PGE Joint Use Customer Meeting
October 18, 2005

Loose Wire Discussion

What the 2002 NESC says:
239A1 Grounding conductors, surge-protection wires, neutral conductors meeting Rule 230E1, insulated communication conductors and cables, supply cables meeting Rule 230C1, insulated supply cables of 0 to 750 V, or conduits may be placed directly on the supporting structure. These conductors, wires, cables, and conduits shall be securely attached to the surface of the structure. Cables not in conduit shall be installed in such a manner as to avoid abrasion at the point of attachment.

What the 1997 NESC says:
(Identical to 2002 Code)
239A1 Grounding conductors, surge-protection wires, neutral conductors meeting Rule 230E1, insulated communication conductors and cables, supply cables meeting Rule 230C1, insulated supply cables of 0 to 750 V, or conduits may be placed directly on the supporting structure. These conductors, wires, cables, and conduits shall be securely attached to the surface of the structure. Cables not in conduit shall be installed in such a manner as to avoid abrasion at the point of attachment.

What the 1993 NESC says:
239A1 Grounding conductors, neutral conductors meeting Rule 230E1, supply cables meeting Rule 230C1, or conduits enclosing conductors may be placed directly on the support. (No mention of… "These conductors, wires, cables, and conduits shall be securely attached to the surface of the structure.")

What Alan L. Clapp, P.E., NESC Handbook Fifth Edition says:
(This rule was created in 1990; former Rule 239A was moved to Rule 239B.) A new Rule 239A was added to place the former EXCEPTIONS to Rule 239 in positive terms and increase the understandability of the intention of the requirements. The 1997 revision added surge-protection wires, insulated communication conductors and cables, and insulated supply cables of 0-750 V to the list of items allowed to be directly attached to the structure. Conduits enclosing conductors (or empty) may also be mounted directly on the structure.

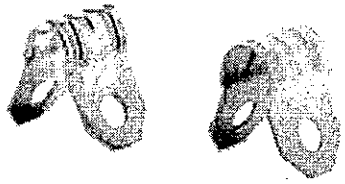
Loose Wire Discussion continued…

What David J. Marne, P.E., NESC Handbook 2002 says:
Rule 239A provides a list of vertical and lateral conductors that may be placed directly on the supporting structure (pole). A conduit may also be placed directly on the pole. Rule 239D requires guarding of vertical conductors within 8 ft of the ground with certain exceptions. See Rule 239D for a discussion. Examples of vertical and lateral conductors are shown in Fig. 239-1. (Note: Figure 239-1 shows attachment made to pole at top, bottom, and middle of vertical conductor.)

What John Wallace of the PUC Safety Staff says:
(Email dated June 1, 2005 RE: Communication Wire Attached to Surface of Pole)
This question has cropped up several times in recent days. The issue is covered in the language of Section 239A1. The code requires that such conductors be "securely attached to the surface of the structure," but does not define the manner of attachment. We have always interpreted that to mean (at a bare minimum) attached at least at top and bottom and in a manner that prevents any slack between those two attachment points. Because "securely attached" means to us that the wire should be unable to move much, we also encourage the communication companies to put more clips on the wire than just at top and bottom. Over the course of time, invariably those work loose and then the wire is waving in the breeze and impeding climbing space.

To sum up, top and bottom is fine. IF it properly secures the wire. If not, obviously it isn't OK. We don't have a set definition of "loose wire." That is a subjective judgement that has to be made by each utility and inspector. Hope this helps. If you have further concerns or questions, give me a call, JW.

"E" Drop Wire Clamp



- Used to secure telephone drop wire cable runs
- Mechanically galvanized ASTM B695.
- Transverse ribs grip cable to prevent abrasion.

Ordering Information

CATALOG NUMBER	DESCRIPTION	INNER PACK	OUTER PACK
23-80361	"E" DWC one pair, steel	50	2000
23-80370	"E" DWC two pair, steel	50	2000
23-83361	"E" DWC six pair, steel	50	2000
40-80365	"E" DWC, coax, aluminum (no ribs)	-	500

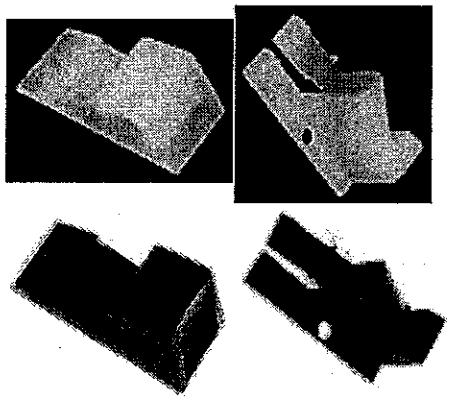
"U" Cable Clip

- Pre-formed aluminum cable clip used to secure drop cables and ground wires to either wood or masonry surfaces using self-tapping screws.

Ordering Information

CATALOG NUMBER	DESCRIPTION	INNER PACK	OUTER PACK
SC19-1	U cable clip - 6mm	500	10000
SC20-1	For Series 6 cable	500	10000
SC21-1	For #12 or #14 AWG ground wire	500	10000
SC22-1	U cable clip 10mm	400	8000

Siding Clips

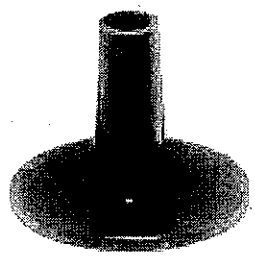


- Secures coaxial cable runs to aluminum, vinyl or steel siding.
- High density UV stabilized outdoor polypropylene.
- Available in natural (clear) or black.

Ordering Information

CATALOG NUMBER	DESCRIPTION	INNER PACK	OUTER PACK
12-01501	Horizontal / Black TVCG-1	100	1000
12-01401	Horizontal / Natural TVCG-1	100	1000
12-01502	Vertical / Black TVCG-2	100	1000
12-01402	Vertical / Natural TVCG-2	100	1000

Feed Thru Bushing



- Protects coaxial cable entry into subscriber's building.
- Available in black or natural (clear).
- High density UV stabilized outdoor polypropylene.

Ordering Information

CATALOG NUMBER	DESCRIPTION	COLOR	CABLE SIZE	INNER PACK	OUTER PACK
34-08052	Feed thru bushing	Black	Series 6, 6Q	100	1000
34-08053	Feed thru bushing	Natural	Series 6, 6Q	100	1000