



# LPI TECH LETTER

LIGHTNING PROTECTION INSTITUTE

P.O. Box 99, 25475 Magnolia Drive, Maryville, MO 64468 • Tel: 660-582-0429 • Fax: 660-582-0430 • 1-800-488-6864  
Email: LPI@lightning.org • Website: www.lightning.org

## Update on Revisions to UL96A, Twelfth Edition

*This Tech Letter serves to highlight and clarify revisions to the UL96A Standard for Installation Requirements for Lightning Protection Systems, UL 96A, Twelfth Edition. UL reviewed all comments received in response to the Subject 96 bulletin dated July 26, 2007 and adopted an effective date of September 30, 2008 for the Twelfth Edition. All UL Master Label Certification inspections now reference these requirements.*

UL Standards for Safety are developed under a procedure which provides for participation and comment from the affected public as well as the lightning protection industry. The procedure takes into consideration a review of known existing standards and the needs and opinions of a wide variety of interests concerned with the Standard. According to UL, manufacturers, consumers, individuals associated with consumer-oriented organizations, academicians, government officials, industrial and commercial users, inspection authorities, insurance interests and others provide input to UL in the formulating of UL Standards for Safety, to keep them consistent with social and technological advances.

In its Summary of Topics (Twelfth Edition, dated May 23, 2007), UL references the following items as revisions to the new edition:

- Changes to align with NFPA 780
- Change to allow use of newer materials compatible with membrane roofing systems

- Additional exception to replace a previous reference to a Practical Application Guideline (PAG)
- New illustration showing zones of protection and applicable computations determined by using the rolling sphere concept
- Rewording of the scope to clarify the requirements covering the application and inspection for the installation of lightning protection on all types of new and existing structures
- Clarification of the requirements for Protection for Miscellaneous Structures
- Clarification of terms “inductance and conductance” as relating to “metal bodies” and “grounded metal bodies”
- Deletion of requirement for use of the megohm tester and continuity tester to determine whether a metal body is isolated
- Requirement modifications to ground terminals located inside a structure, multiple ground rods, and ground ring electrodes
- Revision to Common Ground requirement
- Revision to zone of protection requirement
- Addition of sprinkler lines and galvanized steel
- Change in requirement to down conductor
- Miscellaneous editorial revisions

**Lightning protection installers should familiarize themselves with specific revisions noted in these following sections:**

**Section 5.17 – SECONDARY ROOF**

**AREA** now defined more clearly: “A secondary roof is less than 10 percent of the total roof area of the protected building and lower than adjacent roofs.”

**Section 7.5 – GALVANIZED STAINLESS**

**STEEL:** “A copper lightning protection component shall not be installed directly on aluminum surfaces or external galvanized steel surfaces.” (reference to 7.2 – moisture presence noted)

**Sections 8.2.2.1, 8.2.2.2, 8.2.2.3, 8.2.2.4 – EAVE HEIGHT and AIR**

**TERMINAL PLACEMENT:** The 12th Edition now mirrors NFPA 780 in the requirement for pitched roofs stating eave heights of 50 ft. or higher shall have air terminals placed along the eave.

**Section 8.2.4.1 – PROTECTIVE**

**ANGLE:** A strike termination device that is not more than 25 feet (7.6 m) above earth protects lower areas in a one-to-two zone of protection. (Height is based on air terminal, not roof.)

**Section 8.8.1 – HAND RAIL**

**EXCEPTION:** Metal handrails outside a zone of protection that are 1/8 inch (3 mm) thick or more shall not require air terminals when the installation of the air terminals may result in a casualty risk.

**Section 9.1.2 - CONDUCTOR**

**SUBSTITUTIONS:** Hand rails now included in list of “replaceable parts” (along with eave troughs, downspouts, ladders, or chutes) that shall not be substituted for

the main conductor. Metal roofing and siding having a metal thickness less than 3/16 inch (4.8 mm) shall not be substituted for the main conductor.

**Section 9.1.3 - CONDUCTOR RISE**

**EXCEPTION:** Conductors coursing at no more than 3 inches of rise in 12 inches of run are permissible. (Clarifies permitted rise in conductor in situations like thru-roof penetrations and parapet walls.)

**Section 10.2 – MULTIPLE GROUND**

**RODS:** Where multiple ground rods are used, the minimum separation between any two rods shall be equal to the sum of the rods length. Each rod shall be driven vertically to a depth of 10 feet (3m) or more below grade.

**Section 11.4 – GROUNDED &**

**ISOLATED METAL BODIES:** Grounded metal bodies that are within 6 feet (1.8 m) of the main conductor shall be bonded to the system. (This is new terminology referencing grounding requirements.)

**Section 15.1 – STRUCTURAL STEEL**

**FRAMING:** Where the structural steel framework 3/16 inch (4.8 mm) or greater, it may be utilized as the main conductor of a lightning protection system providing it is electrically continuous. (Structural steel now has 3/16 dimension—thickness of the steel was previously undefined.)

**Section 16.3 – POOL ENCLOSURE**

**LANGUAGE:** Metallic pool enclosures attached to structures having structural members less than 3/16 inch (3 mm) thick shall have air terminals bonded at the top as described in 8.1.5. The metal pool enclosure shall be grounded on average every 60 feet (18.3 m) and with

main-size conductor with a minimum of two ground terminations. The enclosure’s structural components shall not be used as down conductors for the main protected structure. (The Standard now defines with specificity what is and isn’t acceptable for structures with pool enclosures. This will change how pool enclosures have typically been treated.)

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The new requirements are substantially in accordance with UL’s Proposals on the subject, dated March 27, 2006 and March 23, 2007. Most of the changes incorporated into the Standard are clarifications that preciously existed as FUII pages or PAGs.

