DROP WIRING

LOWERING AND REPLACING DROP WIRE POWER EXPOSURE UP TO 750 VOLTS

CONTENTS	PARAGRAPH
GENERAL	1
PRECAUTIONS	2
LOWERING WIRE OVER POWER WIRES OR POWER CABLES	3
REPLACING WIRE OVER POWER WIRES OR POWER CABLES	4

1. GENERAL

1.01 This practice provides procedures for the two-man method of lowering and replacing drop wire over power wires or power cables operating at **300 to 750 volts.**

NOTE: If for any reason it is necessary to lower or replace a drop wire crossing over any power wires or power cables operating at more than 750 volts, refer the matter to your supervisor for specific instructions.

1.02 The methods in this practice provide for drop wire to be lowered by means of a handline while employees remain on the ground, and to perform the work so that the drop wire does not come in contact with the power wires or power cables during the entire lowering operation. These methods are also intended to avoid the possibility of accidents caused by releasing tensions from a building or strand attachment while working from a ladder, or as the result of vehicles striking the wire or the handline as it is being lowered to the ground.

1.03 Refer to CTSP 475-301-605 for the methods of lowering or replacing a drop wire over power wires or power cables operating at **300 volts** or less or where there is no exposure to power. The methods of placing drop wire are covered in CTSP 475-301-405 and CTSP 475-301-410.

1.04 Drop wire should be twisted one complete turn for each ten feet of span length to reduce vibration and dancing when replacing.

1.05 See CTSP 490-060-001 for measuring clearances and separations in aerial plant; CTSP 475-300-405 for stringing sags and span limits.

2. PRECAUTIONS

NOTE: All precautions in CTSPs 490-050-104, 490-050-105, and 490-050-106 must be taken before climbing.

2.01 Two employees shall perform the work when lowering or replacing a drop wire over power wires or power cables operating at 300 to 750 volts. Obtain additional assistance before lowering or replacing a drop wire over streets, highways, or elsewhere if traffic, trees, or other conditions create a safety hazard.

2.02 Insulating gloves shall be worn by all employees when lowering or replacing a drop wire over power wires or power cables, until the crossing span has been completely removed or replaced.

2.03 The handline used for lowering or replacing a drop wire under the conditions described in this practice shall be free from metallic strands and shall be dry. A wet handline must not be used in the vicinity of power circuits operating at 300 volts or more.

NOTE: When it is necessary to maintain service or establish emergency service during rainstorms, a wet handline may be used over power circuits operating at 300 to 750 volts PROVIDED THAT INSULATING GLOVES, RUBBER BOOTS, AND RUBBER RAINCOATS ARE WORN.

2.04 When it is necessary to carry a handline up a pole or ladder, use a handline carrier (CTS #74-56-031-0), or double the end of the handline back on itself for a distance of approximately 1 foot. Place this loop under the right or left side or back of the body belt, or in such other position that the handline will be released readily if it is placed under tension while the employee is climbing the pole or ladder.

2.05 Never release the drop wire supports from a wire span while working inside the angle formed by the wire.

2.06 Avoid working from a ladder placed against a building with the side rails crossing a wire run, or in any other position where movement of the wire, due to loosening of the attachments, could cause an accident.

2.07 When a drop wire attached to a span clamp is to be lowered or replaced, place the foot of the extension ladder on the field side of the suspension strand and not in the street or highway. If there is no street or highway adjacent to the span clamp, place

the ladder against the opposite side of the strand from the drop wire run to the building.

2.08 If conditions could cause the handline, or the drop wire to which it is attached, to become disengaged from a drive hook or crossarm, or to slide along the strand or guard arm while performing the operations, the handline or drop wire shall be enclosed with a temporary guide loop. This loop shall consist of a short length of wire or rope placed over the handline or drop wire, with the ends of the guide securely tied as follows (Figure 1):

a. Guard Arm: Tie the ends to the guard arm on each side of the handline or drop wire.

b. Drive Hook: Tie one end to the vertical portion of the drive hook and lash the other end to the pole.

c. Crossarm: Tie the ends to adjacent pins or insulators.

d. Strand: Tie the ends across 2 span clamps.

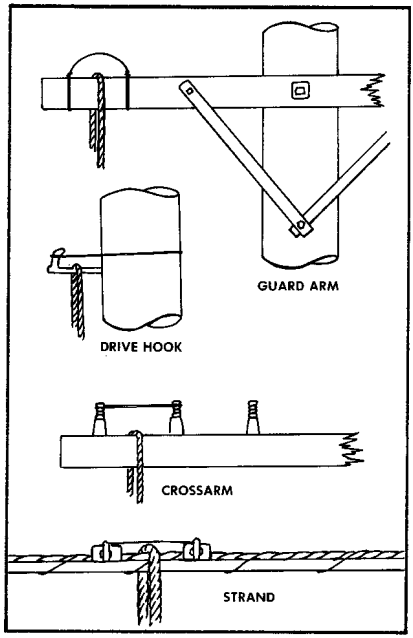

FIGURE 1. Temporary Guide Loop—Pole

3. LOWERING WIRE OVER POWER WIRES OR POWER CABLES

3.01 The procedure described below shall be followed when the drop wire span is to be permanently removed from plant, or lowered for inspection, repair, or replacement. Lower one wire span only at a time. Do not pull in new drop wire with old wire as it is pulled out.

a. Employee No. 1 loops one end of the handline under the body belt as instructed in paragraph 2.04 and climbs the pole or, if at a span clamp, the ladder. The handline shall be of a sufficient length to reach from the ground to the strand, guard arm, drive hook, or crossarm; then horizontally to about 25 feet beyond the power wires or power cables to ensure that the end of the drop wire can be pulled at least 10 feet beyond the power circuits.

CAUTION: IF A SPAN CLAMP IS INVOLVED, KEEP IN MIND THAT THE STRAND IS FORCED OUT OF LINE BY THE LADDER RESTING AGAINST IT; TAKE ANY STEPS NECESSARY TO PREVENT THE DROP WIRE FROM SAGGING ONTO THE POWER WIRES OR POWER CABLES WHILE CLIMBING AND WORKING ON THE LADDER. CARE SHOULD ALSO BE TAKEN TO ENSURE THAT THERE WILL BE ADEQUATE CLEARANCE BETWEEN THE EMPLOYEE AND POWER WIRES OR CABLES WHEN THE STRAND IS DEFLECTED BY THE WEIGHT OF THE EMPLOYEE ON THE LADDER.

b. Employee No. 1 places a temporary drop wire clamp on the wire to be lowered, about 1 foot out in the span, and seats the clamp firmly on the wire.

c. Employee No. 1 places the handline over the strand, guard arm, drive hook, or crossarm, and ties the end securely to the bail of the temporary drop wire clamp.

d. Employee No. 2, standing on the ground, grasps the free end of the handline and pulls it sufficiently taut to remove the tension from the original drop wire clamp. The handline is then lashed securely to the base of the pole or, if at a span clamp, to the lower rungs of the ladder (see Note). **Employee No. 1,** on the pole or ladder, cuts the drop wire approximately 6 inches behind the temporary drop wire clamp, leaving the drop wire span supported by means of the temporary clamp and the lashed handline.

NOTE: If a taut drop wire span is involved, Employee No. 2 on the ground grasps the free end of the handline and pulls it sufficiently taut to support the wire span, snubbing the handline if necessary. Employee No. 1 cuts the bail of the original drop wire clamp with pliers. Employee No. 2 slowly eases off the handline, thereby releasing excess tension in the taut wire span; then lashes the handline to the base of the pole or the lower rungs of the ladder.

e. Both employees go to the opposite or building end of the drop wire span.

f. Employee No. 1 cuts the drop wire in the building run at a point where the end of the wire can be reached from the ground; then frees the wire from all intermediate attachments between the cut end of the wire and first building attachment.

g. Employee No. 2 removes the C knob or the D wire clip at the first building attachment. A temporary guide loop is then placed at the first attachment around the drop wire, as shown in Figure 2, to prevent the wire from becoming accidentally disengaged from the building

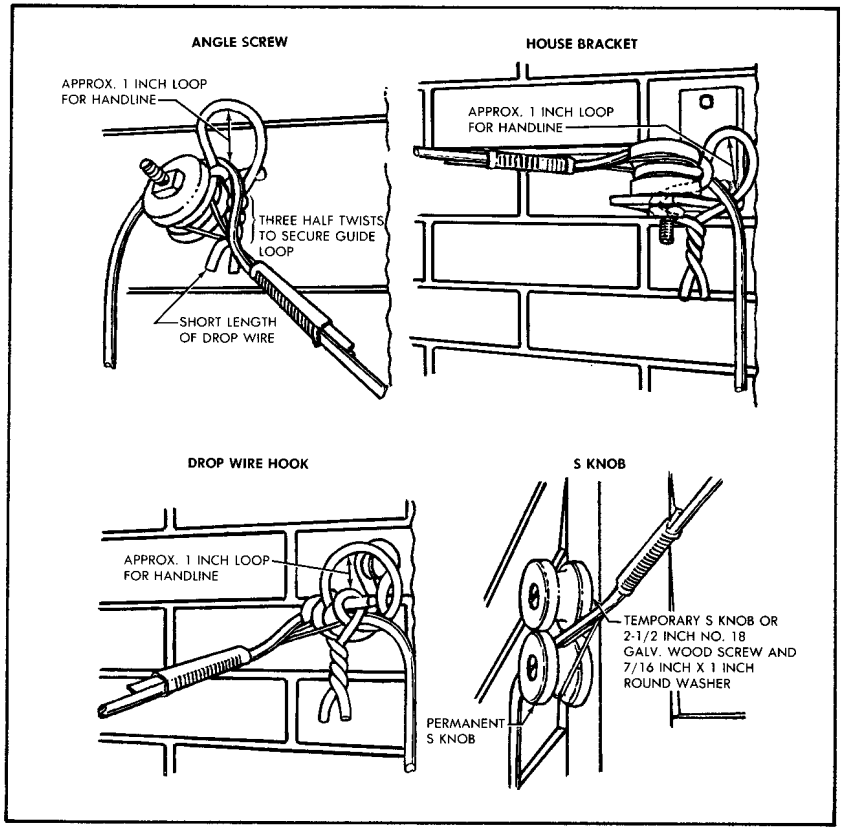

FIGURE 2. Temporary Guide Loop—Building

attachment as it is being pulled over the power circuits.

h. Employee No. 1, on the ground, holds tension in the drop wire while **Employee No. 2** removes the original drop wire clamp from the first building attachment. **Employee No. 1** continues to hold tension in the wire span to prevent it from coming in contact with the power wires or power cables.

i. Employee No. 2 returns to the other end of the wire span, unties the handline, and keeps the drop wire taut while feeding it to **Employee No. 1** who pulls it over the power circuits and coils the drop wire as it is pulled out of the span.

j. When the end of the drop wire has been pulled at least 10 feet beyond the power wires or power cables, and no traffic is approaching, **Employee No. 2** carefully releases the handline, allowing it to fall on the power circuits, and immediately goes into the street or highway to control traffic.

k. Employee No. 1 pulls the remainder of the drop wire and the handline to the building end of the span and away from the street or highway.

4. REPLACING WIRE OVER POWER WIRES OR POWER CABLES

4.01 When a drop wire crossing over power wires or power cables operating at 300 to 750 volts is lowered for inspection, repair, or replacement, it shall not be reused in the crossing span. Place new wire in the crossing span in accordance with the instructions in CTSP 475-301-410.