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Code/Section	See Below
Approved:	Technical Review Team
Developed by:	Electrical Section
References:	2024 International Building Code (IBC), 2023 National Electrical Code (NEC), and 2024 International Energy Conservation Code (IECC) each with city Of Phoenix Amendments

Issue:

What is required for egress and emergency egress lighting for a temporary building use?

Guideline:

Egress lighting will be required to comply with the building and electrical codes for the occupancy use; even if that use is temporary. The following requirements will need to be addressed on the plans to obtain a permit and will be verified in the field during inspection:

- The means of egress, including the exit discharge, shall be illuminated at all times the building space served by the means of egress is occupied. (IBC 1008.1)
- The means of egress illumination level shall not be less than 1 foot-candle at the walking surface. (IBC 1008.2.1)
- In the event of (normal) power supply failure, an emergency electrical system shall automatically illuminate the means of egress, of a space requiring two or more exits, for a duration of not less than 90 minutes. (IBC 1008.3.1)
- Emergency lighting facilities shall be arranged to provide initial illumination that is at least an average of 1 foot-candle and a minimum at any point of 0.1 foot-candle measured along the path of egress at floor level. Illumination levels shall be permitted to decline to 0.6 foot-candle average and a minimum at any point of 0.06 foot-candle at the end of the emergency lighting time duration. A maximum-to-minimum illumination uniformity ratio of 40 to 1 shall not be exceeded. (IBC 1008.3.2)
- The emergency lighting system must comply with NEC Article 700
- The source of power for the emergency lighting and exit lighting shall be one or more of the systems described in NEC 700.12(C) thru (H). (C) Supply Duration, (D) Generator Set, (E) Stored Energy Power Supply Systems (SEPSS), (F) Separate Service, (G) Microgrid Systems, (H) Battery Equipped Emergency Luminaires.
- Exit signs are required to be illuminated at all times. In the event of normal power supply failure, the emergency power source shall automatically illuminate the exit signs for not less than 90 minutes. (IBC 1013.6.3)
- Lighting that is added or altered for the event and will remain installed afterwards must comply with IECC C405.

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Depending on the choice of lighting or the type of emergency power source; the following may apply:

- If “battery packs”, (unit equipment), are installed, they must be connected to the lighting circuit serving the normal lighting in the area, upstream of any switching, per NEC 700.12(H). Since the lamps on the unit equipment will only be energized upon a loss of normal power, additional lighting would be required for normal egress lighting.
- If fluorescent fixtures with integral battery backup are installed, they could act as both normal egress and emergency egress lighting since the lamps would be energized by normal power. The fixtures would also be connected ahead of any switching.
- If High Intensity Discharge (HID) lighting is used as the sole source of normal illumination, the emergency lighting system must operate until normal illumination has been restored. (NEC 700.16)
- If the emergency power source is centrally located, such as a generator or inverter, the emergency wiring will be required to be kept entirely independent of all other wiring and equipment. (NEC 700.10)

Any existing emergency egress lighting should be evaluated by the designer and shown on the plans supplementing the egress floor plan. Design consideration must be given to the characteristics of the space, including, but not limited to, mounting height, ceiling height, reflectance values of the ceiling, walls, and floor, as well as the characteristics of the luminaire (light fixture) and light source, light loss factors, and contributions of other emergency light fixtures. A photometric calculation can be a valuable tool in determining the emergency egress lighting layout. Keep in mind; that actual conditions can vary from design criteria, and additional lighting may be required by the inspector in the field based on measurement by foot-candle meter after the initial installation is complete. Allow sufficient time to design and install the electrical lighting system prior to the event date. Refer to PBCC 107.2.1 for minimum plan submittal requirements.

Note: installation must be performed by a licensed electrical contractor.