control that is outside of the space containing the pump or fan.

(b) Each stop control must meet §111.103-7.

# Subpart 111.105—Hazardous Locations

# §111.105-1 Applicability; definition.

This subpart applies to installations in hazardous locations as defined in NFPA NEC 2002 and in IEC 60079–0 (both incorporated by reference; see 46 CFR 110.10–1). As used in this subpart, "IEC 60079 series" means IEC 60079–0, IEC 60079–1, IEC 60079–2, IEC 60079–1, IEC 60079–7, IEC 60079–1, IEC 60079–15, and IEC 60079–18 (all incorporated by reference; see 46 CFR 110.10–1).

[USCG-2003-16630, 73 FR 65199, Oct. 31, 2008, as amended by USCG-2013-0671, 78 FR 60153, Sept. 30, 2013]

## §111.105-3 General requirements.

All electrical installations in hazardous locations must comply with the general requirements of section 33 of IEEE 45-1998 (incorporated by reference; see 46 CFR 110.10-1), and with either Articles 500 through 505 of NFPA NEC 2002 (incorporated by reference; see 46 CFR 110.10-1) or with the IEC 60079 series (as defined in 46 CFR 111.105-1 and incorporated by reference: see 46 CFR 110.10-1). When installations are made in accordance with NFPA NEC 2002 articles, and when installed fittings are approved for the specific hazardous location and the cable type. marine shipboard cable that complies with 46 CFR subpart 111.60 may be used instead of rigid metal conduit.

 $[{\tt USCG-2003-16630,\,73\;FR\;65199,\,Oct.\,31,\,2008}]$ 

# §111.105-5 System integrity.

In order to maintain system integrity, each individual electrical installation in a hazardous location must comply specifically with Articles 500–505 of NFPA NEC 2002 (incorporated by reference; see 46 CFR 110.10–1), as modified by 46 CFR 111.105–3, or with the IEC 60079 series (as defined in 46 CFR 111.105–1 and incorporated by reference; see 46 CFR 110.10–1), but not in combination in a manner that will compromise system integrity or safety.

Hazardous location equipment must be approved as suitable for use in the specific hazardous atmosphere in which it is installed. The use of nonapproved equipment is prohibited.

[USCG-2003-16630, 73 FR 65200, Oct. 31, 2008]

## §111.105-7 Approved equipment.

When this subpart or NFPA NEC 2002 (incorporated by reference; see 46 CFR 110.10-1) states that an item of electrical equipment must be approved, or when IEC 60079-0 (incorporated by reference; see 46 CFR 110.10-1) states that an item of electrical equipment must be tested or approved in order to comply with the IEC 60079 series (as defined in §111.105-1 and incorporated by reference; see 46 CFR 110.10-1), that item must be—

- (a) Listed or certified by an independent laboratory as approved for use in the hazardous locations in which it is installed; or
- (b) Purged and pressurized equipment that meets NFPA 496 (incorporated by reference; see 46 CFR 110.10-1) or IEC 60079-2.

[CGD 94-108, 61 FR 28284, June 4, 1996, as amended by USCG-2003-16630, 73 FR 65200, Oct. 31, 2008]

#### § 111.105-9 Explosion-proof and flameproof equipment.

Each item of electrical equipment required by this subpart to be explosion-proof under the classification system of NFPA NEC 2002 (incorporated by reference; see 46 CFR 110.10–1) must be approved as meeting UL 1203 (incorporated by reference; see 46 CFR 110.10–1). Each item of electrical equipment required by this subpart to be flame-proof must be approved as meeting IEC 60079–1 (incorporated by reference; see 46 CFR 110.10–1).

[USCG-2003-16630, 73 FR 65200, Oct. 31, 2008]

### §111.105-11 Intrinsically safe systems.

- (a) Each system required by this subpart to be intrinsically safe must use approved components meeting UL 913 or IEC 60079-11 (both incorporated by reference; see 46 CFR 110.10-1).
- (b) Each electric cable of an intrinsically safe system must—
- (1) Be 50 mm (2 inches) or more from cable of non-intrinsically safe circuits,