Safe Work Practices

VERSANT POWER

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Paralleling Distribution Transformers	SWP-5.07	
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1.0 PURPOSE

1.1 To provide guidelines for distribution operating personnel in the practice of **temporarily** paralleling distribution transformers or banks of transformers.

2.0 GENERAL

2.1 Risk assessment shall be completed prior to work.

2.2 This work method is intended for the occasions when the **temporary** paralleling of distribution transformers will eliminate undesirable customer interruptions during a transformer change out.

2.3 Installations of parallel transformers or transformer banks on different structures with common secondaries and individual primary disconnects are **temporary** only as they pose a definite safety hazard due to back feed. Any parallel connection must be removed before leaving the work site.

3.0 PROCEDURE

3.1 Before any distribution transformers are to be paralleled, a visual inspection shall be performed to verify the following:

3.1.1 That if only single phase transformers are involved, they are or will be connected to the same primary phase.

3.1.2 That the transformers or transformer banks are connected to the same feeder.

3.1.3 That the transformers on the transformer banks are similar i.e. WYE-WYE to WYE-WYE.

3.1.4 That all transformers and secondaries are suitably rated to carry the load.

3.1.5 That transformer(s) tap changers (if any) are on the same output voltage. If possible verify by check or measurement.

3.1.6 The voltage ratings on the transformers are similar i.e. 7200-120 and 7200-120 volts.

3.1.7 The transformers must have the same polarity (additive or subtractive).

3.2 With secondary runs separated, energize the new transformer installation.

3.3 Check the voltage between the secondaries to determine proper connections when paralleling. Physically identify by colored tape or other suitable means the matching legs or phases which will be paralleled.

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3.4 Parallel can now be made in accordance with the following steps.

3.4.1 With the new transformer energized connect the appropriate leg or phases as identified in (3.3) above. The conductor should remain in contact while making the connections. It may be necessary for one person to hold the conductors while a second person makes the crimp/ampact/turbo connection as required.

3.4.2 Disconnect the secondaries or drop leads from the old transformer(s); disconnect the hot legs first then the neutral. Keep in mind at this point the primary side of the transformer is still alive due to back feed until all secondaries are disconnected.

3.4.3 Open the cutout(s) on the old transformer(s).

3.4.4 Remove the remainder of the old transformer installation.

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