# EXCHANGE WIRE RECORD
# PLACING, REMOVING AND REARRANGING WIRE

## 1. GENERAL

1.01 This section describes the preparation and use of Form E-4021, Exchange Wire Work Order.

1.02 Form E-4021 is used to authorize work to be done in connection with the placing, rearranging and the removal of exchange wire. The proposed work is entered diagrammatically on the form as illustrated in the figures included in this section. The plant engineer under certain conditions, may use the note method illustrated in Fig. 6. The routing of the completed field copy of Form E-4021 to the assignment center via the Accounting Department, assures identical entries in accounting and plant records.

1.03 Also included in this section is the procedure to be followed in posting the exchange wire record when exchange wire is placed, removed or rearranged.

## 2. DESCRIPTION, PREPARATION AND DISTRIBUTION OF FORM E-4021, EXCHANGE WIRE WORK ORDER

### Description

2.01 Form E-4021 is arranged in a four copy assembly, interleaved with one time carbon paper. Each copy is identified by name. See Fig. 1.

### Preparation

2.02 Form E-4021 may be prepared by either the plant engineer or the assignment forces, as follows:

(a) The plant engineer will prepare Form E-4021 to authorize the placing or removal of wire. Form E-4021 may serve as the sole work print or be attached as a supplementary print e.g., attached to a work print that authorizes the placing of poles and crossarms.

(b) The assignment forces may prepare Form E-4021 to authorize the placing of small amounts of wire when required by day-to-day service order activity. Generally, this authority is limited to the placing of wire on vacant pin positions.

2.03 The figures associated with this section furnish illustrative detail for the preparation of Form E-4021.

### Distribution

2.04 The distribution and routing of Form E-4021 are illustrated in Fig. 2.

## 3. POSTING EXCHANGE WIRE RECORD

3.01 The proposed wire work shall be diagramed on the wire record in pencil, and will include the serial number (or work order number) and the estimated date of completion.

3.02 Upon completion of the work outlined on Form E-4021 the field workman will contact the assignment center by telephone. The assignment center employee will note the "AC" copy with the employee's name, date of completion, and any corrections or other data that are required. The pencil postings described in Paragraph 3.01 will be made permanent.

3.03 The completed "FW" copies will be received from the accounting office attached to a letter of transmittal. The assignment forces will reconcile the "FW" copy with the "AC" copy. The assignment center employee making this reconciliation will enter his name and the date in the appropriate space on the "FW" copy. The "FW" copy will be placed in the completed file and the "AC" copy destroyed. The letter of transmittal will be noted and returned to the accounting office.

## 4. CORRECTION OR CANCELLATION OF FORM E-4021

4.01 Corrections: If it becomes necessary to correct or revise information on Form E-4021 after the copies are distributed, prepare a form to reflect complete revised information. Use the same serial number (or work order number) assigned to the original form and enter the word "SUPERSEDE" above the serial number. Distribute as illustrated in Fig. 2.

4.02 Cancellations: If it becomes necessary to cancel Form E-4021 after the copies are distributed, prepare a form bearing the

original serial number (or work order number) and any other data needed for proper identification. The word "CANCELLED" shall be printed across the face of the form. Distribute as illustrated in Fig. 2.

## 5. COMPUTATION OF WIRE ROUTE MEASUREMENTS

5.01 The wire route measurements are generally indicated on the exchange wire record at every third pole and at the end of each circuit. A section of wire to be placed or removed, may, therefore, not start or end at a measured point. When the wire placed or removed results in a termination other than at a measured point on the exchange wire record, the newly established measurement point may be calculated by dividing the distance between the adjacent known measurements by the number of spans involved, thus arriving at an average span length. For example, if a newly established circuit termination is at pole 63 and the two adjacent known measurement points are 9100 feet at pole 61 and 9600 feet at pole 64:

(a) Determine average span measurement:

9600 - 9100 = 500 feet (3 spans)

500 ÷ 3 = 167 feet per average span.

(b) Determine net plant measurement to pole 63:

9100 + 167 + 167 = 9434

Enter, at pole 63 on the exchange wire record 94 (00), which is the nearest one hundred feet.

## 6. ORDERING INFORMATION

6.01 Form E-4021 is packed in boxes containing 100 assemblies. When convenient the forms should be ordered in multiples of the package unit. Ordering information is as follows:

(Quantity) Form E-4021

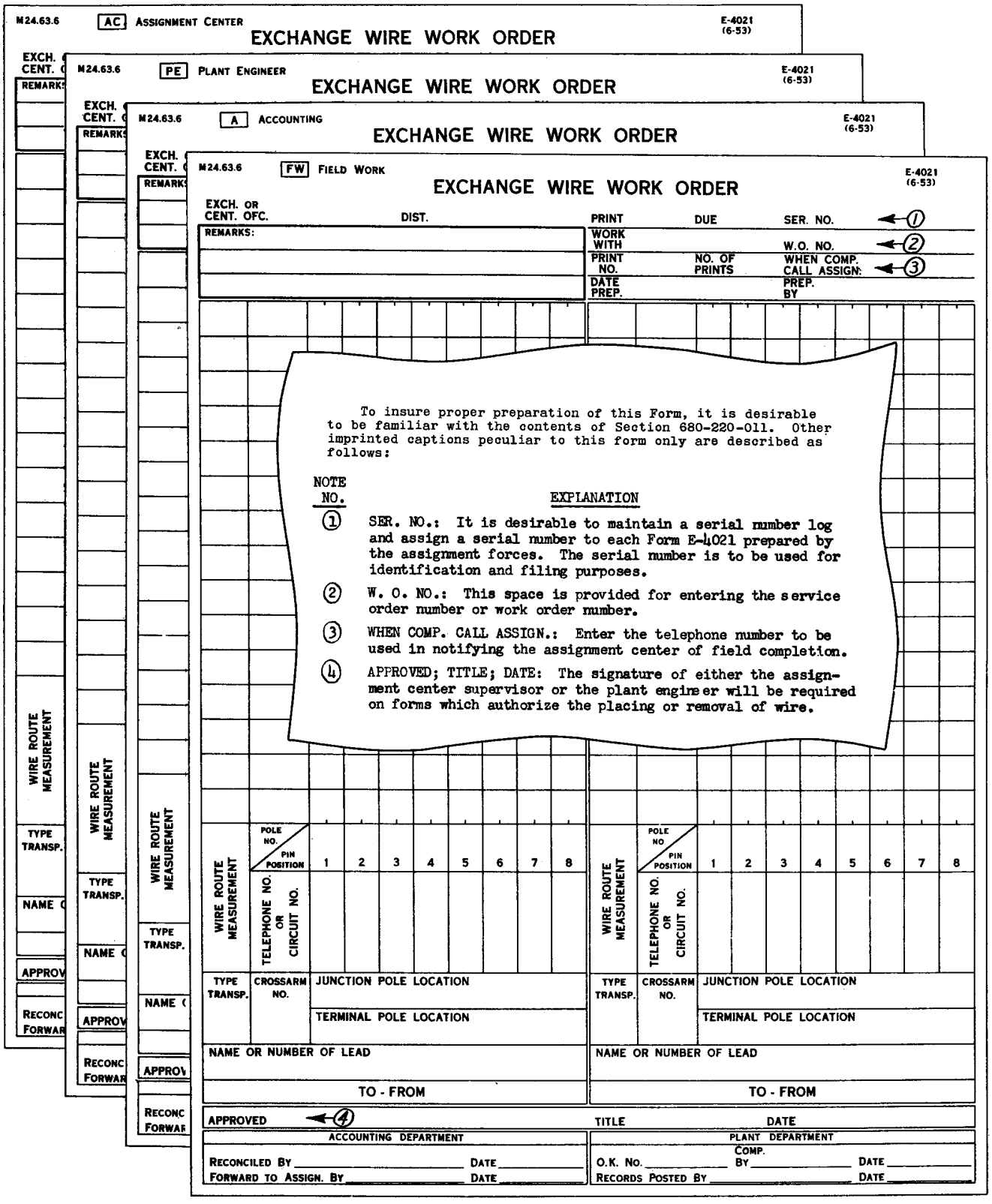



Fig. 1 - Illustrates Form E-4021, Exchange Wire Work Order and the Arrangement of Copies with Notes Explaining Certain Imprinted Captions.

(Actual Size of Form - 8 3/8" by 10 7/8")

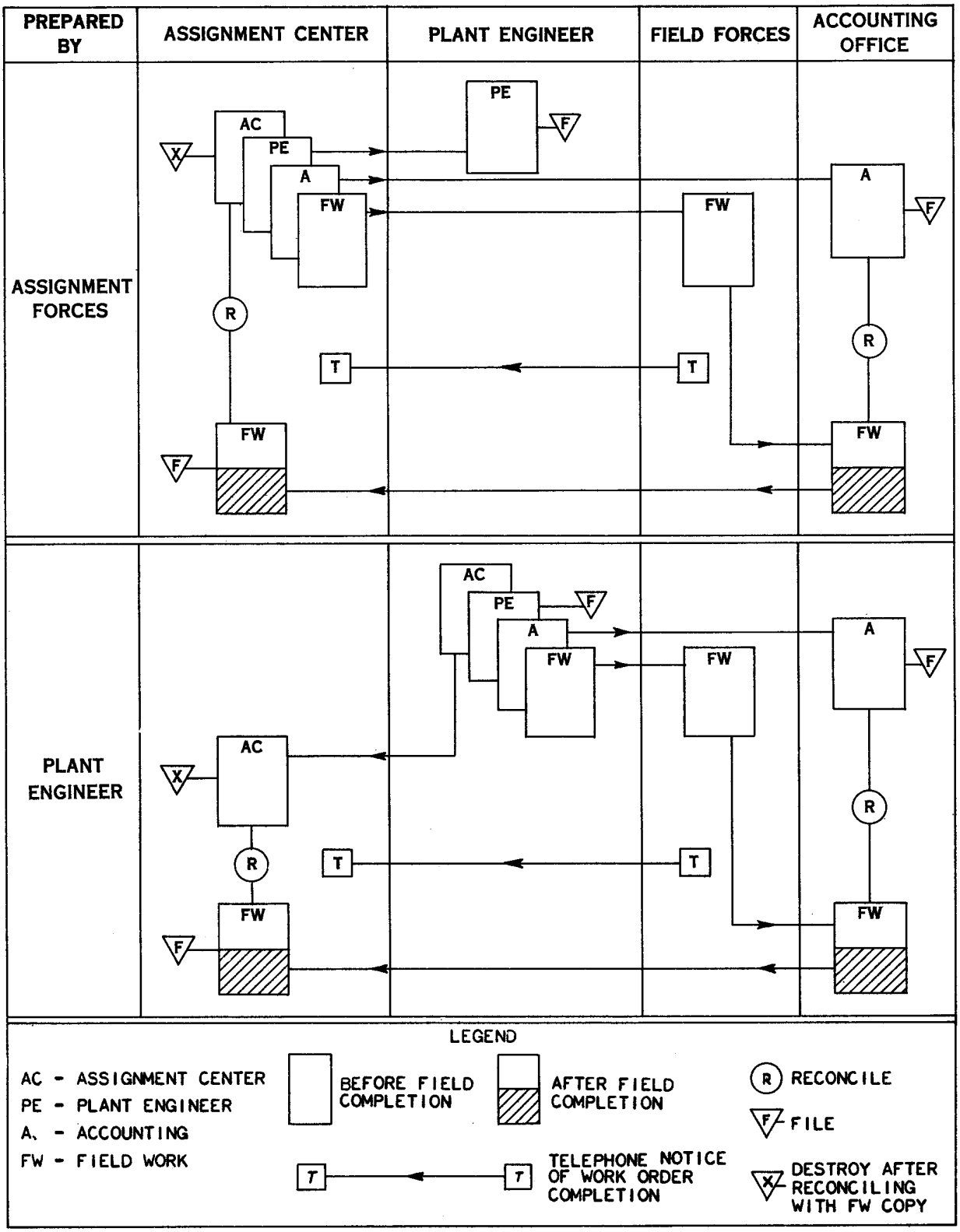



FIG. 2 - FLOW CHART COVERING DISTRIBUTION OF FORM E-4021, EXCHANGE WIRE WORK ORDER

M24.63.6 FW FIELD WORK

E-4021 (6-53)

# EXCHANGE WIRE WORK ORDER

EXCH. OR CENT. OFC. ALPHA DIST. TACOMA PRINT DUE 3/15 SER. NO. 26

REMARKS: PLACE 5 SPANS 109 AND 3 SPANS DROP WIRE

WORK WITH S.O. 3214 W.O. NO.

PRINT NO. 1 NO. OF PRINTS 1 WHEN COMP. CALL ASSIGN: AL 2-5161

DATE PREP. 3-12-53 PREP. BY NORLING

13 16

5 11

0 TER-8

| WIRE ROUTE MEASUREMENT | POLE NO. / PIN POSITION | 11-12 / 1 | 13-14 / 2 | 15-16 / 3 | 17-18 / 4 | 19-20 / 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| | TELEPHONE NO. OR CIRCUIT NO. | | | | | | | | |

TYPE TRANSP. | CROSSARM NO. | JUNCTION POLE LOCATION | TERMINAL POLE LOCATION: DA 26/8

NAME OR NUMBER OF LEAD: DA 26 MILTON RD

TO - FROM

| WIRE ROUTE MEASUREMENT | POLE NO. / PIN POSITION | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| | TELEPHONE NO. OR CIRCUIT NO. | | | | | | | | |

TYPE TRANSP. | CROSSARM NO. | JUNCTION POLE LOCATION | TERMINAL POLE LOCATION

NAME OR NUMBER OF LEAD

TO - FROM

APPROVED A. E. Kessler TITLE Assign. Fore. DATE 3-12-53

ACCOUNTING DEPARTMENT

RECONCILED BY _____ DATE _____

FORWARD TO ASSIGN. BY _____ DATE _____

PLANT DEPARTMENT

O.K. No. 26 W COMP. BY Weber DATE 3-15-53

RECORDS POSTED BY _____ DATE _____

Fig. 3 - Illustrates the Preparation of Form E-4021 when the Placing of Wire is Authorized by the Assignment Forces.

M24.63.6 FW FIELD WORK

E-4021 (6-53)

# EXCHANGE WIRE WORK ORDER

EXCH. OR CENT. OFC. OLYMPIA DIST. SOUTH

REMARKS: PLACE 109 WIRE

PRINT DUE SER. NO.

WORK WITH

W.O. NO. B-4168

PRINT NO. 2 NO. OF PRINTS 3 WHEN COMP. CALL ASSIGN: MU5-9000

DATE PREP. 3-15-53 PREP. BY . PRIEBE

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 51 | 29 | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| 38 | 22 | | | | | | | | |
| | | | | | | | | | |
| 35 | 20 | | | | | | | | |
| | | | | | | | | | |
| 29 | 17 | | | | | | | | |
| | | | | | | | | | |

| WIRE ROUTE MEASUREMENT | POLE NO. / PIN POSITION | 1-2 / 1 | 3-4 / 2 | 5-6 / 3 | 7-8 / 4 | 9-10 / 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| | TELEPHONE NO. OR CIRCUIT NO. | | | | | | | | |

| TYPE TRANSP. | CROSSARM NO. | JUNCTION POLE LOCATION |
|---|---|---|
| R1 | | AA / 71 |
| | | TERMINAL POLE LOCATION |

NAME OR NUMBER OF LEAD: AA 71 - TILLICUM RD

TO - FROM

| WIRE ROUTE MEASUREMENT | POLE NO. / PIN POSITION | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| | TELEPHONE NO. OR CIRCUIT NO. | | | | | | | | |

| TYPE TRANSP. | CROSSARM NO. | JUNCTION POLE LOCATION |
|---|---|---|
| | | |
| | | TERMINAL POLE LOCATION |

NAME OR NUMBER OF LEAD

TO - FROM

APPROVED W. F. Mason TITLE Plt Eng. DATE 3-15-53

ACCOUNTING DEPARTMENT

RECONCILED BY _____ DATE _____

FORWARD TO ASSIGN. BY _____ DATE _____

PLANT DEPARTMENT

O.K. No. 26H COMP. BY Johnson DATE 4-6-53

RECORDS POSTED BY _____ DATE _____

Fig. 4 - Illustrates the Preparation of Form E-4021 when the Placing of Wire is Authorized by the Plant Engineer.

M24.63.6 FW FIELD WORK

E-4021 (6-53)

# EXCHANGE WIRE WORK ORDER

EXCH. OR CENT. OFC. UNIVERSITY DIST. EAST

PRINT DUE SER. NO.

REMARKS: PLACE 083 WIRE AND REARRANGE CIRCUITS

WORK WITH

W.O. NO.

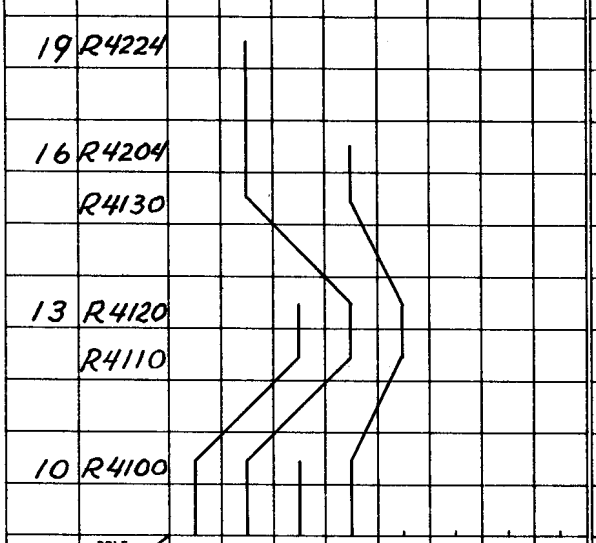
PRINT NO. 2 NO. OF PRINTS 2

WHEN COMP. CALL ASSIGN: UN 7-6000

DATE PREP. 3-13-53

PREP BY SELE

This figure illustrates the use of the "From" and "To" columns in diagramming a rearrangement of circuits. If the rearrangement of circuits requires the transfer of subscriber drop wires from one pin position to another, the proper line or station transfer should be prepared, as described in Section 680-300-010.




SAME

SAME

| WIRE ROUTE MEASUREMENT | POLE NO / PIN POSITION | 1-2 1 | 3-4 2 | 5-6 3 | 7-8 4 | 9-10 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| | TELEPHONE NO. OR CIRCUIT NO. | UN 7-5463 | UN 7-1235 | UN 7-6799 | UN 7-8908 | UN 7-7996 | | | |
| TYPE TRANSP. | CROSSARM NO. | JUNCTION POLE LOCATION | | | | | | | |
| | | TERMINAL POLE LOCATION R 3910 N 16TH | | | | | | | |

NAME OR NUMBER OF LEAD 141 (N. 16TH - 17TH ALLEY)

~~TO~~ - FROM

| WIRE ROUTE MEASUREMENT | POLE NO / PIN POSITION | 1-2 1 | 3-4 2 | 5-6 3 | 7-8 4 | 9-10 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| | TELEPHONE NO. OR CIRCUIT NO. | SAME | | | | | | | |
| TYPE TRANSP. | CROSSARM NO. | JUNCTION POLE LOCATION | | | | | | | |
| | | TERMINAL POLE LOCATION | | | | | | | |

NAME OR NUMBER OF LEAD

TO - ~~FROM~~

APPROVED R. E. Hammond TITLE Plt. Eng. DATE 3-13-53

ACCOUNTING DEPARTMENT

RECONCILED BY _____ DATE _____

FORWARD TO ASSIGN. BY _____ DATE _____

PLANT DEPARTMENT

O.K. No. 18W COMP. BY Dennis DATE 3/17/53

RECORDS POSTED BY _____ DATE _____

Fig. 5 - Illustrates the Preparation of Form E-4021 to Place Wire for a Service Order, Necessitating the Rearrangement of Existing Circuits.

M24.63.6 FW FIELD WORK

# EXCHANGE WIRE WORK ORDER

E-4021 (6-53)

EXCH. OR CENT. OFC. UNION DIST. SUMMIT

REMARKS: REMOVE WIRE

PRINT DUE SER. NO.

WORK WITH

W.O. NO. B-4176

PRINT NO. 1 NO. OF PRINTS 2 WHEN COMP. CALL ASSIGN: SU 6-1765

DATE PREP. 3-12-53 PREP. BY BRINKWORTH

Although the diagramming of wire to be placed or removed is the preferable method, under certain conditions, the plant engineer may use the note method illustrated below. Generally this method will only be used when all the wire in a section of pole line is being placed or removed. For example, the placing of wire on a pole line extension or crossarm construction, and the removal of wire when dismantling a lead or replacing wire with cable.

| | | |
|---|---|---|
| 26 | 15 | REMOVE 5 CKTS |
| 14 | 8 | 109 STEEL AND |
| | | 3 DROP WIRES |
| 0 | TER-1 | PINS 1 to 10 |

| WIRE ROUTE MEASUREMENT | POLE NO. / PIN POSITION | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| | TELEPHONE NO. OR CIRCUIT NO. | | | | | | | | |

TYPE TRANSP. | CROSSARM NO. | JUNCTION POLE LOCATION | TERMINAL POLE LOCATION: AB/25

NAME OR NUMBER OF LEAD: AB 25 - PACIFIC AV

TO - FROM

| WIRE ROUTE MEASUREMENT | POLE NO. / PIN POSITION | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| | TELEPHONE NO. OR CIRCUIT NO. | | | | | | | | |

TYPE TRANSP. | CROSSARM NO. | JUNCTION POLE LOCATION | TERMINAL POLE LOCATION

NAME OR NUMBER OF LEAD

TO - FROM

APPROVED F. Berntsen TITLE Plt. Engineer DATE 3-12-53

ACCOUNTING DEPARTMENT

RECONCILED BY _____ DATE _____

FORWARD TO ASSIGN. BY _____ DATE _____

PLANT DEPARTMENT

O K. NO. 15H COMP. BY Hartley DATE 3-26-53

RECORDS POSTED BY _____ DATE _____

Fig. 6 - Illustrates an Alternative Method for Use of the Plant Engineer in Preparing Form E-4021.