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MISSING UFER (CUT OFF)

BACKGROUND

Per the Oregon Residential Specialty Code, when concrete reinforcing bars are installed in concrete footings, one must be stubbed up for attachment at the service location for the electrical contractor to use as or part of the Grounding Electrode System. This rebar connection is often called a "Ufer". With the dry conditions in Central Oregon, this ufer (concrete encased) electrode is the most effective electrode for our climate and is far superior to rods, pipes or plates. Connection to the earth of an electrical system is critical for proper and safe operation of the system. Reasons include:

a) to limit the voltage imposed by lightning
b) line surges
c) unintentional contact with higher-voltage lines,
d) to stabilize the voltage to earth during normal operation and
e) to limit the voltage to ground on equipment. [250.4(A)(1&2)]

POLICY/PROCEDURE

When the concrete encased electrode has been cut or broken off and there is not enough rebar to make an exothermic weld or mechanical connection, choose one of the following:

a) If there is a second ufer (concrete encased electrode) located elsewhere on the premises that was not removed, it shall be used and the following conditions must be met:
   a. The grounding electrode conductor length is NOT more than 50'
   b. If the grounding electrode conductor length is more than 50', the ufer (concrete encased electrode) must be used and supplemental rods, pipe or plates or any other approved electrode [OESC 250.50] at the service location shall be installed and connected to the grounded conductor as prescribed in Article 250 of the OESC; or

b) Create another Ufer (concrete encase electrode) by placing an additional non-bearing footing next to the existing one at the required depth per R403.1.4 ORSC

   The footing shall be the required width and height of 12"w x 6"h x 21' in length, one of the following electrode installations shall be used:

1. 20’ of #4 bar with the rebar placed a minimum of 3” from the bottom, totally encased and a #4 bare copper conductor connected by approved means, mechanical or exothermic welded. The unspliced #4 conductor will be used to make connection to the service. Meeting the requirements of 250.52(A)(3) and 250.66. There shall no part of the rebar exposed when completed.

2. #4 bare copper conductor at a minimum of 2” of concrete encasement for the full length of 20’ of the footing. The unspliced #4 conductor will used to make connection to the service. Meeting the requirements of 250.52(A)(3) and 250.66

c) Inspections are required prior to and after concrete placement.