BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G10.305.1
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AT&T Co Standard

SAFEGUARDS TO BE TAKEN BEFORE CLIMBING POLES

GENERAL

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1. GENERAL

1.01 This section, together with Sections G10.305.2 and G10.305.3, replaces Section G10.305, Issue 1. The purpose of these sections is to recommend procedures which will help to prevent accidents in connection with climbing and working on poles. Because of the many combinations of conditions which may exist, it is not feasible to cover all situations. A careful observance, however, of the principles and precautions outlined in this section will do much to insure the safe conduct of work on poles.

1.02 This section deals primarily with the observations to be made preliminary to testing a pole or climbing it.

1.03 Section G10.305.2 describes the tests which should be made in order to determine the condition of a pole and whether it needs to be supported before it is climbed.

1.04 Section G10.305.3 describes the various methods of temporarily supporting poles.

1.05 It is assumed that all men who will have occasion to work on poles are familiar with the recommendations contained in the Bell System Practices covering the use of:

(a) Body belts
(b) Safety straps
(c) Climbers
(d) Rubber gloves and other rubber protective equipment

1.06 Pole failures may occur as a result of various causes, the principal ones being listed below. While poles that have been given an approved preservative treatment will usually retain their strength for many years, a treated pole may occasionally be encountered which will have a relatively short life, because of an inadequate preservative treatment or other unusual conditions. It is necessary, therefore, to exercise care in checking the condition of all poles, including those which appear to be sound in the above-ground portion. The failure of a pole is usually due to one or more of the following causes:

(a) Decay of the pole at or below the ground line.
(b) Storm damage.
(c) Mechanical damage, such as might result from a vehicle collision.
(d) Termite, carpenter ant or other insect attack.
(e) Lightning damage, fire damage, or serious woodpecker attack.
(f) Application of excessive loads or creating unbalanced loads which are excessive under the existing conditions. These excessive loads may result from the use of improper or inadequate construction or maintenance methods.

2. IMPORTANT PRINCIPLES TO BE OBSERVED IN CONDUCT OF WORK

2.01 The most important principle to keep in mind is to **avoid placing an excessive unbalanced load on a pole,** taking into account the condition of the pole and the nature of the work operation which it is desired to perform.

2.02 It is important, in connection with planning a work operation involving a questionable pole, to include temporary or permanent supports which will be effective in preventing failure of the pole.

2.03 The condition of the pole can usually be determined before climbing it, by examining and testing it, according to conditions, by means of one or more of the methods described later.

2.04 Under certain conditions, however, as described in Part 3, where minor work operations are to be performed which do not involve the application of a heavy unbalanced load (Paragraph 3.01), a pole can be climbed and worked on without first making tests to determine its condition or applying additional temporary or permanent supports.

3. CONDITIONS UNDER WHICH NO TESTING OR NO USE OF A SUPPLEMENTARY SUPPORT IS NEEDED

3.01 It is unnecessary to make tests before climbing a pole or to apply a temporary support, if **all of the following conditions will exist throughout the work operations and the proposed work operations do not involve placing a heavy unbalanced* load on the pole:**

(a) The pole is in a straight section of line, but is not a dead-end pole; and

(b) The pole is carrying a 6 M or larger suspension strand which is securely clamped to the pole in question and to each adjacent pole and will remain so attached throughout the work operations; and

(c) There is no downward change in grade at the pole; and

(d) Neither adjacent span length is in excess of 150 feet.

* For this purpose, a **heavy** unbalanced load may be considered as an unbalanced load in excess of 150 pounds or approximately equivalent to that imposed in dead-ending or removing two or more spans of 104 copper line wire, or three or more spans of drop wire, extending in one direction.

3.02 It is also unnecessary to make tests before climbing a pole or to provide supplementary supports if,

(a) Instead of carrying a suspension strand, the pole carries 10 or more 104 copper line wires or the same total number of stronger wires (either telephone or power conductors or both telephone and power conductors) which will remain securely tied at the pole in question and at each adjacent pole throughout the work operations, and in addition;

(b) All the other conditions described in Paragraph 3.01 (a) (c) and (d) exist.

3.03 Similarly, if the pole is not in a straight section of line, but is an adequately guyed corner pole, and the conditions described in Paragraph 3.01 (b) or 3.02 (a) will exist throughout the work operations, no test before climbing is required.

3.04 No tests need be made nor supplementary supports applied before climbing a pole, if the following conditions **will exist throughout the work operations:**

(a) The pole is four-way storm guyed.

(b) The pole carries two or more storm side guys and a strand or wire load of the character described in Paragraphs 3.01 (b) or 3.02 (a).

(c) The pole is part of an H fixture which is provided with head and back guys.

4. PRECAUTIONS

4.01 An end pole in a line, even though head guyed, should always be examined and tested before climbing, unless it is definitely known to be in sound condition, inasmuch as the guy and the end spans do not contribute any stability to the pole in a direction across the line.

4.02 **No work involving climbing should be started, unless the workman has satisfied himself that the pole has adequate strength to support the load resulting from climbing and in addition, the load which will result from the proposed work operations.** In questionable cases, temporary or permanent supports must be applied before climbing a pole.

4.03 Temporary supports adequate to support the pole shall always be placed before removing any attachments from a pole that is to be removed or replaced because of deterioration.

4.04 Swinging rapidly around a pole imposes an additional load on the pole and should be avoided, unless the pole is known to have adequate strength or has been adequately supported.

4.05 Where a work operation is planned which is likely to result in a shock load on a pole or on an adjacent pole, a workman should remain off such a pole, so as to avoid being shaken off by the shock load. If the shock load would be likely to break the pole, temporary guys should first be placed to take up the shock.

4.06 **Heavy unbalanced loads, such as may be caused by placing or removing conductors or strands under tension at unguyed poles or inadequately guyed corners or deadends, may cause even a pole in good condition to fail.** It is important, therefore, to so plan the work operations that the poles will not be subjected to too heavy an unbalanced load. The use of guys or braces usually provides a means of preventing excessive

unbalanced loads. Typical operations for which temporary or permanent supporting of poles may be required are as follows:

(a) Removal of guys.
(b) Untying wires.
(c) Cutting wires or strand under tension.
(d) Placing additional wires or strand.
(e) Tensioning wires or strand.
(f) Changing location of wire or strand attachments.
(g) Loosening suspension clamps or guy clamps.

5. PRELIMINARY VISUAL EXAMINATION OF A POLE.

5.01 Before climbing a pole or testing it for safe climbing conditions, make a visual check for the following conditions: (While this list seems long, the presence of any one or more of the conditions can usually be detected very quickly.)

(a) Excessive rake or unexplained leaning of a pole. This may be due to failure of the pole at or below the ground line.

(b) Insufficient depth of setting. This may be due to erosion of the earth around the pole as a result of heavy rainfall, flood water, road widening, etc., and would affect the stability of the pole. The depth of setting can frequently be checked by reference to the brand which is present on most poles at a distance of ten feet (measured to the bottom of the brand) from the butt of the pole.

(c) Evidence of collision damage, if the pole is located at an exposed location along a highway.

(d) Presence of fungus growths in checks or protruding from the pole surface. These growths usually indicate a condition of advanced decay in the interior of the pole.

(e) Presence of termite or carpenter ant infestation, as evidenced by mud channels or debris in the checks, or wood dust at the base of the pole or movement of ants when the pole is struck with a hammer or other tool.

(f) Bent, loose, or missing pole steps.

(g) Wide seasoning checks which might result in loosening of pole steps or hazard to climbing.

(h) Presence and distribution of large knots, climber gaff splinters, unauthorized signs, aerials, clotheslines and near-by interfering tree growth.

(i) Presence of large stones, ground irregularities and debris at base of pole.

(j) Presence of conduits or vertical runs on pole which might interfere with use of pole steps or climbing.

(k) Broken wires in adjacent span.

(l) Excessively tight or excessively slack drop or line wires on one side of pole.

(m) Contact or insufficient separation between telephone and power wires or other plant on the pole or in the span or spans adjacent to the pole.

(n) Woodpecker holes.

(o) Evidence of lightning or fire damage.

(p) Presence of markings placed by pole inspector to indicate an unsafe pole or pole to be replaced.

(q) Presence of ice on the pole surface or pole steps which might result in hazardous climbing.

6. CONSIDERATION TO BE GIVEN TO THE RESULTS OF VISUAL EXAMINATION

6.01 If one or more of the conditions listed in Part 5 are found, they must be considered in connection with the results of the tests described in Section G10.305.2 and such precautions taken as are necessary.