

Safe Work Practices



Title: Repairing Disconnect On Energized Bus	Reference: SWP-5.17	Revision:
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1.0 PURPOSE

The purpose of this document is to outline the steps for work on the bottom side of a de-energized disconnect switch for maintenance, changing glass and/or changing parts (such as a blade) while keeping the top of the disconnects, bus or line side, energized.

2.0 SAFETY

- 2.1 Always use proper high voltage procedures, including personal protective equipment, when working near or around high voltage equipment or conductors.
- 2.2 Identification of bus voltage is imperative to determine the “MAD” zone.
- 2.3 All properly rated hot sticks will be wiped clean and inspected before use.
- 2.4 Review Insulating Protective Equipment (IPE; including hard cover) inspection and use under SWP 5.02.
- 2.5 The bus and disconnects should be visually inspected for defects before work commences.
- 2.6 Proper zone of red tag protection will be required per Section 6 of the Versant Power Safety Manual.

3.0 PROCEDURE

- 3.1 A formal risk assessment will be discussed and documented to identify hazards and barriers.
- 3.2 If working above bushings charged with SF6 gas, degassing of the breaker is mandatory.
- 3.3 The disconnect shall be opened (if possible) with the appropriate hot stick and rubber gloves. The load side of the disconnect shall be tested for the absence of voltage.
- 3.4 If the disconnect can't be opened due to a mechanical failure of the switch, a bus outage may need to be considered to open the disconnect. Once open, the bus may be re-energized.
- 3.5 The bus will be properly covered with the appropriate IPE, using hot sticks and rubber gloves, to mitigate the “MAD” zone.
- 3.6 If applicable, while the leads are de-energized, grounding studs will be installed.

4.0 CHANGING GLASS

- 4.1 The lead connected to the open disconnect shall be grounded.
- 4.2 Remove the blade from the cap of the insulator (grounds remain).
- 4.3 Remove the broken stand-off insulator and install new glass.

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4.4 Re-install grounded blade to new glass.

4.5 Don't fully torque bolts until adjustments are made.

5.0 DISCONNECT BLADE CHANGE

5.1 The lead connected to the open disconnect shall be grounded.

5.2 Remove the blade from the cap of the insulator (grounds remain).

5.3 Remove disconnect blade from the grounded lead and install the new disconnect blade onto grounded lead.

5.4 Re-install grounded blade onto insulator.

5.5 Don't fully torque bolts until adjustments are made.

6.0 MECHANICAL CONNECTOR CHANGE-OUT

6.1 The lead connected to the open disconnect shall be grounded.

6.2 Remove the mechanical connector from the bottom of the blade.

6.3 Connector may be removed from the grounded lead and a new connector installed.

6.4 With the bus covered with IPE and the grounded lead removed, the wire connection on the bottom of the disconnect may be wire brushed with rubber gloves.

6.5 Grounding of the disconnect blade is permitted when it can be accomplished.

6.5 Re-install grounded mechanical connector to the bottom of the disconnect blade.

7.0 DISCONNECT ADJUSTMENT (IF NECESSARY)

7.1 Remove grounds, IPE and clear red tags.

7.2 Request and install blue tags on disconnects to adjust.

7.3 Close disconnect to align.

7.4 Open disconnect and re-establish red tag zone.

7.5 Install IPE and grounds to torque disconnect bolts to proper value.

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