

SG 001 Substation High-Voltage Warning Signs

Scope

This standard specifies the details of, and installation procedures for high-voltage warning signs. These signs shall be placed on all fenced enclosures containing high-voltage electrical equipment.

References

The following publications also pertain to substation high-voltage warning signs:

ANSI Z535.1-2006 (R2011), Safety Colors

ANSI Z535.2-2011, Environmental and Facility Safety Signs

ANSI Z535.3-2011, Criteria for Safety Symbols

ANSI Z535.5-2011, Safety Tags and Barricade Tapes (For Temporary Hazards)

NESC 2017 Handbook, Appendix B, Safety Signs

PacifiCorp Substation Engineering Handbook Document 6B.5, *Fence Application and Construction*

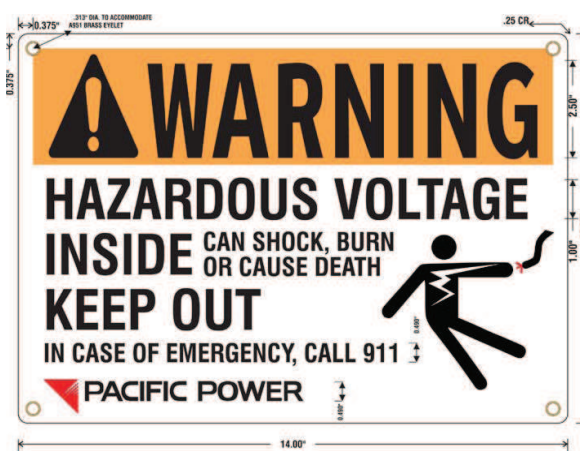


Figure I—High-Voltage Warning Sign for Pacific Power (SI# 799985 I)

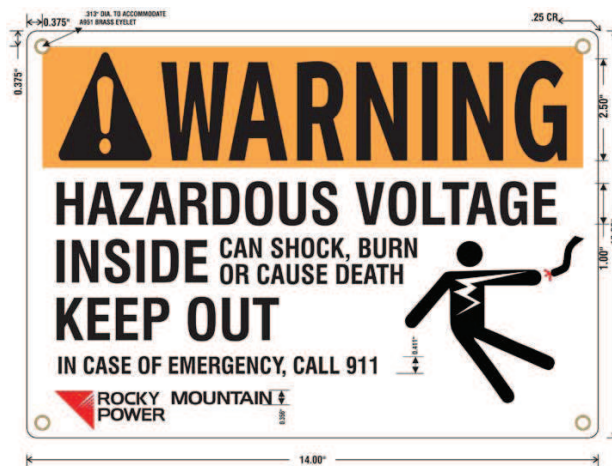


Figure 2—High-Voltage Warning Sign for Rocky Mountain Power (SI# 7999852)

Sign Description and Layout

1. Substation high-voltage warning signs are 10" × 14" in size, of an Everlast material, with a white background. A black signal word 2.5" high is placed in a safety-orange colored rectangular box across the top of the sign. A safety alert symbol 2.5" tall (the symbol is triangular and contains an exclamation point) precedes the signal word.
2. A warning message in black letters 1" tall follows the signal word and safety alert symbol. The warning message is printed in black, on the sign's white background.
3. An electrical "person with wire" safety symbol follows the warning message (it may also precede the warning message). This symbol is printed in black, on the sign's white background.
4. Signal and message wording is printed in a sans-serif font. Signal wording is always in uppercase. Message wording may be a combination of upper and lowercase letters, with the first word in the sentence capitalized. Message wording in uppercase is acceptable for short messages or emphasis of individual words.
5. Text justification is left-aligned for the word messages. Signal words are centered.
6. On the sign, the signal word reads, "WARNING." The warning message reads, "HAZARDOUS VOLTAGE INSIDE KEEP OUT." Additional wording includes, "CAN SHOCK, BURN OR CAUSE DEATH" and "IN CASE OF EMERGENCY, CALL 911." The Pacific Power or Rocky Mountain Power logo follows as shown in Figure 1 and Figure 2.

Placement and Spacing

1. Signs shall be placed on each fence run starting five (5) feet from the corner and then at 65-foot maximum spacing.
2. Signs shall also be placed on each gate, and shall be placed on the left-hand leaf of double gate.
3. Signs shall be placed on the outside of the fence (not the inside) at an approximate height of 5'-6" from the bottom of the sign to grade. Sign location and height may be adjusted as needed to ensure maximum visibility. (For example, signs should not be obstructed by bushes, trees, berms, etc.)

Ordering, Installation, and Inspection

1. On existing installations, Technical Operations will inspect signs, verify placement, address conditions, and secure or order signs where and if needed.
2. Order high voltage warning signs with internal stock item number:
 - Pacific Power sign: SI# 7999851
 - Rocky Mountain Power sign: SI# 7999852
3. Order mounting hardware for mounting the sign on the substation fence, with internal Stock Item Number 7999092.

Description: The mounting hardware is comprised of aluminum brackets with 1" temper-proof bolts and locking nuts. The bolts are installed through the sign's front, and screw into the aluminum brackets located on the interior of the fence. Four sets of mounting hardware are needed for each sign.

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