

Extracted Commentary from 2008 National Electrical Code Handbook

Section 250.104(B) Bonding of Other Metal Piping

Unlike the metal piping systems covered in 250.104(A), this requirement applies only to metal piping systems that are likely to become energized. What this means is that where metal piping systems and electrical circuits interface through mechanical and electrical connections within equipment, a failure of electrical insulation can result in the connected piping system(s) becoming energized. Gas appliances are a common example of metal gas piping and electrical circuits being connected to a common piece of equipment, and in this case the 250.104(B) requirements apply. The required bonding of these other piping systems can occur at the same locations specified in 250.104(A), or an additional provision within this paragraph permits the equipment grounding conductor of the circuit that is likely to energize the piping as the means for bonding the piping. Typically, the use of an additional bonding jumper is not necessary to comply with this requirement, because the equipment grounding connection to the non-current-carrying metal parts of the appliance also provides a bonding connection to the metal piping attached to the appliance. This is a bonding requirement, and the other piping is not being used as an electrode. Therefore, this requirement does not conflict with 250.52 (B) (1), which prohibits the use of metal underground gas piping as a grounding electrode for electrical services or other sources of supply. To prevent the underground gas piping from inadvertently becoming a grounding electrode, there must be electrical isolation between the portion that is required to be bonded from the underground segment of metal gas piping. This may be inherent at the interface between the gas supplier's equipment and the premises gas piping.