

Goodwyn Mills Cawood
1219 Wayne Street
Columbia, SC 29201

ADDENDUM NO. 2

The following items shall take precedence over the drawings and specifications for the above-named project and shall become a part of the contract documents. Where any item called for in the specifications, or indicated on the drawings, is not supplemented hereby, the original requirements shall remain in effect. Where any original item is amended, voided or superseded hereby, the provisions of such item not specifically amended, voided or superseded shall remain in effect.

GENERAL

1. Bidders are hereby advised that information from bid documents which are not received from the sources listed in the Invitation for Bids is not legitimate and the bidder accepts full responsibility for any differences. Goodwyn Mills Cawood has not authorized the scanning of the documents. Bidders should be aware that the plans are copyrighted and any unlawful use is subject to legal action. Bidders are further advised that the purchase and/or use of partial bid documents is not recommended and bidder will be responsible for any discrepancies which might have been avoided had a full set of documents been reviewed.
2. Listing of multiple products or manufacturers within specifications or approval of products or manufacturers via substitution request does not waive or preclude any and all performance, warranty or specific requirements listed within the specification unless specifically noted in the Addendum. Only manufacturers and products meeting the specification requirements and listed in the specifications or included in the Addendum shall be approved for the project.
3. Quote Delivery: Submit your quote to the University of South Carolina by 2:00 pm on October 13, 2020 to hikmeth@mailbox.sc.edu.
4. Pre-bid Attendees: The prebid conference was held on September 29, 2020 at 11:00 am via teleconference with site walk-throughs to follow. The following list of attendees were on the call:

Ann Derrick USC Project Manager
Kristen Moss USC Procurement Manager
Marc Warren GMC Architect / A/E representative
Herb Turkett Belka Engineering Associates / Electrical Engineer

Contractors Present

Reggie Brewer O'Cain Construction
(803) 536-2764
reggie@occainconstruction.com

David Kellogg ITAC
(919) 937-7549
David.kellogg@itac.us.com

ATTACHMENTS:

1. The following Specification Sections are hereby included in the scope of the project:
 - a. Section 26 28 26: Enclosed Transfer Switches

QUESTIONS:

Item No. Question / Answer

1. Reference page 6 of Section 260500 and General Note #1 drawing E0.01. Part 3 Paragraph 3.3A says to pay all utility fees and charges. There is no way to know what these utility fees and charges are prior to bid time. Please confirm that these costs can be left out of contractor's bids. Under this approach, the winning bidder would be reimbursed by the University in the future based upon what the actual costs of these fees and charges end up being.
Response: Modify last sentence of Section 260500 paragraph 3.3.A to, "All utility fees and charges shall be paid directly by the owner."
2. Panel "R1B" is missing from the panel schedules on the drawings. Please review and advise.
Response: Edit drawing E0.51 Panelboard Schedule R1K to read Panelboard Schedule R1B. Delete R1K from drawing E1.01.
3. No specifications were provided for ATS-1 and ATS-2. Please provide specification and manufacturer name and model numbers for these items.
Response: Modify drawing E0.10 Power One-Line Diagram to indicate ATS-2 to be owner furnished, contractor installed. ATS-2 is a 480V, 400A, 3 Phase automatic transfer switch. See attached specifications for ATS-1. Contractor shall perform testing of ATS-1 and ATS-2 as noted in attached specification and shall confirm that each transfer switch operates in accordance with the Automatic Sequence of Operation parameters in paragraphs 2.1.G and 2.1.H.
4. There is an existing tree in the way of the new installation. Please confirm that contractors are not responsible for removing this tree.
Response: The University of South Carolina shall remove the existing tree in the area prior to installation of the of new work associated with this project.
5. There is an existing 225kva utility transformer onsite. Will this be reused for the new service? If no, this will need to be removed by the utility prior to work start. Please review and advise.
Response: Existing utility transformer will be replaced by utility. Contractor shall coordinate demolition and removal of existing electrical service equipment with Dominion Energy. Contact Justin Shealy at (803) 217-8444.
6. If the utility will be providing a new transformer, will a new transformer pad be required? If so, please provide specific detail as to what to provide for the new pad so all contractors bid the same thing.
Response: Dominion Energy will provide a new transformer on existing pad. Contractor shall provide three additional conduits from transformer secondary into building. Contractor shall be required to dig by hand to stub conduits up into transformer secondary. Do not undermine stability of existing pad. Contractor shall cut existing slab outside the footprint of the transformer and trench from building to enter secondary of transformer from the side to minimize digging under existing transformer pad.
7. There is also an existing large transformer not belonging to the utility that is not shown on the drawings. Please confirm if contractors will need to remove this transformer. If contractors need to remove this transformer, please confirm if contractors are to dispose of it offsite or hand it over to the University for salvaging.
Response: Add general note 7 to General Notes on drawings E1.00, "Contractor shall remove existing non-Utility transformer from site and dispose of offsite."

8. Will the existing generator pad be re-used for the owner's generator or will a new generator pad be required? If a new generator pad is required, please provide a specific detail for the new pad. If a new pad is required, please confirm if the existing pad needs to be removed.

Response: Contractor shall provide a new generator pad. For bidding purposes, assume a minimum 6" thick with #5 rebar reinforcing, spaced at 12" on center, each way. Provide an 8' wide by 12' long pad with 1'-4" deep x 1'-0" wide footer around perimeter with (2) #5 rebar continuous reinforcing. Pad shall be provided over a granular base, and compacted subgrade. Pad shall be located such that it's footprint is not over utility primary feeder. Minimum of 10' off of building wall and a minimum of 20' from utility transformer. Feeder and control circuit from generator to three-way manual transfer switch requires crossing utility primary feeder. Contractor shall be required to hand dig where crossing utility primary feeder. Contractor shall provide battery charger, engine jacket heater and GFCI receptacle inside generator enclosure. Contractor shall also provide a 120V circuit for battery charger, block heater, and convenience GFCI receptacle. Battery charger shall be current limiting type designed to float at 2.17 volts for each cell and equalize at 2.33 volts for each cell. Furnish overload protection, full wave rectifier, DC voltmeter and ammeter, and 120 volts AC fused input. Engine Jacket Heater shall be thermal circulation type water heater with integral thermostatic control, sized to maintain engine jacket water at 90 degrees F (32 degrees C).

9. Reference General Note #2 drawing E1.00. Please provide name plate info of the owner furnished generator so that the proper breaker can be priced.

Response: Owner furnished generator is an Onan, model no. 250 DFAC, serial no. E930508840, 480V, 250kW, 3 Phase unit. 400A output circuit breaker is included with generator. Owner will procure sub-base fuel tank.

10. Please provide specifications and information on the owner furnished generator. Please confirm that all testing and fuel fill ups for the generator will be provided by the owner and not by the contractor. If the contractor is required to provide the testing and fuel, detailed information will need to be provided in order for contractors to include these items in their quote.

Response: See information on generator in item 9 response. Contractor shall pick up owner-furnished generator at 743 Greene St and transport to 1206 Flora St site. Contractor shall remove generator from existing fuel tank and place on new sub-base fuel tank. Coordinate with Owner. Contractor shall provide 1/4 tank of fuel to perform a 4-hour load bank test at 0.8 PF at full nameplate rating. Load bank, cables and other equipment required for this test shall be supplied by Contractor. Upon completion of testing, Contractor shall provide 1/4 tank of fuel.

11. Reference specification section 260500, page 3 Part 1 Paragraph 1.8 A items 2 & 3. This specification says to provide drawings in AutoCAD or compatible software for feeders over 100 Amps. In lieu of AutoCAD or other software drawings, please confirm if hard copy redlined drawings will be acceptable. If AutoCAD drawings will be required, please confirm that CAD backgrounds of the existing building will be provided to contractors to assist in creating the drawings.

Response: CAD files for use as backgrounds will be provided.

END of ADDENDUM #2

SECTION 262826 ENCLOSED TRANSFER SWITCHES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes transfer switches in individual enclosures.

1.2 REFERENCES

- A. National Electrical Manufacturers Association:
 - 1. NEMA ICS 10 - Industrial Control and Systems: AC Transfer Switch Equipment.
- B. International Electrical Testing Association:
 - 1. NETA ATS - Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems.
- C. Underwriters Laboratories Inc.:
 - 1. UL 1008 - Transfer Switch Equipment.

1.3 SUBMITTALS

- A. Division 01 specifications - Submittal Procedures: Submittal procedures.
- B. Product Data: Submit catalog sheets showing voltage, switch size, ratings and size of switching and overcurrent protective devices, operating logic, short circuit ratings, dimensions, and enclosure details.

1.4 CLOSEOUT SUBMITTALS

- A. Division 01 specifications - Execution and Closeout Requirements: Closeout procedures.
- B. Project Record Documents: Record actual locations of enclosed transfer switches.
- C. Operation and Maintenance Data: Submit routine preventative maintenance and lubrication schedule. List special tools, maintenance materials, and replacement parts.

1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this section with minimum three years experience.

1.6 MAINTENANCE SERVICE

- A. Division 01 specifications - Execution and Closeout Requirements: Maintenance service.
- B. Furnish service and maintenance of transfer switches for one year from Date of Substantial Completion.

PART 2 - PRODUCTS

2.1 AUTOMATIC TRANSFER SWITCH

- A. Manufacturers:
 - 1. ASCO.
 - 2. Russell Electric
 - 3. Eaton
 - 4. Equal from Generator Manufacturer.
 - 5. Substitutions: Division 01 specifications - Product Requirements.
- B. Product Description: NEMA ICS 10, automatic transfer switch.
- C. Configuration: Electrically operated, mechanically held transfer switch. Switch shall be contactors and not circuit breaker type controls.
- D. Rating: State voltage and current rating and number of poles or "as indicated on drawings".
- E. Withstand Current Rating: 50,000 rms symmetrical amperes, when used with molded case circuit breaker.
- F. Product Features:
 - 1. Indicating Lights: Mount in cover of enclosure to indicate NORMAL SOURCE AVAILABLE, ALTERNATE SOURCE AVAILABLE, switch position.
 - 2. Test Switch: Mount in cover of enclosure to simulate failure of normal source.
 - 3. Return to Normal Switch: Mount in cover of enclosure to initiate manual transfer from alternate source to normal source.
 - 4. Transfer Switch Auxiliary Contacts: 2 normally open; 2 normally closed.
 - 5. Normal Source Monitor: Monitor each line of normal source voltage and frequency; initiate transfer when voltage drops below 85 percent or frequency varies more than 3 Hertz from rated nominal value.
 - 6. Alternate Source Monitor: Monitor alternate source voltage and frequency; inhibit transfer when voltage is below 85 percent or frequency varies more than 3 Hertz from rated nominal value.
 - 7. In-Phase Monitor: Inhibit transfer until source and load are within 10 electrical degrees.
- G. Automatic Sequence of Operation (ATS1 - Emergency) :
 - 1. Initiate Time Delay to Start Alternate Source Engine Generator: Upon initiation by normal source monitor.
 - 2. Time Delay To Start Alternate Source Engine Generator: 0 seconds, adjustable.
 - 3. Initiate Transfer Load to Alternate Source: Upon initiation by normal source monitor and permission by alternate source monitor.
 - 4. Time Delay Before Transfer to Alternate Power Source: 0 seconds, adjustable.
 - 5. Total time from loss of normal power to transfer to alternate source shall be less than 10-seconds.
 - 6. Initiate Retransfer Load to Normal Source: Upon permission by normal source monitor.

7. Time Delay Before Transfer to Normal Power: 90 seconds, adjustable; bypass time delay in event of alternate source failure.
 8. Time Delay Before Engine Shut Down: 10 to 30 minutes, adjustable, of unloaded operation.
 9. Engine Exerciser: Start engine every 30 days; run for 30 minutes before shutting down. Bypass exerciser control when normal source fails during exercising period.
- H. Automatic Sequence of Operation (Existing ATS2 – Standby 1):
1. Initiate Time Delay to Start Alternate Source Engine Generator: Upon initiation by normal source monitor.
 2. Time Delay To Start Alternate Source Engine Generator: 0 seconds, adjustable.
 3. Initiate Transfer Load to Alternate Source: Upon initiation by normal source monitor and permission by alternate source monitor.
 4. Time Delay Before Transfer to Alternate Power Source: 0 seconds, adjustable.
 5. Initiate Retransfer Load to Normal Source: Upon permission by normal source monitor.
 6. Total time from loss of normal power to transfer to alternate source shall be less than 30-seconds.
 7. This source shall be load shed after ATS3 is shed and in event of continued generator capacity issues in order to maintain loads of ATS1.
 8. Time Delay Before Transfer to Normal Power: 90 seconds, adjustable; bypass time delay in event of alternate source failure.
 9. Time Delay Before Engine Shut Down: 10 to 30 minutes, adjustable, of unloaded operation.
 10. Engine Exerciser: Start engine every 30 days; run for 30 minutes before shutting down. Bypass exerciser control when normal source fails during exercising period.
- I. Enclosures:
1. Enclosure: ICS 10, Type 1.
 2. Finish: Manufacturer's standard enamel.

2.2 SOURCE QUALITY CONTROL

- A. Furnish shop inspection and testing of each transfer switch.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Provide seismically braced wall mount installations per section 260548.
- B. Install housekeeping pads for all floor mounted equipment.
- C. Install engraved plastic nameplates in accordance with Section 26 05 53. Indicate the following information on the nameplate:
 1. Transfer Switch Name

2. Both Sources
 3. Voltage, Phase, Wire, Short Circuit Current Rating
 4. Date Installed
- D. Use the following color coding for panelboard nameplates:
1. Emergency Life Safety: Red with White Letters.
 2. Gen-backed Stand-by: Orange with White Letters.

3.2 FIELD QUALITY CONTROL

- A. Division 01 specification - Quality Requirements: Field inspecting, testing, adjusting, and balancing.
- B. Inspect and test in accordance with NETA ATS, except Section 4.
- C. Perform inspections and tests listed in NETA ATS, Section 7.22.3.

3.3 MANUFACTURER'S FIELD SERVICES

- A. Division 01 specifications - Quality Requirements: Manufacturers' field services.
- B. Check out transfer switch connections and operations and place in service.

3.4 ADJUSTING

- A. Division 01 specifications - Execution and Closeout Requirements: Testing, adjusting, and balancing.
- B. Adjust control and sensing devices to achieve specified sequence of operation.

3.5 DEMONSTRATION AND TRAINING

- A. Demonstrate operation of transfer switch in normal, and emergency modes.

END OF SECTION 262826