

Appalachian Power Company Policy / Procedure No. 11: Load Break Tool Use

1) Statement of policy:

To minimize the occurrence of electric arcs, a load break tool shall be used to open any circuit where heavy load is suspected and no additional current interrupting capability exists.

2) Discussion:

Energized switching of the distribution system almost always involves changing the flow of current. Closing a switch allows current to flow whereas by opening a switch, the intent is to halt the flow of current. Unless the switch is specifically designed to interrupt electrical load, it may not be possible to stop the flow of current with that switch. The load break tool is designed for use with "load break hook equipped" switchgear. It is suitable for live-circuit switching of single-phase or three-phase overhead circuits through 34.5kv and on underground distribution equipment through 25kv.

For proper operation of the load break tool, it is imperative that the following procedure be performed prior to each use:

1. Verify the tool being used is rated for the system line voltage.
2. Thoroughly inspect the tool to be free from cracks, breaks, or other signs of deformity; that the anchor ring, resetting latch, and latches associated with the pull hook can be moved smoothly without binding; that the tool shows no signs of electrical flashover or burning at the connecting strap ends; and that the tool is clean and dry.
3. Extend the tool fully, listening for the distinct "snap". Verify that the tool will lock in the fully open position.
4. Reset the tool by lifting the resetting latch and retracting the extendable tube to its lowest position.
5. Extend the tube about three inches. You should feel a definite spring tension and the tube should retract when released.

When operated properly, the load break tool will provide the user a safe and efficient way to interrupt most loads found on our distribution system. The following are reminders that will assist you in the proper operation of this tool:

1. Visually check the cutout or switch's integrity prior to using the loadbreak tool.
2. Position yourself for safety. Stay at least 5 feet below the load break tool and on the front side of the switch.
3. With the anchor ring over one of the hooks on the switch (if possible, use the hook on the side away from the arrestors and other equipment) and the pull hook in the pull ring of the blade or fuse holder, open the blade with a firm, steady motion until the load break tool is fully extended and locked.
4. After the load break tool has locked in the fully extended position, you can begin the removal process. Raise the tool just enough to disengage the anchor ring from the hook and pull down until the switch blade or fuse holder is in the fully open position.

5. Disengage the pull ring hook by twisting the hot stick in such a direction that would tend to rotate the load break tool upward

3) Definitions:

Load break hooks – components found on switches and cutouts and their sole purpose is to make that piece of switchgear compatible with a load break tool.

4) Attachments:

5) OSHA / Safety Manual References

Safety Manual E - 1.05

Employees shall not open circuits under load conditions unless the device used to open the circuit is designed to interrupt the current involved. If a non-load break disconnect device is used, it shall be operated from a remote position where the employee cannot be injured in the event the device fails.

OSHA 1910.269(I) (10)

“Opening circuits under load.” Devices used to open circuits under load conditions shall be designed to interrupt the current involved.

6) Date Adopted: March 7, 2006