SECTION 26 08 05
ELECTRICAL ACCEPTANCE TESTING
Design Standard

PART 1 GENERAL

1.1 Purpose

This design standard has the purpose of maintaining a consistent method for electrical acceptance testing throughout all renovation and new building projects for the San Mateo County Community College District.

PART 2 PRODUCTS

2.1 Ensure testing, evaluation and calibration of equipment provided, installed and connected.

A. Acceptance Testing Criteria: Latest edition of Acceptance Testing Specifications for Electrical Power Distribution Equipment and Systems, published by IETA. B. System Description:

1. Performance Requirements:
   a. Retain the services of a recognized independent testing firm for the purpose of performing inspections and tests as specified herein.
   b. Independent test firm providing report direct to Architect.
   c. Material, equipment, labor and technical supervision to perform tests and inspections provided by testing firm.
   d. It is the intent of these tests to assure that electrical equipment, Contractor or Owner supplied, is operational within industry and manufacturer's tolerances and is installed in accordance with design Specifications.
   e. Tests and inspections determine suitability for energization.
   f. Supply to the independent testing organization complete sets of approved shop drawings, coordination study (provided by Contractor's equipment supplier under Contractor's direction, setting of adjustable devices and other information requested by testing agency). ii) Scope of Testing, Evaluation and Calibration:
      1. Power transformers.
      2. Distribution transformers.
      3. Low voltage circuit breakers (greater than 100 amp).
      4. Medium voltage circuit breakers.
      5. Metal enclosed switchgear.
      6. Switchboards.
      7. Ground fault protective signaling.
      8. Protective relays and associated instrument transformers.
      9. Medium voltage cables.
      10. Bus duct.
      11. Grounding systems.
      12. Motor control centers.
      13. Generators.
      14. Automatic transfer switches. iii) Test Reports:
   g. Maintain written record of tests.

h. At completion of project, assemble and certify a final test report. Submit report to Architect prior to final acceptance to include:
   1. Summary of project.
   2. Description of equipment tested.
   3. Visual inspection report.
   4. Description of tests.
   5. Test results.
   6. Conclusions and recommendations.

B. Qualifications of Testing Firm:
   1. Corporately independent testing organization which can function as an unbiased testing authority, professionally independent of the manufacturers, suppliers and installers of equipment or systems evaluated by testing firms.
   2. Independent organization as defined by OSHA Title 29, Part 1936 and IETA.
   3. Regularly engaged in the testing of electrical materials, devices, appliances, electrical installations and systems for the purpose of preventing injury to persons or damage to property and other equipment.
   4. Engaged in testing practices for minimum of 2 years.
   5. Use only full-time technicians, regularly employed by firm for testing services. Electrically unskilled employees are not permitted to perform testing or assistance of any kind. Electricians and line workers may assist, but may not perform testing or inspection services.
   6. Submit proof of above qualifications with Bid Documents.

2.2 The following tests are required for field quality control based on industry standard of care:

A. Contractor's Responsibilities:
B. Perform routine insulation resistance, continuity and rotation tests for distribution and utilization equipment prior to and in addition to tests performed by testing firm.
C. Notify the testing firm when equipment becomes available for acceptance tests.
D. Coordinate work to expedite project scheduling. Testing Firm’s Responsibilities:
   1. Notify District prior to commencement of any testing.
   2. Report directly to District any systems, material or installation found defective on the basis of acceptance tests.
E. Provide auxiliary portable power supply necessary for conducting tests.

2.3 APPROVED MANUFACTURERS

A. General Cable
B. Southwire
C. Carol

PART 3 EXECUTION

3.1 SUBSTITUTES ALLOWED?

Yes, if performance and quality equivalency can be evidenced.

3.2 ASSOCIATED DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS

A. 01 91 00 – Commissioning
B. 26 05 26 – Grounding Design Standard

C. 26 05 33 – Raceways Design Standard
D. 26 05 48 – Supporting Devices Design Standard
E. 26 05 53 – Identification Design Standard
F. 26 08 00 – Electrical Commissioning Requirements

END OF SECTION