SECTION 266100 -TESTING

PART 1 - GENERAL

1.1 WORK INCLUDES

A. Base and Alternate Bids:
1. Contractor Provide:
a. Testing of electrical components and systems:
1) Insulation resistance test.
2) Continuity test.
3) Voltage test.
4) Phase relationship verification.
5) Branch circuit receptacle testing.
2. Test reports.
3. Correction of defective components or systems.
4. Retest of corrected components or systems.

1.2 SUBMITTALS

A. Submit Test Reports: submit 3 copies of all test reports to Architect/Engineer.
1. Type each test report on 8-1/2" x 11" paper. Include:
a. Project Number.
b. Project title and location.
c. Test performed.
d. Date performed.
e. Test equipment used.
f. Contractor's name, address and telephone number.
g. Testing firm's name, address and telephone number, if other than Contractor.
h. Name(s) and title(s) of person(s):
1) Performing test.
2) Observing test.
i. Statement verifying each test.
j. Nameplate data from each motor and equipment item tested.
k. Test results.
l. Retest results after correction of defective components, systems.
2. For each copy, assemble all test reports and bind them in a folder. Label each folder, "Electrical Test Reports" and include Project Number, Title and Location.

PART 2 - PRODUCTS

2.1 MATERIALS. Furnish all equipment, manpower and casual labor to perform specified testing.

PART 3 - EXECUTION

3.1 PREPARATION

A. Ensure that all electrical work is complete and ready for testing. All cables shall be terminated prior to testing. No cables shall be energized until all testing and corrections have been satisfactorily completed.

B. Disconnect all devices or equipment that might be damaged by application of test voltages, voltage of reversed phase sequence or other test procedures.

3.2 TESTING. Conduct tests and adjust equipment to verify compliance with specified performance.

3.3 INSULATION RESISTANCE TESTS

A. Resistance measured; Line-to-ground.

B. Perform testing on the following items:

Item Tested	Voltage of Test	Min. Acceptance Resistance in Megohms
1. Motors	500V	5
2. Switchboard, Panelboard Buses	1000V	25

3.4 GROUNDING ELECTRODE TEST. Measure and record ground resistance from system neutral connection at service entrance to convenient ground reference point using suitable ground testing equipment. Maximum acceptable resistance: 10 ohms. When resistance exceeds 10 ohms drive and bond another ground rod, one ground rod length away and repeat test.

3.5 VOLTAGE TESTS

A. Make and record voltage tests at the following listed points. Conduct tests under normal load conditions.
1. Service entrance at main disconnect switch.
2. Secondary terminal of all step down transformers.
3. Terminals switches.

3.6 PHASE RELATIONSHIP

A. Examine connections to equipment for proper phase relationships. Verify proper motor rotation.

3.7 BRANCH CIRCUIT RECEPTACLES

A. All receptacles shall be tested for:
1. Ground continuity.
2. Polarity of hot and neutral.
3. Correct operation of ground fault circuit interrupting receptacles (where applicable).

B. Test reports may be submitted as exceptions only.

3.8 CORRECTION OF DEFECTS

A. When tests disclose any unsatisfactory workmanship or equipment furnished under this Contract, correct defects and retest. Repeat tests until satisfactory results are obtained.

B. When any wiring or equipment is damaged by tests, repair or replace such wiring or equipment. Test repaired items to ensure satisfactory operation.

END OF SECTION 266100