



Oregon

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Building Codes Division Statewide Interpretation

PROGRAM: Electrical Program
SUBJECT: Fault Current
SOURCE: NECA /Washington County
REFERENCE: 110.9, 110.10 of the 2005 National Electrical Code, Oregon
Administrative Rule 918-311-0040, 2005 OESC
DATE OF ISSUE: Re-Issue April 1, 2005
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QUESTION: How are the requirements of 110.9 and 110.10 concerning fault current ratings applied?

ANALYSIS:

110.9 of the 2005 National Electrical Code (NEC) provides equipment intended to interrupt current at fault levels shall be sufficient for the current that must be interrupted. 110.10 requires that over-current protective devices, total impedance, short-circuit current ratings and other characteristics of the circuit to be protected shall be selected and coordinated to permit the circuit protective device to clear a fault without extensive damage to the electrical components of the circuit. Additionally, Oregon Administrative Rule (OAR) 918-311-0040(c)(C) requires that available fault current at the service equipment be noted on electrical plans submitted for plan review. The purpose of this Interpretation is to provide general guidelines to the inspector and contractor/electrician/owner.

DETERMINATION:

The requirements to calculate and mitigate fault current set forth in 110.9 and 110.10 of the 2005 NEC shall be met by the following methods and include all contributions induced by utilization equipment. This interpretation applies to voltages of 600 volts or less, phase to phase. For installations over 600 volts, follow the requirements of the design engineer.

- 1) Calculate the available fault current at the service equipment and at all required overcurrent protection devices where the available fault current is found to be more than 10,000 amps. Calculation of circuits with an available fault current 10,000 amps or less shall not be required. Overcurrent protection devices shall be fully rated or series rated for the available fault current.**
- 2) Where the calculated available fault current at the last required branch-circuit overcurrent protection device intended to protect wiring or equipment exceeds 10,000 amps, required branch-circuit overcurrent protection devices shall be fully rated or series rated for available fault current.**
- 3) System design, layout, and/or current limiting devices, while not required, may be used to mitigate the available fault current at utilization equipment and thus reduce the possibility of equipment damage should a fault occur. Inspectors shall note any concerns on inspection report to the contractor.**
- 4) Although designers may be required to demonstrate that these requirements have been met, Oregon Administrative Rule does not require fault current calculations beyond the service equipment as part of a plan review.**