LINEMASTER MBP GUIDE SPECIFICATIONS

Part 1 — GENERAL:

A. DESCRIPTION:

1. This section describes the materials and installation requirements for surge protective devices (SPD). Surge protective devices are used for the protection of all AC electrical circuits from the effects of lightning induced currents, substation switching transients and internally generated transients resulting from inductive and/or capacitive load switching.

B. RELATED WORK SPECIFIED ELSEWHERE:

1. General electrical requirements
2. Raceways, boxes, and fittings
3. Wire and cable
4. Low Voltage motor control
5. Variable frequency drives
6. Grounding
7. Lightning protection system

C. SUBMITTALS:

1. Submit shop drawings, product data and manufacturer's installation instructions.
2. The surge suppression submittals shall also include:
   a. Dimensional drawing of each suppressor types indicating mounting arrangements.
   b. UL 1449 clamp voltage documentation.

D. CERTIFIED TESTS

1. The surge suppressor manufacturer shall provide certified test results on the product being submitted. The test results shall be certified by an officer or engineer of the company as being performed on the product after manufacture.
2. The test conducted shall be per ANSI C62.41-1991 and ANSI C62.45. The units shall be tested in all modes and to the full capacity claimed in the manufacturer's specifications.
3. The engineer, after review of test data, may require unit to be returned and a new unit provided that meets the requirements of this specification.

E. WARRANTY

1. The surge suppressor manufacturer shall warrant the surge protective devices and supporting components against defects in material and workmanship for a period of ten years.

F. MANUFACTURER QUALIFICATIONS

1. Surge protective devices shall be manufactured in the USA, by a company normally engaged in the design and manufacture of such devices for at least five (5) years.

G. SAFETY AGENCY APPROVALS

1. Suppressors shall be listed in accordance with UL 1449 2nd Edition, standard for safety, transient voltage surge suppressors. They shall also be CSA or cUL approved.

Part 2 — PRODUCTS:

SECONDARY SERVICE SUPPRESSORS FOR DISTRIBUTION PANELS:

1. Surge Protective Devices shall be installed at designated distribution panels as shown on the riser diagram.
2. Wye systems shall have suppression elements between each phase conductor and the system neutral, between each phase conductor and the system ground and between the neutral conductor and ground.
3. Visible indication of proper suppressor connection and operation shall be provided.
4. The surge protective device shall be equipped with an audible alarm that shall actuate when any part of the surge circuitry has been damaged. A silence button shall be provided with the alarm.
5. The suppressor shall exhibit Sine Wave Tracking circuitry. The surge suppressor shall have suppression circuitry that is field replaceable without disturbing the conduit or enclosure.
6. Suppressors shall meet or exceed the following criteria:
   a. Minimum single impulse current rating (L-N + L-G): 90,000 amperes per phase.
   b. UL Clamping voltage shall not exceed the following:

VOLTAGE	L-N	L-G	N-G
120/208	500V	500V	500V
277/480	1000V	1000V	1000V

7. Suppressors shall consist of solid-state components and operate bi-directionally. The manufacturer of the surge panel shall offer either a surface or flush cover, as required by the job conditions.
8. Maximum continuous operating voltage of the suppressor shall be greater than 110% of the nominal system voltage.
9. The following manufacturers are approved, provided they meet the above specifications:
   a. EFI Electronics Corporation, LineMaster MBP Series.

Part 3 — EXECUTION:

SECONDARY DISTRIBUTION PANELS

1. Install one secondary suppressor at each distribution panel location or as indicated on the riser diagram. Follow manufacturer's installation instructions.
2. Suppressor shall be installed on the service panel, per the manufacturer's installation instructions. Contractor shall install 30/3 circuit breaker in panel to attached surge panel to electrical distribution system.
3. Conductors between suppressor and point of attachment shall be at least #8 AWG stranded copper conductor or larger. The conductors shall be kept as short and straight as possible. The maximum length of connecting wiring shall not exceed 18 inches. Pre-wired suppressors with conductors smaller than #8 wire are not acceptable.