

# BCAC Egress Item 5 Control Vestibule–

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E55-21 AMPC/D in vote [Item 5 E55-21 w PC.pdf](#)

Spring hearings – <https://www.cdpass.com/videos/4348/>

Fall Hearings - <https://www.cdpass.com/videos/4751/>

The draft text below builds on proposal E55-21, the public comments to E55-21, the debate / discussion during the 2021 Public Comment Hearings, and subsequent discussions. The comments in this doc are based on testimony during the 2021 PCH. The formatting of this draft is revised a bit from E55-21 in an attempt to be more reader-friendly.

## Add new definition as follows:

**CONTROL VESTIBULE.** A space with doors in series that are interlocked such that when one door is open another door is restricted from opening.

## Add new text as follows:

**1010.2.15 Control vestibule.** Control vestibules in the means of egress shall be permitted for security, environmental control or clinical needs in:

1. Groups F, H-3, H-4, H-5, I-1, I-2, and S where the occupant load of the room or space served by the control vestibule is less than 50.
2. Groups B and M where the occupant load of the room or space served by the control vestibule is 10 or less.

**1010.2.15.1** Control vestibules shall be permitted where the building complies with either of the following:

1. The building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.
2. An approved automatic smoke detection system in accordance with Section 907 is installed in the room or space served by the control vestibule.

**1010.2.15.2** Where doors in the means of egress are configured as a control vestibule, the control vestibule door interlocking system shall provide for egress. The control vestibule shall comply with all of the following:

1. On the egress side of each door of the control vestibule, an approved override switch shall be provided which unlocks the interlocked electric lock of that door.
  - a. Each override switch shall be located 48 inches (1219 mm) maximum, measured horizontally, of the door and 40 minimum to 48 inches maximum (1016 mm to 1219 mm) above the floor.
  - b. Signage shall be provided with instructions on the use of the interlock override switch.
  - c. When operated, the override switch shall result in direct interruption of power to the interlocked electric lock — independent of other electronics — and the interlocked electric lock shall remain unlocked for not less than 30 seconds.

**Exception:** Where the control vestibule is designed to impede occupant egress for security reasons, the override switches for the door interlocks shall be permitted to be moved to approved alternate locations.

2. Upon activation of the automatic sprinkler system or automatic smoke detection system the interlock function of the doors of the control vestibule shall deactivate.

**Commented [JW1]:** Groups H-3 and H-4 recommended to be added during joint BCAC / FCAC meeting / discussion in Schiller Park (Chicago), IL, Sept. 20, 2023.

**Commented [JW2]:** Concern with Group H-5 during 2021 PCH testimony. Should Group H-5 be moved to a new Item 3, and include specific conditions / requirements for egress? Also 2021 PCH concerns with limiting B and M to 10 occupants while permitting / limiting H-5, I-1, and I-2 to 49 occupants.

**Commented [JW3]:** Per discussion during BCAC Egress Work Group meeting April 19, 2023, this **criteria revised and added** for consistency with Item 4 of 1010.2.12 (sensor release of electrically locked egress doors).

**Commented [JW4]:** Concern with this exception as too broad in E55-21 PC4. This text is revised in attempt to address concerns raised during 2021 PCH.

Exception: Where the control vestibule is designed to impede occupant egress for security reasons, automatic sprinkler system sprinkler heads and automatic smoke detection system smoke detectors shall be permitted to be omitted within the control vestibule where the interior finish of the wall, ceiling, and floor of the control vestibule interior is noncombustible.

3. Upon loss of power to the interlock function of the doors, the interlock function of the door locking system of the control vestibule shall deactivate.
4. The egress path from any point shall not pass through more than one control vestibule.
5. The doors of the control vestibule shall be self-closing.
6. The doors of the control vestibule shall swing in the direction of egress travel.

**Exception:** Power-operated doors in accordance with Section 1010.3.2.

7. The electro-mechanical or electromagnetic locking devices shall be listed in accordance with either UL 294 or UL 1034.

#### Reason:

Control vestibules are being incorporated in the means of egress in a variety of occupancies. A control vestibule – which may be called an airlock, a mantrap, or a sallyport – has doors in series which are interlocked such that when one door of a control vestibule is open, the other door in series in the control vestibule is temporarily prevented from being opened.

The IBC is currently silent regarding requirements and guidance for control vestibules. This proposal offers requirements (guidance) for control vestibules in the means of egress.

Control vestibules are most commonly configured as a space with two doors in series. But, some control vestibules are configured with more than one inner door and / or more than one outer door. For example, where a control vestibule is required to help keep clean rooms clean, there may be inner doors from more than one clean room opening into the control vestibule, and one outer door for leaving the control vestibule in the direction of egress.

This proposal addresses egress related requirements for control vestibules. Control vestibules, such as mantraps, which provide security or access control on the ingress side of doors into a building or into a space within a building are more common than control vestibules on the egress side of doors controlling egress from a space or from a building. Requirements for access-side control vestibules is outside the scope of the IBC. Thus access-side control vestibules are not regulated or prohibited by the IBC provided all requirements for egress are complied with. This proposal addresses control vestibules in the means of egress with egress-side requirements.

Control vestibules must provide for egress – which is a requirement in the charging language (Section 1010.2.15.2).

Together, the definition and proposed requirements provide for egress where control vestibules are installed.

Note: a control vestibule is different than a sallyport, which is defined in the IBC and permitted in Group I-3 occupancies. Group I-3 includes correction centers, detention centers, jails, prisons, and similar uses. A sallyport is a security vestibule which prevents unobstructed passage. A control vestibule is intended to allow unobstructed passage, but prevents more than one door of doors in series to be open at the same time.

Also, it should be noted that control vestibules may be “stacked” or combined with any of the other “shall be permitted” electrical locking arrangements of the IBC (2021 IBC sections 1010.2.11 through 1010.2.14). For example, assume both doors in the (air lock) control vestibule from an electronics

**Commented [JW5]:** New exception per discussion during BCAC / FCAC meeting in Schiller Park (Chicago), IL, Sept. 20, 2023.

In the situation addressed by this exception, should the control vestibule be limited in size (i.e. limited square feet)? This exception addresses the potential for a person to deliberately create a fire within the control vestibule which results in the deactivation of the door interlocks allowing the person to egress.

manufacturing clean room are equipped with sensor release of electrically locked egress doors (IBC Section 1010.2.12) to allow no-touch exiting from the clean room through the (air-lock) control vestibule. The electrical locks on the two doors of the (air lock) control vestibule would be interlocked such that only one door is able to be open at a time. In the event of fire in the clean room, Item 2 requires the interlock function of the control vestibule to be deactivated, facilitating egress through the control vestibule with both doors open at the same time.

**Cost Impact:**

The code change proposal will increase the cost of construction.

Control vestibules are currently not addressed in the code. Where control vestibules are constructed, these requirements may include some locking requirements and interconnectedness currently not incorporated into some control vestibules.