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Distinguishing between “Battery Based” Type 1 and Type 3 Essential Electrical Systems

Per 1999 Edition of NFPA 99

Both the NFPA (1999 edition of NFPA 99) and CMS (CMS Ref: S&C-07-21) permit approved rechargeable battery systems to serve as the alternate source of power to any type of Essential Electrical System (EES). The two types of EES applicable to Ambulatory Surgery Centers (ASCs) are “Type 3” and “Type 1.” All ASCs, regardless of types of anesthesia used, are required to provide at least a Type 3 EES. CMS mandates all ASCs (that started construction on or after March 11, 2003) that will use general anesthesia to provide the higher standard of a Type 1 EES.

The distinction between types of EES are found in the amount of power they must provide, and in requirements for distribution/circuitry design (ref. NFPA 99, section “3-4.2 Distribution”).

Type 3 systems must provide the amount of emergency power considered essential for life safety and orderly cessation of procedures – leaving the actual definition of “adequate” largely up to the facility owners (beyond baseline mandates for exit pathway lighting and alarm system functions). Type 1 systems are far more extensive, requiring emergency power as necessary to maintain almost ordinary operations – from heating and air filtration of operating rooms, to elevator operation (in multi-story buildings), to lighting and appliance circuits in patient care areas, and more.

In terms of circuiting and distribution, Type 3 systems may be as simple as normal power provided through standard electrical receptacles, and emergency power provided by individual rechargeable battery packs connected to each critical device or equipment item. The next, but still relatively simple “step up” is a “hard-wired” Type 3 system with one set of circuits (perhaps a single circuit breaker box) connected only to the normal source, and another set of circuits (a second circuit breaker box) also by the normal source that will be automatically be connected to the emergency source of power if the normal source fails – meaning a hard-wired Type 3 EES can be installed using only two circuit breaker panels (two branches, as NFPA describes it).

Type 1 systems require at least four separate and distinct branches – one for circuits served only by normal power; a second for “life safety” circuits related primarily to alarm systems, and emergency exit signage/pathway lighting; a third for “critical” circuits related primarily to patient care areas receptacles and lighting, and for support functions essential to ongoing patient care activities; and a fourth for motor driven equipment

important to patient health and safety, from select air conditioning systems, to the clinical vacuum pump, and more. While four branches are minimum, many installations involve as many as eight (or more) due to multiple voltage and/or phasing requirements for each category of electrical load.

CMS requires the AAAHC, as a condition of its deeming authority, to re-verify NFPA 99 and 101 conformance at the time of each and every survey – regardless of prior acceptance by any official or agency. Experience over many years, and hundreds of surveys of facilities with prior approval, has demonstrated frequent errors in survey accuracy at all levels of Life Safety review. CMS does not recognize or honor prior approvals made in error.

Any and all ASCs wishing to achieve and maintain Medicare Certification must continuously comply with NFPA's EES requirements. To do so they must pay particular attention to NFPA 99 section "3-4.2 Distribution" requirements, and be prepared to demonstrate and document full conformance.

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