Safe Work Practices

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Cut Double Dead-End in Existing Primary	SWP-5.11	1
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1.0 GENERAL

Following all safe work practices and procedures in this module: You will cut in one set of dead-ends. References include Safe Work Practices (SWP) and Versant Power Safety Manual (EMSM). There are various reasons for cutting a dead-end in an existing primary. Regardless of the conductor size, the method will be the same.

2.0 SAFETY

2.1 Review Working On or Around Energized Equipment (EMSM: 5.7)

2.2 Review Insulating Protective Equipment (IPE) inspection and use under SWP 5.02.

2.3 Review Insulating Web Strap Hoists (SWP 5.05)

2.4 When it is necessary to lay an energized conductor on a cross arm or pole, the conductor shall be covered with approved insulating equipment and the cross arm or pole shall be covered with an approved guard, providing two barriers.

3.0 PROCEDURE

3.1 A formal risk assessment will be discussed and documented to identify job location, voltage, zone of protection, tagging requirements, all hazards and required barriers.

3.2 Refer to the Versant Power Distribution Construction Standards for proper spacing, design and standards.

3.3 **EXTREME CAUTION** shall be used while framing the pole. Proper protective equipment shall be installed to protect the employee.

3.4 **EXTREME CAUTION** shall be used while installing the mechanical jumper. Review SWP 5.08 Proper Use of Mechanical Jumpers.

a. When installed over an arm, on or against a pole, or any other path to ground or of a different potential other than to what the jumper is attached, a second barrier of cover must be installed. A 10kV insulator may also be installed on the side of the pole or arm to support the mechanical jumper or conductor and to help keep the jumper/conductor clear of the pole, other phases or grounds.

b. **IMPORTANT**: The mechanical jumper must be on the wire and both ends must have a good tight connection on the wire. The mechanical jumper shall be large enough to carry the amperage that is on the existing line. If the mechanical jumper is not large enough, it could become overloaded and burn open or get hot. The mechanical jumper should be of the same amperage carrying capacity as the wire on which it is installed, or of a higher amperage carrying capacity than the wire. The jumper should be long enough to reach out past strap hoists on each side of the insulator.

c. Installing the ends of the mechanical jumper outside of the strap hoists keeps the heads of the mechanical jumper outside of the immediate work area. This also lets the conductor hold the weight of the jumper. If the mechanical jumper was placed on the wire in between the two hot line grips, the weight of the heads on the jumper and the jumper itself would cause the wire to pull down once it has been cut.

3.5 Install the strap jacks.

a. The conductor size will also determine the hot line grip needed.

b. The strap jack may either be installed with the handle end in the straight line clamp and strap end on conductor or handle end on conductor and strap end in clamp, depending on which will give you the best clearance and working room.

3.6 There are three (3) types of cutters that may be used to cut the wire. The wire size will determine the cutters used.

a. Lineman's Pliers

b. Bolt Cutters/Ratcheting Cutters

c. Mechanical Battery/Hydraulic Cutters

3.7 **EXTREME CAUTION** should be taken before cutting a conductor (wire). Both ends of the wire shall be secured.

3.8 **IMPORTANT**: Cut the conductor between the mechanical jumper. Make sure a small amount of slack is obtained before cutting. Never allow any part of the cutter to come in contact with you beyond the protection of your rubber gloves.

3.9 Dead-end the wire. Back the nuts off on the straight line clamp. Most of the aluminum straight line clamps at Versant Power have an open-sided spring loaded U-bolt gate. Inserting the wire is just a simple matter of laying the conductor in the groove, reattaching the U-bolt and tightening the four bolts. You do not have an excess amount of wire to try and control.

3.10 **TIP**: Once the wire is 3 to 4 inches in the clamp, push up on the wire at the clamp. This will allow the wire to slide through the clamp with ease.

3.11 Pull all the slack out of the wire and tighten the nuts on the clamp. Slack the strap jack off and remove from the wire.

3.12 The taps are made of the same wire size. The measurement of the tap length is given to the ground worker.

3.13 Tie the tap wire in place on the insulator on the top pin.

3.14 **EXTREME CAUTION** shall be used while installing the taps. Proper protective equipment shall be installed to protect the employee.

3.15 The types of connectors used will be determined by the conductor size.

3.16 Wire brush the tails of the wire and tap to remove oxidation. The connection shall be made on the tail of wire that is sticking out of the line clamp. **IMPORTANT**: When copper is used with aluminum, place the copper on bottom. When parallel clamps are used, turn the nuts towards the pole. When the connection is made, move to the other side and complete the tap connection.

3.17 **EXTREME CAUTION** shall be used when removing the mechanical jumper.

3.18 **IMPORTANT**: Proper protective equipment shall be installed to protect the employee.