

SECTION 26 80 00 - ELEVATOR ELECTRICAL REQUIREMENTS

PART I - GENERAL

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. Coordination: All electrical equipment placement and installation shall be coordinated with the elevator contractor and shall not be located until elevator equipment is installed or coordination has been arranged with elevator contractor's equipment placement. *[Editor's note: Include wording in electrical section of construction documents.]*
- B. NEMA 4 : All electrical equipment, located less than 1225 mm (48 in.) above the pit floor, shall:
- a. Be weatherproof (NEMA 4).
 - b. Have wiring identified for use in wet locations in accordance with the requirements in NFPA 70.
- C. GFI Receptacles: GFI receptacles shall be required in all elevator machine rooms, machinery spaces and elevator pit areas. ASME A17.1 NEC, 620.23(C) & 620.24(C). *[Note to AE: Include wording in electrical section of construction documents and show on the electrical drawings.]*
- D. Elevator Horsepower Demand: *[Note to AE: Identify the horsepower demands of the expected elevator to ensure building power distribution is adequate.]*
- E. Building Emergency Power to Elevator Machine Room and Elevator Car Lighting: Emergency power shall be provided to all elevator machine room lighting and to all elevator car lighting disconnects located in the elevator machine rooms.
1. Emergency Power to Elevator Machine Room HVAC Unit: If elevator is to operate on building emergency power, the HVAC unit (if applicable) shall also be provided with building emergency power so to provide proper temperature environment for the elevator controller.
- F. Lighting Required in Elevator Machine Rooms: Four foot, 2 tube, T8, guarded fluorescent light fixtures shall be provided in elevator machine rooms (and machinery spaces when present). Lighting shall be adequate to work on all equipment without shadowing. ASME A17.1. *[Note to AE: Include wording in appropriate section of construction documents and show on the electrical drawings.]*
- G. Lighting Required in Elevator Pits: Four foot, 2 tube, T8, guarded fluorescent light fixtures shall be required in all elevator pits. The location shall be determined after coordination with the elevator contractor so that the light fixture is located out of the way of all elevator equipment. ASME A17.1 *[Note to AE: Include wording in appropriate section of construction documents and show on the electrical drawings.]*
1. Sub-Pit Light fixture and Light Switches (when present): If there is more than one level of an elevator pit, a three-way switch shall be provided in both the pit areas to operate a

light fixture located in both locations. A light fixture shall be installed in each pit level. Both light fixtures shall be wired so that they both operate at the same time by light switches at both pit levels. *[Note to AE: When sub-pit is present, include wording in electrical section of construction documents and show on the electrical drawings.]*

- H. Bulls Eye (Simplex) Receptacles: Bulls eye (simplex) receptacle for Sump pumps (not – GFI) on a designated circuit shall be required in all elevator pits for the elevator pit sump pump. ¾-inch conduit is required to the sump pump. *[Note to AE: Include wording in appropriate section of construction documents and show on the electrical drawings.]*
- I. Light Switch Required in Elevator Machine Rooms: Light switches shall be required in all elevator machine rooms adjacent to the jamb side of the machine room entry door. NEC 620.23, ASME A17.1 *[Note to AE: Include wording in appropriate section of construction documents and show on the electrical drawings.]*
- J. Light Switch Required in Elevator Pits: The switch shall be a minimum of 18 inches above the elevator lowest landing doorsill and adjacent to (not behind) the pit access ladder. NEC 620.24(D), ASME A17.1 *[Note to AE: Include wording in appropriate section of construction documents and show on the electrical drawings.]*
- K. Grounding: Grounding shall be supplied from the elevator main line disconnect and controller to the MCC and building ground. NEC Article 250. *[Note to AE: Include wording in appropriate section of construction documents and show on the electrical drawings.]*
- L. Main Line Breaker or Disconnect (lockable, fused or breaker, a listed device): Shall be supplied in all elevator machine rooms in sight of elevator motor and controller and adjacent to machine room entry door, one disconnect required for each elevator. A label on the disconnect is required stating location of overcurrent protection device. NEC 620-51. *[Note to AE: Include wording in appropriate section of construction documents and show on the electrical drawings.]*
- M. Hydraulic Elevator Only: Main Line Disconnect Auxiliary Contact for Emergency battery Lowering Operation (when used): This item is supplied by the electric contractor within the main line disconnect: If an emergency lowering system is utilized on a hydraulic elevator, there shall be an auxiliary contact associated with the main line disconnect that is in compliance with the 2002 NEC Section 620-91 (C). *[Note to AE: Include wording in appropriate section of construction documents and show on the electrical drawings.]*
- N. Car Lighting Disconnect: A separate branch circuit shall supply the car lights, receptacle(s), auxiliary lighting power source, and ventilation on each elevator car. It shall be fused/breaker and lockable and shall be supplied in all elevator machine rooms. One disconnect required for each elevator. A label stating the location of the supply side overcurrent protection device is required on the disconnect. NEC 620.22(A) & 620.51(D). *[Note to AE: Include wording in appropriate section of construction documents and show on the electrical drawings.]*
- O. Air Conditioning and/or Heater for Elevator Car (when required, commonly used with parking garage or glass elevators): When air-conditioning unit provided for elevator cab, a dedicated branch circuit shall supply the air-conditioning and heating units on each elevator car. The fused/breaker, lockable disconnect shall be located in the elevator machine room. It shall have a tag stating the location of the supply side overload protecting device on it. NEC 620.22(B), & 620.51(D). *[Note to AE: Include wording in appropriate section of construction documents and show on the electrical drawings.]*
- P. Shunt Trip Circuit Breaker Required When Sprinklers are Present: Electric contractor shall provide a shunt trip circuit breaker for the elevator main line power in order to remove power

from elevator controls before any sprinkler is activated in the elevator machine room and hoistway overhead. The shunt trip circuit breaker shall be installed in the elevator machine room. ASME A17.1 *[Note to AE: Include wording in appropriate section of construction documents and show on the electrical and fire alarm system drawings.]*

- Q. 2 Separate Circuits for Elevator Pit: The elevator pit shall have a separate branch circuit supplying pit lighting and receptacle(s) and another for the pit sump pump. NEC, 620-24 *[Note to AE: Include wording in appropriate section of construction documents and show on the electrical drawings.]*
- R. Separate Branch Circuit for Machine Room Lighting and Outlets: A separate branch circuit shall supply the elevator machine room space lighting and receptacles. NEC 620-23(a) *[Note to AE: Include wording in appropriate section of construction documents and show on the electrical drawings.]*
- S. Electrical Component NEC Clearances: Clearances around all electrical equipment in the elevator machine room shall comply with NEC 110-26 electrical clearances requirements. The electrician's work and equipment placement shall be coordinated with the elevator contractor's equipment placement. NEC 620.5 *[Note to AE: Include wording in appropriate section of construction documents.]*
- T. Electrical Piping Runs: All electrical piping runs provided by the electrical contractor and elevator contractor to the elevator equipment shall be run overhead or in a manner which does not restrict access to and around any equipment. *[Note to AE: Include wording in appropriate section of construction documents.]*
- U. Emergency Phone and Data Line: Conduit shall be provided by electrical contractor in all elevator machine rooms to the elevator controller. Electrical contractor shall provide electrical conduit for both the emergency elevator phone and required data line to the elevator machine room, to the elevator controller, and terminated on the elevator controller with coordination from the elevator contractor. *[Note to AE: Include wording in appropriate section of construction documents and show on the electrical drawings.]*
- V. Overhead Machinery Spaces (if present): See *Drawing 14 20 00-4, Overhead Machinery Space Access – Variance*. GFI receptacles, fluorescent light fixtures, light switches are required in elevator overhead machinery spaces if overhead machinery space requires "full body entry" (as defined by elevator code). *[Note to AE: -WHEN APPLICABLE - Include wording in electrical section of construction documents and show on the electrical drawings.]*

PART 3 - EXECUTION

3.1

END OF SECTION **26** 80 00

This section of the *U of I Facilities Standards* establishes minimum requirements only.
It should not be used as a complete specification.