

Dear Advisory Board:

The use of Power-Over-Ethernet (aka POE) Lighting has quickly become very popular. Several of our clients have decided to proceed with using POE lighting, most notably Skadden Arps who is relocating to 600,000 SF of space within Brookfield One Manhattan West, along with KKR who is relocating to 250,000 SF of space within Related Hudson Yards. Both of these major tenants will be occupying space within buildings that are being newly constructed by reputable developers.

While the low voltage portion of POE for normal lighting is easily understood, the vexing issue relates to emergency lighting. The clients want the entirety of their lighting systems to be POE technology and we as electrical design engineers are amenable to same, but we must ensure that the use of POE for emergency lighting meets both the letter and intent of the electrical code.

NYCEC Section 700.9(B) states that "Wiring from an ..... emergency source distribution overcurrent protection to emergency loads shall be kept entirely independent of all other wiring and equipment ....". For both of the above referenced tenant projects, emergency power for tenant life safety systems is supplied from a Landlord life safety generator with separate 277V lighting circuits allocated for each tenant floor, and thereafter the dedicated circuits will be installed in conduit to technology racks located within tenant IDF Rooms, and within the technology racks will be dedicated Cisco switches for emergency usage (noting that the Cisco switches for normal POE lighting will be separate and distinct within the same IDF Room technology racks) that are protected by a UL924-rated battery inverter to ensure no prolonged interruption of lighting in the event of a power interruption. Thereafter, from the technology racks and Cisco switches, plenum rated 18AWG shielded general purpose cabling will serve the emergency (and normal) light fixtures. The specific questions are, also outlined in the following Form ED76 Code Interpretation Request Form):

- a) Is 18AWG shielded general purpose plenum-rated cabling routing free air in plenum spaces above hung ceilings an approved wiring method for emergency lighting systems?
- b) Is 18AWG shielded general purpose plenum-rated cabling routing in electrical metallic tubing above hung ceilings an approved wiring method for emergency lighting systems?
- c) Regardless of (a) or (b), the final connections at the switches and light fixtures will not be able to be in any sort of conduit given the practical limitations with conduits and final terminations without the benefit of junction boxes. Is this an acceptable wiring method?
- d) Regardless of (a) or (b), does serving emergency lighting via 18AWG shielded general purpose plenum-rated cabling deriving from a Cisco switch meet the code intent?

Given the referened clients have already decided to proceed with this technology, the answer to this question is important and time-sensitive. Thank you in advance for your thoughtful attention.