Service Splices in Riser Extensions for Direct-Buried Services

1. Scope

This standard covers the installation of service splices in secondary riser extensions on Seattle City Light (SCL) distribution poles when direct-buried services are encountered.

2. Application

This standard provides direction to SCL engineers, crews, and contractors who specify or install service splices in pole risers when direct-buried services are encountered.

The service splice is the transition point between the existing direct-buried cables and a new cable extension to accommodate a taller pole.

3. Installation Requirements

3.1 Approval

A service splice inside the service riser shall be allowed when approved by an SCL engineer in consultation with the crew performing the installation.

3.2 Service Splices

The service splice shall be installed inside the upper portion of the riser extension. See Figure 3.2a.

The service splice shall be a straight compression splice and installed per the directions and materials stated in SCL 0575.14. See Figure 3.2b.

Splices for three-phase services shall be staggered to fit inside the conduit. See Figure 3.2c.

Figure 3.2a. Overview, Riser Extensions for Direct-Buried Services

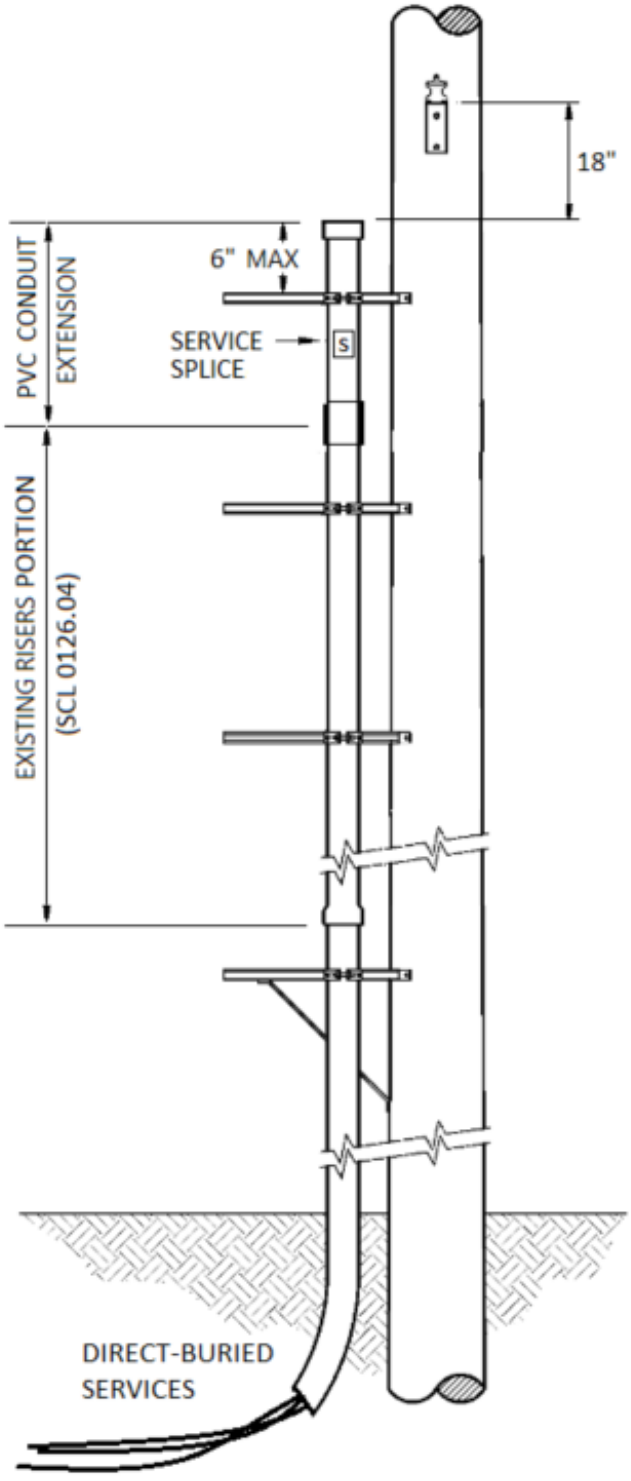

Figure 3.2b. Splice, Straight Compression, Non-Tension, Secondary

Figure 3.2c. Splice, Straight Compression, Staggered, Non-Tension, Secondary

3.3 Conduit Extensions

A service entrance cap, or weatherhead, is not required on service risers when conduit is terminated at a bottomless handhole or when conductors are direct-buried.

Riser extensions without a service entrance cap shall be constructed as shown in Figure 3.2a.

Schedule 40 PVC conduit shall be used for riser extensions to enclose the service splice. See SCL 7015.05.

PVC conduit shall extend to 18 inches below the system neutral for secondary services. See Figure 3.2a.

PVC conduit adapters can be used to transition between conduit sizes.

3.4 Bracket

An unbraced pole riser standoff bracket shall be installed 6 inches maximum from the top of the riser extensions. See Figure 3.2a and SCL 6867.50.

3.5 Identifications

A “S” yellow on a black letter sticker shall be installed on the upper portion of each service riser containing the service splice. See Figure 3.5.

See SCL 7650.07 for reflective lettering.

Figure 3.5. Identification of Service Splice Inside Split Conduit Riser

4. References

SCL Construction Standard 0126.04; “Riser Extensions”

SCL Construction Standard 0575.14; “Splices, Straight Compression, Non-Tension, Secondary”

SCL Material Standard 7015.05; “Schedule 40 PVC Conduit and Fittings”

SCL Material Standard 7650.07; “Reflective Letters and Numbers, Pressure-Sensitive, 2-7/8 in x 1-3/4 in, and Panel”

SCL Material Standard SCL 6867.50; “Bracket, for Pole Riser Conduit”

5. Sources

Alexander, James; SCL Joint Use Reviewer and subject matter expert for 0126.07

National Electric Code (NEC), NFPA-70; 2011 Edition, National Fire Protection Association, Quincy, MA, 2010

National Electrical Safety Code (NESC), C2-2012 Edition; Institute of Electrical and Electronics Engineers (IEEE), Inc., New York, NY, 2011

Neuansourinh, Ponet; SCL Standards Engineer and originator of 0126.07

Nyhuis, Jonathan; SCL Wood Pole Design Supervisor and subject matter expert for 0126.07.

SCL Construction Standard 0234.34; “Steel Conduit Risers”