

Appalachian Power Company Policy / Procedure No. 29:
Transferring Dead Ended Conductors Over Roadways

Policy Summary:

Transferring, maneuvering and handling dead ended conductors over public roadways presents unique challenges to those engaged in this type of work. Based on field experience and problems encountered while holding and moving conductors with a single standard hoist and grip arrangement, if the conductor were to unexpectedly slip through the grip, it would fall into the road creating a significant hazard to the public.

This policy provides procedural guidance when faced with this task and specifically stipulates the following two methods for transferring, maneuvering and handling dead ended conductors over roadways.

- Method 1: Traffic shall be stopped utilizing appropriate Work Zone Protection when the conductor is to be held or moved with only a single hoist and grip combination. Traffic shall only be allowed to flow again after the conductor is secured in the final dead end assembly or grip.
- Method 2: Establish a secondary control method for holding the conductor by utilizing a pre-form grip or dead end shoe with an additional hoist or sling and grip combination. Under this arrangement, the initial hoist and grip combination is used to slack and pull tension, but there is a secondary catch on the conductor should the initial hoist and grip combination fail. Anytime a secondary control method, i.e. pre-form grip and dead end shoe is used, it shall not be used to pull the conductor. This does not eliminate transferring conductors where two independent sets of hoist and grip combination are applied, provided both sets remain in place till the conductor is in the final dead end assembly.

Note 1: When using Method 2, extra care shall be taken to ensure that the conductor does not sag into traffic if the initial hoist and grip combination fails and the secondary catch is then the only thing holding the wire

Note 2: Only a pre-form grip or dead end shoe(s) shall be approved secondary catches. Close inspection shall be performed on all grips (including dead end grips) and hoist to ensure integrity of proper operating condition. Multiple uses of dead end grips shall be kept to a maximum of three applications.

Note 3: The person in charge shall work with local supervision whenever there is a high traffic volume four lane road involved to determine the best job plan for conductor transfer.

1) Statement of policy:

All hazards at the job site shall be thoroughly reviewed before beginning conductor transfers. Conductors are usually heavy and under significant tension. This combination of forces makes it critical that proper care be used when transferring dead ended conductors from one pole, arm or string of insulators to another. Extra precautions must be taken to protect the crew members and the public. Crews must recognize and consider terrain, traffic volume and job scope when deciding which of the above methods to employ. In some cases the person in charge may determine the need to use both methods.

2) Discussion:

Some of the most horrific accidents in the history of AEP have been associated with the task of conductor manipulation over a roadway. Conductors are under a significant amount of stress and when released from their permanent dead end position can become precarious and unpredictable, requiring additional precautions. Before the substantial work of releasing the wire from the shoe or dead end grip is begun, the crew must either stop traffic from traveling under the wire or establish positive control of the wire to eliminate the possibility of the wire falling into the path of moving traffic.

In the past, some locations have utilized the pre-form grips to actually pull up the conductor. The problem with this method is that the manufacturer states that pre-forms are not to be used to pull wire, only to hold wire. Other material which can be used is a dead end shoe itself, again to just hold not to pull. The shoes have become more user friendly and the wire can now be placed into the shoe from one side.

3) Definitions:

Positive Control: Control of conductors or equipment in a manner that maintains the item's position even when external forces act upon it.

4) OSHA / Safety Manual References

Safety Manual:

G 4.01 Tools/equipment shall be inspected prior to use and used only if they are appropriate for the task and in good working order. Defective tools/equipment shall be removed from service, until properly repaired.

E 2.27 Employees shall not attach or remove guy wires and/or conductors from a pole or structure until they are sure the pole or structure will withstand the altered stress.

E 2.32 Conductors being strung in or removed shall be kept under positive control to prevent accidental contact with energized lines or equipment.

5) Date Adopted: March 7, 2012