

UNITED STATES DEPARTMENT OF AGRICULTURE
Rural Electrification Administration

BULLETIN 1767B-2

SUBJECT: Work Order Procedure (Electric)

TO: All Electric Borrowers
REA Electric Staff
Borrower Accounting Division

EFFECTIVE DATE: Date of Approval

EXPIRATION DATE: Seven years from effective date

OFFICE OF PRIMARY INTEREST: Borrower Accounting Division

PREVIOUS INSTRUCTIONS: This Bulletin replaces REA Bulletin 184-2, Suggested Work Order Procedure for Electric Borrowers of the Rural Electrification Administration, issued September 1973.

FILING INSTRUCTIONS: File hard copies in the Blue Binder Libraries under 7 CFR Part 1767. This bulletin is also available on REANET.

PURPOSE: To provide a uniform system for accumulating and distributing work order construction costs.

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Administrator

1/18/94

Date

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Accounting
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ABBREVIATIONS

JO Job Order
MO Maintenance Order
OCR Oil Circuit Recloser
REA Rural Electrification Administration
R/W Right-of-way
W/O Work Order

1. GENERAL: The function of plant accounting is to record the various elements of construction and retirement costs in a manner that satisfies the requirements of 7 CFR Part 1767, Accounting Requirements for REA Electric Borrowers, Subpart B, Uniform System of Accounts, and to form the basis for recording plant additions and retirements.

1.1 The objectives of this bulletin are to provide a sample work order procedure that provides:

1.1.1 A system of cost controls;

1.1.2 A method of collecting construction cost data;

1.1.3 A system of retirement and record units that complies with Part 1767;

1.1.4 A method of posting the quantity and cost of record units to the continuing property records; and

1.1.5 A system of blanket work orders to record like projects of small cost and of short duration.

1.2 Except for REA Form 219, Inventory of Work Orders, the forms included in this bulletin are offered as recommendations. Any forms that include the essential data presented on these various recommended forms may be used.

2. DATA PROCESSING: This bulletin illustrates a manual work order procedure. A computerized system may be used provided that the cost information is drawn from the same original information sources as would be used under a manual system.

2.1 The system should provide end cost results that are factual and from which the three basic cost elements, labor, material, and overhead, can be readily identified.

2.2 When assigning work order or job order numbers, the various types of plant changes should be properly segregated so that they are properly classified on the REA Form 219, Inventory of Work Orders, according to REA financing policies.

3. CONSTRUCTION ACTIVITIES: For purposes of this bulletin, construction activities include new construction, system improvements, or ordinary replacements. For more detailed information concerning these classifications, refer to 7 CFR Part 1710, General and Pre-Loan Policies and Procedures Common to Insured and Guaranteed Electric Loans.

3.1 New construction is construction in which no replacements are involved.

3.2 System improvements are changes or additions to existing electric plant facilities that, based upon engineering studies, are necessary and either improve the quality of electric service or increase the quantity of electric power available to existing consumers.

3.2.1 System improvements include replacing retirement units with larger units and rearranging, resagging, or retiring conductor when the changes are associated with, and are a necessary part of, a system improvement.

3.2.2 Examples of a system improvement are:

3.2.2.1 The installation of triplex in place of a two-wire service or the installation of larger conductor in a three-wire service;

3.2.2.2 The installation of a taller pole to provide the necessary clearance when conditions change, such as the installation of a pole that provides the clearance required by the National Electrical Safety Code when a road is improved;

3.2.2.3 The replacement of a pole in an existing line to provide the additional strength required to support a transformer and a service drop to a new consumer;

3.2.2.4 The replacement of a given size conductor with conductor of greater current carrying capacity when the additional capacity is required;

3.2.2.5 The conversion of a single-phase line to a three-phase line to provide service to a new consumer at the end of an existing line. This change and addition to plant includes retirement, conversion, and new construction activities. The predominant cost is the governing factor in determining the amount of cost that REA will finance. Assuming the line conversion is the costliest part of the project, the project is classified as a system improvement. For more detailed information refer to Part 1767.41, Accounting Interpretation, No. 101;

3.2.2.6 An increase in substation capacity to provide for added load growth or voltage change; and

3.2.2.7 The conversion of single-phase primary line to vee-phase or three-phase to provide additional capacity, when such capacity is required.

3.3 Ordinary Replacements result from wear and tear, damage, or the relocation of plant facilities. The replacement is normally

in kind; however, it may involve an improvement or the installation of a larger item than that being replaced.

3.3.1 An ordinary replacement involves one or more complete "retirement units." When it becomes necessary to replace some part of a unit and the replacement does not result in a substantial change in the identity or physical character of the item, the replacement is considered a repair, and is charged to maintenance expense.

3.3.2 Examples of an ordinary replacement are:

3.3.2.1 The replacement of a bad pole with a pole of the same class and height;

3.3.2.2 The replacement of a bad pole with a pole of a larger class or height because no pole of similar class or height is immediately available;

3.3.2.3 The replacement of a bad pole with a taller pole when additional ground clearance is not needed;

3.3.2.4 The replacement of a bad pole with a larger class pole when the original pole was of sufficient strength;

3.3.2.5 The replacement of No. 6 copper conductor with No. 4 ASCR or vice versa, the replacement of similar type conductor when the conductor has equal or approximately equal capacity, or the replacement of smaller conductor with larger conductor when the additional capacity is not required at the time of the replacement;

3.3.2.6 When serving a new home, the replacement of the pole from which the service is to be run, when the pole was found to be in very poor physical condition. In other words, what began as the installation of a new service now includes the replacement of a pole as well as the running of a new service;

3.3.2.7 The relocation of a pole at the consumer's request;

3.3.2.8 The relocation of a pole for a road widening when the pole is not moved intact (the pole is located on a public road right-of-way). If the pole is moved intact without any change in assemblies, the cost is charged to maintenance expense;

3.3.2.9 The relocation of a line because of poor initial routing. The change resulted in easier accessibility to the line for inspection and maintenance purposes. There was no change in the quality of electric service or the quantity of power available to the consumers;

3.3.2.10 The relocation of a line because of the relocation of a building. This relocation did not cause any change in the quality of electric service or the quantity of power available to the consumer; and

3.3.2.11 The replacement of an old line in a different location using like or similar units of property.

4. FINANCING ELIGIBILITY: As set forth in Part 1710, the following formulas are presented to simplify the calculation of the amounts that may be financed by REA, provided that funds have been established in an approved loan:

4.1 If the construction is new, the total capitalized cost is eligible for financing;

4.2 If the construction constitutes a system improvement, the amount eligible for financing is calculated by adding the total capitalized cost to the cost of removing the property retired, and deducting the salvage value of the property retired;

4.3 If the construction constitutes an ordinary replacement, the amount eligible for financing is calculated by deducting the original cost of the property removed from service from the total capitalized cost of the property constructed; and

4.4 If the activity constitutes a retirement without replacement, the salvage value of the property retired is deducted from the amount otherwise subject to advance for other construction projects.

4.5 The predominant cost usually governs the amount eligible for financing. For example:

4.5.1 The conversion of a single-phase line to a three-phase line to furnish service to a new consumer at the end of an existing line necessitates a retirement, conversion, and new construction. Assuming the line conversion is the costliest part of this project, it is classified as a system improvement;

4.5.2 In serving a new home, the pole from which the service is to be run is found to be in very poor physical condition and must be replaced. Assuming the replacement of the pole is the costliest part of the project, the project is classified as an ordinary replacement; and

4.5.3 The relocation of a pole at the consumer's request when the pole is not moved intact is classified as an ordinary replacement. The following comments also apply to the relocation of a pole when the consumer changed the service entrance. The consumer may pay the borrower for all or a portion of the costs

incurred as required by the borrower's policy. The total payment, less any portion attributable to maintenance costs, is entered in the "Contributions in Aid of Construction" section at the bottom of the Construction Work Order. When the REA Form 219, Inventory of Work Orders, is prepared, only the amount of the contribution reported in Column 9 that is required to reduce the amount in Column 10, Loan Funds Subject to Advance by REA, to zero, is reported.

5. MATERIAL:

5.1 General: Part 1767 establishes Account 154, Plant Materials and Operating Supplies, as the control account for the purchase and use of materials. Because any one purchase of materials may contain many different types of items, a subsidiary ledger or stock record cards should be maintained.

5.2 A perpetual inventory system should be established to maintain control over materials.

5.2.1 A perpetual inventory system consists of summary postings to the general ledger control account and detailed postings to the stock record cards.

5.2.1.1 The amounts to be posted are obtained from purchase invoices and requisitions, or from charge and credit tickets drawn on or to the material stores for materials withdrawn from or returned to the warehouse.

5.2.1.2 Stock record cards are used to record both the quantities and costs of materials received and issued. Materials purchased are recorded at actual cost. Materials issued are recorded at average cost.

5.2.1.3 The total of the balances of the individual stock record cards should equal the balance in the general ledger control account at the end of each accounting period.

5.3 To record material costs, the following seven basic records should be used:

5.3.1 A Stock Record Card;

5.3.2 A Material Charge Ticket;

5.3.3 A Material Credit Ticket;

5.3.4 A Summary of Material Charge and Credit Tickets;

5.3.5 A Material Salvage Ticket;

5.3.6 A Summary of Material Salvage Tickets; and

5.3.7 A Materials Register.

5.3.8 If these forms are used and if the warehouse inventory is kept at the lowest level consistent with prudent management, the control over materials is simplified.

5.4 A materials control procedure is based upon the use of stock record cards for each item of material; individual material charge tickets for all materials requisitioned from the stockroom; credit tickets for all previously issued materials returned to the stockroom unused; and salvage tickets for all materials retrieved in connection with retirements.

5.5 A system for controlling costs envisions the summarization of materials by item as well as by work order.

5.5.1 The Summary of Material Charge and Credit Tickets and the Summary of Material Salvage Tickets are used to summarize materials by item.

5.5.2 The Material Charge, Credit, and Salvage tickets should be prenumbered and filed numerically to form a detailed record of all materials charged and credited to work orders. If duplicate tickets are used, the copy is filed by work order to verify the materials issued and salvaged against the staking sheets.

5.5.3 A Materials Register is used to summarize material costs by work order and account. One common register facilitates the reconciliation process when the general ledger control account does not agree with the stock record cards.

5.5.4 Under the procedures outlined in this bulletin, the complete flow of materials is recorded in one register thereby making individual postings to the work orders unnecessary.

5.6 Stock Record Card (Exhibit A): A separate Stock Record Card is used for each item or group of items for which an average unit price is maintained. Each card shows the quantity and cost of material received; the quantity and cost of material issued; and the quantity, amount, and average cost of material at the end of the month. The total of the balances shown on all of the individual cards should equal the balance in the general ledger control account at the end of the month.

5.6.1 Exempt items are small, inexpensive items of material, the costs of which are not accounted for separately but become part of the cost of certain associated items. These exempt items are shown, by item, in the same manner as other materials; however, no pricing or extension of these items is made. The following is a suggested list of items that may be combined for pricing purposes:

5.6.1.1 Bolts, Eye

- a. Bolt, angle, thimble type, eye (ba)
- b. Bolt, straight, thimble type, eye (ao)
- c. Bolt, eye, oval (o)

5.6.1.2 Bolts, Upset

- a. Bolt, single upset (ba)
- b. Bolt, double upset (g)

5.6.1.3 Bolts, All Other

- a. Bolt, carriage (i)
- b. Bolt, clevis (ef)
- c. Bolt, D. A. (n)
- d. Bolt, machine (c)
- e. Nuts, eye (aa)

5.6.1.3.1 The cost of locknuts and washers is charged to the card controlling the cost of "All Other Bolts."

5.6.1.4 Braces, crossarm (h)

5.6.1.5 Clamp, anchor rod, bonding (ck)

5.6.1.6 Clamp, ground rod (aj)

5.6.1.7 Clip, guy wire (dz)

5.6.2 Before being placed in stock, all materials received should be checked against the invoice, the packing slip or the receiving report, and the purchase order. If no invoice or packing slip accompanies the material, a receiving report that shows the individual items received should be prepared. Prices, extensions, and footings on the invoice should be checked. Discounts, sales or use taxes, and freight charges should be equitably distributed to the costs of the various items included on the invoice. The net invoice costs and other charges should then be posted to the stock record cards.

5.6.3 Entries for material salvaged and returned to stock as recorded on the material salvage tickets are posted once each month to the stock record cards from the Summary of Material Salvage Tickets, and not from the individual Material Salvage Tickets. Entries for material withdrawn from and returned to stock are made from the Summary of Material Charge and Credit Tickets, and not from the individual Material Charge and Credit Tickets.

5.6.4 The stock record card is also used as a basis for determining the average unit price of each item of material.

5.6.4.1 After all postings to the stock record cards for the month have been completed, the dollar balance of each card is divided by the quantity on hand and the result is the average unit cost for the type of material recorded on the card.

5.6.4.2 This average unit cost should be rounded off to the nearest full cent per unit (pound, foot, set, etc.) except for conductor unit prices which should be carried out to three or more places.

5.6.4.3 This average unit cost is used to price all Material Charge, Credit, and Salvage Tickets for the following month. (If, however, a large shipment, whose cost varies significantly from the average, is received and withdrawn during the same month received, an adjustment of the average unit price should be made to offset the distortion).

5.6.5 To facilitate the pricing of material items during the month, a Material Price List, using the average costs determined above, should be prepared from the stock record cards. Columnar sheets should be used for this purpose. When prices change, the new prices are entered in the next column. By using a columnar form, it is not necessary to prepare a new list each month.

5.6.6 Proper accounting for materials requires the taking of a periodic, physical inventory (at least once each year) in order to reconcile the items shown on the stock record cards with the material items actually in stock. When differences between the two records are found, the items involved should be reinventoried.

5.6.6.1 If a difference still remains, the accuracy of the computations and postings to all of the material records involved should be rechecked.

5.6.6.2 If the difference still cannot be located, the stock record cards should be adjusted to the quantities and amounts determined by the physical inventory.

5.6.6.3 An entry, in an amount equal to the net total of all adjustments, should be made to correct Account 154 in the general ledger. Minor cost differences (up to two percent of materials issued) may be charged or credited to Account 163, Stores Expense Undistributed. Large differences should be charged or credited to Account 186, Miscellaneous Deferred Charges, or Account 253, Miscellaneous Deferred Credits, as appropriate, pending further investigation and/or board action disposing of the difference.

5.6.7 In addition to the taking of a periodic physical inventory, test counts should be made of selected material items each month to determine the accuracy of the stock record cards.

5.7 Material Charge Ticket (Exhibit B): The Material Charge Ticket is used to record all withdrawals of material from stock and should be prepared in duplicate, showing the work or job order number (or purchaser, in the case of a sale of material).

5.7.1 The original copy should be signed by the person receiving the material and forwarded to the office for pricing, extending, and totaling. After the office copy has been processed, it is posted the same day to the Summary of Material Charge and Credit Tickets and to the Materials Register.

5.7.2 The duplicate copy is retained by the employee issuing the material.

5.8 Material Credit Ticket (Exhibit C): The Material Credit Ticket is used to record **unused** material previously issued to a job that is returned to stock. Salvaged material should **not** be recorded on a Material Credit Ticket.

5.8.1 The Material Credit Ticket shows the quantities and items of material returned and the job or work order to be credited.

5.8.2 Unused materials returned to stock, if reusable, should be priced at current average stock record card prices.

5.8.3 Materials that cannot be reused but that have a resale value, as in the case of scrap copper, should be priced and shown under the classification "resale" at their estimated value.

5.8.4 Data shown on these tickets is posted daily to the Summary of Material Charge and Credit Tickets and to the Materials Register.

5.8.5 The distribution and number of copies should be the same as for the Material Charge Ticket.

5.8.6 A different color paper from that used for the Material Charge Ticket should be used.

5.9 Summary of Material Charge and Credit Tickets (Exhibit D): The Summary of Material Charge and Credit Tickets is used to recap all Material Charge and Credit Tickets.

5.9.1 The "Total Amount" column represents the net amount of material used each month.

5.9.2 Unit costs are taken from the individual stock record cards or Material Price Lists.

5.9.3 Exhibit D utilizes an item index in accordance with REA letters of designation and includes spaces for extra items.

Credit items that represent unused materials from previous withdrawals should be shown in red or identified in some manner so that they are deducted from the total issued.

5.9.4 If there is a large volume of tickets, subsummaries should be attached to the top summary. The total number of each item and the dollar amount thereof, are posted to the issued section of the appropriate stock record card.

5.9.5 The difference between the total amount of the Summary of Material Charge and Credit Tickets (Exhibit D) and the total amount of the Summary of Material Salvage Tickets (Exhibit F) should equal the net of the debits and credits posted to Account 154 in the Materials Register (Exhibit G). This reconciliation should be made monthly to ensure the mechanical accuracy of the material accounting procedures.

5.10 Material Salvage Ticket (Exhibit E): The Material Salvage Ticket is used to record all materials salvaged from retirements that are either usable or that have a resale value.

5.10.1 The employee responsible for the physical removal of the material should complete the Material Salvage Ticket, except for the pricing. The pricing of the reusable and salable items should be performed by personnel in the office.

5.10.2 Reusable line materials salvaged from retirements or maintenance should be priced at current, average stock record card prices. Large reusable individual items, such as substation transformers, should be priced at original cost.

5.10.3 Non-usable, salable material should be shown on a separate ticket, with details reported on the reverse side.

5.10.4 Data shown on these tickets is posted daily to the Summary of Material Salvage Tickets and to the Materials Register.

5.10.5 A different color paper from that used for Material Charge Tickets and Material Credit Tickets should be used.

5.11 Summary of Material Salvage Tickets (Exhibit F): The Summary of Material Salvage Tickets is used to recap all reusable, or nonusable but salable, materials salvaged from retirements.

5.11.1 The "Total Amount" column represents the value of all materials salvaged and should agree with the total credit under Account 108.8, Retirement Work in Progress, in the Materials Register (Exhibit G).

5.11.2 The average unit cost for all reusable, mass-type outside line material should be taken from the stock record cards or Material Price List for the month. Each item total, both for units and amounts, should be posted to the received section of the individual stock record card. The total of the nonusable but salable material salvaged, shown as the last item on this summary, should be posted to a separate card in the stock record card group.

5.12 Materials Register (Exhibit G): The Materials Register is used to recap all material tickets and to distribute material costs to the general ledger and the various construction and retirement work orders.

5.12.1 The Materials Register should list all material tickets for a given month in numerical order and should be posted daily.

5.12.1.1 The total of each Material Charge Ticket is posted as a credit to Account 154. The debit depends upon the use. If the material was used in construction activities, the cost is debited to Account 107.2. If the material was used in maintenance activities, the cost is debited to Account 593 or the appropriate maintenance account in the miscellaneous columns of the register.

5.12.1.2 The total of each Material Credit Ticket is posted as a debit to Account 154 and a credit to the accounts originally charged when the material was issued.

5.12.1.3 The total of each Material Salvage Ticket is posted as a debit to Account 154 and a credit to Account 108.8. If material is salvaged during maintenance work, the credit is made in red or bracketed to Account 593 or to the other appropriate maintenance accounts.

5.12.1.4 Debits or credits to Account 107.2 should be identified in the section entitled "Construction Work Orders," by job order and work order number. Entries that relate to the same job or work order should be summarized at the end of the month.

5.12.1.5 Credits to Account 108.8 should be identified in the section entitled "Retirement Work Orders," by job order and work order number. Entries that relate to the same job or work order should be summarized at the end of the month. By summarizing all entries relating to each job or work order, multiple postings to the work orders are eliminated.

5.12.2 The net material charged and salvaged each month (the net of the debits and credits in Account 154) should agree with the total shown on the Summary of Material Charge and Credit Tickets (Exhibit D), less the total of all Material Salvage Tickets shown on the Summary of Material Salvage Tickets (Exhibit F).

5.12.3 If no material is salvaged through maintenance, the Summary of Material Salvage Tickets (Exhibit F) for each month should agree with the total of Account 108.8 on the Materials Register.

5.12.4 Separate summary forms should be used for material charged and salvaged in order to preserve control and eliminate mechanical errors by cross-tying the records. Under this procedure, if a ticket is posted twice or omitted from the Materials Register, the Summary of Material Charge Tickets, the Summary of Material Credit Tickets, or the Summary of Material Salvage Tickets, the totals will not agree. These records may then be easily cross-checked to locate the omitted or duplicated items.

5.12.5 The totals in the account columns of the Materials Register for Accounts 154, 107.2, 108.8, and 593 should be posted directly to the general ledger. The charges and credits to the miscellaneous accounts may be posted individually or recapped at the bottom of the sheet and posted from that source.

6. LABOR:

6.1 General: The procedure for recording labor utilizes three basic records, a Daily Work Report, an Individual Employee Monthly Time Summary, and a Monthly Labor Cost Summary.

6.2 Daily Work Report (Exhibit H): The Daily Work Report is the basic record for reporting and distributing labor hours to the various expense accounts or work orders based upon the nature of the work performed. The work report is prepared daily by the foreman for the entire crew or by an individual when working alone. Employees' work time is listed by hours, with no segregation of overtime, if any, from regular hours. This segregation is made on the Individual Employee Monthly Time Summary.

6.2.1 The Daily Work Report illustrated in Exhibit H includes the titles and numbers of the expense accounts most commonly charged with labor costs. Employees should add a brief description of the work performed; for example, "Clearing Brush," for Account 593. Hours spent on activities chargeable to accounts that are not included on the preprinted form are reported in the blank lines following the preprinted accounts with a description of the work and the applicable account number.

6.2.1.1 A brief description of work performed on construction or retirement work orders is reported in the blank lines together with the applicable work order number.

6.2.1.2 Supervisory or engineering payroll hours associated with construction or retirement activities are charged, as applicable, to Account 107.2, Construction Work in Progress - Force Account, or Account 108.8, Retirement Work in Progress, and become part of the overhead costs distributed to work orders.

6.2.1.3 When supervisory or engineering personnel spend a significant amount of time on any specific work order, the Daily Work Report should reflect the work order number. These hours will be included in the direct labor costs charged to that particular work order.

6.2.2 The Daily Work Report is also used to record the number of miles the borrower's trucks are driven for operation, maintenance, and construction activities. (See Section 7.2 of this bulletin.)

6.2.2.1 Mileage is allocated to construction, retirement, and maintenance activities on the basis of usage and judgment. Jobs requiring the greatest amount of time are typically assigned the majority of the mileage and bear the greatest portion of the transportation overhead cost.

6.2.2.1.1 Mileage associated with expense account activities should be assigned to specific accounts.

6.2.2.1.2 Mileage associated with construction and retirement activities is not identified by specific work order but is charged to the construction work in progress account or the retirement work in progress account, as applicable.

6.2.3 Data reported on the Daily Work Report is posted to the Individual Employee Monthly Time Summary (labor data) and the Summary and Distribution of Transportation Costs (mileage data).

6.3 Individual Employee Monthly Time Summary (Exhibit I): The Individual Employee Monthly Time Summary is used to distribute labor costs to the appropriate expense accounts and work orders and to calculate amounts paid to employees, by pay periods. Biweekly pay periods are illustrated in the exhibit; however, additional columns have been included to accommodate the use of weekly pay periods.

6.3.1 The information reported on the Individual Employee Monthly Time Summary is posted from the Daily Work Reports.

6.3.2 The day of the week and the date for each day are entered at the top of the form. Columns on the left and right-hand sides of the form show the total number of unpaid hours brought forward from the prior month and those forwarded to the following month, segregated as to regular and overtime hours. The carry-over of

hours for the week that begins the month and for the week that ends the month is also reported.

6.3.3 The upper portion of the form provides for the daily distribution of hours worked during the month to the appropriate expense accounts and work orders.

6.3.3.1 Labor cost is distributed to each account or work order by applying an average hourly rate to the total monthly labor hours associated with activities chargeable to that account or work order.

6.3.3.2 This distribution is posted monthly to the Monthly Labor Cost Summary.

6.3.4 The lower portion of the form:

6.3.4.1 Segregates the total weekly hours into regular and overtime hours;

6.3.4.2 Summarizes the regular and overtime hours by biweekly pay periods and applies the appropriate pay rate to determine total pay due for the pay period; and

6.3.4.3 Accumulates all regular and overtime hours worked within the month. This total is used to determine the average hourly pay rate for the month.

6.3.4.4 This data is then transferred to the Payroll Register.

6.3.5 Three headings on the left-hand side of the form summarize the hours worked for each week:

6.3.5.1 Week Hours are the total hours worked in a given week. Week hours are used in determining the number of overtime hours worked during that week;

6.3.5.2 Hours in Current Month are the hours worked during any week (and also the total hours for the month) that are applicable to the month being summarized. If the month opens or closes with a partial work week, the total hours worked within that portion of the week, in the current month, should be reported; and

6.3.5.3 Pay Period Hours are the total hours worked during a given pay period. This is an accumulation of the weekly totals in the pay period. If payrolls are paid weekly, this column is not necessary. By accumulating the hours in the pay period, the calculation of each week's earnings is avoided, thereby reducing the number of extensions required to calculate payroll.

6.3.6 Using the Individual Employee Monthly Time Summary illustrated in the exhibit provides the following benefits:

6.3.6.1 Using an average hourly rate for the month eliminates the problem of distributing the cost of overtime hours to the expense accounts or work orders. It should be noted, however, that if the average hourly rate results in an inequitable distribution of overtime labor or if there are other reasons that support the distribution of regular and overtime labor separately to the applicable accounts, it is permissible to do so;

6.3.6.2 The extensions required to convert hours into amounts are reduced significantly by accumulating all information for the month on one form;

6.3.6.3 Labor costs are properly accrued at the end of each month;

6.3.6.4 Operating results for a given month or period are not distorted even though the payroll periods and accounting periods do not end on the same day;

6.3.6.5 Only one labor distribution to the expense accounts and work orders is made each month thereby eliminating the need for a payroll clearing account; and

6.3.6.6 The number of postings to work orders and the expense accounts is significantly reduced.

6.4 Monthly Labor Cost Summary (Exhibit J): The Monthly Labor Cost Summary brings together, in one form, the labor costs for all employees for a given month.

6.4.1 The information reported on the Monthly Labor Cost Summary is posted from the "Amount" column of the "Monthly Summary and Distribution to Accounts" series of the Individual Employee Monthly Time Summary (Exhibit I).

6.4.2 Columns are provided for the operating expense accounts that are normally charged with labor costs.

6.4.3 Four columns are provided for work order labor costs.

6.4.3.1 Two columns apply to Account 107.2, Construction Work in Progress - Force Account, and two apply to Account 108.8, Retirement Work in Progress.

6.4.3.2 All labor costs chargeable directly to construction and retirement work orders are reported in the columns designated as "direct" under the appropriate balance sheet account.

6.4.3.3 Labor costs that are chargeable to construction and retirement activities but are not related to specific work orders are reported in the column entitled "Overhead." An example of an overhead labor cost is the salary of the work order clerk who prepares all construction and retirement work orders. Overhead labor is also known as indirect labor and is one of the cost elements collected on Exhibit L. (See Section 7.3 of this bulletin.)

6.4.4 Extra columns are provided for other accounts, as necessary. Whenever the entries to an account become too numerous to list in the "Miscellaneous" column, a special column should be assigned to that account.

6.4.5 The last page of the Monthly Labor Cost Summary is used to accumulate, by individual work order, the direct labor costs chargeable to construction and retirement activities.

6.4.5.1 These amounts are posted from the Individual Employee Monthly Time Summaries (Exhibit I). When several individuals work on a single project covered by a work order, their labor costs are collected and summarized, by work order, in this register rather than by individual postings to the various open work orders.

6.4.5.1.1 By accumulating costs in this manner, direct labor costs are posted only once each month to the appropriate work orders.

6.4.5.1.2 Under this procedure, mechanical posting errors are minimized because the total amounts applicable to the various retirement and construction work orders must equal the total of the direct labor columns for Accounts 107.2 and 108.8 on the left-hand side of this form.

6.4.6 The total of the column entitled "Total Earnings" is credited to Account 242.2, Accrual Payroll.

6.4.6.1 If gross earnings are debited to this same account when the payroll checks are issued, the account balance at the end of the month represents the total accrued, unpaid labor costs.

6.4.6.2 If vacations are accrued monthly, the necessary data may be taken from this form.

6.4.6.3 If workmen's compensation and public liability insurance expenses are based upon total labor costs accrued for a given month, employees with like rates should be grouped together to calculate these two insurance costs.

7. OVERHEAD

7.1 General: Overhead costs are all costs associated with construction and retirement activities other than direct material and labor costs. Direct costs are those that are readily identifiable and associated with specific jobs or work orders. Indirect or overhead costs are those costs associated with construction and retirement activities that are not readily identifiable with specific projects. The following are examples of items included in the overhead category:

7.1.1 Indirect labor includes that portion of the labor costs of the engineer, supervisory personnel, work order clerks, etc., for services performed in connection with construction and retirement activities for which charges are not made directly to work orders;

7.1.1.1 Indirect labor chargeable to construction and retirement overhead is based upon Daily Time Report distributions.

7.1.1.2 If this procedure is impractical, supervisory employees may conduct time studies to determine the appropriate amount of time devoted to construction activities. Only those overhead costs that have a definite relationship to construction may be capitalized. Time studies should be updated on an annual basis.

7.1.1.3 Charges to construction based upon arbitrary percentages or amounts are not permitted.

7.1.2 Engineering costs include consulting engineering fees and incidental costs associated with either construction or retirement activities, such as travel, out-of-pocket expenses, inspection, etc.;

7.1.3 Transportation costs include that portion of Account 184, Clearing Accounts, that is properly chargeable to construction and retirement activities. The basis for distributing these costs to construction, retirements, and the operating expense accounts is the mileage data recorded on the Daily Work Report;

7.1.4 Social Security Taxes include the employer's portion of the FICA taxes and state and Federal unemployment taxes that are properly allocable to construction and retirement activities;

7.1.5 Insurance includes that portion of public liability and property damage and workmen's compensation insurance costs that is chargeable to construction and retirement activities. It does not include insurance costs charged to clearing accounts, such as automobile insurance and insurance on a storeroom and its contents;

7.1.6 Stores Expense includes the costs incurred in the operation of the storeroom that are properly chargeable to construction activities. These expenses are distributed, on a dollar basis, to the various accounts charged with materials issued from the storeroom;

7.1.7 General Office expenses include expenses such as stationery, office supplies, forms, etc., that are used to record and distribute the costs of construction and retirement activities;

7.1.8 Power Operated Equipment expenses include that portion of the costs incurred in operating power operated equipment that is chargeable to construction and retirement activities. These costs may be accumulated in Account 184.1, Transportation Expense - Clearing, or distributed directly to construction, retirements, operating expenses, or overhead, whichever is more practical under the circumstances. Amounts recorded in

Account 184.1 are distributed on the basis of usage hours, number of holes dug, mileage, or other equitable basis, as recorded on the Daily Work Report;

7.1.8.1 Exhibit K may be used to distribute power operated equipment costs by substituting, in the first section, the type of equipment; for example, hole digger, bulldozer, etc., in place of "trucks." The number of holes dug, hours operated, or other basis for allocation is reported in the spaces provided for the daily entries.

7.1.8.2 If power operated equipment costs are charged directly to construction work in progress, retirement work in progress, and the operating expense accounts, the costs applicable to construction and retirement activities are included as overhead charges on Exhibit L, Overheads and Distribution to Work Orders Form.

7.1.9 Employee Pensions and Benefits include that portion of the borrower's share of pension costs, group hospital and medical costs, etc., that is chargeable to construction and retirement activities. Amounts charged to the construction and retirement work in progress accounts should be in the same percentage as the direct and indirect labor costs charged to the construction and retirement work in progress accounts are to the total monthly labor costs;

7.1.10 Vacations and Holidays include that portion of the monthly accrual for vacations and holidays chargeable to construction and retirement activities. Amounts charged to the construction and retirement work in progress accounts should be in the same percentage as the direct and indirect labor costs charged to the construction and retirement work in progress accounts are to the total monthly labor costs; and

7.1.11 Miscellaneous expenses are those costs incurred for small, incidental items that are properly chargeable to construction and retirement activities such as dynamite, fuse caps, small tools, etc.

7.1.12 The Summary and Distribution of Transportation Costs (Exhibit K) and the Overheads and Distribution to Work Orders (Exhibit L) are used to control overhead costs.

7.2 Summary and Distribution of Transportation Costs (Exhibit K): The Summary and Distribution of Transportation Costs is used to control transportation overhead costs. Costs may be distributed on one of two bases:

7.2.1 A composite standard truck mileage cost based upon a standard mileage cost for each of the various sizes of trucks; and

7.2.1.1 This plan provides for a monthly distribution of transportation costs by using a standard mileage rate for each truck, or group of similar trucks, to arrive at a composite rate. The composite rate is applied to the total miles driven for work associated with each of the various accounts and work orders.

7.2.1.2 Nonrecurring expenses, such as large repair bills, are prorated over a number of months by periodically adjusting the standard mileage cost.

7.2.1.3 The costs accumulated in Account 184.1 for a given month will not exactly equal the total amount distributed to the various expense accounts or work orders. However, by periodic adjustment of the standard rates, the balance remaining at the end of the year should be zero or a very small debit amount.

7.2.2 A composite truck mileage cost based upon the total monthly costs recorded in Account 184.1, Transportation Expense - Clearing.

7.2.2.1 This plan provides for the use of an average monthly truck mileage cost determined by dividing the total costs accumulated in Account 184.1 for any given month by the miles driven in that month.

7.2.2.2 Nonrecurring expenses are absorbed in a single month.

7.2.3 The top portion of the Summary and Distribution of Transportation Costs (Exhibit K) is used to record, by day, the total miles each truck was driven.

7.2.3.1 If standard rates are applied, the last two columns are used to calculate the amount of transportation costs that will be distributed to accounts in the lower portion of the form.

7.2.3.2 If average rates are used, the total transportation costs accumulated in Account 184.1, for any given month, are posted in the amount column on the right-hand side of the top portion of the form opposite "Total Miles and Amount." The average rate is determined by dividing the total transportation cost by the total miles.

7.2.4 The bottom portion of the form summarizes the miles driven by the various accounts involved as taken from the Daily Work Report (Exhibit H).

7.2.4.1 Only one horizontal column is provided for Account 107.2, Construction Work in Progress - Force Account, and for Account 108.8, Retirement Work in Progress. The totals in the amount column opposite these two accounts become part of the

overhead costs charged to work orders and are classified on Exhibit L, Overheads and Distribution to Work Orders.

7.2.4.2 At the end of each month, a journal entry is prepared charging the expense and work in progress accounts and crediting Account 184.1, Transportation Expense - Clearing, with the amounts shown on this form.

7.3 Overheads and Distribution to Work Orders (Exhibit L): The Overheads and Distribution to Work Orders is designed to control the various overhead costs that are applicable to work orders.

7.3.1 Overhead costs are determined by analyzing charges and credits to Accounts 107.2, Construction Work in Progress - Force Account, and 108.8, Retirement Work in Progress.

7.3.2 In the top portion of the form, the various overhead costs are totalled separately for each account. This total is then divided by the total direct labor costs charged to the respective accounts for the month (inserted on this form opposite "Total Direct Labor Costs"), to produce the overhead rate for each of these two control accounts.

7.3.3 The bottom portion of the form is used to distribute overhead costs to the specific construction and retirement work orders on the basis of the overhead rate computed above. All open work orders for the month are listed by number. Opposite these work orders, the direct labor costs applicable to each is posted from the Monthly Labor Cost Summary (Exhibit J). The overhead rates developed in the top portion of the form are applied to the direct labor costs to produce the amount of overhead charged to each work order for the month.

7.3.4 The total of the two columns entitled "Direct Labor" and "Overhead" for construction work orders should exactly equal the total of these costs shown in the column for Account 107.2 in the top portion. Similarly, the totals for retirement work orders should exactly equal those under Account 108.8. It is important that this reconciliation be made prior to the posting of the overhead on the actual work order forms.

7.3.5 Using this form reduces the possibility of error in overhead distribution and simplifies the process of rechecking, when necessary. If this form is printed on permanent paper and bound in a register, it may be used as a posting medium to transfer overhead costs to the individual construction and retirement work orders (Exhibits M and N).

8. WORK ORDERS:

8.1 General: This section discusses the preparation of construction and retirement work orders; the method used to collect the basic construction and retirement costs; and the use of Work Order Logs, Construction Work Orders (Exhibit M), Retirement Work Orders (Exhibit N), Blanket Work Orders, and the Inventory of Work Orders (Exhibit O).

8.1.1 Because the data required for recording retirements is different from that used in recording construction, separate work order forms are used to simplify the procedures and minimize the chance of errors.

8.1.1.1 Each work order form is a columnar-type record thereby eliminating the need for a separate summary of the detailed costs accumulated on the work order. Each work order form is also designed to cover a complete construction period rather than a single month.

8.1.1.2 The individual Material Charge and Credit Tickets and the individual employee labor costs are not posted to the work order. Only totals are posted thereby minimizing the potential for mechanical posting errors.

8.1.1.3 Overhead costs are calculated on a summary form with only one posting to each work order for a given month.

8.1.2 Part 1767 and Section 10 of this bulletin set forth specific accounting procedures for special equipment items. Costs relating to these items are, therefore, excluded from both construction and retirement work orders.

8.1.3 A system of blanket work orders has been established to eliminate the need for individual work orders for small, repetitive projects. This procedure accumulates, in one record, all of the costs incurred in similar, frequently recurring projects of short duration.

8.2 Work Order Log: The Work Order Log is a control record in which work orders are assigned numbers and listed in numerical order. If a blanket work order procedure is used, each job order number is assigned to a specific blanket work order. As activities associated with a work order are completed, the dates of completion are entered in the log.

8.2.1 The Work Order Log provides the status, at any point in time, of all incomplete work orders and provides a permanent record of the dates and other data pertaining to the work performed. The content of the Work Order Log may be reduced or enlarged to meet the organizational and control needs of each borrower; however, the following information is relevant to all borrowers:

8.2.1.1 The work order number (may include the year, tax district, or other pertinent information);

8.2.1.2 The job order number and the related blanket work order;

8.2.1.3 The individual authorizing the work;

8.2.1.4 The name of the consumer;

8.2.1.5 A description of the work to be performed or other identification;

8.2.1.6 The estimated cost;

8.2.1.7 The location of the work;

8.2.1.8 The date the work began;

8.2.1.9 The date the work was completed; and

8.2.1.10 The actual cost.

8.2.2 Other information of interest to management may include the dates on which:

8.2.2.1 Rights of way are secured for plant additions that require easements;

8.2.2.2 Staking is completed;

8.2.2.3 Work orders are posted to the Inventory of Work Orders; and

8.2.2.4 Staking sheets are posted to the system maps.

8.2.3 Work orders that have been abandoned should be so noted in the Work Order Log.

8.2.4 The Work Order Log should be maintained by the department responsible for assigning work order numbers and initiating the work. The log sheets should be filed in chronological order in a permanent file. For systems having a large number of incomplete work orders in progress, preparation of a monthly progress report showing the completion percentage of each work order may be desirable.

8.3 Construction Work Order (Exhibit M): The Construction Work Order is used to accumulate, in one record, by month, all of the costs incurred for a specific work order.

8.3.1 Part 1767.16, Electric Plant Instructions, paragraph (k), requires separate work orders for recording dissimilar work order data. Separate work orders should be prepared for costs incurred by the borrower for:

8.3.1.1 The cost of construction performed by the contractor; and

8.3.1.2 Other construction-related costs incurred by the borrower but not included in the contract amount.

8.3.2 The procedures detailed in this bulletin require only one posting each month for material, labor, and overhead costs.

8.3.2.1 Material costs charged to each work order are posted from the Materials Register to the "Materials" column of the applicable work order. To check the accuracy of these postings, a tape of all material charges shown on the work orders for a given month should be run and compared to the total in the "Amount" column under the heading "Construction Work Orders" in the Materials Register.

8.3.2.2 Labor costs charged to each work order are posted from the Monthly Labor Cost Summary to the "Direct Labor" column of the applicable work order.

8.3.2.3 Overhead costs charged to each work order are posted from the Distribution to Work Orders form to the "Overhead" column of the applicable work order.

8.3.3 If the construction project requires special services that are not considered overhead applicable to all work orders, such costs are shown separately in the column provided for that purpose. Examples of such special services include consulting engineering fees and construction costs resulting from small, contractual agreements.

8.3.4 If an Estimate Work Order has been prepared for the project, the estimated cost should be inserted in the space provided at the bottom of the Construction Work Order.

8.3.5 The top portion of the Construction Work Order provides three blocks to designate the type of construction activity being performed. (See Section 3 of this bulletin.)

8.3.5.1 When replacements or system improvements involving retirements are made, the related Retirement Work Order (Exhibit N) number should be indicated in the space provided.

8.3.5.2 The Retirement Work Order should be completed and accounted for on the same Inventory of Work Orders (Exhibit O) as the Construction Work Order.

8.4 Retirement Work Order (Exhibit N): The Retirement Work Order is used to accumulate, in one record, by month, all of the costs incurred for the retirement of plant when such plant is comprised of retirement units.

8.4.1 The three cost elements of a retirement work order are:

8.4.1.1 The original cost of the property retired;

8.4.1.2 The cost of removing that property from service; and

8.4.1.3 The salvage value, if any, of the material recovered during the retirement.

8.4.2 Cost of removal includes the payroll and related expenses incurred in cleaning and disassembling the salvaged material. Costs incurred in reconditioning the materials for use, are charged to maintenance expense.

8.4.3 Part 1767.16, Electric Plant Instructions, paragraph (j), sets forth the accounting for additions and retirements of electric plant. Paragraph (j) states: "For the purpose of avoiding undue refinement in accounting for additions to and retirements and replacements of electric plant, all property should be considered as consisting of (1) retirement units and (2) minor items of property."

8.4.3.1 When a retirement unit is replaced, its cost is removed from the appropriate plant account and the cost of the new item is capitalized.

8.4.3.2 When a minor item of property is replaced, the cost of replacing that item is charged to maintenance expense.

8.4.3.3 When a minor item of property is retired without replacement, the cost is credited to the appropriate plant account unless the cost is credited at a later time when the retirement unit of which it forms a part, is retired.

8.4.4 The original cost of property retired is calculated by using columns three through six on the left-hand side of the Retirement Work Order. The record units retired and the number thereof are taken from the applicable staking sheets. The unit price applied to each record unit is the average historical cost of the individual items as shown in the continuing property records.

8.4.5 The grand total of the original cost of property retired is broken down by primary plant account on the bottom of the Retirement Work Order. The journal entry recording retirements for the month is a summary, by account, of the amounts calculated on the individual Retirement Work Orders.

8.4.6 The right-hand portion of the Retirement Work Order addresses cost of removal, salvage, and the net loss due to the retirement.

8.4.6.1 Three columns entitled "Direct Labor," "Overhead," and "Total" are used to account for the cost of removal.

8.4.6.1.1 The amounts posted in the "Direct Labor" column are taken from the Monthly Labor Cost Summary (Exhibit J) and represent the labor, for the month, associated with a particular Retirement Work Order.

8.4.6.1.2 The amounts posted in the "Overhead" column are taken from the Overheads and Distribution to Work Orders, (Exhibit L) and represent the overhead associated with a particular Retirement Work Order.

8.4.6.1.3 The "Total" column is the sum of the totals of the "Direct Labor" and "Overhead" columns.

8.4.6.2 The amounts posted in the column entitled "Salvage" are taken from the Materials Register (Exhibit G) and represent the total value of all materials salvaged from a particular Retirement Work Order.

8.4.6.3 The column entitled "Net Loss Due to Retirement" is calculated by deducting the total of Column 12 from the sum of the totals of Columns 6 and 11.

8.4.6.3.1 The net loss is charged to the appropriate subaccount of Account 108, Accumulated Provision for Depreciation.

8.4.6.3.2 The journal entry transferring the net loss on retirement to the appropriate subaccount of Account 108 is the summary of the totals in the "net loss" columns of all Retirement Work Orders closed during the month.

8.4.7 To check the accuracy of the postings at the close of the month, Columns 9, "Direct Labor;" 10, "Overhead;" and 12, "Salvage," of the appropriate Retirement Work Orders should be totalled. These totals should agree, respectively, with the direct labor charged to Account 108.8 in the Monthly Labor Cost Summary (Exhibit J); the total overheads associated with Retirement Work Orders shown on the Overheads and Distribution to Work Orders (Exhibit L), and the total materials salvaged credited to Account 108.8 in the Materials Register (Exhibit G).

8.4.8 It is the borrower's responsibility to classify all Retirement Work Orders in accordance with the definitions set forth in Section 8.5.8.2. of this bulletin.

8.4.8.1 The amount subject to REA financing is, in part, dependent upon this classification.

8.4.8.2 The top portion of the Retirement Work Order provides three blocks to designate the type of retirement activity:

8.4.8.2.1 Retirements - No Replacement represents plant removed from service with no new facilities constructed;

8.4.8.2.2 Retirement - System Improvement represents plant removed from service in conjunction with construction that is classified as a system improvement; and

8.4.8.2.3 Retirement - Replacements represents plant removed from service accompanied by a replacement made necessary by wear, tear, or damage.

8.4.9 When a retirement is associated with a replacement or system improvement, the related Construction Work Order (Exhibit M) number should be indicated in the space provided.

8.4.9.1 The Construction Work Order should be completed and accounted for on the same Inventory of Work Orders (Exhibit O) as the Retirement Work Order.

8.5 Blanket Work Order: Due to the necessity of maintaining and improving service to existing consumers and extending service to new consumers located adjacent to the existing primary lines, certain types of new construction and replacements of retirement units, neither involving substantial amounts of money, frequently recur. A blanket work order is used to accumulate, in one record, all of the costs incurred in similar, frequently recurring projects. A blanket work order should be assigned a special identification number according to the type of construction and retirement activity. All of the items included on an individual blanket work order should bear the same 740c code and be of the same construction classification.

8.5.1 Examples of new construction activities suited to a blanket construction work order system include:

8.5.1.1 Service drops;

8.5.1.2 Installations of secondaries, meter loops, short single-phase extensions (2 spans or less); and

8.5.1.3 Changes from 2-wire to 3-wire service.

8.5.2 Examples of replacement activities suited to a blanket retirement work order system include:

8.5.2.1 The replacements of crossarms;

8.5.2.2 The replacements of cutouts; and

8.5.2.3 The replacements of lightning arresters, when separately mounted.

8.5.3 Costs incurred for these types of activities accumulate on the same forms as are used for regular work orders.

8.5.4 In the utility industry, the term "job order" relates to either small construction jobs that are not considered large enough to require separate work orders or maintenance jobs. The

job order should detail the type of work performed and the location of the work.

8.5.4.1 Under a system of blanket work orders, job order numbers are assigned to the individual projects. Small maintenance jobs are referred to as maintenance orders or M.O.s.

8.5.4.1.1 A replacement, whether performed under a blanket work order or a regular work order, often includes a certain amount of maintenance work, such as the untying and retying of conductor when replacing a crossarm.

8.5.4.1.2 The cost of this work, if significant, is charged to the appropriate maintenance account on the basis of an M.O. For verification purposes, the M.O. number should, if possible, correspond to the number of the related Construction Work Order.

8.5.4.2 Job order costs are not accumulated on any single form since a job order is merely a directive to perform certain work.

8.5.4.2.1 The individuals performing the work list, on the Daily Work Report, the job order number that will be used to summarize the various job orders by blanket work orders.

8.5.4.2.2 Materials used and salvaged in connection with each job and recorded on the appropriate material tickets are identified by job order and blanket work order.

8.5.4.2.3 Overheads do not apply to individual job orders but are associated with the total blanket work order. By identifying all work recorded on a blanket work order by job order, the direct costs accumulated on a blanket work order may be reviewed for audit and cost control purposes, when necessary.

8.5.4.3 Part 1767 requires the cost of all work orders physically completed during the month to be cleared to the appropriate plant accounts. For blanket work orders, this is an undue refinement. Blanket work orders should be closed and cleared to the plant accounts on a quarterly basis.

8.5.5 Borrowers may establish as many blanket work orders as necessary. In every case, however, all of the job orders on a blanket work order should relate to the same type of activity. For example, the replacement of crossarms should not be grouped with the construction to serve new customers. Job orders should be properly grouped to ensure that the blanket work order is properly classified on the Inventory of Work Orders.

8.6 Inventory of Work Orders, REA Form 219 (Exhibit O): The Inventory of Work Orders is designed to accumulate construction and retirement costs, the net amount of which is the basis for requesting advances of REA loan funds.

8.6.1 For interpretations of technical questions relating to the Inventory of Work Orders, refer to Part 1767 and 7 CFR Part 1721,

Post-Loan Policies and Procedures for Insured Electric Loans,
Subpart A, Advance of Funds.

8.6.2 Minor Construction is defined in Part 1721 as a project not included in an approved workplan, with total construction costs (Column 4 of the REA Form 219) of \$25,000 or less. Minor construction should be reported on a separate Inventory of Work Orders with a description of each project attached to the Inventory.

8.6.3 As required by Part 1721, each Inventory of Work Orders must have the "Engineer's Certification" signed by the borrower's approved engineer. The Inventory of Work Orders for minor construction projects must also include one of the following certifications:

8.6.3.1 We certify that construction reported on the above listed work orders is a categorical exclusion of a type described in 7 CFR 1794.31 (b) which normally does not require preparation of a Borrower's Environmental Report;

8.6.3.2 We certify that construction reported on the above listed work orders is a categorical exclusion of a type that normally requires a Borrower's Environmental Report which will be submitted with a request for approval of funds to reimburse these work orders; or

8.6.3.3 We certify that construction reported on the above listed work orders has been analyzed with respect to a comprehensive service area environmental map and data base collected and used in preparing the Borrower's Environmental Report for our REA-approved construction workplan, and that on the basis of that information the minor project(s) are not located in an environmentally sensitive area or location.

8.6.3.4 The REA Form 219 contains a signature block for the certifications in Section 8.6.3.1 and Section 8.6.3.2 of this bulletin. The certification set forth in Section 8.6.3.3 of this bulletin requires REA approval before it may be used. If REA approval is obtained, the certification comments should be inserted on the REA Form 219 by the borrower.

8.6.4 Retirement Work Orders reported on the REA Form 219 are for financing purposes only. Retirement costs reported on the REA Form 219 include the original cost of the property retired, the costs incurred in removing the property retired, and the value of the materials salvaged. Based upon the type of construction involved, one or more of the cost elements appearing on each Retirement Work Order may be brought forward to the REA Form 219 and used in calculating the amount of loan funds subject to advance by REA.

8.6.4.1 Salvage reported on the REA Form 219 is the salvage arising from system improvements and from retirements without replacement.

8.6.4.2 Salvage arising from ordinary replacements is not reported on the REA Form 219.

8.6.5 Funds are advanced to the extent of the total cost of all new construction and extensions to plant currently in service, provided that funds have been established in an approved loan. Funds may also be advanced for the total net cost of system improvements. Only the excess cost of the replacement over the original cost of the property retired may be financed for ordinary replacements.

8.6.6 When advances for construction activities include depreciation charges on general plant items financed with REA loan funds, a duplicate advance of funds results to the extent of the depreciation included. While depreciation expense for general plant items used in the construction of electric plant (typically motor vehicles) may be a proper component of construction cost, the amount of depreciation financed with loan funds should be specifically identified and shown either monthly or annually as a single item in Column 9 on the REA Form 219 to avoid a duplicate advance of funds.

8.6.7 The columns in the REA Form 219 are discussed in the order shown on the form:

8.6.7.1 The columns entitled, "740-c Code" indicate the applicable 740c code (e.g., 100 - new lines; 200 - new tie-lines; 300 - conversion and line changes, etc.) and the date (year) of the approved work plan;

8.6.7.2 Column 1, "Construction," includes the numbers of the Construction Work Orders to be financed;

8.6.7.3 Column 2, "Retirement," includes the numbers of the Retirement Work Orders completed during the same month. Each Retirement Work Order, except those reflecting "retirements without replacement," should be listed on the same line as the related Construction Work Order. This permits the mathematical calculation of the net cost of each particular plant change reported in Column 10;

8.6.7.4 Column 3, "Budget Item No.," includes the budget purpose number under which funds may be advanced for each plant change;

8.6.7.5 Column 4, "Cost of Construction," includes the total cost of the Construction Work Order. The total cost is taken from the right-hand column of the individual Construction Work Orders (Exhibit M). The total of Column 4 should be reconciled

to item "B" in Column 5 of the Unitization and Distribution to Plant Accounts (Exhibit U);

8.6.7.6 Column 5, "Cost of Removal in System Improvements," includes the cost of removing the property retired during construction classified as a system improvement. Amounts reported in this column are taken from Column 11 of the Retirement Work Order (Exhibit N);

8.6.7.7 Column 6, "Original Cost of Units Retired in Ordinary Replacements," includes the original cost of the property replaced during construction that is not classified as a system improvement. Amounts reported in this column are taken from Column 6 of the Retirement Work Order (Exhibit N);

8.6.7.8 Column 7, "Salvage (System Improvements Only)," includes the value of material salvaged from construction classified as a system improvement. Amounts reported in this column are taken from Column 12 of the Retirement Work Order (Exhibit N);

8.6.7.9 Column 8, "Salvage (Retirements Without Replacement)," includes the value of material salvaged from property retired from service for which no replacement is made. Amounts reported in this column are taken from Column 12 of the Retirement Work Order (Exhibit N); and

8.6.7.10 Column 9, "Contributions in Aid of Construction and Previous Approvals," includes consumer contributions toward the cost of extensions to their premises, such other contributions as are made to reimburse the borrower for costs incurred in accommodating the other party, and any approvals previously made against work orders listed on the Inventory of Work Orders. An example of a contribution other than one for a consumer extension is a payment from the state for a line move; and

8.6.7.10.1 The amount of the contribution shown in Column 9 should not exceed the amount that would otherwise be subject to advance.

8.6.7.10.2 No amount is entered on the Inventory of Work Orders for contributions received for lines that will be abandoned and for which no directly related replacement is made. Instead, such property should be released from lien, at which time specific accounting treatment is prescribed.

8.6.7.10.3 Amounts reported in Column 9 are taken from the Construction Work Order (Exhibit M). Space is provided on the work order for indicating, in memorandum form, contributions received for construction activities.

8.6.7.11 Column 10, "Loan Funds Subject to Advance," includes the net amount of the items reported in Columns 4 through 9.

8.6.7.12 On the bottom of the form, space is provided to summarize the net amounts by individual 740c code number and budget purpose. The total of this summary should equal the total in Column 10.

8.6.8 Transactions relating to the purchase of special equipment, estimated first installation costs, and the retirement of special equipment should not be reported on the REA Form 219.

8.6.9 For instructions on reporting contract construction costs on the REA Form 219, see REA Bulletin 81-6.

9. UNITIZATION AND CLASSIFICATION OF WORK ORDER COSTS BY RECORD UNITS AND PRIMARY PLANT ACCOUNTS:

9.1 General: This section discusses the allocation of construction costs to record units and the primary plant accounts. To make this allocation, the various record units completed during the month should be summarized and a standard cost applied thereto. By multiplying the number of record units by a standard cost, the average standard cost for the group is calculated. This average standard cost is then compared with the actual cost to produce a ratio that is used to allocate total construction costs to the various record units. The record units are then summarized by primary plant account.

9.1.1 REA Bulletin 181-2, Standard List of Retirement Units, includes an appendix entitled "Suggested Groupings of Retirement Units for Purposes of Installing and Maintaining Continuing Property Records." This appendix is intended to aid borrowers in determining the proper record units to support and account for plant changes on a continuous basis. This list is for transmission and distribution property, only. Each borrower must establish its own record units for generating plants, substations, and office buildings.

9.2 The following forms are recommended for use in the unitization process:

9.2.1 Staking Sheet (Exhibits P and Q): A staking sheet is an engineering drawing of a construction project that depicts plant extensions and replacements by construction units. A staking sheet should be prepared for all force account construction before the actual work is begun;

9.2.1.1 If the activity involves only the replacement of a single record unit such as a crossarm, lightning arrester, or cutout, a staking sheet is not required. The borrower is only required to prepare a list of those units replaced to support the construction and retirement work orders.

9.2.1.2 Similarly, replacements recorded on a blanket work order do not require the preparation of staking sheets.

9.2.1.3 Staking sheets are the basic records supporting physical plant and are used to update system maps. When staking sheets are properly maintained, they provide a permanent and continuing record of all lines installed, including the construction units comprising the lines and their location.

9.2.1.4 The staking sheet is so designed that when the front side is uppermost, the right-hand side of the form can be folded back to make the first two columns on the reverse side available for summarizing the construction units added and retired. To the right of the first two columns, on the reverse side, are the various record units to which the construction units are converted. The last four columns are provided for the memorandum entries for meters, transformers, and other special equipment items discussed in Section 9.2.1.8.1 of this bulletin. Only those construction units that convert into retirement units should be listed. This will eliminate listing such construction assemblies as A1s, A1-2s, A2-3s, down-guys, E units, and J and K units.

9.2.1.5 If more than one staking sheet is used on the same job, succeeding sheets should indicate the pole on the preceding sheet from which the line is extended. The sketch of the general line construction should be entered in the space provided, indicating poles and pole numbers at all taps, corners, transformers, and dead-ends. Secondaries, underbuilds, guys and anchors should also be shown.

9.2.1.6 The construction units listed on the front of the staking sheet are converted to record units on the reverse side. Appendix I to this Bulletin, Tables Converting Construction Units to Retirement Units, assists borrowers in converting construction units to record units.

9.2.1.7 When preparing the front side of the staking sheet for overhead plant, all assemblies in place on the take-off pole (the starting place for new construction) are listed on the first line opposite the pole number and are designated as "existing," (EX). Assemblies removed from service are designated by an asterisk (*). The assemblies to be added to the existing pole are shown on the next line and are designated as "ADD." Replacement assemblies should be designated as "ADD" and circled.

9.2.1.7.1 Particular care should be taken to differentiate between secondaries and services. A service drop is defined as wiring from the last utility-owned pole to the attachment on the consumer's premises. For recordkeeping purposes, service drops are classified as two-wire, or three-wire and underground

services are classified as two-wire, three-wire, or four-wire, with a further subdivision by wire size. No consideration is given to the length of the service drop or the underground service.

9.2.1.7.1.1 If the borrower owns the pole on which the meter loop is installed, there is no service drop. The conductor from the transformer to the pole is considered secondary wire.

9.2.1.7.1.2 When the meter loop is installed on a building owned by the consumer, the wiring from the last pole owned by the borrower to the consumer's building is considered a service drop.

9.2.1.7.2 For a line conversion, the construction assembly being converted is identified by the prefix "H" with the new construction unit designation shown first and the existing construction unit shown last; for example, HC1-A1. From an accounting standpoint, a crossarm unit is being added and two insulators are being charged in with the conductor unit.

9.2.1.8 Certain "G" and "M" construction assemblies for transformers, OCRs, sectionalizers, and voltage regulators also include other items of equipment that constitute record units. These "G" and "M" units are shown on the front of the staking sheet and are converted to record units on the reverse side.

9.2.1.8.1 Meters, transformers, OCRs, regulators, sectionalizers, and load control switches, as bare equipment items, are listed on the reverse side only, in memorandum form. This information is not carried forward to Exhibit U, as these items are capitalized at the time of purchase.

9.2.1.8.2 Meters, transformers, OCRs, sectionalizers, and other special equipment items are often set and reset without other construction being performed. Each borrower must, therefore, maintain a system for reporting the movement of these special equipment items independent of the work order system.

9.2.1.9 Exhibit Q is an example of a staking sheet for underground construction. This staking sheet and the symbols for underground construction are suggested forms only and may be changed to meet a borrower's particular requirements. The information to be inserted in the vertical columns on the underground construction staking sheet is as follows:

9.2.1.9.1 "Sta. No." Station numbers correspond to pole numbers on a staking sheet for overhead construction. A station is any point in a primary cable run where the cable is terminated, tapped, spliced, fused, switched, or turned to another direction to the extent that a cable location marker is required. Examples of station points are riser poles, transformer locations, switch points, or the location of any other construction unit on or

adjacent to the primary cable. Stations should also be designated at all points where joint trench use with telephone or other foreign utilities begins or ends;

9.2.1.9.2 "Term. UM2 ." This column includes all terminations on riser poles. Terminations at transformers or other equipment are not reported as they are considered a part of that construction unit;

9.2.1.9.3 "Pri. (back) Run ." The word "run" corresponds to "span" on a staking sheet for overhead construction. It is the distance between a station and the preceding station. If the construction is a joint project with a telephone or other foreign utility in the same trench, a special notation should be made on the sketch and in the "Remarks" column. All crossings of roads, railroads, pipelines, or communications cables should also be noted on the sketch and in the "Remarks" column;

9.2.1.9.4 "R/W Clearing ." This column includes the number of feet of right-of-way clearing between a station and the preceding station;

9.2.1.9.5 "Line Angle ." The line angle is the angle, in degrees, turned at a station. The record should also indicate whether the turn is to the left or the right. If the turn is made at a location other than the transformer or other equipment that can be readily located, it should be marked by a stake or cable marker with an appropriate entry under the "Misc. Units" or "Remarks" column;

9.2.1.9.6 "Transformer UG. ." This column includes the appropriate construction unit designation for transformers;

9.2.1.9.7 "Sect. Assem. UM3 ." This column includes the appropriate construction unit designation for switches, fuses, sectionalizers, or other sectionalizing equipment;

9.2.1.9.8 "Grnd, UM2-11 ." This column includes the number of driven grounds at this station, if any;

9.2.1.9.9 "Pedestal UK. ." This column includes the pedestals installed adjacent to the primary cable. Off-line pedestals are reported in the fifth column to the right;

9.2.1.9.10 "Splice ." The installation of a permanent buried splice should be noted by a check mark or other indicator in this column. This location should be considered a station since the exact location of the splice may be important. "Take apart" splices or other equipment used for sectionalizing primary cable that is housed in enclosures should be entered in the "Sect. Assem. UM3-" column;

9.2.1.9.11 "Misc. Units ." This column includes all construction units not provided for elsewhere. Examples include fault indicators, cable markers, and warning signs;

9.2.1.9.12 "Secondary Run ;"

9.2.1.9.12.1 "Joint With Primary ." This column includes the length of secondary cable installed in the same trench as primary or other cables. The type of other cable should be noted.

9.2.1.9.12.2 "Secondary Only ." This column includes the length of secondary cable not installed jointly.

9.2.1.9.13 "Pedestal UK. " This column includes pedestals not located along the primary cable;

9.2.1.9.14 "Ser. Run." This column includes the length of the service run. When multiple services take off from a transformer or pedestal, a separate line on the staking sheet should be used to record each service;

9.2.1.9.15 "Sec. or Ser. Cable Size ." This column includes the size of the secondary or service cable. If the cable is not three-wire, the number of conductors should also be shown;

9.2.1.9.16 "Size of Meter ." This column includes the size of the service entrance, if desired; and

9.2.1.9.17 "Remarks ." This column includes any additional information not reported elsewhere. Primary cable sizes other than the basic size shown at the top of the sheet should be noted.

9.2.2 **Conversion Tables**: Appendix I, Tables Converting Construction Units to Retirement Units, is provided to assist borrowers in converting construction units to record units;

9.2.2.1 Appendix I is subdivided according to line voltages; that is, 7.2 kV distribution, 14.4 kV distribution, and transmission.

9.2.2.1.1 The construction units associated with 7.2 kV distribution are those shown in REA Form 804, Specifications and Drawings for 7.2/12.5 kV Line Construction.

9.2.2.1.2 The construction units associated with 14.4 kV distribution are those shown in REA Form 803, Description of Units, Specifications and Drawings for 14.4/24.9 kV Line Construction.

9.2.2.1.3 The construction units associated with transmission are those shown in REA Form 805, Electric Transmission Specifications and Drawings.

9.2.2.1.4 The construction units associated with underground electric distribution are those shown in REA Form 806,

Specifications and Drawings for Underground Electric Distribution.

9.2.2.2 In theory, construction assemblies are converted into retirement units and then grouped into record units for the unitization of costs. In practice, the conversion is made directly from the construction assemblies to the record units.

9.2.2.3 A vertical listing of the standard construction assembly units is shown under each voltage classification. The retirement units and the account numbers to which the construction assembly units are converted are listed across the top of the table. The number of retirement units contained in the related construction assembly units is listed in the body of the table.

9.2.2.4 The tables have been limited to those items that present a problem in conversion. For example, poles are not shown in the tables in the appendix. A pole is a construction unit and a retirement unit. Therefore, no conversion is necessary, even though the new record unit includes certain minor items such as neutral supports, pole top pins, J units, and jumper supports.

9.2.2.5 The following examples are provided to illustrate the use of the tables shown in Appendix I of this bulletin:

Construction Unit	Record Unit
A1	This assembly does not convert into a record unit. The pole top pin and neutral support become part of the pole unit and the insulators become part of the conductor unit.
B1	One crossarm, with the neutral support included in the pole unit. The insulators become part of the conductor unit.
C1	One crossarm, with the pole top pin and neutral support included in the pole unit. The insulators become part of the conductor unit.
C3	Three strings of insulators, with the neutral support included as part of the pole unit.
E7-2	One 3 down-guy assembly. This assembly does not convert to a record unit. However, the anchors to which these three guys attach

convert to anchor-guy assemblies.

Construction Unit	Record Unit
F1-4	One anchor-guy assembly. The guy included in this assembly is a down-guy assembly similar to the E7-2 discussed above.
G210	One crossarm, 2 lightning arresters, and 2 transformers. This is an example of a large construction assembly, one that is made up of 5 different record units.
J5	This assembly does not convert into a record unit. It is similar to a neutral support and becomes part of the pole unit. All J units attach to some other unit and are not, in every case, accounted for as record units.
K10	This assembly does not convert into a record unit. It becomes part of the service drop record unit. All J units attach to some other unit and are not, in every case, accounted for as record units.
M3-25A	Two crossarms, 6 strings of insulators, 1 transformer cluster bracket, 3 lightning arresters, 3 oil circuit reclosers, and 3 recloser bypass switches. This is an example of one of the larger units, one that is made up of 18 record units, 2 of which are crossarms and 6 of which relate to insulators.

9.2.3 Tabulation of Record Units (Exhibits R and S): The Tabulation of Record Units is used to tabulate the record units shown on the reverse side of the individual staking sheets. The record units used by most borrowers are preprinted on the form, with space provided to include any other units. The "Total" column includes all record units completed during a given month. The totals are posted to Column 2 of the Unitization and Distribution to Plant Accounts (Exhibit U) on which the distribution to accounts is made;

9.2.4 Standard Record Unit Cost Sheet (Exhibit T): The Standard Record Unit Cost Sheet is used to develop standard costs for the

individual record units. Borrowers should use a system of standard costs applied to the various record units to unitize the material, labor, and overhead costs accumulated in a work order; and

9.2.4.1 The standard cost for a particular record unit is developed by adding the cost of the material, labor, and overhead typically required to assemble and install that unit in an electric system. Standard costs should be based upon past experience and cost records. Exhibit T is a columnar form showing the three cost elements, the type of record unit, and the total. The costs developed on this form are recorded in Column 3 of the Unitization and Distribution to Plant Accounts.

9.2.4.1.1 The standard cost record for underground conduit and/or conductors should include, in addition to the cost of material, labor, and overhead, the costs of excavation, trenching, and plowing.

9.2.4.2 Standard costs should be developed, for the first time, using one of the following plans:

9.2.4.2.1 Plan No. 1: Select, from the construction assembly cost cards (if maintained), an assembly unit that includes the record unit for which a cost is to be determined. Preferably, not more than one record unit should be included in the selected construction assembly. Material costs applicable to the record unit are taken directly from the assembly cost card. Based upon actual experience and judgment, a portion of the labor and other costs shown on the standard assembly cost card are allocated to the record unit. This allocation is in the same proportion as the record unit cost bears to the total costs of the assembly. For example, assume you are establishing the standard cost of a record unit for a crossarm. A C1 construction assembly cost card should be used. From this card, the total material cost of the crossarm, braces, carriage bolts, crossarm pins, and other hardware attached to the crossarm should be grouped and summarized. The amount of labor and overhead for installing the neutral support, pole top pin, and insulator should be estimated. If this estimate approximates 20 percent of the total labor cost for this assembly, 80 percent of the labor and other costs apply to the crossarm; or

9.2.4.2.2 Plan No. 2: The materials typically used in a given record unit are detailed on Exhibit T and priced on the basis of current stock record card prices. The average time required to install the record unit is determined on a man-hour basis. These man-hours are then priced at the average rate for the type of labor employed. A percentage, representative of the average overhead for the system, is applied to this labor cost to determine the standard overhead cost. For example, assume you are establishing the standard cost of a record unit for a crossarm. The materials required for the typical crossarm unit

should be listed. If two man-hours are required to install this unit at an average hourly rate of \$10.00, the total standard labor cost is \$20.00. If overhead approximates 25 percent of labor, \$5.00 is added as overhead cost. The total of these three elements is the total standard cost of a crossarm.

9.2.4.3 The standard costs established for a common type of anchor and a common type of guy may be added together to determine the standard cost for an anchor-guy assembly.

9.2.4.4 A single cost sheet or card may be used for each record unit, or record units of similar types may be grouped on one sheet or card. When estimating material costs for a given record unit; for example, a crossarm, the average length, size, and class of crossarm should be estimated, as well as the accessory materials used on the various types of crossarms.

9.2.4.4.1 If a system has a large number of alley arms or double-arm combinations, the extra cost of this hardware should be considered.

9.2.4.4.2 In determining the material cost for conductor units, the cost of clipped ends, wrappings, and pin type insulators should be considered.

9.2.5 Unitization and Distribution to Plant Accounts

(Exhibit U): The Unitization and Distribution to Plant Accounts is used to allocate the cost of all construction work orders closed in a given month to the appropriate record units and plant accounts.

9.2.5.1 Work order costs are distributed to the various record units on the basis of the standard costs developed on the Standard Record Unit Cost Sheet (Exhibit T).

9.2.5.2 The total cost of each record unit, as well as the quantity, is posted to and becomes part of the continuing property records.

9.2.5.3 The record unit costs are then summarized by primary plant account to form the basis for the journal entries transferring the costs of the completed construction from Account 107.2, Construction Work in Progress - Force Account.

9.2.5.4 The process of allocating the total cost of construction to the various record units is known as "unitization." The work order costs are taken from Column 4, Cost of Construction, of the REA Form 219, Inventory of Work Orders (Exhibit O). The number of units to which the standard costs will apply is obtained from the Tabulation of Record Units (Exhibits R and S).

9.2.5.4.1 The left-hand column of the Unitization and Distribution to Plant Accounts identifies the account number of

the primary plant accounts to which the various record units apply. Lightning arresters and cutouts, which may be classified in either Account 365, Overhead Conductors and Devices, or Account 368, Line Transformers, should be individually addressed to ensure that costs are transferred to the proper primary plant account.

9.2.5.4.2 Column 1, "Record Unit," includes all record units constructed for a given month. They are posted opposite the primary plant account to which they are classified in Part 1767.

9.2.5.4.3 Column 2, "Number of Units," includes the total number of units taken from the "Total" column of the Tabulation of Record Units. These numbers are posted opposite the applicable record units.

9.2.5.4.4 Column 3, "Unit Standard Costs," includes the standard costs taken from the Standard Record Unit Cost Sheet. These costs are posted opposite the applicable record units.

9.2.5.4.5 Column 4, "Total Standard Costs," is calculated by multiplying Column 2 by Column 3. The total of Column 4 appears opposite item "A" at the bottom of the form and is used in calculating the ratio developed opposite item "C."

9.2.5.4.6 Column 5, "Total Actual Costs," includes the unitized cost of the record units shown on the sheet. Before the individual record unit costs may be determined, an allocation percentage should be developed. The total of this column, item "B," is taken from Column 4 of the Inventory of Work Orders (Exhibit O). Item "C" at the bottom of the page is determined by dividing item "B" less the amount in Account 362, by the total standard cost, item "A." The resulting percentage is then applied to the individual record units in Column 4 to arrive at the costs included in Column 5. To check the accuracy of the allocations, the total of the individual costs included in Column 5 should agree with item "B."

9.2.5.4.7 Column 6, "Adjusted Unit Costs (Gross)," is calculated by dividing each record unit cost in Column 5 by the number of units applicable to that record unit in Column 2.

9.2.5.4.8 Column 7, "Contributions in Aid of Construction," includes the amount of non-refundable contributions in aid of construction. Non-refundable contributions are applied against the electric plant accounts that gave rise to the contribution. The total contributions in aid of construction reported in Item "D" should reflect contributions received for only those work orders that are being unitized and classified on the current form. There is no definite ratio for applying the contributions. The borrower determines which class of plant gave rise to the contribution. Usually, a contribution in aid of construction is received for constructing an excessive length of utility plant to

serve a consumer. In such cases, Accounts 364 and 365 and/or 367 are credited for the non-refundable contribution. The distribution of the contribution to the record units within the plant account is then made on a dollar ratio basis. This column also provides the basis for the journal entry debiting Account 107.2 and crediting the plant accounts for the total amount of the contribution.

9.2.5.4.9 Column 8, "Total Net Costs," is calculated by deducting Column 7 from Column 5. The individual amounts reported in this column and the number of units reported in Column 2 are posted to the continuing property records.

9.2.5.4.10 Column 9, "Adjusted Unit Costs (Net)," is calculated by dividing the individual amounts shown in Column 8 by the number of units applicable to each record unit in Column 2. This column is not totalled but is useful for comparing gross unit costs to net unit costs.

10. SPECIAL EQUIPMENT ITEMS

10.1 General: The material accounting procedures discussed in Section 5 of this bulletin relate only to those materials controlled through Account 154, Plant Materials and Operating Supplies. This section details the special accounting procedures and recordkeeping requirements set forth in Part 1767 for the cost of meters, meter sockets, and other metering equipment recorded in Account 370, Meters; for line-type transformers and for pole-type and underground voltage regulators recorded in Account 368, Line Transformers; for load control switches; and for the conversion of small inadequate transformers. Equipment installed at substations, such as transformers, voltage regulators, meters, and current and potential transformers are not considered "special equipment."

10.2 Accounting Procedures: Because special equipment items are continually being moved to accommodate load changes and maintenance practices, Part 1767 provides different accounting procedures from those prescribed for other material items.

10.2.1 The original cost of these items is capitalized at the time of purchase and is not charged to Account 154.

10.2.2 The first installation cost, as well as all incidental costs required to prepare this equipment for use are capitalized upon purchase.

10.2.3 All subsequent costs of removing, resetting, changing, renewing oil, and repairing are charged to maintenance expense. Account 583 is charged for costs associated with transformers, OCRs, voltage regulators, and sectionalizers and Account 586 is charged for costs associated with meters, meter sockets, current

and potential transformers, and other metering equipment. If special equipment items are bought in small quantities, Accounts 583 and 586 may be credited, immediately upon purchase, for the amount of the standard installation costs.

10.2.4 The capitalized cost of special equipment items, including the first installation, is removed from the electric plant accounts only when the items are abandoned or retired from the system.

10.3 Summary of Special Equipment Costs (Exhibit V): The Summary of Special Equipment Costs is used to accumulate, summarize, and distribute, to the appropriate plant accounts, all costs incurred in the purchase, handling, testing, tagging, and first installation cost of all new special equipment items.

10.3.1 Columns 1 through 4 indicate the quantity, size, manufacturer, and type of equipment. This information is taken from the original invoices.

10.3.2 Column 5, "Invoice Cost and Freight," includes the cost, as billed by the supplier, of the new equipment items purchased and the associated freight cost.

10.3.3 Column 6, "Labor and Other," includes any other incidental costs incurred in preparing the equipment for use such as handling, tagging, and stenciling. If these costs are so insignificant that it is impractical to record them on an actual cost basis, a small allowance may be added to the estimated cost of installation recorded in Column 8.

10.3.4 Column 7, "Transformer Conversion Costs," includes the costs, if any, reported on the reverse side of the form in Column 10.

10.3.5 Column 8, "Estimated Cost of Installation," includes the estimated standard cost of installing the various equipment items.

10.3.6 Column 9, "Loan Funds Subject to Advance," is calculated by adding Columns 5, 6, 7, and 8.

10.3.7 Column 10, "Salvage Value of Old Transformers," includes the salvage value, if any, reported in Column 6 on the reverse side of the form.

10.3.8 Column 11, "Total Cost Capitalized," is calculated by adding Columns 9 and 10.

10.3.9 The reverse side of the form is used to summarize all costs incurred in the conversion of small, inadequate transformers to transformers of higher ratings.

10.3.9.1 Columns 1 through 4 indicate the quantity, size of the old and new transformers, and type. This information is taken from the original invoices.

10.3.9.2 Column 5, "Original Installed Cost," includes the book cost, including the first cost of installation, of the inadequate transformers being converted to larger capacities.

10.3.9.3 Column 6, "Salvage," includes the estimated current value of the case, tank, or any other part that is reusable in the conversion.

10.3.9.4 Column 7, "Retirement Loss," is calculated by deducting Column 6 from Column 5. This loss will ultimately be charged to Account 108.6, Accumulated Provision for Depreciation of Distribution Plant.

10.3.9.5 Column 8, "Invoice Cost of Conversion and Freight," includes the cost billed by the manufacturer or supplier to convert the transformers listed on the form, plus freight.

10.3.9.6 Column 9, "Other Conversion Costs," includes the costs of handling, tagging, and stenciling incurred in connection with the conversion.

10.3.9.7 Column 10, "Total Conversion Cost," is calculated by adding Columns 8 and 9.

10.3.9.8 Column 11, "Total Cost of Converted Transformers," is calculated by adding Columns 6 and 10.

10.3.9.9 Column 12, "Converted Unit Cost," includes the unit cost of each type and size of converted transformer and is calculated by dividing the items in Column 11 by the quantities in Column 1.

10.4 Controlling and Distributing Costs: Account 107.3, Construction Work in Progress - Special Equipment, is used to control all costs associated with these equipment items during the time necessary to purchase, identify, test, and prepare them for actual use in the system.

10.4.1 Column 11 on the front side of the Summary of Special Equipment Costs summarizes the total cost of these equipment items by primary plant account. The totals of these individual accounts form the basis for a journal entry transferring the costs accumulated in Account 107.3 to the appropriate electric plant accounts.

10.4.2 Costs accumulated in Account 107.3 should be transferred to the plant accounts on a monthly basis.

10.5 Estimating Installation Costs: Each borrower should study its cost of setting meters, transformers, oil circuit reclosers, sectionalizers, and other special equipment items and determine, at least annually, a standard average cost of installation for each item. When installation costs vary with the size of the equipment, separate standard costs should be established for the various sizes.

10.5.1 The journal entry required to record estimated installation costs is a charge to Account 107.3 and a credit to Account 253, Other Deferred Credits.

10.5.1.1 That portion of the credit to Account 253 relating to transformers, OCRs, voltage regulators, and sectionalizers is transferred to Account 583, Overhead Line Expenses, when the items are installed on the line.

10.5.1.2 That portion of the credit to Account 253 relating to meters, meter sockets, current and potential transformers, and other metering equipment is transferred to Account 586, Meter Expenses, when the meters are installed on the system.

10.5.2 Retirements of Special Equipment : Special equipment items that are classified as nonusable should be segregated in the warehouse. These items should be periodically retired from service and removed from the plant accounts. The "Summary of Special Equipment Costs" should be retitled as the "Summary of Special Equipment Costs Retired" and used for retiring these items.

11. APPLICATION OF WORK ORDER PROCEDURE TO PRODUCTION PLANT

11.1 General: This bulletin applies to all force account construction performed by a borrower, including construction of production plant. However, some modification of these procedures is necessary to conform to REA requirements for production plant financing.

11.1.1 Section 9, Unitization and Classification of Work Order Costs by Record Units and Primary Plant Accounts, and Section 10, Special Equipment Items, of this bulletin do not apply to production plant.

11.2 Material:

11.2.1 Many equipment items included in production plant and installed with force account labor are purchased specifically for a project.

11.2.1.1 In such cases, these items may be charged directly to the appropriate work order and controlled through Account 107.2, Construction Work in Progress - Force Account.

11.2.1.2 When the direct method is utilized, these items are not recorded in Account 154, Plant Materials and Operating Supplies; consequently, no stock record card is originated.

11.2.2 When production plant equipment items are replaced, certain reusable items may be salvaged and held in stock for reuse. A stock record card or a subsidiary ledger to Account 154 is established for each of the items. This subsidiary record includes the individual price of each item.

11.3 Construction Work Order (Exhibit M): The distribution of costs to the primary accounts is made in accordance with Part 1767 and is shown on the face of the work order when space is available. When space is not available, the distribution is made on the reverse side. This distribution is the basis for the journal entry transferring costs from Account 107.2, Construction Work in Progress - Force Account, to the primary plant accounts.

11.3.1 The only modification necessary to the Construction Work Order to accommodate production plant construction activities is one that provides for equipment purchases that are charged directly to the work order.

11.3.1.1 Material taken from stock is recorded in the Materials Register and is posted directly to the work order in the third column, as discussed in Section 6.4 of this bulletin.

11.3.1.2 Those materials charged directly to the work order in the Check Register are posted in the sixth column, "Special Services."

11.4 Inventory of Work Orders (Exhibit O): No modification of this form is necessary for production plant construction activities.

11.4.1 Funds that have been previously approved for advance on estimate work orders, REA-approved contracts, or purchase orders are shown in Column 9, "Contributions in Aid of Construction and Previous Approvals," opposite each work order listed. These previous approvals are deducted from the gross funds required to determine the amount in Column 10, "Loan Funds Subject to Advance."

11.4.2 Below the listing of work orders and their respective costs, the borrower must provide a breakdown of the amount in Column 9, by work order, of the funds previously approved for advance on REA-approved estimated work orders, contracts, and purchase orders.

11.4.3 Each Inventory of Work Orders submitted to REA must be accompanied by one set of final (as constructed) drawings, sketches, or maps, as required, for each work order listed on the inventory. If no Estimate Work Order was previously submitted to

REA, copies of the individual final work orders must accompany the inventory, together with any other pertinent data (such as the plans and specifications) that cannot be shown on the work order itself.

11.4.4 In those cases in which a work order is self descriptive, final sketches may not be required even if an Estimate Work Order was not submitted.

APPENDIX I - TABLES CONVERTING CONSTRUCTION UNITS TO RETIREMENT UNITS

I.1 Purpose: This appendix is provided to assist borrowers in the conversion of construction units to retirement units.

I.2 Table 1: Construction Assembly Units shown in this table relate to 7.2 kV Distribution Lines and are those listed in REA Forms 804 806.

I.3 Table 2: Construction Assembly Units shown in this table relate to 14.4 kV Distribution Lines and are those listed in REA Form 803.

I.4 Table 3: Construction Assembly Units shown in this table relate to Transmission Lines and are those listed in REA Form 805.

APPENDIX II - BLANKET WORK ORDERS - WORK ORDER PROCEDURE

II.1 Purpose: This appendix illustrates the advantages of a blanket work order procedure, explains its limitations, and suggests procedures for ensuring that it meets the minimum accounting requirements of Part 1767. This appendix is not intended to replace or modify the procedures for blanket work orders previously discussed in this bulletin.

II.2 General: The blanket work order is a specialized work order designed to accumulate the costs of repetitive types of construction and/or retirement activities, the types and costs of which indicate that individual costs are not required. A blanket work order includes like projects of small cost and of short duration.

II.2.1 For financing purposes, the activities must be similar types of plant changes. For example, the replacement of a crossarm is usually an ordinary replacement. However, if the replacement provides greater strength in anticipation of the installation of a heavier conductor, it is a system improvement.

II.2.2 Jobs included in a blanket work order are those that can be completed within a short period of time or those that are performed at many different locations within a short period of time.

II.3 Minimum Accounting Requirements: REA's mortgage requires each borrower to keep proper books, records and accounts in accordance with the methods and principles set forth in Part 1767.

II.3.1 Part 1767.15, General Instructions, requires each utility to keep its books in a manner that enables the borrower to readily furnish complete information concerning any item included in any account. Each entry must be supported by sufficient, detailed information to permit ready identification, analysis, and verification of all relevant facts.

II.3.1.1 Part 1767.16 (c) lists and defines the components of construction cost properly includible in the electric plant accounts.

II.3.1.2 Part 1767.16 (d) requires all overhead construction costs to be charged to the appropriate jobs in amounts reasonably applicable thereto. Supporting records must be maintained to show the nature and amount of overhead charged to each construction work order or plant account.

II.3.1.3 Part 1767.16 (k) requires each utility to record all construction and retirement activities by means of work orders or job orders. The work order system must show the nature of each addition or retirement, its total cost, the source or sources of

the costs and the plant account or accounts to which it was charged or credited.

II.4 Suggested Procedures: The costs accumulated in the work order procedure should be controlled to ensure their propriety as elements of construction or retirement costs. A clear trail must exist from the charge or credit in the plant accounts back to the evidence or documentation that supports the existence and valuation of each transaction. The following suggested methods and procedures are not intended to be restrictive or all-inclusive:

II.4.1 The job order is an authorization to perform certain work at a particular location;

II.4.1.1 At the time the job order is issued, it is entered in the Work Order Log (Exhibit II.A), assigned a number, and cross-referenced to its blanket work order.

II.4.1.2 Both the job order number and the work order number are entered on the job order.

II.4.1.3 The job must agree with the work order description and it must be of the same type for REA financing.

II.4.2 A staking sheet must be prepared for each job order;

II.4.3 The Daily Work Report or time sheet for a blanket work order must show the job order number as well as that of its related work order;

II.4.3.1 Only the work order number is carried to the Employee Monthly Time Summary and from there to the Monthly Labor Cost Summary.

II.4.3.2 At the end of the month, only one direct labor charge is posted to the blanket work order.

II.4.4 Both the job order number and the work order number should be recorded on the Material Charge, Credit, or Salvage Tickets and carried forward to the Materials Register;

II.4.4.1 At the end of the month, the job orders are summarized by work order number and posted, in a single amount, to the appropriate blanket work order.

II.4.4.2 Job orders do not always relate to blanket work orders; for example, job orders for maintenance activities or the relocation of special equipment. These job orders are summarized on a maintenance order.

II.4.4.3 The Material Charge, Credit, or Salvage Tickets for job orders are summarized along with those for work orders on the

Summary of Material Charge and Credit Tickets and the Summary of Material Salvage Tickets.

II.4.5 Overhead is distributed to blanket work orders monthly just as it is for the other work orders;

II.4.6 A staking sheet with the information suitably revised may be used to authorize the work (Exhibit II.B). Any information of sufficient importance to be included on the Work Order Log should be on the job order;

II.4.7 The conversion to record units of property is not completed for job orders in progress at the end of the month. They do not, therefore, appear on the Tabulation of Record Units or in the "Number of Units" column of the Unitization and Distribution to Plant Accounts. The costs incurred to date are included in the "Total Actual Cost" column of the Unitization and Distribution to Plant Accounts because they are included in the blanket work order that is being distributed. If the jobs are of short duration and slight cost, no material distortion occurs; and

II.4.8 The cost of work for which payment or reimbursement is expected, should be maintained separately even though it may otherwise be properly included on a blanket work order; for example, the repair of damages for which payment from an insurance company is expected or work performed for a consumer who will pay for it. The cost of common types of construction activities should also be maintained to provide a check on "standard costs."

II.5 Summary: To determine the cost of an individual job order, the material, labor, and overhead costs must be properly accumulated. Job orders may overlap into the next month. In this case, the following procedures are applied to the months involved to determine the actual cost of a job order included in a blanket work order.

II.5.1 Material costs are taken from the Materials Register.

II.5.2 The job order number, work order number, and the month in which the work was performed are found in the Work Order Log or Materials Register. The names or numbers of the workmen are taken from the Daily Work Reports and priced at the average hourly rate for each workman.

II.5.3 The overhead rate, taken from the Overheads and Distribution to Work Orders for the applicable month, is multiplied by the total direct labor charges to calculate total overhead costs.

II.5.4 Were it not for the blanket work order procedure, each job order would become a work order with the additional work of posting, distributing overhead, and closing.

II.6 Suggested Blanket Work Orders: The number and kind of blanket work orders required or useful will vary from system to system. It is extremely important that an exact description of the type of work to be performed be given. If the same blanket work order number is used consistently for the same work, personnel will be more aware of its existence and requirements. The work order should be closed monthly but the number used continuously. A suffix, such as a, b, c, etc., may be used to indicate the month. In the examples below, a two-digit number is used, the first digit of which is the financing code as shown on the work order log. To distinguish between work orders, non-blanket work orders may be assigned four-digit numbers.

II.6.1 The following are common descriptions of the type of work to be included on certain blanket work orders:

II.6.1.1 Work Order No. 11 - Security Light, 175 W;

II.6.1.1.1 If a transformer is installed, the related labor and material should be recorded on a maintenance order and charged to Account 583, Overhead Line Expenses. If each type of work is accumulated separately, installing security lights should be Work Order No. 11 and installing services from an existing line should be Work Order No. 12.

II.6.1.1.2 If no more than four poles and/or four spans of conductor are installed, the costs are included in the job order. If five or more spans of conductor and/or five or more poles are installed, an individual (not blanket) work order is used.

II.6.1.2 Work Order No. 21 - Install Heavier Service; and

II.6.1.2.1 When an existing service is replaced with one of greater capacity, this work order is used. The related work order removing the existing service is 21X.

II.6.1.2.2 If the construction includes the installation of conductor other than the service drop, i.e., other than from the last utility owned pole to the attachment on the premises, an individual (not blanket) work order is used.

II.6.1.3 Work Order No. 31 - Replace Pole.

II.6.1.3.1 When a bad pole is replaced by one of the same class and size, this work order is used. The related blanket retirement work order for removing the bad pole is 31X. If a heavier or taller pole is required and installed, blanket work order 21 - 21X is used.

II.6.2 The blanket work order numbers in Section II.6.1, are based upon the following numbering system:

II.6.2.1 New Construction - Blanket Work Order Nos. 11 - 11X which include installing security lights, installing services from existing lines, and installing poles and conductor for a short line extension;

II.6.2.2 System Improvements - Blanket Work Order Nos. 21 - 21X which include replacing an existing service with one of greater capacity or replacing overhead with underground because of excessive outages;

II.6.2.3 Ordinary Replacement - Blanket Work Order Nos. 31 - 31X which include replacing a bad pole with one of the same class and size, replacing crossarms, replacing lightning arresters, and replacing cutouts; and

II.6.2.4 Retirement Without Replacement - Blanket Work Order Nos. 41 - 41X which include retiring idle or abandoned services.

II.6.3 The following exhibits illustrate the integration of the blanket work order system with the suggested work order procedure as established in this bulletin:

II.6.3.1 A Work Order Log;

II.6.3.2 B Staking Sheets for Construction Job Orders;

II.6.3.3 C Maintenance Job Order;

II.6.3.4 D Daily Work Report;

II.6.3.5 E Monthly Labor Cost Summary;

II.6.3.6 F Materials Register;

II.6.3.7 G Overheads and Distribution to Work Orders;

II.6.3.8 H Blanket Construction Work Orders;

II.6.3.9 I Blanket Retirement Work Orders;

II.6.3.10 J Tabulation of Record Units-Overhead;

II.6.3.11 K Tabulation of Record Units-Underground;

II.6.3.12 L Unitization and Distribution to Plant Accounts; and

II.6.3.13 M Inventory of Work Orders.

NOTE: TABLES AND CHARTS AVAILABLE ON HARD COPY