



Tentative Interim Amendment

NFPA 72[®]

National Fire Alarm and Signaling Code

2010 Edition

Reference: 12.2.4.2, A.12.2.4, and A.12.2.4.2

TIA 10-1

(SC 09-8-17/TIA Log #960)

Note: Text of the TIA issued and incorporated into the text of 12.2.4.2, A.12.2.4, and A.12.2.4.2 therefore no separate publication is necessary.

1. Revise Section 12.2.4.2 and related annex material to read as follows:

12.2.4.2* Transient Protection. Where fire alarm circuits enter or exit buildings, the circuits and equipment shall be installed in accordance with the requirements of Article 760 of *NFPA 70[®], National Electrical Code[®]*.

A.12.2.4.2 Inter-building ~~fire alarm~~ circuits are considered to have a lightning exposure unless one or more of the following conditions exist:

- (1) Circuits in large metropolitan areas where buildings are close together and sufficiently high to intercept lightning.
- (2) Inter-building cable runs of 140 ft (42 m) or less, directly buried or in underground conduit, where a continuous metallic cable shield or a continuous metallic conduit containing the cable is connected to each building grounding electrode system.
- (3) Areas having an average of five or fewer thunderstorm days per year and earth resistivity of less than 100 ohm-meters. Such areas are found along the Pacific coast. [70:800.90(A), FPN No. 2]

It is important to protect the fire alarm system from lightning. One of the key requirements related to transient protection is NFPA 70, *National Electrical Code*, Section 760.32, which covers installation requirements. Part of those installation requirements are the grounding and bonding rules contained in Part IV of Article 800. Connections to the building grounding electrode system should be made where the circuits enter and exit a building. To minimize potential damage from induced transients, the circuits entering and exiting a building should connect to the grounding electrode system and transient protection equipment nearest the point of entry, before being intermingled with other circuits.

NEC Section 760.32 provides references for fire alarm circuits extending beyond one building. The requirements for the installation of power-limited circuits and communications circuits are covered by Parts II, III and IV of Article 800, *Communications Circuits*. The methods and equipment used for providing transient protection of circuits addressed by Article 800 are not necessarily suitable for voltages expected on all fire alarm circuits.

The requirements for the installation of non power-limited underground outdoor circuits are found in Part I of Article 300 and the applicable sections in Part I of Article 225, *Underground Branch Circuits and Feeders*. It should be noted that Article 225 does not specifically require transient protection of circuits, but consideration should be given to protecting underground circuits.

In both power-limited and non power-limited circuits, surge protective devices may be installed to protect against electrical surges. When installing surge protective devices, the requirements of NEC Article 285 should be followed.

2. Create a new annex section as follows:

A.12.2.4 The installation of all system wiring should take into account the system manufacturer's published installation instructions, the limitations of the applicable product listings or approvals, and communications circuit protection as required by 12.2.4.2.

Issue Date: August 6, 2009

Effective Date: August 26, 2009

(Note: For further information on NFPA Codes and Standards, please see www.nfpa.org/codelist)