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**FIRE PREVENTION AND BUILDING SAFETY COMMISSION**  
**Department of Homeland Security**

**Written Interpretation of the State Building Commissioner**

**Interpretation #:** CEB-2018-07-2009-IEC-250.56

**Building or Fire Safety Law Interpreted**

**[675 IAC 17-1.8](#), the 2009 Indiana Electrical Code, Article 250.56 Resistance of Rod, Pipe, and Plate**

**Electrodes.** A single electrode consisting of a rod, pipe, or plate that does not have a resistance to ground of 25 ohms or less shall be augmented by one additional electrode of any of the types specified by 250.52(A)(4) through (A)(8). Where multiple rod, pipe, or plate electrodes are installed to meet the requirements of this section, they shall not be less than 1.8 m (6 ft) apart.

**Issue**

The **interested person** reports that the city of Lafayette is requiring two additional grounding electrodes when the initial electrode is an underground water pipe, and that they are citing 250.56 in their violation order.

**Interpretation of the State Building Commissioner**

If underground metal water piping is in direct contact with the earth for distances less than 10 feet, it may not be considered a grounding electrode, and the requirements of IEC 250.53(D)(2) and 250.56 are irrelevant.

If 10 feet or more of underground metal water piping is in direct contact with the earth, it may be utilized as a grounding electrode in accordance with 250.52(A)(1), and the requirements of 250.53(D)(2) and 250.56 apply. However it is important to note that the supplemental electrode requirement of 250.53(D)(2) and the multiple electrode provisions of 250.56 are not meant to be cumulative. The two sections complement rather than supplement one another. Section 250.53(D)(2) states that if the building water pipe is used as a grounding electrode, then a supplemental electrode must be provided, and if that supplemental electrode is a pipe, rod, or plate, it must meet the performance requirements of 250.56. For its part, section 250.56 does not make a blanket statement that two supplemental electrodes must be provided when the building water pipe is utilized as a grounding electrode. It only states the performance requirements for all rod, pipe, and plate electrodes, among which is the need to provide an additional electrode if the initial pipe, rod, or plate in question does not have resistance to ground of 25 ohms or less.

The city's wish, as reported by the **interested person**, to require two electrodes in addition to a qualifying building water pipe electrode as a safeguard against such future time as metal pipes fall out of use exceeds the limits of the adopted rules of the commission and therefore may not be enforced. The codes only address conditions as they exist at present. At such time as construction materials and methods change, the code will need to change as well. But at any given time, the authority of enforcement is strictly limited to those rules in effect at that time.

Regarding the **interested person's** desire that the IEC be amended to remove the 25 ohm requirement or provide detailed instructions for measurement: any change in code can be proposed to the commission for consideration either during the next code update cycle, or as an interim change to the extent allowed by statute. Those wishes should be presented to the commission itself.

*Posted: 04/17/2019 by Legislative Services Agency*  
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