BELL SYSTEM PRACTICES
Outside Plant Construction and Maintenance

SECTION G21.141.1
Issue 3, March, 1953
AT&T Co Standard

POLE LINES

PLACING OR REMOVING POLES NEAR ELECTRIC POWER WIRES

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1. GENERAL

1.01 This section replaces Issue 2. It has been rewritten to revise the instructions for using Linemen's Blankets on pole tops under certain conditions.

1.02 When pole work is to be done in locations where a pole may come in contact with any overhead power conductors (bare or covered) and the voltage to ground of such circuits is not definitely known, this information shall be obtained from the supervisor before the work is begun. Detailed plans may indicate the voltage of the power circuits where this is more than 5000 volts to ground.

1.03 In order to guard against the possibility of subjecting workmen to electric shock, or interfering with power service when placing, moving, or removing poles that may come in contact with electric power conductors, it is important that certain precautions be taken as described in this section. The recommendations contained in this section supplement the

instructions given in Sections G21.140 and G21.505 of the Bell System Practices covering the placing and removal of poles.

1.04 Poles which will carry only telephone wire, cables, or other telephone attachments shall be so located that the clearance from power conductors and poles specified in Section G10.303.2 will be obtained.

2. GENERAL PRECAUTIONS

2.01 The general precautions outlined in the following paragraphs shall be observed at all times when doing pole work where there is any possibility that the pole may come in contact with an electric power conductor.

(a) Before beginning the pole work, the supervisor shall instruct each workman concerning his individual assignment and shall inform the entire crew of the nature of the work and of the precautions to be observed. The supervisor shall keep the work under his direct observation.

(b) **Care shall be taken to keep pedestrians and children at a safe distance when pole work is being done.** Place warning signs and flags in the standard manner.

(c) When a pole derrick, winch line, or other truck-mounted equipment is to be used in handling a pole, all the tools and materials that will be needed throughout the work operation shall be removed from the truck before starting the pole work. After the work has reached the stage where a contact may accidentally be established between the pole and an electric power conductor, no one shall approach the truck and establish a connection through any part of his body, between the truck and ground, or grounded objects. The truck driver or winch operator or any other person on the truck at the beginning of the work operation shall remain on the truck throughout the period during which there is any possibility of contact between the pole and the power conductors.

(d) The pole derrick shall not be raised to a level higher than 3 feet below the lowest power conductor. If the voltage of the lowest power coductor is over 5,000 volts to ground, the derrick must be kept at least 6 feet below the power conductor.

Note: When the pole is being lowered into place and the winch line is unloaded, the derrick head may rise slightly above its loaded position; the pole top and derrick shall therefore be under close observation throughout the period while the pole is being moved, placed, or removed, in order to avoid contacts with power conductors.

(e) If a ground wire is to be installed on a pole, the ground wire may be installed on the butt of the pole, but shall not be extended more than two feet above the ground line until the pole placing operation has been completed. The extra length of wire should be coiled and fastened temporarily to the pole at this point. No other vertical wire runs shall be installed on the pole until the pole is in place. Before a pole is removed, all metallic attachments, including guys and vertical conductors, must be removed from it. Electric company attachments shall, in all cases, be removed by the electric company.

(f) **When a pole is being placed, moved, or removed, every effort shall be made to keep it from touching electric power conductors.** Such contacts may introduce hazards to the workmen or cause service interruptions or otherwise damage the electric system.

(g) When an intermediate pole is added between existing poles in a joint line to shorten the span or for other reasons, or when a pole is added between existing power poles for the purpose of making a joint pole crossing, telephone circuits shall not be attached to such pole, nor shall work be done aloft on such pole until after the power circuit attachments have been made. If there is any possibility of power conductors coming in contact with the pole after it has been placed, the work must be coordinated with the power company so that the power attachments are made immediately after the pole has been placed.

(h) When a jointly used pole is replaced, telephone attachments may be transferred to the new pole if power attachments remain securely attached to the old pole and can not come in contact with the new pole, or if they have been transferred to the new pole. **If the power wires are not secured to either pole, the telephone attachments shall not be made until the power attachments to the new pole have been completed.**

3. POLE WORK NEAR POWER WIRES OF 750 VOLTS OR LESS TO GROUND

3.01 When pole work is to be done in a location where a pole may come in contact with electric power conductors of 750 volts or less to ground, the precautions given in Part 2 should be sufficient, provided that the weather is dry and the pole surface is dry. **If the work must be done in wet weather, or if the pole surface is not dry, workmen who may come in contact with the pole either directly or through construction tools such as digging bars, cant hooks, pike poles, etc., shall wear linemen's rubber gloves as an additional safeguard.**

4. POLE WORK NEAR POWER WIRES OVER 750 VOLTS TO GROUND BUT NOT OVER 5000 VOLTS TO GROUND

4.01 When pole work is to be done in a location where a pole may come in contact with electric power conductors of over 750 volts to ground but not over 5000 volts to ground, the general precautions in Part 2 shall be observed, and in addition **all workmen who will handle the pole, either with their hands or with pike poles or other tools, shall wear linemen's rubber gloves throughout the period during which there is any possibility that the pole may come in contact with the power conductors. Avoid body contacts with the pole, or with tools used in handling the pole, such as cant hooks or pike poles.**

5. POLE WORK NEAR POWER WIRES OVER 5000 VOLTS TO GROUND BUT NOT OVER 15,000 VOLTS TO GROUND

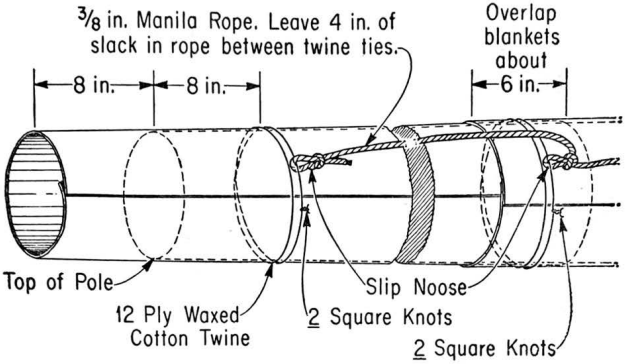
5.01 When a pole is to be placed in a location where it may come in contact with power conductors of over 5000 volts to ground but not over 15,000 volts to ground, the following precautions shall be observed.

(a) Observe the general precautions discussed in Part 2.

(b) **All workmen who will handle the pole either with their hands or pike poles or other tools, shall wear linemen's rubber gloves throughout the period during which there is a possibility that the pole may come in contact with the power conductors. Avoid body contacts with the pole, or with tools used in handling the pole, such as cant hooks or pike poles.**

(c) Place Linemen's Blankets at the top of the pole that is to be placed, as outlined in the following:

(1) Wrap a Lineman's Blanket at the top end of the pole and secure it with 12-ply Waxed Cotton Twine using ties as shown in the following illustration. Only one turn of the cotton twine should be passed through the noose in the manila rope. (Inasmuch as 12-ply Waxed Cotton Twine may not usually be carried on a construction truck, it is suggested that a 1/2-pound tube of this twine be carried in the blanket canister used for storing Linemen's Blankets.)



(2) Place additional blankets so that each succeeding blanket overlaps the one above by 6 inches and secure with a tie, as shown. A sufficient number of blankets should be placed so that the pole will be covered below the lowest point where contact with higher voltage power conductors during the work operations is possible. (Usually from four to six blankets are needed.)

(3) Secure the bottom of the lowest blanket with a twine tie similar to that shown in the illustration.

(4) Make a loop in the manila rope about 2 feet below the lowest twine tie so that this loop may be reached from the ground with a wire raising tool after the pole has been placed. Cut off any excess rope.

(d) Complete the work of setting the pole.

(e) From the ground, observe whether high voltage wires are touching the blankets. If there is any contact or possibility of contact, leave the blankets in place and arrange to have contacts cleared by the electric company. If there is no contact or likelihood of contacts or any other dangerous conditions, engage the hook of the wire-raising tool in the overhand loop of the trip rope and break the ties, one at a time, thus allowing the blankets to fall to the ground. Workmen should be careful to avoid the blankets as they fall. **If the blankets catch above the telephone space, they should be left for the electric company to remove.**

5.02 When a pole is to be removed from a location where it may come in contact with power conductors of over 5000 volts to ground but not over 15,000 volts to ground, it will usually be preferable to have the pole removed by the company operating the electric power line. If this is not practicable, the pole may be removed by Telephone Company workmen only after rubber blankets have been placed on this pole by a power company workman. The blankets should be placed as outlined in Paragraph 5.01, using a number sufficient to cover the pole below the lowest point where contact with higher voltage wires is possible during the removal operation. The manila trip rope is not needed.

6. POLE WORK NEAR POWER WIRES OVER 15,000 VOLTS TO GROUND

6.01 Pole work in a location where a pole may come in contact with electric power conductors of more than 15,000 volts to ground shall be done by the company operating the electric power lines.

7. CARE OF RUBBER EQUIPMENT

7.01 Rubber gloves that have been used shall be cleaned, if necessary, and stored as outlined in the practices relating to the care of rubber gloves.

7.02 Linemen's Blankets that have been used shall be cleaned, if necessary, and stored as outlined in the practices relating to the care of Linemen's Blankets.