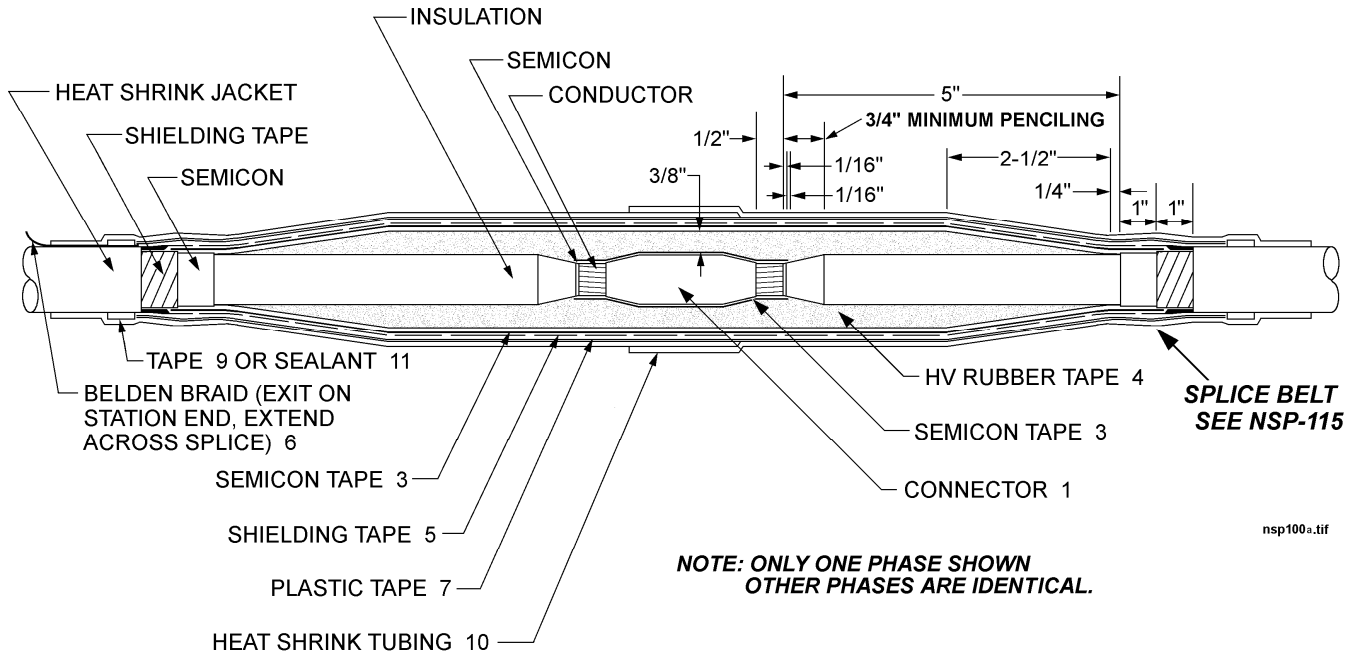


SEATTLE CITY LIGHT  
**CONSTRUCTION GUIDELINE**

STANDARD NUMBER: **NSP-100**  
 PAGE: 1 of 3  
 DATE: April 15, 1971  
 REV: June 13, 2001

**THREE CONDUCTOR, 13.8 kV STRAIGHT SPLICE -  
 POLYETHYLENE INSULATION**



nsp100a.tif

**MATERIAL LIST - THREE PHASE**

ITEM	QTY	DESCRIPTION	STOCK NO.
1	3	CONNECTOR, Tapered Compression	677337 Thru 677349
3	2	TAPE, Electrical, Semiconducting	3/4"
			1"
4	9 2 As Req'd	TAPE, High Voltage Electrical, Linerless	1"
			3/4"
			1-1/2"
5	6	TAPE, 2" Tinned Copper Shielding	736243
6	As Req'd	BRAID, 5/8" x 3/64" Tinned Copper	618625
7	4	TAPE, 3/4" Plastic Insulation	736655E
8	As Req'd	CLEANER, Electrical Insulation	726157E
9	As Req'd	TAPE, Insulating and Waterproofing ("aqua seal")	736470E
10	12	TUBING, Heat Shrink, 2"x12" for 350 kcmil & smaller 3"x12" for 500 kcmil & larger	737455E
			737456E
11	As Req'd	SEALANT, Hot Melt, 2" (Red Mastic)	686541

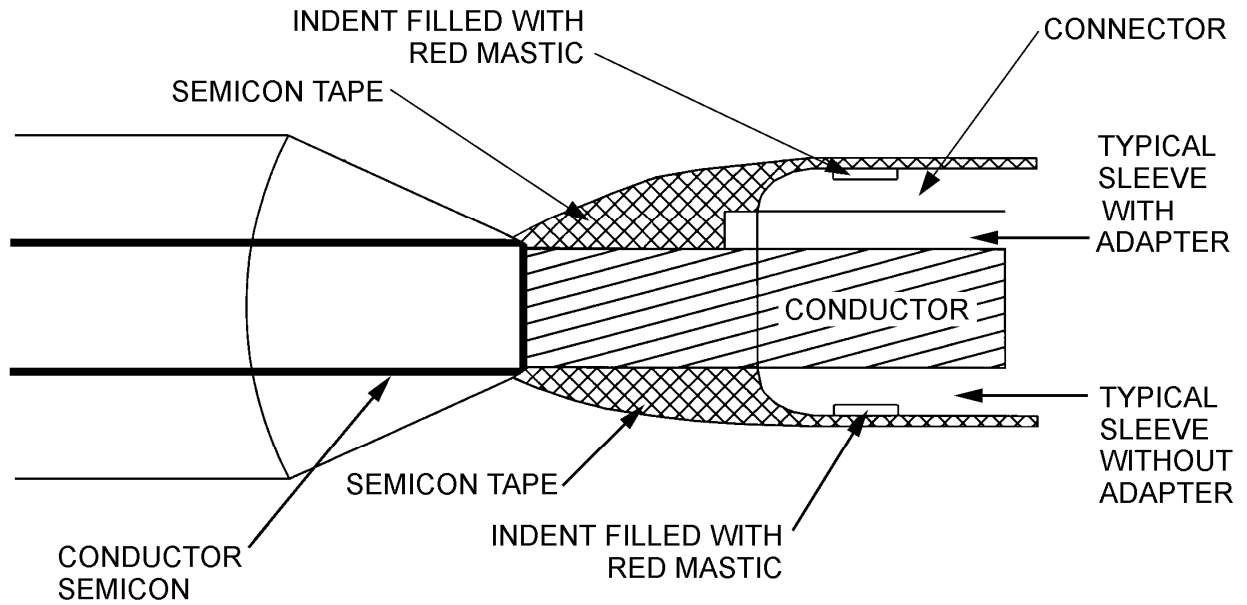
ORIGINATOR	STANDARDS COORDINATOR	STANDARDS SUPERVISOR	UNIT DIRECTOR
	Charles L. Shaffer	John ...	Betty Robm

**CONSTRUCTION GUIDELINE**

1. Train the cables to the final position and cut the ends so they butt squarely together. Do not clog the vault or manhole with cable by unnecessarily wrapping the hole with cable.
2. Trifurcate both cable ends per Guideline NSP-110. (Sand cable jacketing.)
3. Remove the heat shrink tubing from each conductor for a distance of seven and one-half inches plus one-half the connector length.
4. Remove shielding tape from each conductor to within one inch of the heat shrink tubing.
5. Remove semicon from each conductor to within one inch of the shielding tape.
6. Remove insulation and semiconducting tape from each conductor for a distance of one-half inch plus one-half the length of the connector. Pencil insulation for a minimum length of three-quarters inch, leaving one-sixteenth inch (minimum) of semicon exposed.
7. Slide three-inch heat shrinks (Stock No. 737456E) over both ends of each conductor for later use. Allow enough to cover the entire length of completed splice. To avoid extra seams, long heat shrink tubes (Stock No. 737604) may be cut to length and used if there is a long enough straight section on the cable.
8. Attach the connector to the conductors with two crimps on each side of center and remove any burrs or sharp points.
9. Clean the entire prepared splice area, using clean, lint-free cloths. Wipe from the insulation towards the semicon so as not to contaminate the insulation with conducting particles.
10. Fill crimp indents with either red sealant mastic (Stock No. 686541) or cut strips of semicon tape (Stock No. 736670). Fill the indents so that the connector is rounded out.
11. Be sure the surface is smooth when finished.
12. Apply electrical semiconducting tape (Stock No. 736670) to the exposed connector and conductor. Allow tape to over-lap the cable conductor semicon. When applying tape, half-lap and stretch the tape in accordance with manufacturer's instructions packed with each roll of tape. Be sure the surface is smooth when finished. Build-up the semicon tape on the conductor as shown on the drawing. See Page 3.
13. Wrap high voltage electrical tape, half-lapping and stretching per manufacturer's recommendations over electrical semiconducting tape and over insulation to within one-quarter inch of the factory cable shielding semicon. This tape should be applied to a thickness of three-eighths inch over the connector and tapered toward the end of the splice as shown. It is important that this tape is stretched PER MANUFACTURER'S RECOMMENDATIONS. Linerless high voltage tape may be used. Do not mix liner and linerless or different brands on the same splice.
14. Wrap one half-lapped layer of electrical semiconducting tape (Stock No. 736671) over the splicing tape, extending it over the factory cable shielding semicon.
15. Wrap one half-lapped layer of shielding tape (Stock No. 736243) over the semiconducting tape, overlapping the cable shielding tape by one inch at each end. Pull the shielding tape down so it conforms to the splice (no shingles). Solder to the cable shielding tape. Spot solder the turns together so there is continuity across the shielding tape (If one roll doesn't go all the way across.).
16. Towards the station-end of splice, solder a ground strap (braid) (Stock No. 618625) to cable shielding tape of each phase and extend out from joint as shown. The braid should be soldered solid where it exits the heat shrinkable tube to prevent wicking. Connect the ground braids together and connect to the ground bus. Wrap red sealant around the solder block in the braid so heat shrink will seal out water.
17. Wrap a one half-lapped layer of plastic low-temperature tape (Stock No. 736655E) over the entire area of shielding tape, stretching tightly to flatten lower layer of the tape. Tape both ends of the splice uphill to center, slightly overlapping at the center of splice.
18. If the cable is compact sector, apply a splice belt per Guideline NSP-115.
19. Slide the heat shrink tubing in place and shrink to fit. **DO NOT USE EXCESSIVE HEAT!**

# CONSTRUCTION GUIDELINE

## SEMICON TAPING AT CONDUCTOR SEMICON TO CONNECTOR SLEEVE



nsp100b.tif

One or two half-lap layers of semicon tape over connector area.