

MAJOR BENEFITS & COST SAVINGS

See Cost Comparison overleaf

No underground emergency feeders required. Savings are even greater in building renovation projects requiring excavation below existing foundations.

No 2-hour rated emergency lighting circuits, transfer switches or panels (see diagram at right). All equipment is installed under general wiring specifications.

No selective coordination study for life safety system circuit breakers and panels as defined by NEC Section 700.27.

No separate room for emergency ATS and panel as specified by NFPA 110 Chapter 7 Section 7.2.2.

No automatic load control relays on any emergency fixture.

No emergency and unswitched AC branch circuits to normal lighting fixtures (see diagram overleaf). Both are replaced by a single Class 2 wiring circuit, no conduit is required.

No lamp service during a typical building lifetime. MOONLITE LED fixtures have 50,000 hr life and operate only in standby and emergency mode.

Generators can be downsized by the amount of the total emergency lighting load.

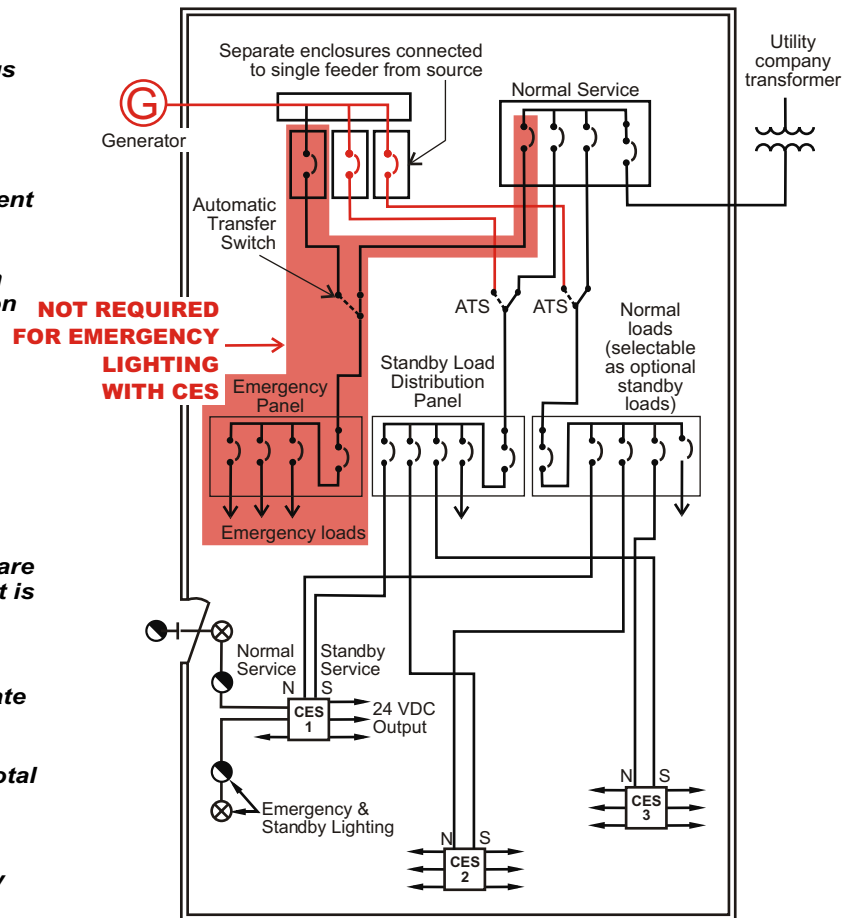
LED emergency lighting from CES panels activates immediately after power failure, providing emergency lighting during the allowed 10 sec startup delay.

LED emergency fixtures operate at full power in standby mode as long as the generator is running. Storage batteries are maintained on full charge while luminaires provide 1 Fc emergency lighting on the path of egress.

Upon failure of a generator, each CES panel will supply up to 1,000 watts of emergency power from batteries for a minimum of 90 minutes.

Storage batteries in CES panels are easily maintained. They can be purchased at local distributors and replaced in minutes.

TYPICAL CES LAYOUT



As shown above, and emergency feeder circuit from the generator, emergency ATS and emergency panel are not required for emergency lighting using the Signtex CES. Other emergency loads may require an emergency circuit from the generator.

CES EMERGENCY & STANDBY OPERATION

UTILITY ON, STANDBY OFF: Normal operation, emergency lights OFF
 UTILITY OFF, STANDBY ON: Emergency Lights ON, powered by generator STANDBY circuit
 UTILITY OFF, STANDBY OFF: Emergency Lights ON, Powered by batteries for 90 mins.

BUDGET COST COMPARISON: CES v STANDARD EMERGENCY GENERATOR INSTALLATION

CBS.04.11.01

PROJECT: HIGH SCHOOL RENOVATION: 225,000 SQ FT

LABOR & MATERIAL REQUIRED FOR EMERGENCY POWER DISTRIBUTION FROM SOURCE TO FIXTURES

ITEM	STD SYSTEM	CES SYSTEM	SAVINGS
Automatic Transfer Switch for EM circuits	\$5,000	\$0	\$5,000
Downsize Generator by 20KW EM lighting load @\$300/KW	\$6,000	\$0	\$6,000
Underground Feeder from Generator to Emergency ATS ⁽¹⁾	\$5,000	\$0	\$5,000
Separate Room for EPSS Equipment ⁽²⁾	\$8,000	\$0	\$8,000
(6) Feeders from Generator to EM Panels 1200ft @ \$35/ft ⁽³⁾	\$42,000	\$0	\$42,000
(6) EM Panels @ \$1,800 ea	\$10,800	\$0	\$10,800
CES Panels	\$0	\$15,000	-\$15,000
AC circuits from EM Panels to Fixtures 4,000 ft Conduit @ \$9/ft	\$36,000	\$0	\$36,000
Class 2 circuits from CES Panels to Fixtures 4,000 ft MC @ \$3/ft	\$0	\$12,000	-\$12,000
(500) Fixture Load Control Relay @ \$100 ea ⁽⁴⁾	\$50,000	\$0	\$50,000
Signtex MOONLITE LED Fixtures ⁽⁵⁾	\$0	\$49,500	-\$49,500
Selective Coordination Study for circuit breakers ⁽⁶⁾	\$10,000	\$0	\$10,000
		TOTAL SAVINGS	\$96,300

- (1) Underground Feeder requires 2" concrete encasement per NEC.
- (2) Required by NFPA 110 Chapter 7 Section 7.2.2
- (3) Emergency feeders require 2 hr rated cable such as Type MI.
- (4) Transfer Device installed on all FL emergency fixtures
- (5) MOONLITE LED quantity is less than FL emergency units due to increased spacing along the path of egress (approx 2:1).
- (6) NEC Section 700.27 requires overcurrent protection devices (OPD) to be selectively coordinated with all supply side OPDs.

GENERAL NOTE

EM lighting in standard system will not operate during generator startup. In the CES system, EM lighting activates immediately following loss of utility power

