DIVISION 28

ELECTRONIC SAFETY AND

This Article on Codes, Regulation and Standards shall apply to all Divisions of the Building Standards
Table of Contents

28 00 00 ELECTRONIC SAFETY & SECURITY ................................................................. 3
28 30 00 ELECTRONIC DETECTION AND ALARM ...................................................... 3
28 31 00 FIRE DETECTION AND ALARM ................................................................. 3
Coordinate with the UIC Police Department.


Exit Signs:
1. Combo units shall be used where battery back up lights are required.

All fire alarm raceway, conduits, junction boxes, and terminal boxes shall be of red color or shall be painted red.

Label all fire alarm devices circuits

**Fire Alarm System Design Standards:**

1. General:
   a. New fire alarm systems and extension/modification of existing systems shall be in accordance with the provisions of most current City of Chicago Fire Prevention Code and shall comply with NFPA 72, 1997 edition and related NFPA requirements. The system's wiring and conduit design shall conform to more stringent of National and City of Chicago Electrical Codes. Design of all Fire Alarm systems shall be submitted to Authority Having Jurisdiction (AHJ) for review and approval. The University will identify AHJ. The University will make available the as-built drawings of the fire alarm systems that it has in its archives, however, it shall be the designer's responsibility to field survey the fire alarm system of the building where renovation/remodeling is being contemplated, to ascertain the spare and expansion capability of the existing fire alarm system. Additionally the fire alarm system shall conform with the Americans with Disabilities Act
   b. Fire alarm design drawings shall indicate, at the minimum, the location of devices, their heights, size of wires, conduit, zones, location of risers, and spare capacities of audio and visual circuits. Designer shall obtain the approval of his design from the AJH before release documents for bids.
   c. All Fire Alarm announcements require 3 horn alarms and the following message:

   "Attention, attention. The fire alarm system has been activated. Please exit the building immediately."

2. New Systems:
   a. The University will establish Code Occupancy for designers. In case of disagreement the designers shall discuss it with the Office of Capital Planning and Project Management (OCP). New systems, in general, shall be addressable, voice communication systems, unless it is unsuitable or unacceptable by applicable code or AHJ. Fire alarm design drawings shall conform to the requirements of AHJ's drawing review requirements. Fire alarm systems shall be zoned and its risers shall be protected with appropriate enclosures. Zones shall be designed with a minimum of 10% future expansion capacity. The bid documents shall require the installer to identify the wire according to the zone they serve by
Brady tags at each terminal point. The visual loops and audio alarming circuits shall be designed to provide a minimum of 20% spare capacities.

b. The fire alarm control panels shall be specified to be capable of providing an alarm and a trouble signal to Catalog No. 95M3086-1 TTM (Tones Transmitter Module), manufactured by Keltron Corporation, Waltham, MA 02154.

3. Buildings with Existing City Approved Fire Alarm Systems:
   a. With the exception of a few, all campus buildings with accommodations at any one time of more than 100 students have been classified as C3 Type II Schools and are currently equipped with City approved Class I fire alarm systems and have the City tie. Any modification(s) to such fire alarm systems shall be designed and installed only after review and approval of the City of Chicago Bureau of Fire Prevention.
   b. Additionally, buildings such as the University of Illinois Hospital (UIH), the Eye and Ear Infirmary (EEI), Health and Human Development Sciences Building (HHDSB) have City Tie.

4. Existing Buildings that have a Non-Code Compliant Fire Alarm System:
   a. The campus has buildings that have fire alarm systems that do not conform to City approved Class I fire alarm system requirements. University will identify such buildings to the designers. In such buildings, any major renovation project shall include the total upgrade of the building's fire alarm system.

5. High Rise Buildings with Non Compliant Fire Alarm Systems:
   a. The scope of major renovations in buildings of 80 feet or more above grade shall include installation of a new addressable, voice communication, City of Chicago Approved, High Rise fire alarm system.

6. Approved Manufacturer's of Fire Alarm Control Panels:
   a. Limit the approved manufacturers to 3 or 4 manufacturers. Specify manufacturers that will be in business for a reasonably foreseeable length of time. Specify manufacturers that will provide to UIC electricians the training and authority to deactivate selective zones, detecting device(s), alarming device(s); and the ability to program new devices. Specify manufacturers that have good track record with respect to providing technical services or parts to the University. The University will identify manufacturers whose performance had been less than satisfactory.
   b. As much as possible specify manufacturers whose control panels can accommodate detecting devices of other approved manufacturers as well.

7. Deactivation of Portion(s) of Existing Fire Alarm Systems:
   a. The Designer of remodeling projects, shall identify the zone(s) or loops of an existing operational fire alarm system, required to be temporarily deactivated for purposes of adding new devices or relocating existing devices.
   b. The Designer shall identify the zones or addressable loops that will be partially or fully required to be demolished so that the remaining fire alarm system of the building will be operational all the time. This may involve relocating the end of line resister.

8. Owner's Manuals and Parts List:
   a. Vendor/manufacturer shall provide the programming code and password to the University. The University shall have full access to program, diagnostic and maintenance of the entire system.
   b. Provide language in contract documents to the effect that contractor prior to demonstration of satisfactory operation of new fire alarm system or new devices, shall submit 3 sets of owner's manuals and parts list of the installed fire alarm system.

9. Testing:
   a. Acceptance of fire alarm system shall be contingent upon
      i. demonstration by installer to UIC Electrical Department that every device and equipment of the fire alarm system is performing in accordance with specifications and approved shop
drawings, UIC electrical Department receiving 3 sets each of approved shop drawings, equipment brochures and owners manuals,
ii. UIC electricians receiving training on trouble shooting, programming and servicing.
b. The Designer shall specify that after completion of the fire alarm system, the installer shall himself test all devices and shall be required to certify in writing that he has satisfactorily tested all devices, the annunciator and the control panel, and he is ready to demonstrate the system to the University. The OCP Project Manager, in consultation with UIC Electrical Department, will schedule the fire alarm test.
c. The installer will provide sufficient manpower to demonstrate the satisfactory operation of all devices to UIC electrical department.

10. Symbols:
   a. For standardization all fire alarm symbols shall be the City of Chicago Fire Alarm Symbols.

11. In case of building fire all stair doors shall automatically unlock to allow people not to be trapped in the staircase.