

## IEEE Standards Interpretations for IEEE Std C37.23™-1987 IEEE Guide for Metal-Enclosed Bus and Calculating Losses in Isolated-Phase Bus

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### Interpretation Request #1

**Topic:** Primary bus and connections **Relevant Clause:** 2.1.1.1

Why does IEEE Std C37.23-1987 use the words “primary bus and connections”? Why does IEEE Std. C37.23-1987 use the words “primary bus” instead of “bus conductors” or “conductors of NSPBD”?

Do these words mean just the portion of bars that income to the metal clad switchgear or the entire length of a NSPBD system should be covered by insulated material? What happens if a metal clad switchgear (as defined by ANSI C37.20.2) that has the incoming part of the cubicle and Isolated Phase Bus Assembly (as defined by ANSI C37.23) and the outgoing part of the cubicle connected to a NSPBA without any insulation along bus conductor length? Is it correct? What happens if an insulation barrier at the bottom of the switchgear is installed in order to make a physical separation between the Switchgear and the NSPBA and continuing having the NSPBA without insulation, is it a valid action?

In case the switchgear was a Metal Enclosed Type, this problem would not exist because this standard doesn't make any limitation of segregation on that type of Switchgear.

### Interpretation Response

The use of the term “primary bus and connections” in the second paragraph of IEEE Std C37.23-1987, 2.1.1.1, item 1) is just a hold over from the previous edition of the standard. It would be proper to interpret this as phase conductors and their connections as opposed to ground conductor and its connection.

Insulation requirements for metal-enclosed, non-segregated phase bus connecting to

metal-clad switchgear would apply to the entire run of bus -not just the point of connection.

There are no requirements for insulation on metal-enclosed, isolated phase bus in IEEE C37.23-1987.

Requirements for insulation on metal-enclosed, non-segregated phase bus are not impacted by the connections to the other side of the metal-enclosed switchgear.

Requirements for insulation on metal-enclosed, non-segregated phase bus are not impacted by the installation of an "insulation barrier" installed between the bus and the metal-enclosed switchgear.