Division 28 Electronic Safety and Security

28 10 00. Electronic Access Control and Intrusion Detection

28 11 00. Electronic Access Control

28 11 05. Electronic Access Control for New Construction

1. General Requirements:
    - Refer to UW-Madison Policy UW-404 Building Electronic Access Control, which can be found on the UW Madison website. https://policy.wisc.edu/library/UW-404
    - All significant projects and non-Capital projects shall consult with designated UWPD personnel to see if the project covers any areas where access control is required.
    - At a minimum for new construction projects, access control shall be provided on the following doors:
        - Exterior points of entry (electronic locks for the purpose of remote lock/unlock on all – card/credential reader doors will be limited to the amount needed for sensible traffic flow dependent upon building size and occupancy)
        - Access to animal care areas.
        - High security areas including as mandated by federal and/or state regulations and guidelines.
        - Personnel record storage.
        - Sensitive and critical mechanical spaces.
        - Telecom rooms, server rooms.
        - MDF/IDF rooms
        - Those rooms deemed necessary by the building occupants or UWPD.
    - Electronic access control in required areas shall not be removed from plans without written consent from UWPD.
    - Lenel OnGuard, is the campus standard implemented by UWPD and the UW-Madison contracted integrator. All decisions for access control systems within new construction shall be coordinated jointly with the building occupants, UWPD, UW-Madison contracted integrator, and UW Facilities Planning & Management. The design team shall be responsible for engineering the system in cooperation with those listed above.
    - The entire access control system for UW-Madison buildings is funded by the project. It will be designed and installed via a partnership between the design team, UWPD, the UW-Madison contracted integrator, and the Electrical Contractor.
    - During the design and development phase of the project, once the security requirements for the building are understood, cameras are located, and doors are noted as having or not having access control features, the UWPD shall receive a request for a cost estimate and funding string to bill to begin work with the UW-Madison contracted integrator.

- The UWPD and the UW-Madison contracted integrator shall provide commissioning services for the following equipment.
    - Lenel mercury head end equipment
    - Termination of the head end equipment
    - Commissioning of the system

  The Electrical Contractor shall provide and install all raceways, end of the line resistors cabling, request to exit devices, door hardware, and other devices such as electric locks and local alarm horns. The Electrical Contractor shall also be responsible for installing Life Safety power enclosures (with tamper switches), HID Signo card readers, biometric devices and pin devices, all of which are purchased through the UWPD and the UW-Madison contracted integrator. These items shall be installed on building façade and walls according to UW Physical Plant specifications and may be inspected by UW-Madison quality assurance personnel.
- The Electrical Contractor, working with the UWPD and the UW-Madison contracted integrator may provide the following documents and drawings during this phase.
    - Door location drawings
    - Lenel Mercury panel layout
    - Door detail drawing
    - Riser prints
    - Panel take-offs
    - Contractor termination details
    - Related Cut Sheets
    - Resistor pack layout
    - Camera locations
- Electrical contractors shall use cat 6 or better for cabling between the head end and the network switch. Coordinate installation with UW-DoIT. For standard doors, the electrical contractor shall use shielded access control all-in-one composite cabling for the head end to the door and additional AWG 18 wiring for doors with ADA openers, in/out carding and other doors with additional switches or devices.
- Rack-based head end equipment should reside in the MDF. Any rooms housing head end equipment shall have electronic access control devices. Intelligent System Controllers (ISCs) shall be located within 500 feet (cable length) of the doors they serve, preferably in telecom rooms or electrical rooms, consistent floor to floor. The design team shall be responsible for educating themselves on the system in order to determine panel sizes and required and capacity issues.
- UWPD shall issue appropriate access credentials for contractors. Project Managers must send an approved list of contractors requiring credentials to UWPD. After notification, contractors will be directed to UWPD to obtain access credentials.
- Any door with electronic access control shall have either a UWPD high security keyway core, or for an electronically access-controlled classroom doors a standard classroom key may be used.

- All hardware groups for doors with credential readers and electric locks shall have door contacts and Request to Exit (REX) devices including doors in a pair and inactive-leaf doors. UWPD does not recommend motion detector-type REX's. Internal REX devices are required, except when existing conditions do not permit, these locations may be equipped with motion detector-type REX devices. Doors are not actively monitored at this time by UWPD unless special arrangements have been made.
- The UW utilizes magnetic hold-opens but does not permit magnetic locks unless this is the only way to secure the door.
- UWPD uses several configurations to describe attributes they require on doors with access control. Possible sample configurations are as follows:
  - Config1 – Electronic latch retraction (crash bar), card reader, REX device, door contacts. Latch bolt status monitor (optional).
  - Config 2 – Electronic latch retraction (crash bar), door contacts, latch bolt status monitor (optional). Internal REX device. No Card Reader
  - Config 3 – Card reader with keypad, door contacts, electric lock, and REX
  - Config 4 – Card reader (standard), door contacts, electric lock and REX
  - Config 5 – Electric Locks, door contacts, and REX
  - Config 6 – Emergency egress device (crash bar), door contacts, local alarm
  - Config 7 – Card reader with Biometric access, REX (Request to Exit), door contacts.
- UWPD shall work with building occupants to set up their security groups. A single representative for the new facility or a representative for each department (school) housed within the facility shall work with UWPD to assign access rights to individual end users. After the initial set-up of the system, UWPD may train building representatives on the use of a "web-client" to modify access requests for their spaces.
- It shall be noted that when the ability to alarm an area (door position switch) is absent, and physical security features are lacking (such as latch guards and pinned hinges), an access control device does not provide a higher level of security than a standard key lock; however, it does provide key control and access logging which standard keying does not.

2. Assistance Alarms:
   - Assistance alarms are discouraged as they are the least reliable and least informative tool for summoning help. 911 by telephone is the best form of assistance communication. If the occupants of the building require, assistance alarms can be installed using an RF system whereby an emergency signal is sent to a location within the building and the UWPD simultaneously. Examples of this include panic alarms at cashiering stations. The current standard is the UL listed Ademco Vista system which is available hard-wired or wireless.

3. Code Blue:
    - A code blue option shall be available for elevator lobbies if it is determined that an override may be needed for emergencies by the occupants of the building. This is not related to the fire department override.
    - A code blue phone shall be available for use in UW parking ramps and other areas where personal safety is a concern. The push button directly connects the person to UWPD 911. The current standard is Code Blue model CB2-A. This is the campus standard for parking ramps. The campus standard for occupied non parking structures shall be the Code Blue model CB 4-S. The campus standard exterior "pedestal" style phone is Code Blue model CB-S, safety red color pedestal. The word 'Emergency' shall be stenciled on the side.

4. Security Alarms:
    - Security alarms can be set up for afterhours monitoring/reporting if the building occupants require. These alarms may utilize glass break, motion detection, or door contact hardware, along with Ademco alarm control panels tied in to the Lenel access control system.

5. Announcements/Drills:
    - Overhead paging can be run through the fire alarm system if the building occupants require. Custom voice-over can be included as well as pre-recorded messages. If this is the case, an additional panel is required, and all devices shall be tamper-proof.

6. Stairs and Elevators:
    - There shall be a provision within each passenger elevator for an access control device.
    - All elevators shall include a security override switch located in the elevator control room, and this switch should be monitored by UWPD.
    - All freight elevators shall be prepped for a future access control device unless the building occupants prefer otherwise. Elevator prep shall be determined on a project-by-project basis.
    - Depending on the needs of the building occupants, stairs can be provided with access control at each floor. All egress doors shall be provided minimally with a door contact (DPS) to alert if a door is opened. If the door is used for normal egress along with emergency egress, the door must also have a REX device. If electronic locking is included in egress doors, these devices will "fail safe and remain latched" in an emergency. For emergency egress, the REX device must be internal to the exit hardware.
        1. Only electrified locksets shall be installed on rated assembly doors. Electric strikes are prohibited.
        2. Override key switch shall be included whenever egress doors are equipped with access control. The override key switch installation location shall be coordinated with MFD/EH&S.
        3. Knox Box 4400 series recessed tamper switch box shall be included whenever access control is added to egress doors.

4. A tamper switch point will need to be created by DDC so UWPD can see whenever a Knox Box door is opened.

Note: As this is a "living" document, the configuration list may change dependent upon any new Federal regulations and changes in available technology.

28 20 00. Electronic Surveillance

28 23 00. Video Surveillance

28 23 23. Video Surveillance Systems Infrastructure

1. All use of security cameras and video equipment shall comply with the UW-402 Security Surveillance Camera and Video Policy. https://policy.wisc.edu/library/UW-402

2. Responsibilities

- The UWPD is authorized to oversee and coordinate the use of video surveillance.
- The Associate Vice Chancellor/Chief of Police or designee must authorize all video surveillance.
- The UWPD Director of Security Video Operations is appointed the administrator of the campus surveillance camera and video system.
- DoIT will manage the servers associated with cameras and video surveillance.
- The electrical contractor shall conduct a site visit with Director of Security Video or designee prior to camera rough-ins. Failure for the contractor to do so, will require the contractor to cover the cost of any changes to camera positions or locations.
- The electrical contractor is responsible premise wiring for cameras.
- The design team is responsible for ensuring installations are both code compliant and meet Federal, State and University Standards. FP&M and/or DoIT are responsible for inspection of installations.
- The electrical contractor shall coordinate all installations with UWPD and DoIT.
- Requests for repair, maintenance and replacement will be routed through the UWPD to the FP&M Physical Plant Electric Shop.
- Purchasing of cameras will be handled by UWPD with the UW-Madison contracted integrator.

3. Cameras:
    - Cameras, where desired by UWPD, shall be the "fixed" type with wide angle or as required for specific intended purpose. They shall be ceiling mounted and housed in a lexan bubble. They shall record by movement to a Storage array controlled by DoIT in a secure location which is compatible with Milestone Xprotext Corporate 2019 R3 system. The server shall be in a secure room which shall be accessible by UWPD and the UW Electric shop.
    - Typical camera locations include exterior entrances, loading docks, elevator lobbies, where there are cashiering functions, alarmed locations, elevators, and other locations as determined by the building occupants.
    - In all cases, fixed cameras will be I.P. cameras, with minimum 1.3 megapixel resolution. Hardware shall be determined by the UW police department or designee. In some locations, distance considerations may preclude the use of I.P. cameras. Where I.P. cameras are not feasible, UW Police Department will specify an alternative camera and lens based on site specific needs.
    - Cameras record but are not actively monitored by UWPD unless special arrangements have been made.
    - The Wisconsin Office of the Attorney General provides digital storage recommendations based on Wisconsin State Statutes. These statutes outline the time frame to file a notice of claim against the state. The Attorney General suggests storing video for a minimum of 120 days. UWPD shall determine storage needs on a project–by–project basis.

4. Installation and Issuance

    - UWPD will make assessments for new camera locations not already in existence. The assessments will be made in consultation with building occupants.
    - UWPD's IS Unit will maintain a current inventory of permanent camera installations.
    - All requests for installing video surveillance on UW-Madison property must be routed to the IS Unit of the UWPD. A representative of the IS Unit will then conduct a security survey (also called a SCOPE report) and forward to the appropriate entities, i.e., FP&M Physical Plant, DoIT, AIMS, to develop a cost estimate for the requestor.
    - All video surveillance equipment must comply with current University standards.

28 30 00. Electronic Detection and Alarm

28 31 00. Fire Detection and Alarm

1. Most campus facilities are considered common use areas and as such, require both audible and visual fire alarms. Visual fire alarms shall be synchronized so each device flashes at the same time and the cycle of the flashes shall be no less than 2 seconds.
2. Shops and docks shall have heat detectors used in place of smoke detectors, if allowed by the code.
3. Care shall be taken to follow building codes with respect to the design of exterior overhangs and soffits. When these are constructed of combustible materials, heat detection or sprinkler protection shall be incorporated.
4. Most spaces separated by a door from audible alarms require their own audible alarms to meet minimum dB.
5. For campus projects that require either a UTILITY SHUTDOWN (electrical, plumbing, steam, DDC etc.) or a shutdown of a LIFE SAFETY SYSTEM (water-based fire protection, fire alarm, alternative fire suppression system, etc.) the GC shall work with the PM to obtain and submit proper notifications as outlined within the UTILITY SHUTDOWN AND LIFE SAFETY SYSTEM IMPAIRMENT FORM.