OPEN WIRE

OPEN WIRE LINES REPAIRING

1. GENERAL

1.01 This practice provides the basic methods in making repairs to open wire lines.

1.02 In doing open wire repair work the following general rules should be used as a guide:

a. Repair all items shown on prior inspection reports, as well as such items that may be observed during the course of other construction work that would cause service interruption, or be a potential hazard to workmen or the public.

b. There may be cases where existing plant does not conform to the latest standards. It is not ususally economical or necessary to change such plant unless service or safety is involved.

c. Temporary repairs should be avoided if at all possible.

d. Any dangerous plant conditions which cannot be corrected shall be reported through the lines of organization.

2. METHODS OF REPAIR

2.01 *Open Wire:*

a. Use new wire of the same size and type to repair breaks or other defects in open wire. Cut out any existing sleeves that are within 25 feet of the new splice to be made.

b. Kinks, bruises, flaws or other faults in bare open wire should be cut out and spliced with wire of the same kind and size.

c. Sag the repaired wire to the same sag as the existing wire.

d. In repairing open wire exchange circuits, caution should be exercised to maintain service. Test each circuit for busy and install appropriate jumper facility before opening. Do not allow wires to become shorted, grounded or crossed with another pair.

e. Where toll or special circuits are involved, call the appropriate testboard or supervisor for a circuit release before work is performed. It may be necessary to reroute such circuits, or to provide temporary parallel or twisted pair wire around the area being repaired or rearranged. When all work has been completed the testboard or supervisor should be advised, and an O.K. test obtained.

f. Before descending a pole on which work has been done, or leaving a job that has in any way disturbed the wires, see that all wires are clear and in proper condition.

2.02 *Ties and Insulators:*

a. Replace broken and missing ties with new ties of the proper size and type as specified in the appropriate CTS practice. Replace loose ties when line wire has pulled out of insulator groove. When removing or replacing ties, use care not to injure the line wire.

b. Replace broken or missing insulators in accordance with the appropriate CTS practice. Insulators that have pulled off pins shall be securely re-installed. If the threads are stripped or worn the pins shall be replaced.

3. CLEARANCES AND SEPARATIONS

3.01 When repairs or changes are made in open wire, the clearances specified in the appropriate CTS practice shall be maintained.

3.02 When slack is pulled or wire attachments are raised on poles, and especially when joint use is involved, the separations as shown in the appropriate CTS practice must be maintained.

3.03 When clearance from electric wires or structures requires correction, the telephone plant should be changed, or the power company requested to rearrange their plant. When the telephone plant is to be changed to provide the required clearances, the method outlined in the practices covering the particular type of plant involved should be followed.

4. SCRAP AND DEBRIS

4.01 All foreign material such as scrap wire, metallic objects, kite strings, or debris of any kind hanging on the wires should be removed. This material can some times be removed by shaking or whipping the wires. However, do not use pliers or tools to vibrate wires, as they may damage the wire. A handline placed over the wire, with both ends held securely, and made to slide along the wire, may dislodge the object, or bring it to a point that it can be removed.

4.02 Any scrap wire, metallic material, and debris removed from wires together with that found under or in the vicinity of the line should be gathered up and properly disposed of.

5. TREE INTERFERENCE

5.01 Where tree wardens, city foresters, or other authorities have control of trees, secure permission from the proper authorities as well as the consent of the property owner before work is started. Trees should be removed if permission to do so can be obtained. When this is impracticable or undesirable, remove sufficient growth to obtain adequate clearance from the wires. The amount of clearance required in any specific case depends on kind of tree, rate of growth, frequency of trimming, etc. Cutting to obtain clearance of a foot or so around wires is generally inadequate as the tree will grow back into the line within a short time. In cases where permission to trim for adequate clearance cannot be obtained it is usually desirable to trim as much as the tree wardens or property owners will allow. In these cases and also in cases where the owner will not allow trimming of any nature the matter should be referred to the supervisor.

5.02 All timber, brush, and debris cut or pruned should be removed from the premises and disposed of as covered by local instructions.

5.03 Where it is not possible to remove or trim trees, extension arms may sometimes be used to provide adequate clearance; or pins may be respaced to change location of wires through trees. However, the proper spacing of wires must be maintained where carrier circuits are involved.

5.04 The use of tree wire (or insulated wire) as a means of maintaining line insulation is not desirable due to the short life of the wire insulation. When tree wire is the only answer to the problem it should be placed as outlined in the appropriate CTS practice.

6. CONNECTIONS

6.01 Defective sleeves should be removed, and the wire spliced with standard sleeves.

6.02 All handmade joints or other types of unauthorized sleeves should be cut out and the wire respliced in a standard manner.

6.03 Where there is not sufficient slack in the wire to place new sleeves, cut in a short piece of wire of the same kind and size.

6.04 All loose connections at bridging points, binding posts, terminals, etc., shall be remade, after first thoroughly cleaning wire and contact surface, and remaking the connection properly. Defective test or bridging connectors, including bridging sleeves, should be replaced.