

Appalachian Power Company Policy No.: 3
Barricading of Aerial Lift and Derrick Truck Equipment

1) Statement of policy:

All aerial devices and derricks that will be operating in primary voltage areas that may get closer than the minimum approach distance listed in Table 1.03 of the Safety Manual shall be barricaded.

Because of the potential for dangerous step potentials, anyone on a jobsite where a vehicle is barricaded shall wear insulating rubber overshoes or boots. The only exception to this policy would apply to line mechanics working in the bucket.

2) Discussion:

Hazardous voltages will exist on equipment should conductive portions inadvertently come in contact with energized conductors during the course of the work. These voltages will be extremely harmful if not fatal should a worker come in contact with the vehicle during this time. The barricade is erected to insure that workers do not come in contact with the vehicle during that time. Traffic cones and ropes may be used as an alternative in special cases. The barricading rope shall encompass all conductive attachments that extend from the vehicle including outriggers whenever possible. If this arrangement cannot be accomplished, then other measures should be taken to ensure the security of this vehicle. The hydraulic tamp may be used if the hose extending from the vehicle in the vicinity of the barricade is non-conductive.

Workers shall not lean across the barricade to access the vehicle while the barricade is in place. If workers need access to the vehicle, they shall communicate with the operator who shall position the derrick or aerial device a minimum of ten feet from energized conductors and stop operation while the worker accesses the vehicle. In this situation, the worker accessing the vehicle shall lower the barricade on side(s) where the worker intends to access the truck and leave it down until no further contact is necessary, he shall then reinstall the barricade and communicate with the operator that it is safe to resume work.

Exception: While setting a pole in energized primary, and lines and /or pole are covered up, the truck must be barricaded. Once pole is plumb and secure, employees can drop the barricade and get off the truck to tamp the hole in provided the following:

1. Before the new pole is set, all energized conductors or equipment that may come within the minimum approach distance of the pole while it is being set or after it is set must be covered. Pole guards may be installed on the pole as an alternative to cover up where the use of pole guards is more practical. (Reference E2.21 and Appalachian Safety Policy No. 7) and the crew has assured the pole will not come in contact with the energized conductors or equipment.
2. The truck is barricaded (Ref.: E1.11) while setting the pole and the barricade is not lowered until the crew is certain the pole will not make contact with energized conductors or equipment.
3. The boom has stabilized the pole and the boom controls are not being operated and will not be operated until the tamping operation is complete.
4. In the rare instance when the end of the boom actually ends up in the zone when the pole is in position, the procedure to be used would be to drop the barricade after all movement with the boom and winch has stopped and the operator has removed his hands from the controls, in this case, the barricade should be restored once the pole is tamped so the boom can be removed from the pole.

Before the barricade is installed, the fire extinguisher, a rubber blanket and a pair of rubber gloves, rubber sleeves, and FR shirt shall be removed from the vehicle and placed in an accessible location outside the barricaded area and any additional tools as needed for the job.

3) Definitions:

Barricade: a temporary impediment encompassing all four corners and sides of a vehicle separated from the vehicle by non-conductive supports and demarcated by highly visible rope and warning signs (High Voltage) attached to those supports or high visibility rope.

4) Attachments:

Electrical Table 1.03

Nominal System kV (Phase-to-Phase)	Minimum Approach Distance	
	Phase-to-Ground Feet-Inches	Phase-to-Phase Feet-Inches
0.05 – 1.0	Avoid Contact	Avoid Contact
1.1 - 15	2 - 1	2 - 2
15.1 - 36	2 - 4	2 - 7
36.1 - 46	2 - 7	2 - 10
46.1 – 72.5	3 - 0	3 - 6
72.6 -121	3 - 2	4 - 3
138 - 145	3 - 7	4 - 11
161 - 169	4 - 0	5 - 8
230 - 242	5 - 3	7 - 6
345 - 362	8 - 6	12 - 6
500 - 550	11 - 3	18 - 1
765 - 800	14 - 11	26 - 0

5) Safety / OSHA Manual References:

Safety Manual

E 1.12 Anytime equipment (derrick, crane, aerial lift, etc.) is being used by a qualified electrical worker near energized lines or equipment and the clearances specified in Electrical Table 1.03 cannot be maintained, the mobile equipment shall be barricaded and considered energized. Persons on the ground shall not contact, enter, or leave the equipment until they determine the proper clearance is maintained.

OSHA - 1910.269(p)(4)(iii)(C)

Each employee shall be protected from hazards that might arise from equipment contact with the energized lines. The measures used shall ensure that employees will not be exposed to hazardous differences in potential. Unless the employer can demonstrate that the methods in use protect each employee from the hazards that might arise if the equipment contacts the energized line, the measures used shall include all of the following techniques:

1910.269(p)(4)(iii)(C)(4)

Employing insulating protective equipment or barricades to guard against any remaining hazardous potential differences.

Note: Appendix C to this section contains information on hazardous step and touch potentials and on methods of protecting employees from hazards resulting from such potentials

6) Date Adopted: March 7, 2006