

Interpretation

Part 2. Safety Rules for the Installation and Maintenance of Overhead Electric Supply and Communication Lines

Section 23. Clearances

Rule 235. Clearance for wires, conductors, or cables carried on the same supporting structure

- E. Clearance in any direction from line conductors at or near a support to supports, and to vertical or lateral conductors, service drops, and span or guy wires attached to the same supporting structure.
3. Alternate clearances for voltages exceeding 98 kV ac to ground or 139 kV dc to ground

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Question: This question is related to the required clearances from conductor to anchor guy wires using the NESC alternate method, and which rules to apply.

Rule 235 relates to clearances for wires on the same supporting structure:

- Rule 235E provides clearance requirements *in any direction*. Rule 235E3a refers to “anchor guys” and references back to the crossing clearance required in Rules 233B3, 233C3a, and 233C3b, with a limit per Rule 235E3b(2).
- Rule 235C provides *vertical* clearance requirements. This rule only mentions “guys.” The limit is based on Rules 233C1 and 233C2 with the lower voltage circuit at ground potential.

Please clarify if both Rules 235E and 235C should be considered for clearance of conductor to an anchor guy on the same structure, or whether only Rule 235E may be applied to this situation. If only Rule 235E is applicable, this would result in a lower clearance requirement.

Discussion: The following text is extracted from Rule 235E3a:

- a. Alternate clearances to anchor guys, surge-protection wires, and vertical or lateral conductors

The alternate clearances shall be not less than the crossing clearances required by Rule 233B3 and Rules 233C3a and 233C3b for the conductor voltages concerned. For the purpose of this rule, anchor guys and surge-protection wires shall be assumed to be at ground potential. The limits of Rule 235E3b(2) shall apply to the clearance derived from Rules 233C3a and 233C3b.

This rule refers directly to the alternate clearance values produced from Rules 233B3, 233C3a, and 233C3b, without reference to the standard limits within Rule 233C3c. The limit is instead based on Rule 235E3b(2), which is extracted below.

(2) Limits

The alternate clearance shall not be less than the clearance of Table 235-6 for 169 kV ac. The alternate clearance shall be checked for adequacy of clearance to workers and increased, if necessary, where work is to be done on the structure while the circuit is energized. (Also see Part 4.)

If Rule 235C (“vertical”) applies to this situation, the standard limit in Rule 233C3c controls this clearance situation, which references back to Rules 233C1 and 233C2 with the lower-voltage circuit at ground potential. If only Rule 235E (“in any direction”) were to be used for clearance to anchor guys, the value produced would be lower since the alternate calculations and clearance produced from Table 235-6 are both lower.

Interpretation

The Interpretations Subcommittee has reviewed your request and developed the following consensus response.

Rule 235C covers the vertical clearances for line conductors and service drops. The only reference to guys is in Rule 235C3. This reference was added in the 2023 Edition of the NESC. However, it does not specify any clearance requirements, only the voltage to be used for a calculation. Rule 235C directs the user to Table 235-5 for basic clearance values except for clearance and spacing requirements between communication lines in the communication space. The user is directed to Rule 235H for those values. Additionally, there are no clearance values to guy wires shown in Table 235-5. The one-time use of the term “guys” in Rule 235C will be addressed during the next revision cycle.

Rule 235E covers the clearance in any direction for guy wires to line conductors attached to the same supporting structure. This rule directs the user to Table 235-6, where clearance values from line conductors to guys are found.

Rule 235E is applicable to clearances to guys. Rule 235C does not apply to guys.