



NESC and OSHA Newsletter

May 9, 2017

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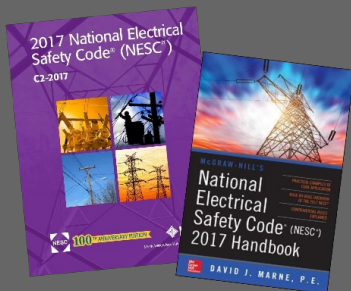
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McGraw-Hill's NESC 2017 Handbook
by David J. Marne (\$99)
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2017 IEEE National Electrical Safety Code (NESC) (\$210)
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For the next several newsletters, we will discuss significant changes to the 2017 NESC Code Rules. The topics for this newsletter are:

NESC Rule 320B5

Separation from Underground Installations, Gas and Other Lines that Transport Flammable Material

Rule 320B5, which appears in Section 32, applies to conduit systems. A conduit system is now defined in Rule 302. A conduit system is the combination of duct, conduit, conduits, manholes, handholes, and/or vaults joined to form an integrated whole. This type of system is typically found under a big city, not in a residential subdivision. Rule 320B5 address radial separation of conduit from gas or other lines that transport flammable material. Changes to this Rule include making the measurement to the nearest duct in the conduit, and added exceptions for communication cables and supply cables operating at not more than 600 V between conductors.

Fig. 320-10 from McGraw-Hill's NESC 2017 Handbook is shown below for more information.

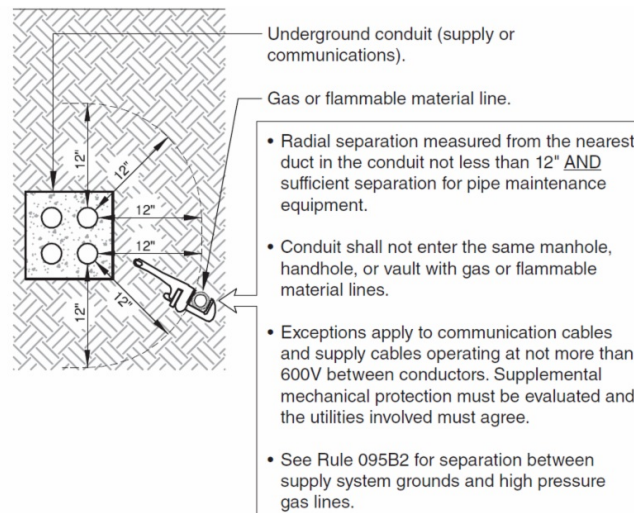


Fig. 320-10. Radial separation from gas or other line that transports flammable material (Rule 320B5).

To learn more about this Rule and other changes, click on the links to left.



Presented by David Marne

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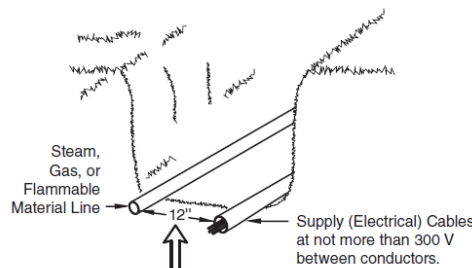
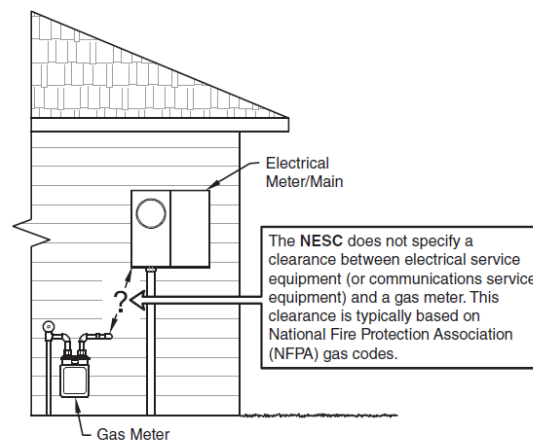
NESC Rule 354A2 Random Separation (less than 12 inches) of Supply and Communication Cables or Conductors from Steam Lines, Gas, and Other Lines Transporting Flammable Material

Rule 354A2, appears in Section 35 which applies to direct-buried cable and cable in duct not part of a conduit system. The terms duct, conduit, and conduit system are now defined in Rule 302. Direct-buried cable and cable in duct not part of a conduit system are typically found in a residential subdivision.

Rule 354A2 addresses radial separation (less than 12 inches) of supply and communication cables or conductors from steam lines, gas, and other lines transporting flammable material.

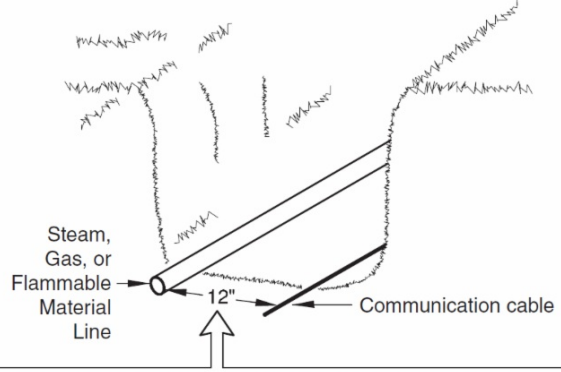
This rule already contained an exception for supply cables operating at not more than 300 V between conductors. The change is adding communication cables to the exception.

Figs. 354-1 and 354-2 from McGraw-Hill's NESC 2017 Handbook are shown below for more information.



- Radial separation of supply and communications cables or conductors from steam, gas, or flammable material line not less than 12".
- Exception: For supply cables at not more than 300 V between conductors (e.g., a 120/240 V, 1Ø, 3W service), less than 12" may be used to a gas or flammable material line if:
 - Supplemental mechanical protection is used to limit the likely hood of detrimental heat transfer to the gas or flammable material line due to a cable fault. This exception does not apply to steam lines. (No specifics are provided as to the type of supplemental mechanical protection, Rule 012C, which requires accepted good practice, must be used.)
 - The Utilities involved agree to the reduced separation.

Fig. 354-1. Supply line and steam, gas, or flammable material line in random separation (Rule 354A2).



- Radial separation of supply and communications cables or conductors from steam, gas, or flammable material line not less than 12".
- Exception: For communication cables, less than 12" may be used if the utilities involved agree to the reduced separation. This exception applies to steam, gas, or flammable material lines.

Fig. 354-2. Communications line and steam, gas, or flammable material line in random separation (Rule 354A2).

To learn more about this Rule and other changes, click on the links to left.



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