

## PRECAUTIONS TO BE TAKEN BEFORE CLIMBING POLES OR WORKING FROM STRAND- OR POLE-SUPPORTED EQUIPMENT

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1. GENERAL		
1.01 This section, together with Sections 620-132-010 and 620-133-010, covers recommended procedures which will help prevent accidents associated with climbing and working on poles or strand-supported equipment. Observance of the principles and precautions in this section will help ensure the safe performance of work on poles.		1.05 <i>All unsafe poles or poles of doubtful condition should not be climbed or should be climbed only after suitable temporary supports have been applied.</i> Section 620-133-010 describes methods of temporarily supporting poles.
1.02 This section is reissued to modify the title, update the information and cancel the Appendix 1, Issue B. As this is a general revision, arrows normally used to show changes have been omitted.		1.06 This section emphasizes the necessity for visual inspection and testing of poles and the need for temporary support of poles which may be unsafe. <i>Assure that the pole is safe.</i>
1.03 <i>All poles must be visually examined</i> before climbing, placing a ladder against pole or strand, hanging an aerial platform, or riding the strand.		1.07 All men who will work on poles or strand-supported equipment must be familiar with the recommendations contained in the Bell System Practices covering the use of: <ul style="list-style-type: none"> <li>(a) Body belts</li> <li>(b) Safety straps</li> <li>(c) Climbers</li> <li>(d) Insulating gloves and other protective equipment.</li> </ul>
1.04 <i>Test all poles prior to climbing</i> as described in Section 620-132-010 unless they satisfy the conditions listed in Part 5 of this section.		1.08 Pole failures may occur as a result of various causes. 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. Therefore, it is necessary to exercise care in checking the conditions of all poles, including those which appear to be sound. The failure of a pole is usually due to one or more of the following causes: <ul style="list-style-type: none"> <li>(a) Decay of the pole at or below ground line.</li> <li>(b) Storm damage.</li> <li>(c) Mechanical damage, such as might result from a vehicle collision.</li> </ul>

- (d) Termite, carpenter ant, or other insect attack.
- (e) Lightning damage or fire damage.
- (f) Woodpecker attack.
- (g) 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. PRELIMINARY VISUAL EXAMINATION

**2.01** Before climbing a pole or testing it for safe climbing conditions, make a visual check for the following conditions:

- (a) Excessive rake or unexplained leaning of a pole. This may be due to failure of the pole at or below 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. Do not rely upon the brand mark to determine the depth of setting of non-Bell Canada poles.
- (c) Evidence of collision damage if the pole is at an exposed location along a highway.
- (d) Presence of fungus growth in checks or protruding from the pole surface or on areas near ground line where the wood appears water-soaked in contrast to surrounding wood. These symptoms usually indicate a condition of advanced decay in the interior of the pole.
- (e) Presence of termite or carpenter ant infestation, evidence of mud channels or debris in the checks, 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 could result in loosening of pole steps or a climbing hazard.

- (h) Evidence of compression wood indicated by short horizontal cracks along one side of the surface of the pole, or by curling of short sections out away from the pole surface.
- (i) Presence and distribution of large knots, excessive knot clusters, climber gaff splinters, unauthorized signs, aerials, clothes-lines, and nearby interfering tree growth.
- (j) Presence of large stones, ground irregularities, and debris at base of pole.
- (k) Presence of conduits or vertical runs on pole which might interfere with use of pole steps or climbing.
- (l) Broken wires in adjacent span.
- (m) Excessively tight or excessively slack drop or line wires on one side of pole.
- (n) 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.
- (o) Woodpecker holes.
- (p) Evidence of lightning or fire damage.
- (q) Presence of markings or hazard signal bands placed by pole inspector to indicate an unsafe pole or pole to be replaced.
- (r) Presence of ice on the pole surface or pole steps which might result in hazardous climbing.
- (s) Shell rot decay on cedar poles.

## 3. RESULTS OF VISUAL EXAMINATION

**3.01** If any conditions listed in Part 2 are found, they must be considered in connection with the results of the tests described in Section 620-132-010 and necessary precautions taken.

## 4. PRINCIPLES TO BE OBSERVED

**4.01** The most important principle to keep in mind is to *avoid placing an excessive unbalanced load on a pole*. Take into account the condition of the pole and the nature of the work operation which is to be performed.

**4.02** In planning a work operation involving a pole which may be unsafe, it is important to include temporary or permanent supports which will be effective in preventing failure of the pole.

**4.03** Under certain conditions described in Part 5, for minor work operations not involving the application of heavy unbalanced loads (Para. 5.02), poles can be climbed without being tested or applying additional supports.

## **5. CONDITIONS WHICH REQUIRE NO TESTING OR SUPPLEMENTARY SUPPORT**

**5.01** It is unnecessary to make tests or to apply a temporary support before climbing a pole if **any** of the following conditions will exist throughout the work operations:

- (a) The pole is storm guyed on four sides.
- (b) The pole carries two or more storm side guys and a load as described in Para. 5.02(b).
- (c) The pole is part of an H Fixture which is provided with head and back guys.
- (d) The pole is not in a straight section of a line, but is an adequately guyed corner pole and carries a load as described in Para. 5.02(b).

**5.02** It is also unnecessary to make tests or to apply a temporary support before climbing a pole if **all** of the following conditions exist throughout the work operations and the proposed work operations do not involve placing a heavy unbalanced load (excess of 150 pounds) on the pole:

- (a) The pole is in a straight section of line, but is not a dead-end pole.
- (b) The pole is carrying a 6M or larger suspension strand which is securely clamped to it and to each adjacent pole and will remain so attached throughout the work operations.
- (c) There is no downward change in grade at the pole.
- (d) Neither adjacent span length is in excess of 165 feet.

**5.03** It is also unnecessary to make tests or to provide supplementary supports before climbing a pole if the following conditions exist:

- (a) Instead of carrying a suspension strand, the pole carries ten or more copper, copper-steel, or steel line wires which will remain securely tied at the pole and at each adjacent pole throughout the work operation.
- (b) All the other conditions described in Para. 5.02(a), (c), and (d) exist.

**5.04** It is unnecessary to make tests before placing any strand-supported equipment if the following conditions exist:

- (a) The poles supporting the span and the poles at the far end of the adjoining spans form a straight section.
- (b) The suspension strand in the span is 6M or larger and is securely clamped to the two adjacent poles on each side of the span, and will remain attached to these four poles throughout the work operation.
- (c) There is no downward change in grade at the poles at each end of the span.
- (d) The span length and the adjacent span lengths are not in excess of 165 feet each.

## **6. PRECAUTIONS**

**6.01** An end pole in a line, even though head guyed, should always be examined and tested before climbing since the guy and the end spans do not contribute any stability to the pole in a direction across the line.

**6.02** *No work aloft should be started unless the workman is satisfied that the pole line structure has adequate strength to support the load resulting from working aloft and the load which will result from the proposed work operations. If the strength of the pole line structure is in doubt, temporary or permanent supports must be applied before starting work.*

**6.03** *Poles at each end of an aerial span in which a ladder is to be placed, an aerial platform hung, or a cable car ridden shall be visually examined as described in this section and tested as described in Section 620-132-010.*

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**6.04** 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.

**6.05** Swinging rapidly around a pole imposes an additional load on any pole and should be avoided.

**6.06** 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 the pole 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.

**6.07** *Heavy unbalanced loads, such as those 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.*

Therefore it is important to plan the work operations so the poles will not be subjected to too heavy an unbalanced load. The use of guys or braces 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) Releasing wires or strand under tension.  
***Do not cut while under tension.***
- (d) Placing additional wires or strand.
- (e) Tensioning wires or strand.
- (f) Changing locations of wire or strand attachments.
- (g) Loosening suspension clamps or guy clamps.
- (h) Moving line because of road widening.