I have an installation of a series of ten, row-mounted, 2 by 4 fluorescent troffer luminaires listed as surface-mounted fluorescent luminaires. They are provided with two circuits integral to the luminaire and also with wiring harnesses to connect those two circuits from one luminaire, end-to-end to another in a row-mount application. Every third luminaire is on the emergency lighting circuit. One of two circuits in the luminaire is connected to the normal power circuit and the other is supplied by the emergency power circuit. Do these rows of luminaires count as one emergency luminaire? Also, does the listing of these luminaires allow the wiring of the emergency and normal power circuits to be intermixed in the luminaires that are not part of the emergency lighting circuit?

When a series of listed luminaires are row-mounted end to end, that does not make the assembly one luminaire. The luminaires in question are listed under the product category Fluorescent Surface Mounted Luminaires (IEUZ), located on page 157 of the 2009 UL White Book. These luminaires are evaluated for compliance with the Standard for Safety for Luminaires, UL 1598. Luminaires that are specifically listed for use as emergency lighting are listed under the product category Emergency Lighting and Power Equipment (FTBR), located on page 142 in the 2009 UL White Book. Luminaires listed under (FTBR) would be evaluated for compliance with the Standard for Safety for Emergency Lighting and Power Equipment, UL 924.

A “normal” UL 1598 luminaire can certainly be part of the facility’s emergency lighting system. If the facility has a transfer switch which feeds an emergency lighting panel, the branch circuits from that panel can feed UL 1598 listed luminaires and thus they will serve both on normal power and as emergency luminaires during a power outage. However, the wiring of the normal and emergency power circuits cannot be intermixed in the luminaires that are not part of the emergency lighting circuit.

NEC Section 700.9(B)(2) requires that wiring from an emergency source to the emergency load be kept entirely independent of all other wiring and equipment wiring except for wiring supplied from two sources in exit or emergency luminaires. In order to comply with NEC 700.9(B)(2), the luminaires connected to the emergency lighting circuit (wired in a continuous row with other luminaires not supplied by this emergency panel), would need the emergency feed to exit the row and re-enter at the next designated emergency luminaire (separate conduit run), or the emergency feed would need to use a separate channel from the normal power conductors within the continuous row (with separate conduit entries/knockouts to accommodate the separation). There should be either a fixed barrier or a similar means of securing these separate circuits from intermixing within the non-emergency luminaire; this isn’t a requirement of UL 1598 because it does not anticipate the use.

What types of emergency lighting are listed by UL under the product category Emergency Lighting and Power Equipment (FTBR)?

Luminaires that are specifically for use as emergency lighting are listed under the product category Emergency Lighting and Power Equipment (FTBR), located on page 142 in the 2009 UL White Book. Luminaires listed under (FTBR) would be evaluated for compliance with the Standard for Safety for Emergency Lighting and Power Equipment, UL 924.

Other than exit signs, the most commonly known emergency lighting product is Unit Equipment; they are typically the two-lamp assemblies mounted to a battery pack that illuminate only during power outages or alarm conditions.
signal events. UL 924 also covers emergency luminaires, which could be of one of two types:

1. Integral emergency battery pack system (inverter/charger pack)—the luminaire has only one connection to the facility power source (normal utility power). When the normal power drops out, the on-board battery pack kicks in. These are essentially “normal” UL 1598, The Standard for Safety for Luminaires, listed luminaires with a UL 924-listed inverter charger pack, test switch, and indicator lights added either at the luminaire factory or in the field. In most all cases, the inverter/charger pack is sized to feed only the lamps within that luminaire, although it is possible to oversize the pack and feed an adjacent / additional luminaire. However, in most cases, the emergency circuit would not leave the luminaire that houses the inverter/charger pack.

2. Dual power source connection—two separate lead wire sets, one from the utility and a separate set from the emergency source, each energizing separate lamps within the luminaire. This construction is relatively uncommon today, typically due to improvements in luminaire efficiency and the expense of including emergency components that sit idle most of the time.

The standard for “normal” luminaires, UL 1598, does allow for the inclusion of a back-up battery; however, it does not evaluate the power capacity of that battery and thus those luminaires are not permitted to be marked as “emergency luminaires.”