2101 Commonwealth Blvd, Suite B
Ann Arbor, MI 48105-5759
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275313-H: SUPPLEMENTAL CLOCK SYSTEM

Related Sections

Basis Guideline: 275313 – "Clock Systems"
260533-H – "Supplemental Electrical Materials and Methods"
For an explanation of the use of these guidelines, see "Design Guidelines for UMHHC Facilities"

Master Specification: 275313 – "Clock Systems"

Applicability:

The information expressed herein is unique to UMHHC owned, operated, and leased facilities, and are intended to supplement the University of Michigan's Architecture, Engineering, and Construction (UMAEC), design guidelines 16730. All information presented in the referenced UMAEC guideline applies to UMHHC facilities, unless explicitly stated otherwise below. Where differences and/or conflicts exist between the supplemental information noted below, and the information in the UMAEC guideline, this supplementary information shall take precedence.

The Design Professional (A/E) shall adhere to UMHHC Design Guidelines for all work at UMHHC facilities. Any requested deviations from these guidelines, shall be sent, in writing, to UMHHC's Facilities Planning and Development (FP&D). Address the correspondence to the assigned FP&D engineer for the given project. The deviation shall not be incorporated into the construction documents until written approval of the deviation is received by the Design Professional.

The Design Professional is fully responsible for the professional quality, technical accuracy, code compliance, and overall coordination of the contract documents. Compliance with these guidelines shall not be construed so as to relieve the Design Professional of any of that responsibility.

All major newnew I-2 occupancy facilities shall have a master clock system installed. Only Smaller facilitiesAmbulatory facilities which have surgery or procedure rooms are required to have a master clock system, when unless it is required noted in the program statement shall also have master clock systems. Existing clock installations in need of replacement or relocation s systems shall be extended and/or /modified when renovations are done should be upgraded to the Primex 72 MHz system when practical.

Standards:

System Type

The systems in existing I-2 facilities buildings shall be 120 volt hard-wire powered d type utilizing the medical campus 72 MHz Primex wireless synchronization system. In new buildings, hard-wired,, or hard wire powered or battery powered wireless types as noted in the campus guideline,, may be considered. If considering use of wireless type, Determine if the existing antenna coverage will be adequate, and install all necessary signal antenna and/or transmitters that are required. All signal transmitters should be powered off of the facility's emergency power (aka generator) system, if available. Do not, however, use carrier systems that rely upon power system wiring.

Battery powered clocks, because of higher maintenance costs, and lack of synchronization should be avoided. Those that are not synchronized by the medical campus 72 MHz wireless system should be avoided in I-2 facilities due to high maintenance costs. Battery powered clocks shall not be used in new inpatient buildings, outpatient surgery, and like occupancies.

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Raceways

1. Hard-wired 120 volt clock systems, as currently manufactured, are not power limited (as defined by NEC) and shall therefore not be routed in cable trays. Install all wiring in conduit. All raceways in the finished area shall be recessed. When allowed in a program statement, wiring may be run in a dedicated J-Hook system. When J-Hooks are installed, they shall be in full compliance with 260533-H and this document.
2. If power limited models become available consult UMHS UMHHC Electrical Engineer.

Installed Systems

1. Portions of theThe University Hospital and Mottand UH South have a 24-volt Simplex hard wired system installed. It is a Simplex Model #2351. The master for this system is in the Facility Control Center in UH, Room 1A203. This master has been extended into the new Cancer Geriatrics Center.
2. The Taubman Health Center has a 120-volt Simplex hard-wired system installed. It is a Simplex Model #2350. The master is in the substation room on B1 of THC, Room B311E.
3. The MCHC Building and the THC Expansion Buildingsouth end have a National Time System installed. It is a Model # MC-400. The master is in the communication room on the first level of MCHC Room F1214C.
4. University Hospital, Mott Childrens' & Womens', and The Cardiovascular Center have utilized the 72MHz Primex wireless clock system. The master clock wireless head end 60 watt transmitters are installed in the University Hospital, Level 9 penthouse and in Mott Children's & Women's. The standard field clock is Model #$14155. Provide a remote receiver for lead-lined rooms. (Ellen, check with Bill or (I think) Bio-Med

System Expansion

1. NeEither of the two Simplex masters may should not be extended into new buildings or additions new areas in the existing buildings of on the main UMHS UMHHCMichigan Medicine campus. Install Primex 72 MHz amplifiers/ boosters and related equipment as necessary to provide wireless synchronization to the new installation area. Any such amplifiers,amplifiers or boosters shall be installed in HITS telecommunication rooms closets and powered by the emergency power system. Request prior approval of all equipment installation within telecommunication closets from the HITS UMHS Telecommunications Closet Work Group at UMHS-TCWG@med.umich.edu .
2. If system loading, or physical distances, prevent use of either of these systems install a new Simplex system of similar design preferably the Model 2351, 24-volt system.
3. The National Time System shall be extended only within MCHC building, and Taubman Expansion (Zone D) of that building.

Master Clock Locations

1. Specific locations to receive master clock will be noted in the program statement or will be defined during design development.
2. As a general guideline, for preliminary planning purposes, assume a clock will be installed in the rooms noted below:
    A) Placed as needed for convenient use by staff, patients, and visitors. May be dual-mount (back-to-back) style as required.
    B) One analog wall mounted clock mounted in view of all patients and/or staff.
    C) One digital wall mounted clock mounted in view of all staff.
    D) Check with project architect and/or MM Infection Prevention & Epidemiology regarding the Special Building Area room type and the manner of clock wall mounting that will be required for cleaning: wall surface-mount, wall semi-recessed flush-mount, or wall surface tilt-mount.
    E) A digital elapsed time clock may also be required. Connect the elapsed time clock to activate with the Code Blue button (if one is present in the room).
    F) Clocks and elapsed timers typically have extremely high leakage current values and are not suitable for connection to isolated power systems. An essential power system Critical Branch circuit shall be installed to power these clocks/timers.

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G) The use of battery powered clocks should be discouraged in this location.
H) The use of battery powered clocks shall not be allowed in this location.
I) The use of battery powered clocks may be considered for this location.

Locations:	Special Notes:
Corridors and elevator lobbies	A), G)Placed as needed for convenient use by staff, patients and visitors.
Patient Rooms	A), B), G)One in view of all patients.
Treatment Rooms	A), B), H)
Procedure/Diagnostic Rooms	A), C), D), E), F), H)
Operating, Delivery, Emergency, and ICU type rooms	A), C), D), E), F), H) One wall mount unit. Digital elapsed time type clock may also be required, connect this timer to activate with Code Blue button (if one is present in room).
Control Rooms (Radiology/Radiation Oncology)	A), C), E), H)

Support Spaces such as:	
Nurse stations	A), C), H)
Pharmacies	A), C), D), H)
Medication rooms	A), C), D), H)
Conference rooms	A), B), I)
Admitting/Discharge offices	A), B), G)
Staff lounges	A), B), I)
Shops	A), B), G)
Open area office suites	A), B), I)
Cafeteria/kitchens	A), B), G)
Auditoriums	A), B), G)

Clocks, typically will not be installed in the following rooms:	
Private Offices	A), I)
Waiting rooms	
Mechanical or electrical rooms	
Stairwells	

Mounting

All clocks will typically be wall mounted, recessed or semi-flush with wall surface. Double faced clocks for corridors are an exception to this rule.

1. Mount all clocks high enough to avoid damage from carts or movable equipment moving in corridors or carts being placed in rooms. Confirm mounting height with the project architect for all new locations.

Clock Type/Size

1. Single face clocks shall be 12" round, semi-flush, with sweep second hand, 24 (typically) VAC synchronous wired indicating clock with black molded case/lens and symmetry dial and hands. Provide 9" clocks where space is limited, i.e. above door frames.
2. The standard analog field clock is the Primex XR 12.5” Traditional Series Battery Model #14155(E).
3. The standard digital OR and CPU lab clock and/or elapsed timer is the Primex XR Levo Series Code Blue Timer.

When extending the Simplex 120 volt systems or the National Systems, adjust part numbers as needed and/or to match building standards.