



**Dos Rios WRC Electrical System Improvements Project Phase 1**

**Solicitation Number: CO-00084**

**Job No.: 14-6504**

**ADDENDUM 8**

**October 11, 2016**

To Bidder of Record:

This addendum, applicable to work referenced above, is an amendment to the proposal, plans and specifications and as such will be a part of and included in the Contract Documents. Acknowledge receipt of this addendum by entering the Addendum number and issue date on the space provided in submitted copies of the bid proposal.

Addendum No. 8 consists of the items as outlined in the following pages. In addition to these items Addendum No. 8 includes one reissued specifications.

<b>QUESTIONS</b>
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1. Can General Electric be added to the approved manufacturer's list for MV SWGR, MCC, Pad Mounts and LC distribution gear?

Response: Refer to Schedule of Manufacturers and Suppliers (SCH-1) provided in Addendum No 1 for Manufacturers the Contract Documents are based upon. Alternates will not be approved during the bidding process.

2. I am submitting a substitution request on the subject project under division 7 hot fluid applied asphalt waterproofing.

Response: Substitutions will not be approved or evaluated during the bidding process.

3. Verify SPR or VPR requirements in Section 16289 – Surge Protective Devices.

Response: Section 16289 has been re-issued, see revised specification.

4. Can Thor Systems be included to Specification Section 16289 – Surge Protective Devices under section 2.01.A Manufacturers?

Response: Refer to Schedule of Manufacturers and Suppliers (SCH-1) provided in Addendum No 1 for Manufacturers the Contract Documents are based upon. Alternates will not be approved during the bidding process.

5. I'm sending this email in an effort to become an approved vendor for the generators and transfer switches on this project. I noticed we are listed as an approved manufacturer for the recently released SAWS Highland Estates project. Since we are listed in one SAWS project can we be added as approved to this one?

Response: Refer to Schedule of Manufacturers and Suppliers (SCH-1) provided in Addendum No 1 for Manufacturers the Contract Documents are based upon. Alternates will not be approved during the bidding process.

6. Drawing SB-E-19 (104 of 166) shows two Personal Computers and an Access Point. What Division are these supplied under and where can we find the specs on this hardware for quoting purposes.

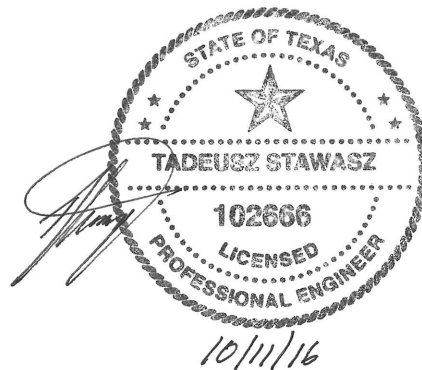
Response: The personal computers and access point shown on Drawing SB-E-19 connecting to the programming ports of the MultiLin 850 relay are shown for illustration purposes only. They are not being supplied as part of this project.

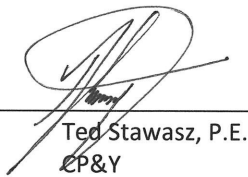
7. Our company is not listed in the Specifications as an approved manufacturer of the lightning protection materials. We would like to be listed as an approved lightning protection manufacturer for this project.

Response: Substitutions will not be approved or evaluated during the bidding process.

**SPECIFICATIONS**

8. Specification Section 16289 – Surge Protective Devices. Delete this specification in its entirety and replace with the attached revised Section 16289 – Surge Protective Devices.



  
Ted Stawasz, P.E.  
EP&Y

**END OF ADDENDUM**

## SECTION 16289

### SURGE PROTECTIVE DEVICES

#### PART 1 GENERAL

##### 1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

##### 1.02 SUMMARY

- A. This Section includes surge protective devices for low-voltage power, control, and communication equipment.

##### 1.03 DEFINITIONS

- A. ATS: Acceptance Testing Specifications.
- B. VPR: Voltage Protection Rating
- C. SPD: Surge Protective Device

##### 1.04 SUBMITTALS

- A. Product Data: For each type of product indicated, include rated capacities, operating weights, operating characteristics, furnished specialties, and accessories.
- B. Product Certificates: For surge protective devices, signed by product manufacturer certifying compliance with the following standards:
  - 1. UL 1283 – Electromagnetic.
  - 2. UL 1449 4<sup>th</sup> Edition – UL Standard for Surge Protective Devices.
- C. Qualification Data: For testing agency.
- D. Field quality-control test reports, including the following:
  - 1. Test procedures used.
  - 2. Test results that comply with requirements.
  - 3. Failed test results and corrective action taken to achieve requirements.
- E. Operation and Maintenance Data: For transient voltage suppression devices to include in emergency, operation, and maintenance manuals.
- F. Warranties: Special warranties specified in this Section.
- G. Submittal shall be clearly marked showing only equipment provided. Mark through equipment option not provided.
- H. Literature and drawings describing the equipment in sufficient detail, including parts list and materials of construction, to indicate full conformance with the Specifications.

- I. Submit a letter certifying full and complete compliance with the Specifications, Drawings and other project requirements. The letter shall list any exceptions or deviations from specified requirements, if any and reasons for same. Exceptions or deviation shall also be clearly marked in a separate color in submittals.

#### 1.05 QUALITY ASSURANCE

- A. Source Limitations: Obtain surge protective devices and accessories through one source from a single manufacturer.
- B. Product Options: Drawings indicate size, dimensional requirements, and electrical performance of suppressors and are based on the specific system indicated. Refer to Division 1 Section "Product Requirements."
- C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- D. Comply with IEEE C62.41, "IEEE Guide for Surge Voltages in Low Voltage AC Power Circuits," and test devices according to IEEE C62.45, "IEEE Guide on Surge Testing for Equipment Connected to Low-Voltage (1000 Volts or less) AC Power Circuits."
- E. Comply with NEMA LS 1, "Low Voltage Surge Protection Devices."
- F. Comply with UL 1283, "Electromagnetic Interference Filters," and UL 1449, "Standard for Surge Protective Devices."

#### 1.06 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
  1. Notify Engineer not less than two days in advance of proposed utility interruptions.
  2. Do not proceed with utility interruptions without Engineer's written permission.
- B. Service Conditions: Rate surge protection devices for continuous operation under the following conditions, unless otherwise indicated:
  1. Maximum Continuous Operating Voltage: Not less than 115 percent of nominal system operating voltage.
  2. Operating Temperature: 30 to 120 deg F (0 to 50 deg C).
  3. Humidity: 0 to 85 percent, non-condensing.
  4. Altitude: Less than 20,000 feet (6090 m) above sea level.

#### 1.07 COORDINATION

- A. Coordinate location of field-mounted surge protective devices to allow adequate clearances for maintenance.

## 1.08 WARRANTY

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of surge suppressors that fails in materials or workmanship within Ten (10) years from date of Substantial Completion to include any end of life electrical event, including lightning.

## PART 2 PRODUCTS

### 2.01 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
- B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. Eaton/Cutler Hammer.
  - 2. Siemens.
  - 3. Square D; Schneider Electric.

### 2.02 480V SWITCHBOARD AND 480V MCC SUPPRESSORS

- A. Surge Protective Devices with the following features and accessories:
  - 1. UL Listed at 200-kA SCCR interrupting capacity.
  - 2. Fabrication using bolted compression lugs for internal wiring.
  - 3. Redundant suppression circuits.
  - 4. Redundant or replaceable modules.
  - 5. Arrangement with copper bus bars and for bolted connections to phase buses, neutral bus, and ground bus.
  - 6. Arrangement with wire connections to phase buses, neutral bus, and ground bus.
  - 7. LED indicator lights for power and protection status.
  - 8. Audible alarm, with silencing switch, to indicate when protection has failed.
  - 9. One set of dry contacts, for remote monitoring of protection status. Coordinate with building power monitoring and control system.
  - 10. Surge-event operations counter.
  - 11. Per UL96A service entrance SPD's shall have a nominal discharge current (In) rating of 20kA.
- B. Surge suppressor shall be located integral to the enclosure. No outside SPD will be allowed. Shall be grounded and shall be of type as listed on drawing.
- C. Peak Single-Impulse Surge Current Rating: 500kA/phase.
- D. Connection Means: Permanently wired.

- E. Protection modes and UL 1449 (VPR) Voltage Protection Rating for grounded wye circuits with voltages of 480Y/277, 3-phase, 4-wire circuits shall be as follows:
  - 1. Line to Neutral: 1200V
  - 2. Line to Ground: 1200V
  - 3. Neutral to Ground: 1200V
  
- F. Protection modes and UL 1449 SVR for voltages of 480, 3-phase, 3-wire, delta circuits shall be as follows:
  - 1. Line to Line: 3000V
  - 2. Line to Ground: 1500V

#### 2.03 PANELBOARD SUPPRESSORS

- A. SPD with the following features and accessories:
  - 1. UL Listed, at 200-kA SCCR interrupting capacity.
  - 2. Fabrication using bolted compression lugs for internal wiring.
  
  - 3. Redundant suppression circuits.
  - 4. Redundant replaceable modules.
  - 5. Arrangement with wire connections to phase buses, neutral bus, and ground bus.
  - 6. LED indicator lights for power and protection status.
  - 7. Audible alarm, with silencing switch, to indicate when protection has failed.
  - 8. One set of dry contacts rated at 5 A and 250Vac, for remote monitoring of protection status. Coordinate with building power monitoring and control system.
  - 9. Surge-event operations counter.
  
- B. Peak Single-Impulse Surge Current Rating: 200 kA/ phase
  
- C. Protection modes and UL 1449 (VPR) Voltage Protection Rating for grounded wye circuits with voltages of 480Y/277, 208Y/120, 3-phase, 4-wire circuits shall be as follows:
  - 1. Line to Neutral: 1200 V for 480Y/277 and 800 V for 208/120.
  - 2. Line to Ground: 1200 V for 480Y/277 and 800 V for 208/120.
  - 3. Neutral to Ground: 1200 V for 480Y/277 and 800 V for 208/120.
  
- D. Surge suppressor shall be located integral to the enclosure. No outside SPD will be allowed. Shall be grounded and shall be of type as listed on drawing.

#### 2.04 ENCLOSURES

- A. Install surge protective devices in the same cabinet as the MCC, switchboard, and 480V panelboard.
  
- B. Surge protective devices may be installed in fiberglass enclosures.

PART 3 EXECUTION

3.01 INSTALLATION OF SURGE PROTECTION DEVICES

- A. Surge protective devices shall be installed by the MCC or panelboard manufacturer at the factory.

3.02 PLACING SYSTEM INTO SERVICE

- A. Do not energize or connect service entrance equipment, panelboards, control terminals, data terminals to their sources until surge protection devices are installed and connected.
- B. Firestop caulk SPD connections.

3.03 FIELD QUALITY CONTROL

- A. Remove and replace malfunctioning units and retest.

3.04 DEMONSTRATION

- A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain transient voltage suppression devices.

END OF SECTION