



815 E. CALTON RD. SUITE 4  
LAREDO, TX 78041  
TOLL FREE 844.289.0146  
LAREDO 956.568.4330  
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License # TECL 30114

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June 7, 2018

Webb County Engineering Department  
**Attn: Luis Perez-Garcia, PE, CFM**  
1620 Santa Ursula, 2nd Floor  
Laredo, Texas 78040

**Reference: Main Switchboard Maintenance – 1110 Victoria St.**

We are submitting a cost proposal as requested for repairs to the Justice Center Main Switchboard located at 1110 Victoria St. Below is our scope of work:

**Inclusions:**

At Main Switchboard:

1. Perform Preventive Maintenance on 4 (four) 1600A Pringle Electrical Manufacturing bolted pressure switches as per the following:
  - a. Document equipment nameplate date on test report.
  - b. Verify equipment nameplate ratings are in accordance with the record drawings.
  - c. Inspect physical and mechanical condition.
  - d. Confirm correct application of lubricants at manufacturer's recommended locations.
  - e. Verify that grounding is in accordance with industry standards.
  - f. Using a calibrated torque wrench or low resistance ohm meter verify that the tightness of accessible bolted connections and/or cable connections are in accordance with manufacturer's published data.
  - g. Perform mechanical operator tests in accordance with manufacturer's instructions.
  - h. Verify correct operation and adjustment of motor operator limit switches and mechanical interlocks.
  - i. Verify correct blade alignment, blade operation, travel stops, arc interrupter operation and mechanical operation (over toggle).
  - j. Inspect fuse holders for tightness and alignment.
  - k. Check the condition of arc contacts and arc chutes.
2. Electrical tests as per the following:
  - a. Perform insulation resistance tests on each pole, phase to phase and phase to ground with switch closed and across each open pole for one minute.
  - b. Perform a dielectric test (Hi-Pot) on each pole with switch closed. Test each pole to ground with all other poles grounded.
  - c. Perform a contact-resistance test across each switch blade and fuse holder, record results. Compare with manufacturer's published information and adjacent poles. Investigate values that deviate from adjacent poles or similar switches by more than 25 percent.
3. Coordination with AEP for shutdown.

**Total:**

**\$ 25,775.00**



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**Exclusions:**

1. Replace 12 (twelve) 1600A Class L fuses – 3 (three) fuses at each of the 4 (four) bolted pressure switches.
2. Replace 4 (four) Westinghouse ground fault relays, 4 (four) Westinghouse ground fault relay panel, 1 (one) 120V control voltage transformer and fuses.
3. Test and verify correct operation of ground fault circuit for each of the 4 (four) bolted pressure switches that is currently disabled.

**Discovery Work:**

Wherein the course of work it is not uncommon to expose conditions or defects that may require immediate attention or which may an opportunity to remedy at the time of discovery. Upon discovery, Webb County will be notified and provided recommendations prior to addressing any discovery work. As discovery work is not covered under the proposed scope of work it is considered extra.

**Recommendations:**

Pickup amps and time cycle settings at all 4 (four) ground fault relays are currently in the default lowest settings provided by the factory. A short circuit and coordination study shall be provided by Webb County so that new ground fault relays will be set to the proper settings. If one is not available or has not recently been done for this facility. It is highly recommended that a new short circuit, coordination and arc flash study be performed prior to performing maintenance work.

If you have any questions regarding this change or need any additional information, please do not hesitate to contact me.

Respectfully,  
**LED Electric and Lighting Contractors, LLC**

*J. UBALDO PARRA*

Ubaldo Parra  
**General Manager**