Introduction

In some Vista® Underground Distribution Switchgear and Vista SD Underground Distribution Switchgear applications, S&C Electric Company uses external voltage transformers (model ABB VIL-95, VIL-95S, VIL-12, or VIL-12S) to provide control power for automation components, such as controls and motor operators. These voltage transformers must be connected to a source on the primary side through separable connectors and accessories provided by the user.

Drawings provided by S&C will describe to which way and which phases each voltage transformer should be connected. The voltage transformers are to be connected either phase to phase or phase to ground, which will be noted on the drawing.

To make a primary-side connection from the voltage transformer to the source, make sure to use separable connectors and accessories that meet the requirements of IEEE 386. In addition, make sure these components match the voltage rating of the Vista or Vista SD switchgear.

Connections must be made at both the voltage transformer and at the separable connectors used to attach customer cables to a fault interrupter or load switch.

Connections at the Voltage Transformer

The voltage transformer is equipped with bushing wells. To make the connection at the voltage transformer, the following equipment is required:

- A loadbreak bushing insert (S&C does not recommend use of an extended insert because it may interfere with other equipment in the Vista or Vista SD switchgear.)
- ***For voltage transformers connected phase to phase:*** Use a 200-ampere loadbreak elbow connector for both bushing wells on the voltage transformer.
- ***For voltage transformers connected phase to ground:*** Use a 200-ampere loadbreak elbow connector with the bushing well connected to the load switch or fault interrupter (as noted on the drawing). The bushing well connected to ground should use a 200-ampere grounding elbow, which also should be connected to ground.

Connections at the Load Switch or Fault Interrupter

All voltage transformers must have one or two connections at the load switch or fault interrupter, depending on whether the voltage transformer is connected phase to phase or phase to ground.

To make connections at the load switch or fault interrupter, the following equipment is required:

- ***For 600-ampere rated fault interrupters or load switches:*** On ways rated 600 amperes continuous, the voltage transformer will be connected to the source through a 600-ampere deadbreak elbow. A loadbreak-reducing tap plug should be installed on the back of the elbow. Alternately, a deadbreak elbow with an integrated 200-ampere loadbreak-reducing tap plug on the back side may be used.

To connect the cable to the voltage transformer, S&C recommends using 200-ampere loadbreak-fused elbow connections with a fuse rated from 1 to 12 amperes, preferably with a fuse rated at the lower end of that range.

- ***For 200-ampere rated fault interrupters:*** On ways rated 200 amps continuous, the switchgear will include a bushing well. Instead of using a standard bushing insert at this bushing well, S&C recommends using a feed-thru insert or a bolted 200-ampere elbow with an integrated 200-ampere loadbreak-reducing tap plug on the back of the elbow.

To connect the cable to the voltage transformer, S&C recommends using 200-ampere loadbreak-fused elbow connections with a fuse rated from 1 to 12 amperes, preferably with a fuse rated at the lower end of that range.

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