COLUMBIA UNIVERSITY
FACILITIES

DESIGN REQUIREMENTS

IDENTIFICATION FOR ELECTRICAL SYSTEMS

GENERAL INFORMATION

1.1 This section applies to labeling of all electrical equipment.

DESIGN REQUIREMENTS

2.1 The designer shall outline in detail the labeling plan before the final design is issued. All switchboards, switches, MCC's, panels and circuit breakers shall have a clear and accurate identifier reviewed and approved by the operations department.

2.2 Light and Power Junction, Pull, Outlet and Connection Boxes, and Wiring and Fire Alarm Device identification:

a. Provide adhesive marking labels on the outside cover of all junction, pull, outlet and connection boxes that identify voltage and all contained circuits.

b. Provide labels for all Wiring Devices indicating the circuit and panel serving the device.

c. Provide labels for all Fire Alarm devices indicating the device zone and address (for addressable systems.)

d. Provide labels for all light switches where lighting controlled is not visible from switch location.

e. Provide labels for all boxes and enclosures for emergency circuits, including generators, transfer switches and power panels.

2.3 Underground Electrical Line Identification: Install line markers for all underground wiring, both direct-buried and in raceway. Provide metal tags securely fastened to wire and cable in manholes, hand-holes, vaults and underground pull boxes. Provide magnetically detectable red plastic marking tape 12" above all underground conduits and ductbanks.

2.4 Nameplates: For each major item of electrical equipment, including central or master units of each electrical system, provide permanent nameplates indicating the designation of the equipment, and the designation of the equipment served by the equipment (where applicable), the voltage and designation of the circuit serving the equipment, and similar essential data. This includes Communication, Signal and Alarm systems, unless unit is specified with its own self-explanatory identification. Locate nameplates in an accessible location.

2.5 Warning Signs: Provide warning, caution, or instruction signs where required by NEC, where indicated, or where reasonably required to assure safe operation and maintenance of electrical systems and of the items to which they connect.

CONSTRUCTION REQUIREMENTS

3.1 The contractor shall label all switchboards, switches, MCC's, panels, circuit breakers and any other installed electrical equipment before the equipment is accepted. Missing labels shall be considered an incomplete job and will result in non-acceptance of the entire job.

3.2 Install all labels, nameplates, wire tags, etc. at locations indicated and at locations for best convenience of viewing without interference with operation and maintenance of equipment.

3.3 Underground Cable Tags: Provide stainless steel metal tags, 28 gauge, ¾ inch wide embossed with 5/16 inch letters and numbers fastened to the cable at both ends of tags with monofilament wire.

3.4 Wire and Cable Designation Markers: Provide manufacturer's standard, fungus resistant, self-adhesive, wraparound, cable and conductor markers with preprinted numbers and letters to show circuit identification.

3.5 Nameplates and Signs: Provide three layer engraved stock melamine plastic laminate nameplates, 1/16-inch minimum thickness for signs up to 20 square inches, or 8 inches in length; 1/8-inch thick for larger sizes. Engraved legend in white letters on black face (black letters with yellow face for emergency equipment) and punched for mechanical fasteners except where adhesive mounting is necessary because of substrate. Provide butyrate signs with metal backing for items installed outdoors.

Nameplates color and engraving shall be as follows:

Service	Nameplate	Lettering
Normal	Black	White
Emergency	Yellow	Black
Standby	Green	White
UPS	Orange	Black
Fire Alarm	Red	White

Minimum Lettering Size

Equipment Designation	1" high
Voltage/Phases	1/2" high
Feeder Designations	1/2" high

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3.6 Conduit Identification: Identify feeder conduits over 600 V with adhesive marking labels with the words "HIGH VOLTAGE" at 10-foot intervals.

3.7 Panelboard Directories: Provide typewritten panelboard directories for each lighting and receptacle panel. Directories to indicate location and type of equipment served by each branch circuit.

REFERENCE

4.1 The applicable CSI Specification Section is 260553.