

# FACILITIES STANDARD

---

NAME : Electrical Professional Services  
NUMBER : 16000

ORIGINAL DATE : 03-08-96  
REVISION DATE : 01-05-98

---

## PURPOSE:

1. The general purpose of each Facilities Standard is to provide minimal criteria for construction materials at University facilities regarding code compliance, warranty, approved products, execution and uniformity.
2. To protect the health and safety of patients, visitors, students, faculty and staff, in addition to protecting non-project UAB property, all construction must be in accordance with: NFPA 241 safeguarding construction, alteration and demolition operations; Standard Building Code, Chapter 33, regarding site work, demolition and construction; NFPA 101 Life Safety Code.
3. Construction safety is the responsibility of the contractor in accordance with the regulations and codes of the agency having jurisdiction, and according to the guidelines adapted by OSHA.
4. The **Electrical Professional Services Facilities Standard** establishes a series of guidelines for specifying this particular item on any construction project at the University. ***This Facilities Standard is not to be regarded as a specification.***

## GENERAL:

1. Contract Documents shall utilize electronic data format. Drawings shall be 100% compatible with AutoCad Release 13. Specifications shall be 100% compatible with Microsoft Word release 6.0. Electronic data shall be on 1/4" magnetic tape data cartridge, or 3 1/2" 1.44 MB floppy disks, or as otherwise specified by the Facilities Division.
2. The Engineer shall visit the project site, verify all field conditions, and shall not rely on the information provided by the Owner.
3. Refer to the UAB Facilities Standard "Utility Coordination Above Ceiling" 16001 for Utility Coordination above ceiling details required from the Architects and Engineers.

## PRODUCTS:

---

1. Not Applicable.

### **EXECUTION:**

1. Specifications shall cover the design, installation and testing of all electrical equipment. A specific scope of work shall be customized for the project, detailing what is included or excluded. Design conditions, type of areas, and applicable Codes and Standards for each area shall be stated. Type of wiring for the specific project and areas shall be specified. All electrical equipment and systems shall be specified either on the drawings or in the specifications; a manufacturer, type and catalog number shall be stated; and a minimum of two additional acceptable manufacturers, in general, shall be stated.
2. Separate scaled plan drawings for power and grounding, lighting, demolition, and auxiliaries shall be furnished. Separate one line diagrams shall be furnished, unless the scope is small enough to include the one line diagrams on power plan drawings. Elementary diagrams, instrumentation loops, installation and wiring details shall be furnished where applicable. Instrumentations, electrical heat tracing and their wiring may be shown and specified on the mechanical plan drawings and details.
3. **Lighting plans** shall show location, type, elevation (if not recessed in hung ceiling or surface mounted) and circuit number of all lighting fixtures, switches and/or occupancy sensing devices, branch circuit wiring and conduit routing, location and identification of lighting panels. Fixtures and wiring devices type and specifications shall be tabulated. Panel tabulation shall show connected load. Special fixtures mounting details shall be furnished.
4. **Power and Grounding plans** shall show location and identification of each electrical load, each receptacle outlet and whether surface or recessed, as well as power and control apparatus that are part of the power wiring system. Feeder, control, and branch circuit wiring for each load or power and control apparatus shall be shown. Allocated space for main conduit or cable banks depicting width, elevation and routing shall be shown. Detail of service, structure and specific grounds shall be shown. For retrofit work, added breakers to existing boards shall show type of board and breaker, and whether added breaker is readily available on market or obsolete. The statement "shall match existing" without stating what is existing is not acceptable (applicable to all equipment).
5. **One line diagrams** shall show the complete power distribution and utilization system within the scope of work. This will include electrical data on all distribution and control devices in the system up to and including the point

of power utilization (motor or panelboard). Voltage, nameplate tags, HP, KW, or KVA, ampacity and other pertinent ratings and characteristics shall be shown. The number and size of all conductors and conduit for every feeder conduit shown on the one line diagram, including control circuits, shall be shown; however, cable and conduit schedules may be prepared instead. On large projects a master one line diagram shall be prepared which will show the distribution system only up to the MCC and distribution boards feeders, with settings of protective relays and devices shown in tabular form, and a short circuit and coordination study shall be provided.

6. **Switchgear and Service and MCC Rooms Details** shall dimensionally locate all major electrical equipment within the room and show elevation, if required for clarity, for wall mounted equipment. A detailed section view of all main conduit or cable banks entering the room shall be shown. The section will show the proper arrangement of the conduit in such a manner that the routing of the conduit to its final destination in the room can be done in a neat, workmanlike manner with minimum crossovers. Dimensional details for floor penetrations shall be detailed.
7. **Auxiliary plans** shall show location, type and wiring of each device. Separate tabulation per system shall be furnished for devices description, specification, manufacturer, type and catalog number. For larger projects, riser diagrams showing all wiring shall be provided. Generic device tabulation will be acceptable for the bid issue of the construction documents, as long as the final issue will contain the installed manufacturer name and catalog numbers.
8. Fire/smoke wall and floor raceway penetration details shall be provided as well as above ceilings trade coordination details.

