIP: 29208 E-MAIL: jbrookin@fmc.sc.edu

IFQ CLOSING DATE: 4/17/2014 TIME: 2pm LOCATION: 743 Greene St. Col. SC 29208

IFQ DELIVERY ADDRESSES:

HAND-DELIVERY:

See Mail

MAIL SERVICE:

ATTN: Juaquana Brookins
University of South Carolina/Bid Enclosed
743 Greene Street, Columbia SC 29208

IS PROJECT WITHIN AGENCY CONSTRUCTION CERTIFICATION? (Agency MUST check one) YES NO

APPROVED BY: _____ (State Engineer) _____ (Date)

SE-331
Quote Form

2011 Edition

Quotes shall be submitted only on SE-331

QUOTE SUBMITTED BY: _____
(Offeror's Name)

QUOTE SUBMITTED TO: University of South Carolina
(Agency Name)

FOR PROJECT: CP0040065 DM12 COLUMBIA CAMPUS BARUCH GENERATOR RE
(Number) (Name)

OFFER

1. In response to the Form SE-311, *Request for Minor Construction Quotes*, and in compliance with the *Instructions to Bidders* for the above-named Project, the undersigned **OFFEROR** proposes and agrees, if this Quote is accepted, to enter into a Contract with the **AGENCY** in the form included in the Solicitation Documents, and to perform all Work as specified or indicated in the Solicitation Documents, for the prices and within the time frames indicated in the Solicitation and in accordance with the other terms and conditions stated.

2. Pursuant to Section 11-32-3030(1) of the SC Code of Laws, as amended, **OFFEROR** has submitted Bid Security as follows in the amount and form required by the Solicitation Documents:

Bid Bond with Power of Attorney Electronic Bid Bond Cashier's Check
(OFFEROR check one, if Bid Security is required)

3. **OFFEROR** acknowledges the receipt of the following Addenda to the Solicitation documents and has incorporated the effects of said Addenda into its Quote:

ADDENDUM No: _____

4. **OFFEROR** agrees that this Quote, including all bid alternates, if any, may not be revoked or withdrawn after the opening of bids, and shall remain open for acceptance for a period of 30 Days following the Quote Date, or for such longer period of time that **OFFEROR** may agree to in writing upon request of the **AGENCY**.

5. **OFFEROR** agrees that from the compensation to be paid, the **AGENCY** shall retain as Liquidated Damages the amount of for each calendar day the actual construction time required to achieve Substantial Completion exceeds the specified or adjusted Contract Time for Substantial Completion, as provided in the Contract Documents.

6. **OFFEROR** herewith submits its offer to provide all labor, materials, equipment, tools of trades and labor, accessories, appliances, warranties and guarantees, and to pay all royalties, fee, permits, licenses and applicable taxes necessary to complete the following items of construction work:

6.1 **BASE BID** _____
(enter BASE BID in figures only)

6.2 **ALTERNATE NO. 1** _____ to be ADDED/DEDUCTED from BASE BID.
(circle one)

6.3 **ALTERNATE NO. 2** _____ to be ADDED/DEDUCTED from BASE BID.
(circle one)

FEIN/SSN: _____

SC Contractor's License Number: _____

Address: _____

Telephone/Fax _____

E-mail _____

This Quote is hereby submitted on behalf of the Offeror named above.

BY: _____
(Signature of Offeror's Representative)

(Print or Type Name of Offeror's Representative)

ITS: _____

USC SUPPLEMENTAL
CONDITIONS FOR WORK AT THE HOBCAW BARONY, GEORGETOWN S.C.

1. Contractor's employees shall take all reasonable means not to interrupt the flow of student traffic in building corridors, lobbies and stairs. All necessary and reasonable safety precautions shall be taken to prevent injury to building occupants while transporting materials and equipment through the building to the work area. Providing safe, accessible, plywood pedestrian ways around construction may be required if a suitable alternative route is not available.
2. Fraternalization between Contractor's employees and USC students, faculty or staff is strictly prohibited - zero tolerance!
3. USC will not tolerate rude, abusive or degrading behavior on the job site. Heckling and cat-calling directed toward students, faculty or staff or any other person on USC property is strictly prohibited. Any contractor whose employees violate this requirement will be assessed a fine of up to \$500 per violation.
4. Contractor's employees must adhere to the University's policy of maintaining a drug-free and smoke-free/tobacco free workplace.
5. Contractor must sign a Contractor Key Receipt/Return form before any keys are issued. Keys must be returned immediately upon the completion of the work. The Contractor will bear the cost of any re-keying necessary due to the loss of or failure to return keys.
6. A welding permit must be issued by the Resident Safety Officer before any welding can begin inside a building. Project Manager will coordinate.
7. Contractor must notify the University immediately upon the discovery of suspect material such as those potentially containing asbestos or other such hazardous materials. These materials **must not** be disturbed until approved by the USC Project Manager.
8. At the beginning of the project, the USC Project Manager will establish the Contractor's lay-down area. This area will also be used for the Contractors work vehicles. No personal vehicles will be allowed in this area, or in any areas surrounding the construction site that are not regular or authorized parking lots. Personal vehicles must be parked in the perimeter parking lots. The lay down area will be clearly identified to the contractor by the PM, with a sketch or drawing provided to Parking. In turn, the contractor will mark off this area with a sign containing the project name, PM name, Contractor name and contact number, and end date. Where this area is subject to foot traffic, protective barriers will be provided as specified by the PM. The area will be maintained in a neat and orderly fashion. Note that access to the freight lift, wheelchair lift, handicap parking spaces, and the driveway to the well house and fire hydrant at the south end of the building must be kept free at all times.
9. Contractor will be responsible for providing its own temporary toilet facilities.

10. Use of USC communications facilities (telephones, computers, etc.) by the Contractor is prohibited, unless prior arrangements are made with the USC Project Manager.
11. For all projects over \$100,000, including IDC's, an SE-395, Contractor Performance Evaluation, will be completed by the USC Project Manager and reviewed with the GC at the beginning of the project and a copy given to the GC. At the end of the project the form will be completed and a Construction Performance rating will be established.
12. Contractor is responsible for removal of all debris from the site, and is required to provide the necessary dumpsters which will be emptied at least one (1) times per week. Construction waste must not be placed in University dumpsters. The construction site must be thoroughly cleaned with all trash picked up and properly disposed of on a daily basis and the site must be left in a safe and sanitary condition each day. The University will inspect job sites regularly and will fine any contractor found to be in violation of this requirement an amount up to \$1,000.00 daily per violation.
13. Contractor must provide all O&M manuals, as-built drawings, and training of USC personnel on new equipment, controls, etc. prior to Substantial Completion. Final payment will not be made until this is completed.
14. Tree protection fencing is required to protect existing trees and other landscape features to be preserved within a construction area. The limits of this fence will be evaluated for each situation with the consultant, USC Arborist and USC Project Manager. The tree protection fence shall be 6' high chain link fence unless otherwise approved by USC Project Manager. No entry or materials storage will be allowed inside the tree protection zone. A 3" layer of mulch shall be placed over the tree protection area to maintain moisture in the root zone if USC Arborist determines that construction may decrease amount of moisture needed to sustain health of tree(s).
15. All large vehicle traffic to include cranes and material deliveries need to be coordinated with the USC Project Manager or designated official on site. Preferred access of such vehicles will be identified to the contractor as required before access will be granted. A path of minimum size must always be used and marked to reduce the damage to the lawn and landscaping. Items on the property damaged due to unnecessary vehicle traffic will be repaired or replaced at the contractor's expense.
16. Contractor shall water trees and other landscape material as directed by USC Arborist until site is returned to Owner.
17. Where it is necessary to cross walks, tree root zones (i.e., under canopy) or lawns the following measures shall be taken: For single loads up to 9,000 lbs., a 3/4" minimum plywood base shall be placed over areas impacted. For single loads over 9,000 lbs., two layers of 3/4" plywood is required.
18. For projects requiring heavy loads to cross walks, tree root zones or lawns on a regular

basis (as determined by USC Project Manager), a construction entry road consisting of 10' X 16' oak logging mats placed on 12" coarse, chipped, hardwood base. Mulch and logging mats shall be supplemented throughout the project to keep matting structurally functional.

19. Any damage to existing landscaping (including lawn areas) will be remediated at Contractor's expense before final payment is made.
20. Any damage to existing conditions, including but not limited to, of the attic space framing and ductwork, will be remediated at the Contractor's expense at the time of such occurrence and before final payment.
21. All power outages or shut-downs for the transferring of electrical feeds to associated equipment from the existing panels to the new panels are to be coordinated with the USC Project Manager and USC's on site staff. The Contractor is to provide a minimum of 72 hours notice and such work may be required to be done outside of regular working hours (after 4pm) or during the weekend in accordance with USC's requirements with ongoing research and functions occurring within the building during the duration of the project scope. The Contractor is to prepare and provide a phasing plan associated with the anticipated electrical shut downs.
22. The interior spaces of the building are to be protected against storm water intrusion during the project duration. The Contractor is to prepare and provide a phasing plan associated with the sequencing of exposed areas of the roof or provide means of an effective secondary roofing system during the replacement of the existing roof assembly.

Contractor Vehicle Requirements on Campus

1. This project is located on the private property of the Belle W. Baruch Foundation (BWBF). All who access the site are subject to the rules and regulations of the BWBF. Access to the site is through an electronic gate off the main entrance. All contractors and subcontractors will need to sign for cards allowing access to the site. All motorized vehicles on the University campus are expected to travel and park on roadways and/or in parking stalls.
2. All motorized vehicles that leak or drip liquids are prohibited from entering the area. This is an environmentally protected and sensitive research site. No fuel or other potentially hazardous material will be stored on site. All precautions and effort must be taken to ensure that such substances are not spilled when in use. All materials and containers must be removed from the site immediately and all areas must be cleaned at the end of each working day.
3. Contractors, vendors, and delivery personnel are required to obtain prior parking authorization before parking in a designated space. Parking and storage space will be designated by USC Project Manager and or on site officials.
4. Drivers of equipment or motor vehicles that damage university hardscape or landscape

will be held personally responsible for damages and restoration expense. Special provisions will be communicated to the contractor when traversing the single lane access road.

5. Vehicle drivers who park on landscape or drives must be able to produce written evidence of need or emergency requiring parking on same.
6. All vehicles parked on landscape, hardscape, or in the process of service delivery, must display adequate safety devices, i.e. flashing lights, cones, signage, etc.
7. All drivers of equipment and vehicles will be respectful of University landscape, equipment, structures, fixtures and signage.
8. All incidents of property damage will be reported to Parking Services or the Work Management Center.

Project Name: DM12 COLUMBIA CAMPUS BARUCH GENERATOR REPLACEMENT

Project Number: CP0040065

University of South Carolina

CONTRACTOR'S ONE YEAR GUARANTEE

STATE OF _____

COUNTY OF _____

WE _____
as General Contractor on the above-named project, do hereby guarantee that all work executed under the requirements of the Contract Documents shall be free from defects due to faulty materials and /or workmanship for a period of one (1) year from date of acceptance of the work by the Owner and/or Architect/Engineer; and hereby agree to remedy defects due to faulty materials and/or workmanship, and pay for any damage resulting wherefrom, at no cost to the Owner, provided; however, that the following are excluded from this guarantee;

Defects or failures resulting from abuse by Owner.

Damage caused by fire, tornado, hail, hurricane, acts of God, wars, riots, or civil commotion.

[Name of Contracting Firm]

*By _____

Title _____

*Must be executed by an office of the Contracting Firm.

SWORN TO before me this
_____ day of _____, 20____ (seal)

_____ State

My commission expires _____

DIVISION 1 – GENERAL REQUIREMENTS

University of South Carolina

Belle W. Baruch Marine Field Laboratory, Georgetown, SC

DM12 COLUMBIA CAMPUS BARUCH GENERATOR REPLACEMENT

H27-6100 / CP00400065

Furnish and Install One (1) 60 KW LP Gas Powered Commercial Generator

General Description – The University of South Carolina is accepting bids for the removal of an existing 45 KW Kohler gas powered commercial generator and the installation of a new 60 KW LP gas powered commercial generator in the same location. This project is located at the Belle W. Baruch Marine Research Laboratory in Georgetown, South Carolina. This facility was constructed in 1991 and is a wooden structure on timber piles directly off the east coast. The generator to be replaced is located on the roof in the mechanical well. This project requires a complete turnkey installation of the new generator in the same location as the old. Also included are all the necessary electrical and mechanical items required to bring the new 60 KW generator online and in full operation. The existing transfer switch will need to be replaced to handle the additional amperage of the increased 60 KW generator.

The Contractor will be responsible for the following:

Removal & Disconnection:

- Existing 45 KW Kohler generator along with weather protective housing unit from the roof and dispose of following all EPA regulation. This use of a commercial crane will be required for both the removal and install and must be included in bid.

- Disconnect existing unit from all power supplies and fuel lines and prep existing lines for installation of new unit. If any electrical service line connections, or LP fuel line connections at the point of hook up and disconnect need to be modified or replaced due to wear and tear or they no longer meet code it is the contractors responsibility to supply all components, or connections needed for proper hook up.
- Disconnect all LP gas lines directly at the generator. The existing LP lines are supplied by a 500 gallon Amerigas Tank located behind the building near the freight elevator. No repairs or modifications are required on the supply tank.
- Remove newly installed vibration isolators / seismic cleats from old generator and reuse on new generator if possible.
- The roof system was recently redone so any and all penetrations must be sealed to include abandoned penetrations following the removal of the old 45 KW generator.

Furnish and Install the following:

- New 60 KW LP Gaseous Powered Generator.
- Include installation of new aluminum weather protective housing rated for coastal environments.
- New 225 amp ATS 208 volt three phase transfer switch with neutral bar and delayed transition with digital readout amps and volts per phase.
- Include with generator new control console
- Any modifications to the existing curb required for new generator must first be approved by owner.
- Include all labor, materials, and equipment necessary to remove the existing generator, and install the new 60 KW LP generator with new transfer switch for complete start-up operation. Heavy equipment may be needed to remove existing 45 KW generator and install new unit. Any cost associated with leasing, or renting equipment to include any cost associated with the licensed operator must be included within bid.

- Should a crane be used, the operator must be properly licensed and the crane must have all necessary documents to include recent load test in order to be used on government property.
- Include within your bid issuing to the owner all service manuals along with the time required to cross train one facility staff member on digital controls and basic service requirements for the new generator.
- Include a one-year labor and parts warranty.
- Include one year maintenance and service contract that allows for 4 service visits (quarterly) to test and run the system.
- Include 5-year Manufacturer's warranty of generator submitted with bid.
- Contractor must provide three references on projects completed of similar complexity and magnitude.
- Contractor must submit proposed schedule of installation to include completion date.
- Contractor must possess all required certifications, licenses, and insurance to perform this work.
- The entire membrane roof system was replaced in July of this year and must not be damaged in any way. Any damages due to this work will be the responsibility of the contractor to repair.
- Contractor is responsible for any and all damages to sidewalks, buildings, roof, landscaping, etc. as a result of negligence.

Minimum System Specification Requirements:

NOTE: THE PROPOSED GENERATOR UNIT MUST MEET OR EXCEED THE MINIMUM SPECIFICATIONS OF A 60 KW LP GAS POWERED COMMERCIAL GENERATOR LISTED BELOW. SHOULD ANY INFORMATION CONTAINED IN THIS DOCUMENT CONFLICT WITH STANDARD SPECIFICATIONS THE CONTRACTOR HAS THE RESPONSIBILITY TO MEET OR EXCEED THE PERFORMANCE SPECIFICATIONS LISTED BELOW.

SUBSTITUTIONS ARE ALLOWED BUT MUST BE APPROVED AND ACCEPTED BEFORE ANY AWARD CAN BE ISSUED.

Performance:

- Rated 62 KW, 78 Kva @ 0.8 PF, 120/208 VAC, 3 phase, 60 Hz
- LP Gas Engine Driven Generator System
- UL 2200 Listed
- EPA certified for stationary emergency applications
- Self-ventilating and drip proof construction
- Electrical engine ignition system
- Unit mounted radiator
- Low coolant level shutdown
- Engine block heater, 1500 watts, 120 volts
- Flexible fuel line
- Weather protective Housing (Aluminum), sound attenuated to 69Db @ 23 ft
- Critical exhaust system
- Tail pipe and rain cap
- New Battery rack and cables
- Starting batteries – lead acid
- Battery charging alternator
- System battery charger, 12 VDC 6amp, float type
- Electronic / Isochronous governor
- Reuse existing vibration isolators between engine and skid base unless they come manufactured to generator.
- Skid end caps.
- Oil drain extension with valve.

Control Console Requirements / User Interface Control Components:

- Digital display with push button dial
- Remote communication thru PC via network
- Built-in alternator thermal overload protection.
- Shows average current & power metering along with the following:
 - Frequency
 - Total Power, VA and W
 - Rated power
 - Total system voltage
 - Voltage for all phases
 - Engine run time total hours
 - Engine loaded hours
 - Number of starts
 - Total energy kWh
- Emergency stop switch
- Backlit LCD digital display
- Alarm horn with warning faults
- Off/Reset button
- Indicators for Auto / Run

Engine Functions:

- V-8 with Over crank
- Compressor ratio 9.1:1
- Piston speed m/min. ft./min. = 318 (1044)
- Cast iron cylinder head
- Rated RPM 1800
- Max power at rated RPM kW = 78 (105)
- Electric Governor
- Low /High coolant temperature warning
- High coolant temperature shutdown
- Low oil pressure warning
- Low oil pressure shutdown
- High engine speed
- EPS supplying load
- High & Low battery voltage
- Audible alarm silence button
- Centrifugal water pump

Electrical Transfer Switch:

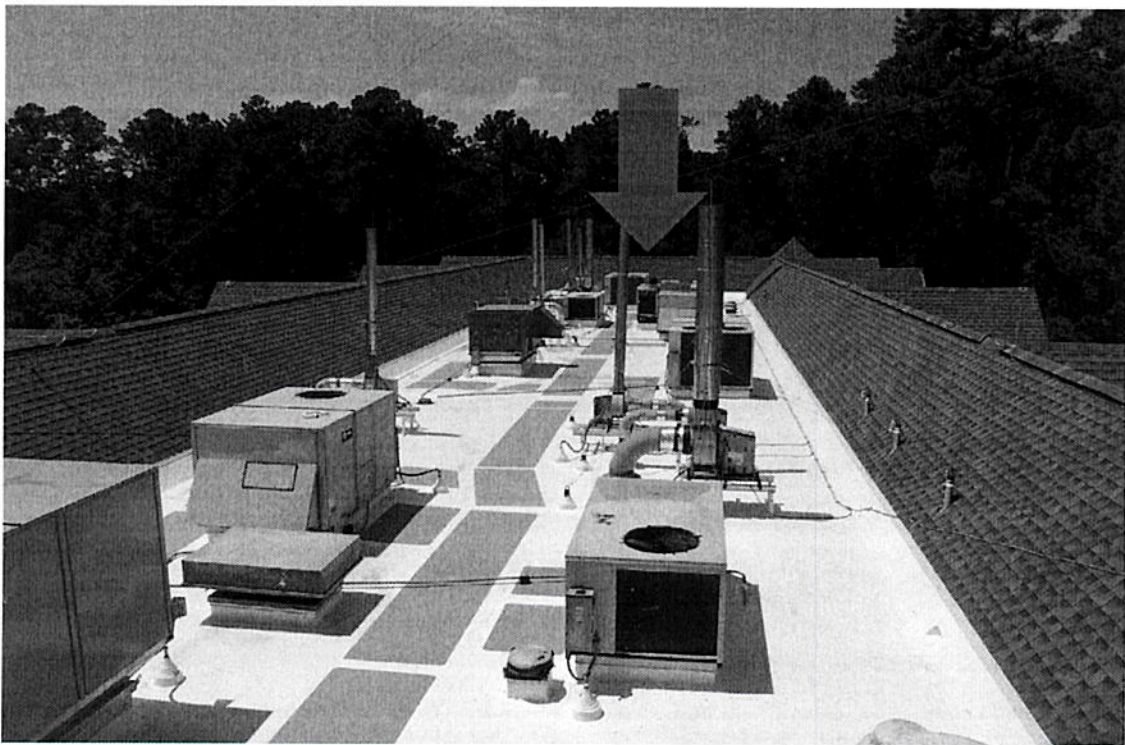
- New 225 Amp ATS 208 volt three phase with neutral bar and delayed transition with digital readout amps and volts per phase.

Failure to include the generator system manufacturer's specification data sheet along with required transfer switch data sheet with bid will disqualify your bid as being non-responsible. The unit specifications shall include all data provided for the unit submitted with bid

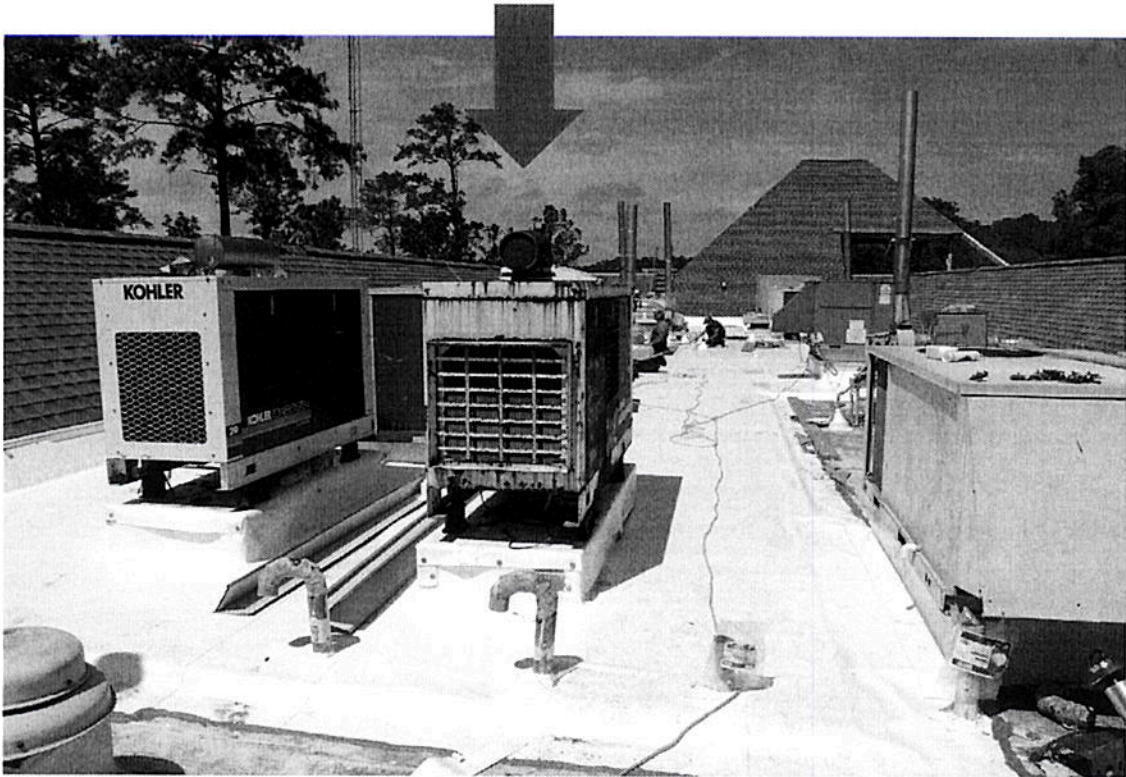
Any contractors requesting to make a site visit may contact Paul Kenny at (843) 904-9028.



FRONT VIEW OF MARINE RESEARCH FACILITY. RED ARROW SHOWS GENERATOR LOCATION



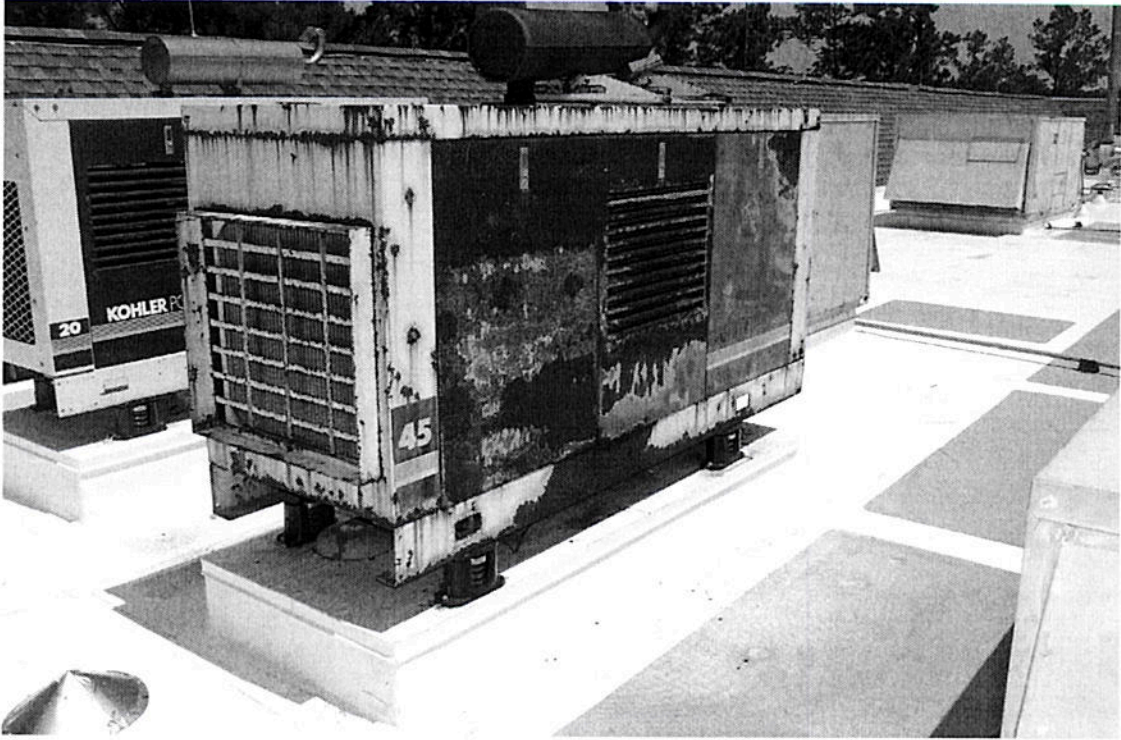
OVER HEAD VIEW OF MECHANICAL WELL ON ROOF. RED ARROW SHOWS GENERATOR LOCATION



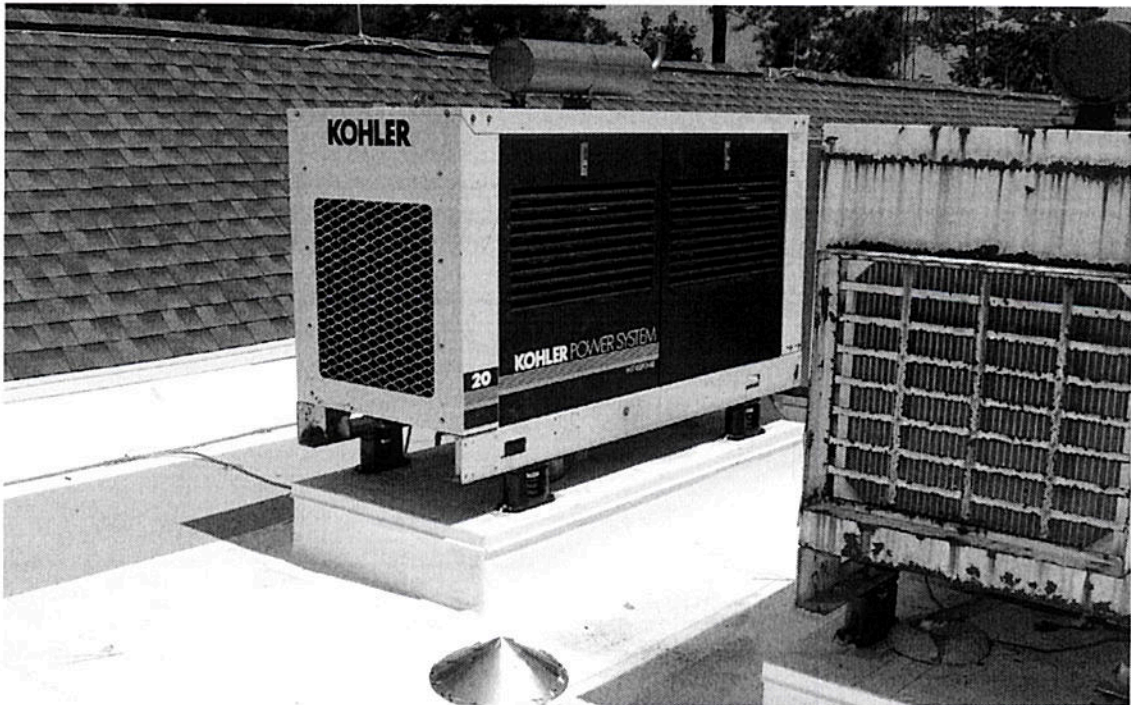
Existing 20 Kw to remain. 45 kW identified by red arrow to be replaced



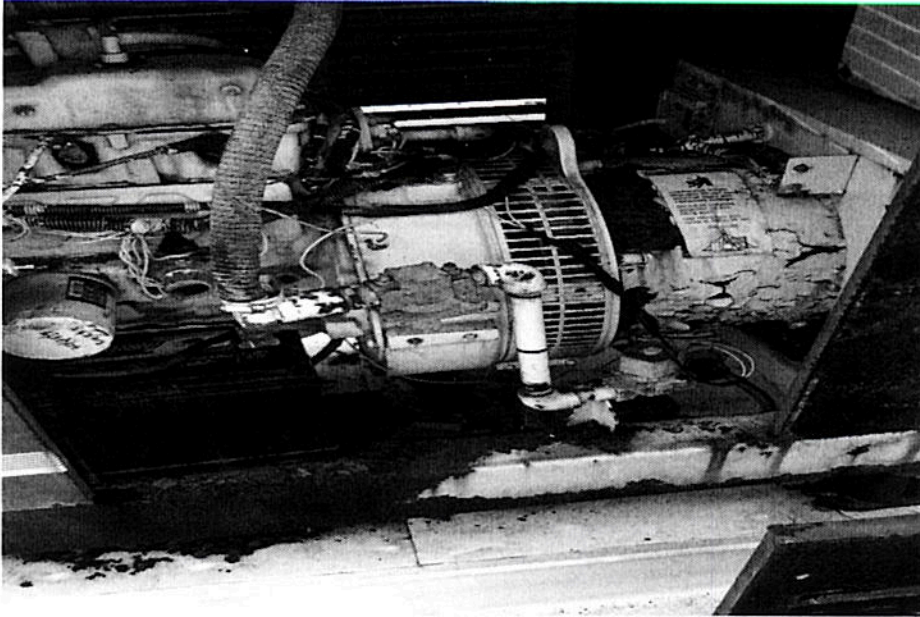
POSSIBLE LOCATION FOR CRANE LOCATED ON THE SIDE OF BUILDING



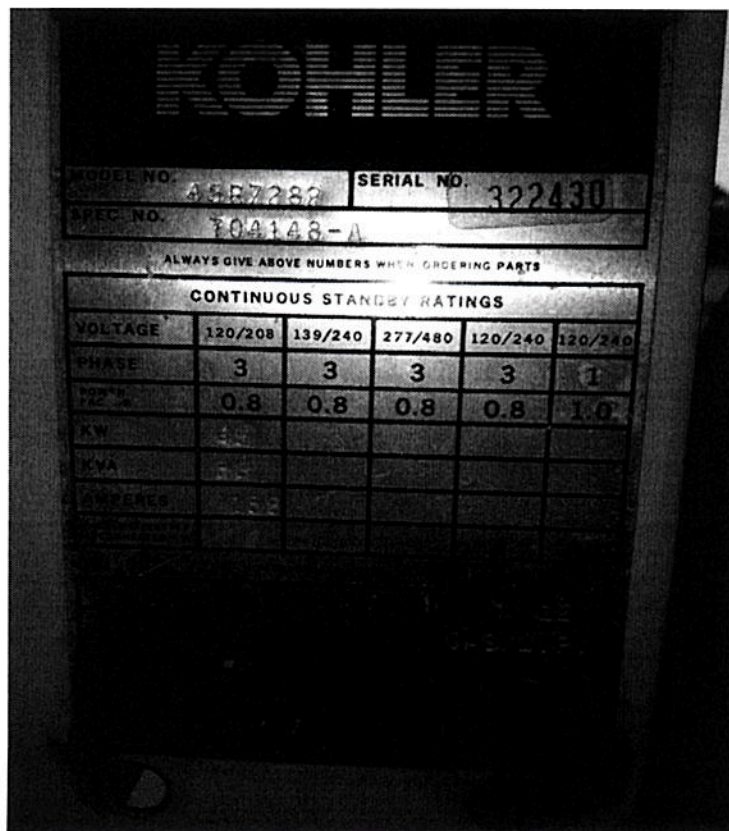
CLOSE UP VIEW OF 45 KW TO BE REPLACED. NOTICE NEW VIBRATION ISOLATORS TO BE REUSED



CLOSE UP VIEW OF 20 KW TO REMAIN



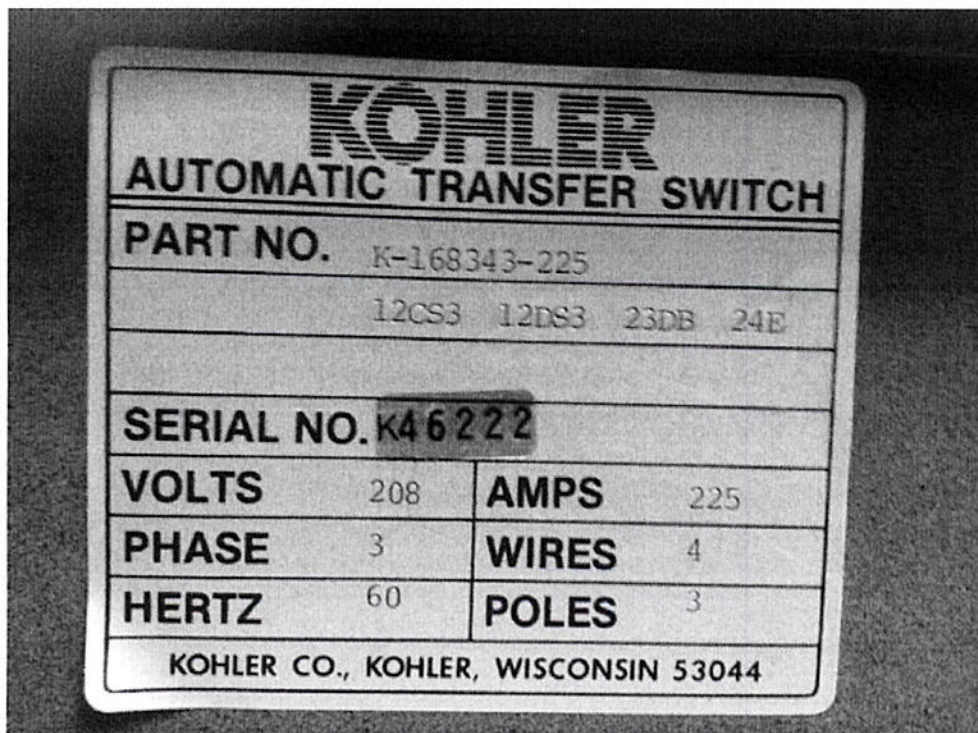
INSIDE VIEW OF 45 KW TO BE REPLACED



INFORMATION DATA PLATE INSIDE UNIT



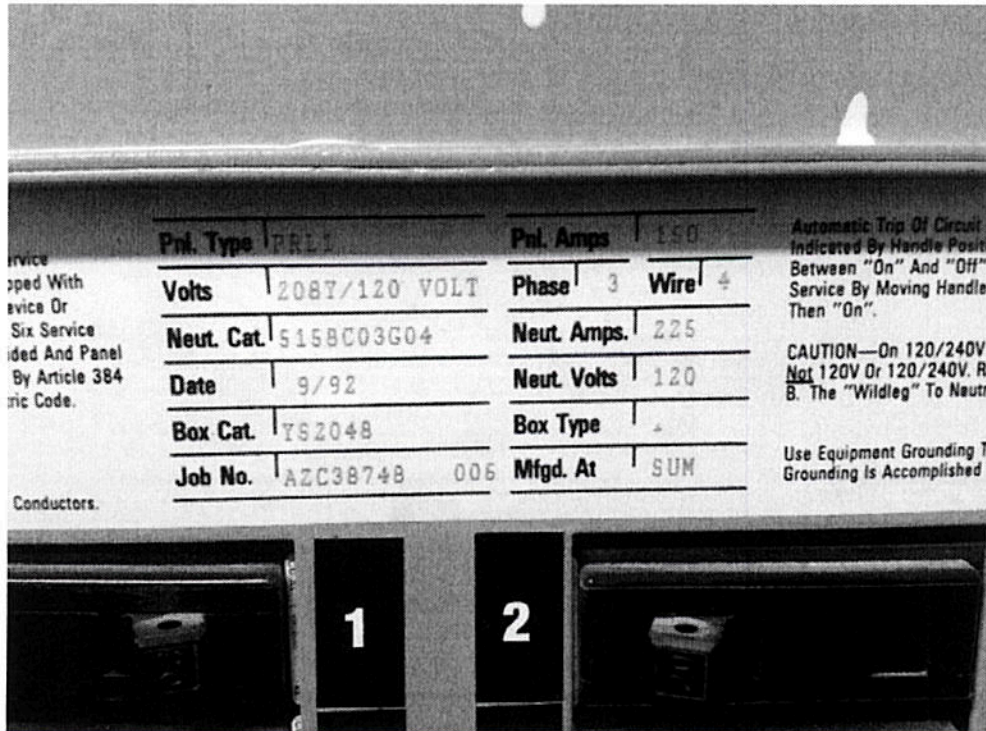
EXISTING TRANSFER SWITCH TO BE REPLACED



DATA PLATE ON INSIDE OF TRANSFER SWITCH



EXISTING 150 AMP PANEL



EXISTING 150 AMP PANEL

CIRCUIT DIRECTORY *ELI*

1 OUTSIDE LIGHTING	2 EMERG. RECPS. RM 130, 131
TIME CLOCK	
3 EMERGENCY LIGHTING	4 EMERG. RECPS. RM 129
<i>EXIT + HALL + CORRIDOR LIGHTS</i>	
5 WHEEL CHAIR LIFT	6 EMERG. RECPS. RM 127, 128
7 EMERG. RECPS. RM 136	8 EMERG. RECPS. RM 101
9 EMERG. RECPS. RM 137, 138	10 EMERG. RECPS. RM 121, 122
11 EMERG. RECPS. RM 135	12 EMERG. RECPS. RM 154, 155
13 EMERG. RECPS. RM 133, 134	14 EMERG. RECPS. RM 153, 156
15 EMERG. RECPS. RM 132	16 EMERG. RECPS. RM 152, 155
17	18 EMERG. RECPS. RM 151
19 <i>Rec Room 129 SAME</i>	20 EMERG. RECPS. RM 151 155
<i>For Insulation Rec</i>	<i>NRW behind - 90</i>
21 <i>Rec Room 129 SH/Kennel</i>	22
23 EL-2 GENERATOR	24
25 EL-2 GENERATOR	26
27 EL-2 GENERATOR	28 KITCHEN REFRIGERATOR
29 WALK-IN COOLER	30 KITCHEN REFRIGERATOR
<i>Room 151</i>	
31	32 <i>same Rec Room 129</i>
	<i>for Insulation</i>
33 WALK-IN FREEZER	34 <i>same</i>
35	36 SPACE EMERG. RECPS. RM 155
37 COLD ARCHIVE COOLER	38 SPACE EMERG. RECPS. RM 155
39	40 EMERG RECPS RM 155
41 <i>SPACE NERN EXTN</i>	42 EMERG RECPS RM 155
<i>Hall lights</i>	

TT4836THOT

Product Information and Installation Instructions

FORM
A-26592-3

Spring Floor Mount Vibration Isolators

Grainger Stock Numbers	Mason Model Numbers	Capacity Range (lbs)	Deflection Range (inches)	A	L	W	H	T	SW	HCL	HCW	Max Bolt MBD	SBC	Bolt Diam. & Length(in)	Spring Color
SC126A	CA-75	35-75	0.75-1.50												
SC127A	CA-125	76-125	0.75-1.33												Orange
SC128A	CA-200	130-200	0.75-1.15												Brown
SC129A	CA-310	230-310	0.75-1.00	4	5 3/4	2 1/8	4 1/2	1/2	5/16	4 3/4	1	1/4	5	3/8 x 3 1/2	Black
SC130A	CA-400	300-400	0.75-1.00												Yellow
SC131A	CA-510	380-510	0.75-1.00												Green
SC132A	CA-625	460-625	0.75-1.00												Red
SC133A	CB-750	500-750	0.75-1.12												White
5XR50	CB-1000	750-1000	0.75-1.00	5 3/4	8 1/4	2 3/4	5 5/8	1/2	7/16	6 1/2	1 1/2	3/8	7 1/4	1/2 x 4	Blue
SC136A	CB-1250	940-1250	0.75-1.00												Gray
SC137A	CB-1650	1240-1650	0.75-1.00												Black
5XR51	CC-2100	1575-2100	0.75-1.00	6 5/8	8 7/8	3 1/2	5 5/8	9/16	7/16	7 1/4	1 3/4	3/8	7 7/8	5/8 x 4 1/2	Yellow
5C140A	CC-2650	1990-2650	0.75-1.00												Red

Supporting surfaces must be flat and level under mounts.

- Place mountings under equipment bolt holes.
- Insert adjustment bolts until bolt strikes steel cup above springs. Lock nut should be 1-1/2" clear.
- Take 6 complete clockwise (downward) turns on all adjustment bolts. It is very important that

mounts are adjusted uniformly. Continue with 2 complete turns on all mounts until one or more mounts shows a clearance of 1/4". Stop adjusting those mounts. Continue 2 turns at a time with the others until all show 1/4" clearance.

- Additional turns may be taken at the low corner or side to level equipment.
- Tighten lock nuts against equipment base when adjustments are completed.
- There is generally no need to bolt the mountings to the floor as the friction pad will keep them in place.

Floor Mount Seismic and Wind Vibration Isolators

Grainger Stock Numbers	Mason Model Numbers	Capacity Range (lbs)	Deflection Range (inches)	Maximum Horizontal G Rating	H	L	T	W	BD	CS	HCL	Spring Color
5XR76	SLRA-75	35-75	0.75-1.50	10.7								
5XR70	SLRA-125	76-125	0.75-1.33	6.4								Orange
5XR71	SLRA-200	130-200	0.75-1.15	4.0								Brown
5XR72	SLRA-310	230-310	0.75-1.00	2.6	5 1/8	8 3/4	1 5/8	2 1/2	3/8	3/8 x 1	6	Black
5XR73	SLRA-400	300-400	0.75-1.00	2.0								Yellow
5XR74	SLRA-510	380-510	0.75-1.00	1.6								Green
5XR75	SLRA-625	460-625	0.75-1.00	1.3								Red
5XR66	SLR2A-800	600-800	0.75-1.00	1.3								White
5XR64	SLR2A-1020	765-1020	0.75-1.00	1.0	5 1/8	11 5/8	1 3/4	2 1/2	3/8	3/8 x 1	8 3/4	Green
5XR65	SLR2A-1250	940-1250	0.75-1.00	0.8								Red
5XR67	SLR4A-1600	1200-1600	0.75-1.00	1.3								White
5XR68	SLR4A-2040	1530-2040	0.75-1.00	1.0	5 1/8	11 1/8	1 3/4	4 1/2	1/2	1/2 x 1 1/4	8	Green
5XR69	SLR4A-2500	1875-2500	0.75-1.00	0.8								Red

NOTE: All Steel Springs are made in U.S.A.

- If isolators are installed indoors in non seismic areas there is no need to bolt them down as the friction pad on the bottom will keep them in place.
- In seismic or wind resistant applications remove the two end bolts. Reverse them and use them to bolt to inserts in the floor or holes in steel. If too short, replace with bolts of the same diameter.
- Remove "CS" cap screw and washer. Place equipment on mountings and reinstall "CS" cap screw loosely.
- Mountings are slightly precompressed. When equipment weight is on the mountings, the inside housing will rest on the bottom.
- Take 2 full counterclockwise turns on each adjustment bolt and continue to do so until there is a clearance of 1/2" between the inside of the base and the bottom of the interior steel on one mount.
- Continue taking 2 full turns on the other mounts until each has the 1/2" clearance. Stop adjusting any mount when you have this clearance.
- Mountings must be adjusted uniformly.
- Maximum additional adjustment for leveling is 1/4".
- Lock "CS" cap screw to adjustment bolt.

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VIBRATION ISOLATOR DETAIL