National Electrical Safety Code®

Interpretation

Section 9.
Grounding methods for electric supply and communications facilities

Rule 092C3
Point of connection of grounding conductor—Messenger wires and guys—Common grounding of messengers and guys on the same supporting structure

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Questions
1) Does Rule 092C3a require the messengers of multiple duplex and triplex secondary cables running parallel to the system neutral to be bonded to each other at each structure they are attached to in common?

2) Does Rule 092C3b require our system neutral and/or cable messengers to be bonded to a foreign electric utility's neutral if we are on a common crossing structure?

Discussion
Regarding Rule 092C3a, options (1) and (2) clearly state to bond multiple messengers together and to grounding conductors "at that structure." Rule 092C3a option (3) states to bond to a grounded conductor (system neutral) "at this structure or elsewhere." This seems to suggest that the bond between the system neutral and secondary messengers at the source transformer is sufficient to comply with option (3). We are in conflict on what we must do to comply with this portion of Rule 092C3.

The following picture is one example where we are not certain if we are compliant with Rule 092C3.

There is only one duplex messenger on this pole and the system neutral. The neutral is bonded to a pole ground at this pole, but the duplex messenger is not. The duplex messenger is also not bonded to the system neutral at this pole, but it is bonded to the system neutral at the source transformer one or more poles away. Is this compliant to or a violation of Rule 092C3?

If there were also a triplex secondary running parallel to the system neutral and duplex cable, does Rule 092C3 require the duplex and triplex messengers to be bonded together and to the system neutral at this pole, even though they are bonded together at the source transformer one or more spans away?

Regarding Rule 092C3b, there is a concern that bonding our system neutral and/or secondary cable messengers to another electric utility's system neutral could cause problems on either or both of our systems (our system neutral carrying some of the other utility's system neutral current, or vice-versa). Does Rule 092C3b require us to bond our system neutral and/or secondary cable messengers to another electric utility's system neutral in spite of our concern for neutral current interference?

Interpretation

Thank you for submitting this interpretation request. The Interpretations Subcommittee has reviewed your questions and other information submitted and developed the following response.

Question 1:

Does Rule 092C3a require the messengers of multiple duplex and triplex secondary cables running parallel to the system neutral to be bonded to each other at each structure they are attached to in common?

For Question 1, the answer is no. Rule 092C3a does not require bonding on every common structure to which the supply messengers are attached. Rule 092C3a does provide the methods to use when the messengers are required to be grounded by other rules. However, the intervals (4 in each mile, subject to the Exception, or 8 in each mile) described in Rule 092C1 are part of the required method. If the messengers are not required to be grounded by other rules, then Rule 092C3a does not apply.

The rules in Section 9 provide the methods of grounding and bonding when other rules in the Code require facilities to be grounded. Rule 092C3 does not in itself require bonding for messengers. However, it is applicable when other rules require the messenger to be grounded. Because Rule 215B requires common neutrals and neutrals for primary, secondary, and service lines to be effectively grounded, the rules in Section 9 do apply. Likewise, Rule 215C1 requires messengers to be effectively grounded so the rules in Section 9 also apply to those messengers.

Question 2:

Does Rule 092C3b require our system neutral and/or cable messengers to be bonded to a foreign electric utility's neutral if we are on a common crossing structure?

The answer to Question 2 is a conditional yes. The answer is yes if the cable messengers, including when serving as a neutral, are required to be grounded by other rules. The rules requiring grounding do not distinguish ownership. As mentioned in the Question 1 response, rules

in Section 9 do not require grounding. These rules only provide the methods to use when grounding is required by other rules. Therefore, if the messengers are required to be grounded, then part of the method to use is to bond and ground them at common crossing structures. If the messengers are not required to be grounded, then Rule 092C3b does not apply. Also, Rule 092C3b does not apply to neutrals that are not simultaneously serving as a messenger.