1. Revise 7.2.1.6.2 to read as follows:

7.2.1.6.2 Sensor-Release of Electrical Locking Systems. Access-Controlled Egress Door Assemblies. Where permitted in Chapters 11 through 43, door assemblies in the means of egress shall be permitted to be equipped with sensor-release electrical locks to prevent egress locking system hardware provided that all of the following criteria are met:

1. A sensor shall be provided on the egress side, arranged to electrically unlock the door leaf in the direction of egress upon detection of an approaching occupant.
2. Door leaves shall automatically electrically immediately unlock in the direction of egress upon loss of power to the sensor or to the part of the locking system that electrically locks the door leaves.
3. Door locks shall be arranged to electrically immediately unlock in the direction of egress from a manual release device complying with all of the following criteria:
   a) The manual release device shall be located on the egress side, 40 in. to 48 in. (1015 mm to 1220 mm) vertically above the floor, and within 60 in. (1525 mm) of the secured door openings, except as otherwise permitted by 7.2.1.6.2(3)(b).
   b) The requirement of 7.2.1.6.2(3)(a) to locate the manual release device within 60 in. (1525 mm) of the secured door opening shall not apply to previously approved existing installations.
   c) The manual release device shall be readily accessible and clearly identified by a sign that reads as follows: PUSH TO EXIT.
   d) When operated, the manual release device shall result in direct interruption of power to the electrical lock — independent of the locking system electronics — and the lock shall remain unlocked for not less than 30 seconds.
4. Activation of the building fire-protective signaling system, if when provided, shall automatically electrically immediately unlock the door leaves in the direction of egress, and the door leaves shall remain electrically unlocked not relock against egress until the fire-protective signaling system has been manually reset.
5. The activation of manual fire alarm boxes that activate the building fire-protective signaling system specified in 7.2.1.6.2 (4) shall not be required to unlock the door leaves.
6. Activation of the building automatic sprinkler or fire detection system, if when provided, shall automatically electrically immediately unlock the door leaves in the direction of egress, and the door leaves shall remain electrically unlocked not relock against egress until the fire-protective signaling system has been manually reset.
7. The egress side of sensor-release electrically locked egress new doors, other than existing sensor-release electrically locked egress doors, shall be provided with emergency lighting in accordance with Section 7.9.
8. Hardware for new installations shall be listed in accordance with ANSI/UL 294, Standard for Access Control System Units.
**Substantiation:** The changes made to section 7.2.6.1.2 Access-Controlled Egress Door Assemblies (as it was formerly titled in the 2015 edition) during the latest revision cycle result in eliminating the requirements for magnetically locked egress doors. By deleting the words “…lock hardware that prevents egress…” from the charging statement, users of the Code will need to sort out for themselves when the requirements of 7.2.1.6.2 apply.

No technical justification was cited by the technical committee for deleting “…lock hardware that prevents egress…” from the charging statement.

Items (1), (2), (3), (4), and (6) require the doors to “…unlock in the direction of egress,” but the key phrase acknowledging these doors are locked against egress was deleted from the charging statement. The presence of sensors on the doors of 7.2.1.6.2 should be secondary to the fact that their normal condition (status) is LOCKED AGAINST EGRESS. Hence, the reason these requirements are considered a type of special locking arrangement; under normal operating conditions these doors are locked against egress—that is how they function.

As written, it’s very likely the list of criteria in 7.2.1.6.2 will be applied to ALL doors that have some form of electrified locking AGAINST ENTRY when they have some form of sensors (e.g., power-operated doors with motion sensors and safety sensors), which is NOT the condition that 7.2.1.6.2 was designed to address.

Further, the new title for this section **“Sensor-Release of Electrical Locking Systems”** is misleading and will contribute to misapplication of the requirements of 7.2.1.6.2. Admittedly, the term “Access-Controlled Egress Door Assemblies” is antiquated—it first appeared in the Code circa 1970s to address concerns of entrapping people in buildings and spaces with magnetically locked egress doors. The term “access-control” has evolved over the years; it has a much different connotation today than it did 40 years ago. Even though the term “Access-Controlled Egress Door Assemblies” is dated, it is embedded in the Code. Some code officials (and others) misapply the requirements of 7.2.1.6.2 to ANY door that has a credential reader on the entry side of the doors, irrespective of the presence of magnetic locks, simply because the doors have electrified locking hardware components. The phrase “…Electrical Locking Systems” is more ambiguous than the original title of 7.2.1.6.2.

A more appropriate title for 7.2.1.6.2 might be “Magnetically Locked Doors” or “Doors Magnetically Locked Against Egress” but it makes sense to retain its original title since it is well established over many generations of the Code.

The requirements of 7.2.1.6.2 need to focus on function, not features. These types of doors need to IMMEDIATELY unlock in the direction of egress, when approached on the egress side by occupants or when released by the required manual override device (e.g., push button), which is accomplished “automatically” and “electrically.” However, the words “automatically” and “electrically” do not require these doors to IMMEDIATELY release in the direction of egress, which is the Code’s intent.

Following is a brief description of how access-controlled egress doors function:

In their normal condition, access-controlled egress door are closed and magnetically locked—the doors cannot be manually opened for egress or entry. On the egress side, a motion sensor
(mounted on the ceiling or on the wall above the doors) detects approaching occupants, momentarily “turning off” the magnetic lock, thereby allowing doors to be manually opened and permitting occupants to safely and freely egress. A second means of releasing the magnetic lock is required to be located in close proximity to the egress side of the doors that manually interrupts power to the magnetic lock—this fail-safe feature is unique to access-controlled egress doors. On the entry side, a card reader (or other type of credential reader) is used to allow authorized individuals to gain entry to the building, room, or space. Typically, the doors remain unlocked for only a few seconds when the magnetic locks are released by motion sensors and/or credential readers; the Code requires doors to remain unlocked for at least 30 seconds when the magnetic locks are released by the manual override pushbutton.

The most common application of access-controlled egress doors are exterior entry doors to corporate office buildings, as well as interior office suite entry doors. There are literally hundreds of thousands of these doors in use today all across the nation.

Access-controlled egress doors consist of magnetic locking components (or similar locking components like fail-safe electric and pneumatic bolts) that are not integrated (connected) to any door-leaf-mounted hardware component (e.g., panic/fire exit hardware, touch-sense bars, lever-operated lock trim, etc.)—these locking components lock doors against entry and egress. In most cases, these types of doors do not have latching hardware components unless they are fire-rated.

Accordingly, motion detectors are required on the egress side of the doors to detect people as they approach the doors—automatically and immediately unlocking the doors in the direction of egress. A second (manual/redundant) means of releasing magnetic locks is required, which is a pushbutton that is labeled, “PUSH TO EXIT”.

Access-controlled egress doors pose a particular dilemma when trying to balance security and safety from the entry side of the doors and the need to allow people to freely exit through the doors. The Code requires these doors to unlock in the direction of egress. The unintended consequence of access-controlled egress door systems is that they also unlock doors from the entry side, in most cases. For example, when people move into the field of view of the motion sensors, magnetic locks release allowing the doors to be opened. People on the inside cannot approach (e.g., to verify visitors attempting to enter) the doors without unlocking the doors—creating a security risk. Latching hardware, if installed, keeps doors closed but the doors can be opened from the entry side unless they are mechanically locked against entry.

On the entry side of the doors, card readers (and other credential readers) are used to momentarily deactivate magnetic locks so that the doors can be opened. When latching hardware is mechanically locked, people entering through the doors need to use keys to retract latch bolts after swiping their cards to turn off the magnetic locks.

Electrically Controlled Egress Doors were added to the Code in 2009 to distinguish doors equipped with integrated electrified hardware functions (including motion safety sensors on the egress side and credential readers to control entry) from Access-Controlled Egress Door Assemblies—operating door-leaf-mounted hardware components to egress through these doors instantly (and integrally) causes magnetic locks to release without the occupants’ awareness or action; eliminating the need for motion sensors and manual override releases. Electrically Controlled Egress Doors (7.2.1.5.6) can be comprised of many types of electrified locking
components, including magnetic locks, touch-sense bars, motion sensors and safety sensors for power-operated doors. For this reason, the new title of 7.2.1.6.2 will lead to misapplication because sensors are used on many other types of doors that are not subject to its requirements.

Emergency Nature: The standard contains an error or an omission that was overlooked during the regular revision process. The proposed TIA intends to correct a circumstance in which the revised NFPA Standard has resulted in an adverse impact on a product or method that was inadvertently overlooked in the total revision process or was without adequate technical (safety) justification for the action.

The 2018 edition of NFPA 101 was issued with the above described flawed language and revisions. Deleting the key words “…lock hardware that prevent egress…” from 7.2.1.6.2’s charging statement is a critical oversight that will have unintended consequences for many types of buildings and facilities.

Anyone may submit a comment by the closing date indicated above. Please identify the TIA number forward to the Secretary, Standards Council. SUBMIT A COMMENT