

Sign, Danger

RCMS Code: BA

A. Scope

This standard orders danger signs for lattice towers. Two types of signs are provided by this standard: a large, bolt-on sign and a small, stick-on sign for each tower leg. The large, bolt-on sign requires field-drilling the sign to match the existing bolt pattern on the tower. Where tower signs have not been provided in the past, the tower may also require drilling.

Danger Sign	SI #	Code
3.5" x 5"	7999095	A
5" x 7"	7999096	B
10" x 14"	7999093	C
12" x 16"	7999094	D
Cleaner	7999097	E

B. Standard References

The following publications also pertain transmission line high-voltage warning signs:

- ANSI Z535.1 - 2006, *Safety Color Code*
- ANSI Z535.2 - 2006, *Environmental and Facility Safety Signs*
- ANSI Z535.3 - 2006, *Criteria for Safety Signs*
- ANSI Z535.5 - 2006, *Accident Prevention Tags (For Temporary Hazards)*
- IEEE National Electric Safety Code - Latest Revision



Figure 1—10" x 14" and 12" x 16" Signs

<p>Transmission Construction Standard © 2008 by PacifiCorp. All rights reserved. Engineer (C. Wright): <i>CLW</i> Standards Manager (G. Lyons): <i>GS</i></p>	<p>Sign, Danger</p>	 A MIDAMERICAN ENERGY HOLDINGS COMPANY	<p>5 Feb 08</p> <p>TD 051 Page 1 of 4</p>
---	----------------------------	--	---

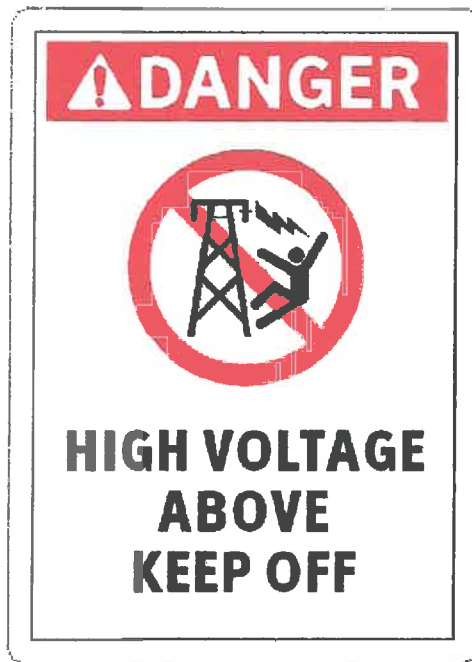


Figure 2—3.5" x 5" and 5" x 7" Sticker

C. Material

The signs shown in Figure 1 are constructed of a long-lasting material (10–15 years minimum) and are UV resistant. Signs are constructed out of heavy-duty polyethylene, embedded fiberglass, polyolefin, lexan, or reflective aluminum. The signs are able to withstand windy conditions with one corner unfastened.

The stick-on signs shown in Figure 2 are UV resistant and suitable for outdoor use. The material for these signs is lexan with a long-lasting pressure-sensitive adhesive that conforms to the adhesive requirements of FP-79 (class 1) and LS-300C (class 1). The back peel-off paper consists of two pieces for easy alignment during installation.

D. Sign Description and Layout

The 10-inch by 14-inch and 12-inch by 16-inch sign are constructed as shown in Figure 1. The signal word “DANGER,” per ANSI standard, is a minimum of 2-1/2-inch lettering. The warning message “HIGH VOLTAGE ABOVE” is a minimum 1-1/2-inch lettering and “KEEP OFF” is a minimum 2-1/2-inch lettering. The “Do Not Climb” symbol is positioned as shown.

The tower leg stickers shown in Figure 2 may be used in place of the large signs. The stickers use the same signal word as the larger signs, “DANGER.” The signal word is positioned at the top of the sticker as shown. The “Do Not Climb” symbol is positioned under the signal word, followed by the warning message. Text is sized as shown in Figure 2.



Sign, Danger

Transmission Construction Standard

© 2008 by PacifiCorp. All rights reserved.

TD 051
Page 2 of 4

5 Feb 08

Engineer (C. Wright): *CLW*
Standards Manager (G. Lyons): *GL*

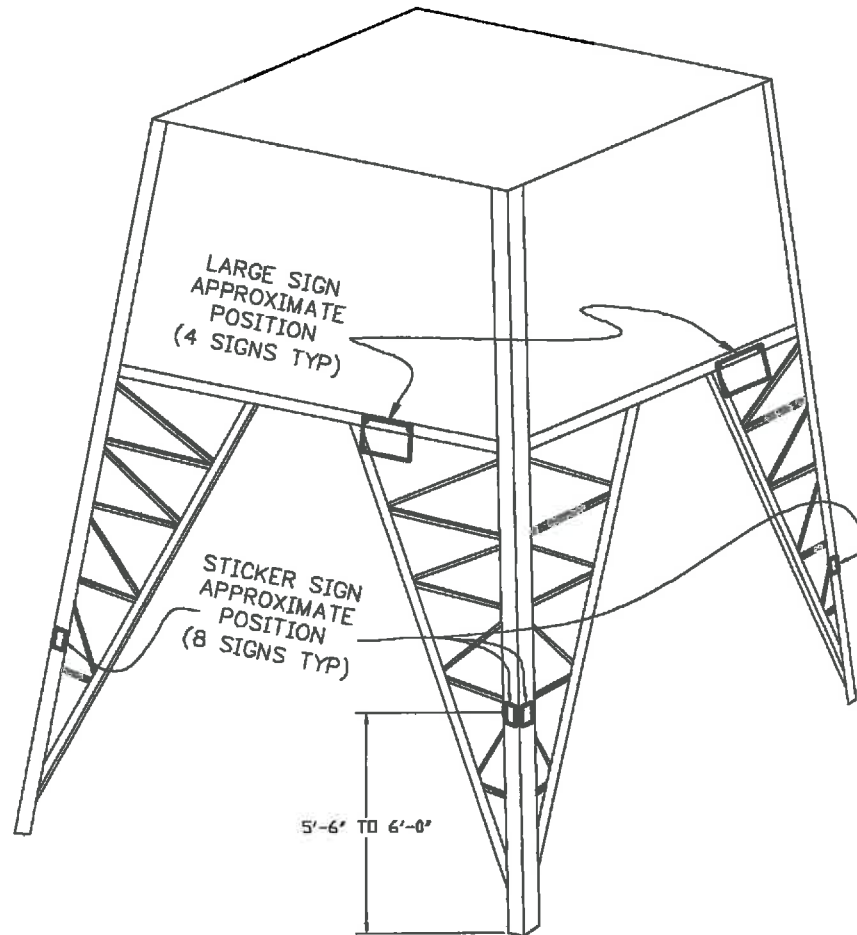


Figure 3—Sign Placement

E. Placement


If the 10-inch by 14-inch or 12-inch by 16-inch signs are used, place the signs approximately in the positions shown in Figure 3. Install four signs, one on each tower face. Field-drill the sign for existing bolt spacings to replace or add new signs. Space the holes as far apart as possible. Bolt the sign to the tower in at least three places and place the bolts close to each corner of the sign. Ensure that the signs are square with the tower. Sign size shall be determined by local district personnel or the engineer designing the tower.

The 3-1/2-inch by 5-inch or 5-inch by 7-inch sticker shall be attached to the leg angles as shown in Figure 3. Typically, eight stickers are installed approximately 5-1/2 to 6 feet above the ground. The sticker size is determined by the dimension of the leg angles. If the leg angles are too small to place the small sticker such that all lettering is visible in one direction, use the large signs for that tower.

Clean the area where the sticker will be placed by wire-brushing the surface using the cleaner provided by SI #7999097 (RCMS option E). Wipe the area with a clean towel after wire brushing. Verify that the surface is dry before installing the sign.

Transmission Construction Standard
 © 2008 by PacifiCorp. All rights reserved.
 Engineer (C. Wright): *CLW*
 Standards Manager (G. Lyons): *GS*

Sign, Danger

	
5 Feb 08	TD 051 Page 3 of 4

TD 051

To install the sign, peel off the smaller piece of backing paper and align the sticker on the tower leg using the portion that still has the backing paper. Once the sticker is aligned properly, press the part of the sign with no backing paper down, remove the backing paper from the rest of the sticker, and press the rest of the sticker into place. Try not to get any air bubbles trapped under the sticker. If a large air bubble is trapped beneath the sticker, use a pin or sharp knife to poke a small hole in the middle of the bubble, then press the air out through the hole.



Sign, Danger

**Transmission
Construction Standard**

© 2008 by PacifiCorp. All rights reserved.

TD 051
Page 4 of 4

5 Feb 08

Engineer (C. Wright): *CLW*
Standards Manager (G. Lyons): *GL*