



# RIGHT-OF-WAY OPERATIONS MANUAL

## Chapter Forty-Four Understanding and Using Unit Costs

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## **Table of Contents**

<b>Section</b>	<b>Page</b>
44-1 DEVELOPMENT OF THE UNIT COST BASIS OF REIMBURSEMENT .....	1
44-1.1 Federal and State Authorization .....	1
44-1.2 Basic Structure of the Unit Cost Process .....	2
44-1.3 Allowable Cost Components .....	4
44-1.4 Total Unit Costs.....	5
44-1.5 Contractor Bids .....	5
44-1.6 Labor Costs.....	5
44-1.7 Labor Overhead .....	6
44-1.8 Indirect Overhead.....	7
44-1.9 Material and Material Overhead Costs .....	8
44-1.10 Vehicle Costs .....	9
44-1.11 Engineering Costs on Private Rights-of-Way .....	9
44-1.12 Facility Retirement Percentage – Electric Only .....	9
44-1.13 Betterment of Utility Facilities .....	10
44-1.14 Over-/Under-Reimbursement.....	10
44-1.15 Estimate versus Project Year .....	11
44-1.16 Hot Work .....	11
44-2 ANNUAL UTILITY COMPANY UNIT COST SUBMISSIONS.....	11
44-2.1 General Process.....	11
44-2.2 Annual Mailing.....	12
44-2.3 Confirmation of Receipt of Submission and Notice of Problems .....	12
44-2.4 Reminder to Utility Companies.....	13
44-3 USING THE UNIT COST DATABASE SYSTEM .....	13
44-3.1 Logging on and Using the System.....	13
44-3.2 Loading a Utility Company's Unit Costs .....	16
44-3.2.1 Transferring the Excel File.....	16
44-3.2.2 Delete the Instructions.....	17
44-3.2.3 Saving the File as Comma-Delimited File.....	19
44-3.2.4 Download the File into the Oracle Database .....	20
44-3.2.5 Processing Company Unit Cost Information.....	23
44-3.3 Duplicating a Company's Prior Year Unit Cost.....	24
44-3.4 Adding or Revising Units at Utility Company Request.....	24
44-3.5 Reviewing a Utility Company's Unit Costs.....	26
44-3.6 Printing the Utility Company's Unit Costs .....	28
44-3.7 Reviewing Costs by Type of Unit.....	28
44-3.8 Printing the Individual Unit – Unit Cost Report .....	29
44-3.9 Using the Unit Cost Estimate and Final Bill Form.....	30

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44-3.9.1	Retrieving an Existing Project.....	30
44-3.9.2	Deleting an Existing Project.....	30
44-3.9.3	Starting a New Project.....	31
44-3.9.4	Preparing the Final Bill Verification Report.....	35
44-3.10	Using the ROW Utility Averages Report.....	37
44-3.11	Using the Utility Company Unit Cost Report.....	39
44-4	REFERENCES .....	42

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# Chapter Forty-Four

## UNDERSTANDING AND USING UNIT COSTS

### 44-1 DEVELOPMENT OF THE UNIT COST BASIS OF REIMBURSEMENT

#### 44-1.1 Federal and State Authorization

Pursuant to recommendations in a 1995 report by the Montana Legislative Audit Division, the Montana Department of Transportation (MDT), the Federal Highway Administration (FHWA) and Montana utility companies cooperatively developed a unit cost basis of utility reimbursement as an alternative to actual cost agreements. The goals of the unit cost basis approach are to simplify reimbursement to utility companies on relocation projects, streamline the agreement process and meet Federal audit requirements attached to the use of Federal funds.

The MDT unit cost process, its submission form and the certifications contained therein all comply with provisions governing allowable reimbursable expenses under Title 23 of the **Code of Federal Regulations (CFR)** Part 645. These regulations apply to reimbursements that are claimed by the Department for costs incurred under an approved and properly executed highway agency/utility company agreement. The regulations also set forth provisions for the use of alternative methods to actual cost reimbursement. Section 23 **CFR** 645.113 provides that:

The FHWA will consider for approval any special procedure under State law, or appropriate administrative judicial order, or under blanket master agreements with the utilities, that will fully accomplish all of the foregoing objectives and accelerate the advancement of the construction and completion of projects.

Section 23 **CFR** 645.103 requires that State law govern the form of reimbursement, including any alternative methods of reimbursement:

The FHWA's reimbursement to the SHA will be governed by State law (or State regulation) or the provisions of this regulation, whichever is more restrictive. When State law or regulation differs from this regulation, a determination shall be made by the SHA subject to the concurrence of the FHWA as to which standards will govern, and the record documented accordingly, for each relocation encountered.

Other related provisions of the **CFR** dictate conditions under which the Department makes payments to the utilities, as in 23 **CFR** 645.107:

In lieu of the individual certifications required by section 645.107(a) and (c), the SHA may file a statement with the FHWA setting forth the conditions under which the SHA will make payments for the relocation of utility facilities. The FHWA may approve Federal fund participation in utility relocations proposed by the SHA under the conditions of the statement when the FHWA has made an affirmative finding that such statement and conditions form a suitable basis for Federal funds participation under the provisions of 23 U.S.C. 123.

Under Section 645.117(a)(3) of the **CFR**, the Department may:

develop, or work in concert with utility companies to develop, other acceptable costing methods, such as unit costs, to estimate and reimburse utility relocation expenditures. Such other methods shall be founded in generally accepted industry practices and be reasonably supported by recent actual expenditures. Unit costs should be developed periodically and supported annually by a maintained database of relocation expenses. Development of any alternate costing method should consider the factors listed in paragraphs (b) through (g) of this section. Streamlining of the cost development and reimbursement procedures is encouraged so long as adequate accountability for Federal expenditures is maintained. Concurrence by the FHWA is required for any costing method used other than actual cost.

MDT filed a statement with the FHWA setting forth that unit costs will be the basis of payment made for the relocation of utility facilities. The FHWA has approved Federal fund participation in utility relocations based on the unit cost method and has indicated that the unit cost process forms a suitable basis for Federal funds participation. Authorization for the unit cost process was adopted into Montana law through House Bill 320, enacted in final form in Chapter 324 of the Laws of 1997. That legislation amended **Montana Code Annotated (MCA)** 60-4-401 through 60-4-403.

#### **44-1.2     Basic Structure of the Unit Cost Process**

The unit cost process is the preferred reimbursement approach for all utility relocations. The costs for a utility relocation are determined by identifying the number of units in conflict and applying the submitted unit cost in order to establish the relocation cost for that type of work for the entire project. Bill estimates are in a uniform format from utility company to utility company and from project to project. Units may be easily measured and documented after the work is complete. Uniformity in the system also allows MDT to create a database to assist in better estimating utility relocation project costs and to

develop statewide standards. The unit cost system also generates efficiencies for MDT and the utility companies, particularly in administrative costs, because:

1. Audits of each relocation project's actual costs are not required. Periodic reviews of the accuracy of the individual utility unit costs are sufficient.
2. Cost accounting, with extensive documentation for time and material used on a project, is not required.
3. Detailed cost estimate preparation and subsequent MDT review are simplified.
4. Utility company contractors and consultants do not need review or pre-approval by MDT.
5. MDT participation in utility cost overruns caused by conditions or events other than an increased number of units is eliminated.
6. Prompt billing and timely project closings by MDT are facilitated.

As with other methods of relocation cost reimbursement, engineering costs associated with a utility relocation on existing highway right-of-way are not reimbursable. Engineering costs are those costs that are not included in direct labor, direct equipment or direct material. The elimination of engineering costs simplifies the relocation estimating process and contributes to the balancing of financial obligations and responsibilities between the Department and the utility company.

Unit cost formats and schedules have been developed for the electric power, pipeline and telecommunications industries. On utility relocation projects, all utility companies use the MDT Unit Cost System to prepare the estimate and final bill. Each unit includes the cost for all labor, material and equipment for a specific amount of work. Although the cost per unit varies among utility companies, the standard unit does not.

Each utility company with upcoming relocation work annually submits its costs for each standard unit for MDT review. Once approved by MDT, those costs are used to estimate and pay for utility projects for that particular year. It is recognized that there may be instances in which infrequent encounters between MDT and a specific utility company will not warrant the development of a unit cost schedule.

This Chapter contains detailed policies concerning the unit cost process, the procedures followed by MDT personnel and the timelines required for completing the process. The Chapter also contains detailed instructions on using the Unit Cost Oracle Database System.

## UNIT COST SUBMISSION COMPONENTS

### 44-1.3 Allowable Cost Components

The unit cost method is simply a method of estimating and reimbursing utility companies. The cost components of utility relocation work that are reimbursable do not change under the unit cost process. The unit cost process does not eliminate the need to track construction costs with work orders and other record-keeping requirements associated with actual costs., nor does it eliminate the need for the utility company to have adequate accounting procedures to track the total costs associated with relocation.

The Department's unit cost process complies with 23 **CFR** 645.117(a), provisions concerning reimbursable expenses, which are as follows:

1. All utility relocation costs are to be recorded by means of work orders according to an approved work order system except when another method of developing and recording costs (e.g., lump-sum agreement) has been approved by the Department and the FHWA. Except for work done under contracts, the maximum amount on which Federal participation may be based includes the individual and total costs that are properly reported and recorded in the utility company's accounts according to the approved method for developing these costs, or the lump sum agreement.
2. Each utility company is required to keep its work order system or other approved accounting procedure in a manner that shows the nature of each addition to or retirement from a facility, the total costs thereof and the source or sources of cost.

The unit cost submission form is a Microsoft Excel spreadsheet that calculates individual unit costs based on the labor hours, labor cost, labor overhead, indirect overhead, vehicular costs, material costs and material overhead. In the event the utility company uses sub-contractors to complete utility relocations, the submission contains a column for contractor bids. If the utility company uses both sub-contractors and company crews, the submission averages the 2 costs, resulting in an average contractor/company cost. The following unit cost forms, by utility type, are available:

- Electrical Utility Unit Cost Form
- Telephone Utility Unit Cost Form
- Gas Utility Unit Cost Form

All utility cost records and accounts relating to the project are subject to audit by representatives of the State and Federal governments for a period of 3 years from the date the utility company receives final payment.

#### **44-1.4     Total Unit Costs**

The unit cost submission, Excel spreadsheet, calculates the total unit cost. The total unit cost includes labor, labor overhead, indirect labor, vehicular, material and material overhead. The basic formula averages the contractor bid prices and the company prices per unit without materials (i.e., labor cost, labor overhead, indirect construction, vehicle and equipment costs) if both are provided. The average unit price, the contractor price or the utility company price will be added to the total material cost. The total material cost is the sum of the submitted company material cost and the applicable overhead

#### **44-1.5     Contractor Bids**

When using sub-contractors on utility relocations, the proposed contractor bid prices are based on actual bid prices from current contracts using the utility company's normal contractor selection procedures. The contractor bid includes all contractor prices, including labor rates, overhead and equipment/vehicle costs. The contractor's bid does not include material costs because the utility company is required to use its own materials.

Contractor bid prices are based on:

- Low bid or utility company-established selection processes;
- Continuing contracts, as long as they are determined to be reasonable. The actual contractor records should be compared with other bids to determine reasonableness; and/or
- The total crew cost estimate specifically for unit costs. The contractor bid may be compared with company costs to determine reasonableness.

#### **44-1.6     Labor Costs**

For labor costs, 23 **CFR** 645.117(b) allows reimbursement for labor costs based on salaries and wages, at actual or average rates, and related expenses paid by the utility company to individuals for the time worked on the project. Adequate records must be kept. This includes labor associated with preliminary engineering, construction engineering, right-of-way and force account construction.

Labor hours are the basis of the unit cost process. Labor hours are the most critical and variable component in the development of unit costs. The construction labor hours for unit costs should be based on realistic estimates, historical data and any additional company procedures that have been implemented to account for construction labor hours.



Utility company engineers and supervisors compare the unit cost estimates with completed work orders and staking sheets to determine the reasonableness of the labor hour estimates. The hours submitted should reflect the time of 1 person in the specific crew, or person hours, rather than crew hours. The labor rate reflects the total cost of the combined crew, so the ending labor cost will reflect the total crew labor cost.

The construction labor rates are based on actual labor rates or average rates for the period submitted. When using an average, the utility company should use 12 months of data. The rate submitted should be the sum of the crew (e.g., 2-line people, 1 foreperson, an apprentice, welder, supervisor), or total crew cost. It is not acceptable to sum the labor for all utility company employees to obtain an average. It is acceptable to sum the total construction wages and divide this by total construction hours to develop an average construction labor rate. It is even more reasonable to calculate the submitted rate based on actual labor rates for the crew assigned to the job.

Union contracts or employee files contain the wage rates for each class of employee. The crew size wage should be representative of the actual crew working on the project. Overtime should not be used in the development of rates because overtime typically is not allowed on MDT projects. If it is typical of the utility company to have mandatory overtime, then an overtime factor may be built into the labor hours or labor rate.

#### **44-1.7     Labor Overhead**

For labor overhead, 23 **CFR** 645.117 allows for worker compensation insurance, public liability and property damage insurance, and other similar fringe benefits that the utility company may have established for the benefit of its employees. The cost of labor surcharges will be reimbursed at actual cost to the utility company or, at the option of the utility company, average rates that are representative of actual costs may be used in lieu of actual costs if approved by the Department and the FHWA. These average rates should be adjusted at least once annually to consider known anticipated changes and correction for any over- or under-applied costs for the preceding period. The records supporting the entries for overhead and indirect construction costs should show the total amount, rate and allocation basis for each additive, and are subject to audit by representatives of the State and Federal government.

Labor overhead is expressed as a percentage of direct labor costs. Labor overhead is calculated by totaling labor overhead dollars (e.g., fringe benefits) and dividing this number by total direct labor dollars.

The labor overhead is based on actual payroll overhead costs (e.g., vacation, sick and holiday leave, employer paid payroll taxes, fringe benefits). The construction labor

overhead rate is based on the average rates for the period submitted and assumes the average for a 12-month period. If company-established rates are submitted, the rate is based on the year submitted. This rate should reflect an annual rate rather than a quarterly or monthly established rate.

#### **44-1.8     Indirect Overhead**

For indirect overhead costs, 23 **CFR** 645.117(d) allows overhead and indirect construction costs that are not charged directly to work order or construction accounts to be allocated to the relocation provided the allocation is made on an equitable basis. All costs included in the allocation are eligible for Federal reimbursement if they are reasonable, are actually incurred by the utility company, and are consistent with the provisions of 48 **CFR** Part 31. The records supporting the entries for overhead and indirect construction costs are to show the total amount, rate and allocation basis for each additive, and are subject to audit by representatives of the State and Federal government.

Indirect construction overhead includes those construction costs that are not charged directly to work orders or construction accounts. The indirect construction overhead typically is based on overhead costs (e.g., general and administrative labor and overhead), indirect labor and various other overhead charges that usually are charged to clearing accounts. Indirect construction overhead should not include any engineering-related overhead.

Indirect construction overhead must be allocated to the relocation on an equitable basis. It should only include those costs allowable under provisions of **CFR** and **MCA** 60-4-401 through 60-4-403 in the unit cost submission.

The indirect construction overhead rate is based on average rates for the period submitted, which should be based on 12 months of data. If company-established rates are submitted, the rate is based on the year submitted. These rates should reflect an annual rate rather than a quarterly or monthly established rate.

Indirect costs not eligible for reimbursement include the following:

- Advertising,
- Sales promotion,
- Interest expense,
- Bad debts,
- Contributions,
- Donations,
- Entertainment,
- Fines/penalties, and

- Research and development.

#### **44-1.9     Material and Material Overhead Costs**

Under 23 **CFR** 645.117, the following material and material overhead costs are allowed:

1. Materials and supplies furnished from company stock are to be billed at the current stock prices for these new or used materials at time of issue.
2. Materials and supplies not furnished from company stock are to be billed at actual costs to the utility company delivered to the project site.
3. A reasonable cost for plant inspection and testing may be included in the costs of materials and supplies when this expense has been incurred. The computation of actual costs of materials and supplies must include the deduction of all offered discounts, rebates and allowances.

The utility company bases the material costs on furnished materials, even if contractors complete the work. These costs are based on the actual material costs, replacement cost or averages of material prices for the entire year.

The cutoff date for material prices should be representative of average prices. The most realistic time period for the material price is when the inventory is taken; however, a weighted average of the prices at year end is acceptable. If material is not in stock, the unit cost calculation uses the actual invoice prices or price quotes.

The material price should represent the cost of the RUS specification components of the named unit. The material prices are to support the utility company's submission; only those allowable under the provisions of **CFR** and **MCA** 60-4-401 through 60-4-403 are to be included in the unit cost format.

The material overhead is to be based on overhead costs (e.g., inventory store employee's labor and overhead), indirect labor, handling charges and various other overhead charges that usually are charged to clearing accounts. Material overhead should be supported by actual costs and allocated to the relocation on an equitable basis. The calculation bases the material overhead rate on average rates for the period submitted, which should be based on 12 months of data. If company-established rates are submitted, the rate should be based on the year submitted and should reflect an annual rate rather than a quarterly or monthly established rate.

#### **44-1.10 Vehicle Costs**

For vehicle costs, 23 **CFR** 645.117(f) allows reimbursement for the average or actual costs of operation, minor maintenance and depreciation of utility company-owned equipment. When utility company-owned equipment is not available, reimbursement is limited to the amount of rental paid:

- To the lowest qualified bidder,
- Under existing continuing contracts at reasonable costs, or
- As an exception by negotiation when the above are impractical due to project location or schedule.

The cost reimbursed for vehicle and equipment expenses is based on actual supported rates or average rates for the period submitted. Typically, the rate is calculated by totaling all vehicular costs (e.g., fuel, oil, maintenance, depreciation) and dividing this number by total vehicle hours. The hours for vehicles associated with the construction labor hours should be based on supported methods of estimating. The costs should support the submitted rates.

If a vehicular and equipment rate is calculated, the rate is based on the average rates for the period submitted. This is calculated on a 12-month period. If company-established rates are submitted, the unit cost calculation bases the rate on the year submitted. This rate should reflect an annual rate rather than a quarterly or monthly established rate.

#### **44-1.11 Engineering Costs on Private Rights-of-Way**

Engineering costs are allowed for existing utilities located on private rights-of-way. A percentage is developed by the utility company based on total applicable engineering costs (including consultants) divided by total incurred construction costs (e.g., contractors, company labor cost, overhead, indirect, vehicles and equipment, materials issued, materials overhead). It has been determined that a percentage based on total engineering used on prior projects may be used.

#### **44-1.12 Facility Retirement Percentage – Electric Only**

Retirement is an allowable cost only for electrical relocation projects. Retirement is the cost associated with the removal of existing facilities. A percentage is determined by the electric utility company based on the total retirement costs incurred divided by total construction costs. This represents a percentage of retirement costs for each

construction or relocation project and is the basis of retirement reimbursement on an electrical utility relocation.

#### **44-1.13 Betterment of Utility Facilities**

The State does not participate in the cost of improved facilities placed due to highway construction. The State does participate in “like-for-like” replacement of facilities resulting from highway construction conflicts. All estimates submitted to MDT for reimbursement must be for exactly what is in conflict. In the event the utility company intends to improve its facilities, the utility company should provide an exhibit showing the betterment. In some limited circumstances, the State will participate in the betterment if the current facilities are obsolete and cannot be replaced. This should be negotiated by the utility agent at the Plan-in-Hand field review.

#### **44-1.14 Over-/Under-Reimbursement**

Montana Statutes require the State to reimburse utility companies for 75% of the total relocation costs incurred due to highway construction. Both MDT and the FHWA understand that instances will occur in which a utility company is under- or over-reimbursed on a particular relocation project. The unit cost process was developed to approximate actual cost and, therefore, a utility company may have multiple projects in which they are under- or over-reimbursed.

If a utility company contacts MDT regarding over-reimbursement, the information is provided to the Utilities Section Supervisor. Working with the utility company, the relocation agreement may be changed to a lump-sum unit cost and the State will be reimbursed the difference by the utility company.

The utility company has 2 options available to it when faced with under-reimbursement:

- Absorb the additional cost, or
- Conduct an actual cost audit to substantiate the under-reimbursement.

The utility company must pay the cost of the actual cost audit if the audit is not performed by the State.

#### **44-1.15 Estimate versus Project Year**

Many projects begin and end in the same year. Other projects may be estimated in the current year, with construction taking place several years later. The unit cost method reimburses utility companies on the unit cost submission in the year most of the construction takes place. This more closely approximates actual cost. If the utility company did not submit unit costs during the year the construction takes place, the reimbursement is based on the original estimate.

#### **44-1.16 Hot Work**

Hot Work will be paid as a unit when the Utility is working within ten conductor feet of a live facility. Costs for this unit will be 70% of the cost of the labor and equipment to set a normal pole, cross-arm, and conductor. The 70% will not include any material costs.

### **44-2 ANNUAL UTILITY COMPANY UNIT COST SUBMISSIONS**

#### **44-2.1 General Process**

Those utility companies anticipating utility relocation projects that will involve State/Federal cost participation must make unit cost submissions annually. Unit cost submissions are due by February 28th of each calendar year.

Those companies that have submitted unit costs for the year may use these submissions as the basis of reimbursement for only three years. Utility companies not anticipating relocation work may elect not to submit. In the case of State/Federal cost reimbursement for these utility companies, MDT will apply a statewide standard or other method negotiated between MDT and the non-submitting utility company.

The utility companies attest to the alternative methods by signing a Unit Cost Waiver (Form 873), which is included in the annual mailing. The Unit Cost Waiver form will only be allowed twice, then new units will need to be submitted to MDT the following year. Stated differently, new unit costs need to be submitted at least every three years to utilize unit cost reimbursement.

All steps in the process are recorded on the Unit Cost Process Control Document.

The Utilities Engineering Contract Specialist completes the following steps in preparation for annual utility company submissions:

1. Complete unit cost submission revisions, if any, based on the type of utility and most frequently submitted additional units. See Section 44-4 for details on using the Unit Cost Database.
2. Send a preliminary e-mail to utility companies, as described in Section 44-3.2, requesting their unit cost spreadsheet.
3. Send the formal annual e-mail to utility companies as described in Section 44-3.3. This e-mail includes a cover letter, Excel Spreadsheets and Unit Cost Waiver (Form 873).
4. Provide utility companies with a confirmation of the receipt of the submission, together with a list of known problems with the submission, as described in Section 44-3.4.
5. Send a reminder e-mail to any utility companies that have not responded, as provided in Section 44-3.5.

#### **44-2.2     Annual Mailing**

The annual unit cost mailing consists of an email from the Department with attachments including the proper unit cost spread sheet submission in the appropriate format, instructions on using the spread sheet, and the Unit Cost Waiver (Form 873). The MDT Utilities Engineering Contract Specialist finishes the annual mailing by December 31st of each year preceding the year of submission.

To conduct the annual mailing, the Utilities Engineering Contract Specialist completes Emails to each utility with the above documents attached.

#### **44-2.3     Confirmation of Receipt of Submission and Notice of Problems**

After the annual mailing is complete, the utility company will submit a completed Unit Cost Submission. Upon receipt of the utility company's data, the Utilities Engineering Contract Specialist completes a preliminary review to determine the reasonableness of the units and any problems that may exist with the data. After completion of the preliminary review, the Engineering Contract Specialist mails a confirmation e-mail to the utility indicating receipt of the data and a list of any known problems with the data.

To confirm receipt of the utility company's data, the MDT Utilities Engineering Contract Specialist takes the following steps:

1. copy and paste confirmation of receipt letter into an email addressed to utility. To acknowledge receipt only, use the Confirmation of Receipt of Submission Letter (Form 881). If the submission has problems, use the Problem with Submission Letter (Form 882).
2. List any know problems under the appropriate section of the letter.
3. Complete the Unit Cost Process Control Document

#### **44-2.4     Reminder to Utility Companies**

Approximately 1 month before the deadline for utility company annual submissions, the Utilities Engineering Contract Specialist sends a reminder e-mail to the utility companies encouraging annual submission participation. All utilities receive the first reminder e-mail. The second reminder is completed within 5 days following the submission deadline and is mailed to all non-participating utilities.

The Utilities Engineering Contract Specialist performs the following tasks to complete the reminder letters:

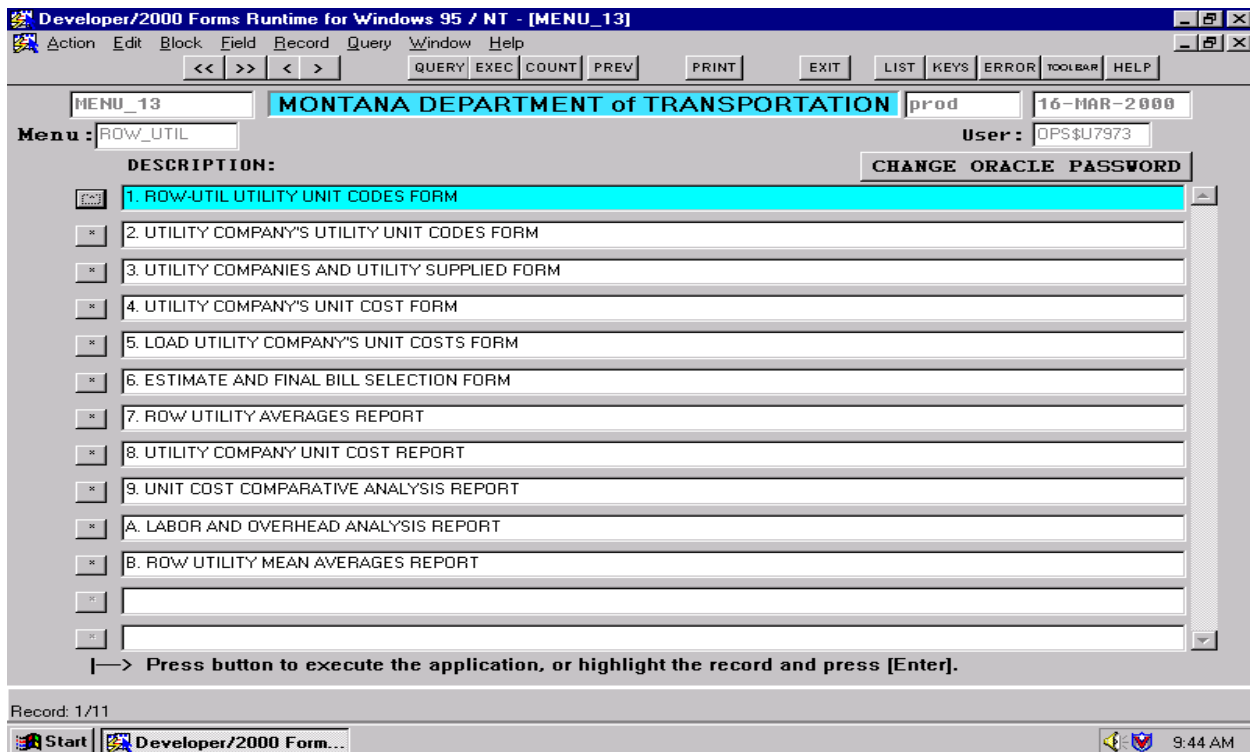
1. Open and email and BCC all utilities that need a reminder. Copy and paste the reminder letter into the email and send.

### **44-3     USING THE UNIT COST DATABASE SYSTEM**

#### **44-3.1     Logging on and Using the System**

In order to use the Utility Unit Cost Database, utility agents must log onto the Developer 2000 Oracle Menu System. The system will prompt for a user name, password and the database that the user wants to access. Once logged onto the Oracle Menu System, the user selects the “ROW Utility Menu” option. If logged onto the system successfully, the user will see a menu similar to the screen shot sample of the Main Menu, shown in Figure 44-4A. Although some of these features are not available to all utility agents, a basic understanding of the menu options will give the user a greater appreciation of how the system operates. Those menu features that are not available to utility agents either will not be listed on the screen or will not function when selected.





## ROW UTILITY MAIN MENU

**Figure 44-4A**

The ROW Utility Main Menu feature descriptions, based on the numbering system shown in the sample, are as follows:

1. Row-Util Utility Unit Codes Form. This menu feature contains the master unit cost forms for electric, telephone and gas utilities. It allows the user to reorder existing units, add units to the master form and remove unused units.

This menu feature also allows the user to create the annual master Excel spreadsheets that are mailed to each participating utility company. The spreadsheet is based on how the user reordered the units and which units have been added or removed. The order in which the units are placed also becomes the master layout for a variety of reports.

This feature is not available to utility agents and typically is only used by the Utilities Engineering Officer.

2. Utility Company's Utility Unit Codes Form. This menu feature allows a query of individual utility companies to review a particular company's unit codes placed in the NON-RUS column on the spreadsheet. In other words, certain utilities matched their own internal unit numbers to the RUS unit numbers as a method of cross-referencing units for internal use. For example, NorthWestern Energy does not follow RUS Guidelines and must match their units to the RUS units.

3. Utility Companies and Utility Supplied Form. This menu feature must be used prior to loading a unit cost submission into the system. With this menu item, select the name and tax identification number of the utility company to be loaded and indicate the type of utility. This menu item is used to indicate whether the utility company should be included in the Statewide average calculation. By completing this menu step, the user is able to load a utility company submission using Menu Item 5, Load Utility Company's Unit Costs Form.

This feature is not available to utility agents and typically is only used by the MDT System Administrator.

4. Utility Company's Unit Cost Form. This is one of the essential menu features used by utility agents. This menu feature allows the user to query all submissions that have been loaded into the database system. The user can query by the utility name, the year or the type of unit.

This feature includes all the components of the individual unit costs, with a comparative to the industry standards. This feature can be a useful tool for verifying an estimate or looking up the cost for a specific unit for a specific utility.

5. Load Utility Company's Unit Costs Form. This menu feature allows the Utilities Engineering Contract Specialist to load unit cost submissions into the Unit Cost Database. This feature also allows the user to remove companies from the system. The feature notifies the user when a company's units have been loaded successfully, or have failed to load, and provides the reasons for the failure. This feature is not available to utility agents and typically is only used by the Utilities Engineering Officer.
6. Estimate and Final Bill Selection Form. Utility agents use this feature to verify an estimate and to verify the final bill based on the actual units used. This feature allows the user to load individual estimates into the system, including the project name and the estimated number of units required for the project. The system then can generate a report indicating the number of units, the extended price for those units and the total project estimate. This information can be printed and compared to the utility company's estimated costs to determine the reasonableness and accuracy of unit prices submitted by the utility company.
7. Row Utility Averages Report. This feature allows the user to print a report average based on the year and the type of utility.
8. Utility Company Unit Cost Report. This feature allows the user to run a complete listing of an individual utility company's unit cost submission. The reports may be run for the utility company by the year of the submission.

9. Unit Cost Comparative Analysis Report. This feature allows the user to run comparative cost reports by individual utility companies. The report lists a year-to-year comparative price by unit number and includes an increase/decrease cost percentage. This menu feature also allows the user to obtain year-to-year comparisons of crew rates, fringe benefit rates and the other cost components found on a unit cost submission. These reports were designed for use of the Compliance Review Section and the Utilities Engineering Contract Specialist in determining whether individual utility companies with significantly increasing unit costs should be subject to review.

#### **44-3.2     Loading a Utility Company's Unit Costs**

Loading unit cost data into the Unit Cost Database System is the most important and most difficult task encountered when using the system. The loading of the unit cost data is restricted and carefully controlled to ensure that the proper data are included for each of the utility companies and utility types. This feature is not available to all utility agents and is restricted to the Utilities Engineering Officer.

The Engineering Contract Specialist takes the following steps to load a utility company's data:

1. Transfer the unit cost submission Excel file from the email provided by the utility company to the MDT system's
2. Remove the instructions to the utility company, which are located at the bottom of the unit cost submission form.
3. Save the file as a comma-delimited file in the T:\ROW\_UTIL directory.
4. Download the file into the Oracle Database by the year, utility name and type of utility.
5. Process the data into the Oracle Database.
6. Review the data for proper loading.

Details for each of these steps are provided in Sections 44-4.2.1 through 44-4.2.5. Once this process is completed, all companies whose data have been loaded and processed can be viewed and queried in the Unit Cost Database System.

##### **44-3.2.1     Transferring the Excel File**

Transferring the Excel File from Utility Company's Email. All utility companies that submit unit costs must provide those submissions in a spreadsheet format electronically (e.g., Excel, Lotus, Works). Before loading the individual company's unit cost submission, the

Engineering Contract Specialist transfers the file to the MDT network drive using Windows Explorer. If there are questions regarding the use of Windows Explorer, see the **Windows Manual**.

The Engineering Contract Specialist completes the following steps to transfer the data:

1. Open Email from utility containing electronic submission.
2. Copy and paste submission to the secure Utilities Financial network drive
3. Rename the file to include the year of the submission (e.g., Beartooth becomes Beartooth99).

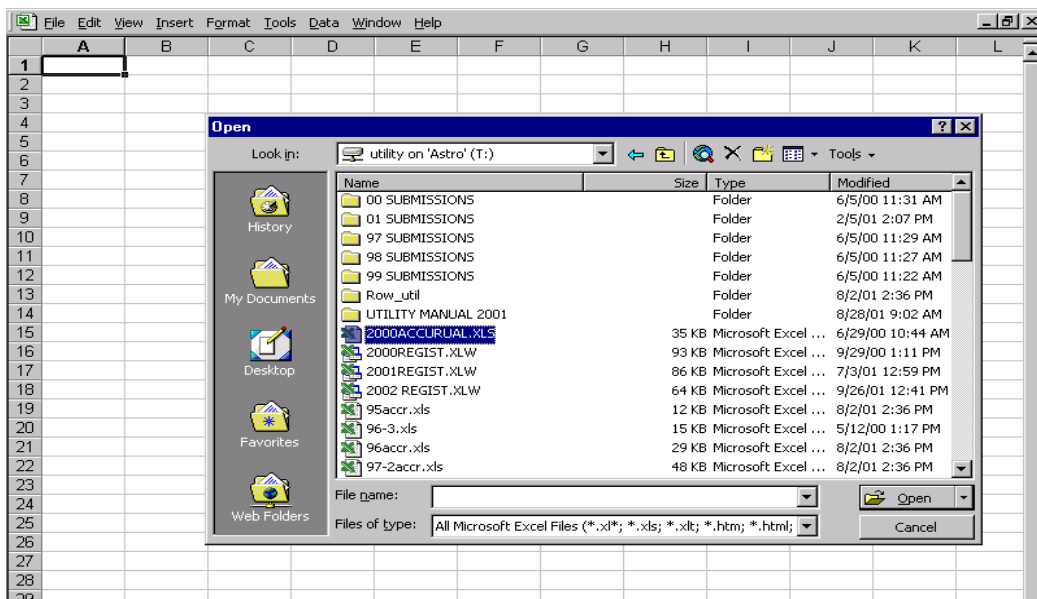
Another option would be to start Microsoft Excel and open the file using the File, Open option. Then use the Save As feature to save the file to the T:\01 Submission directory.

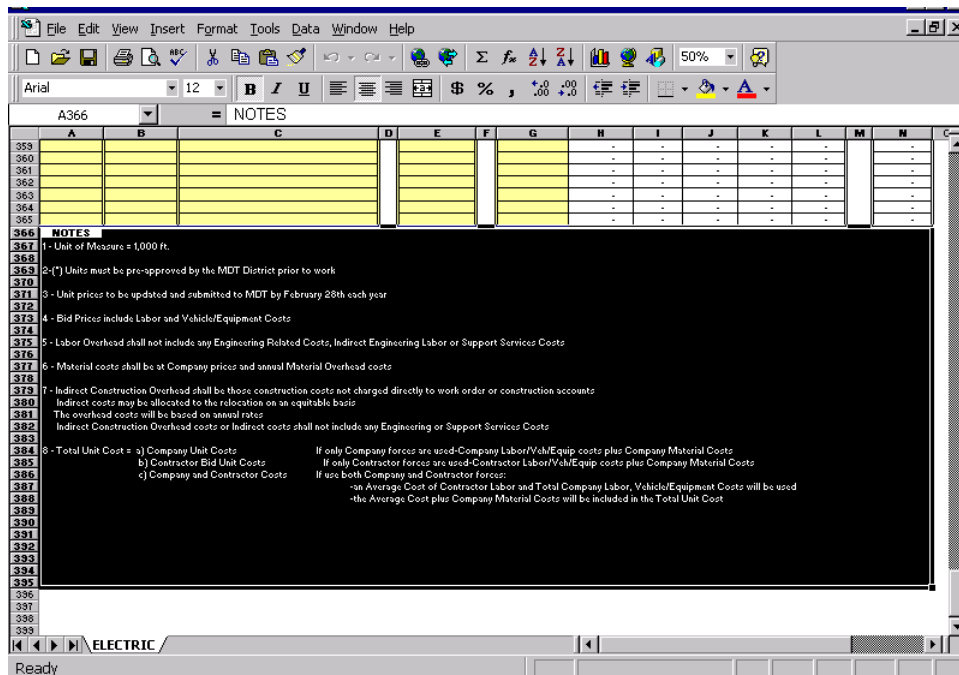
#### 44-3.2.2 Delete the Instructions

Delete the Instruction from the Utility Company Submission. The instructions located at the bottom of each unit cost submission must be removed before saving the file as a CSV file and loading the file into the Unit Cost Database System. If the instructions are not removed, the file will not load properly.

To delete the instructions, the Engineering Contract Specialist follows these steps:

1. Start Microsoft Excel.
2. Use the File, Open option to locate the file the user is loading. It may be necessary to browse to the Utilities Financial network drive. The user should see the screen shown in Figure 44-4B.
3. Select the file and press the Open button. Select Disable Macros. The Excel file is now open. The instructions are located at the bottom of the unit cost submission and must be deleted.

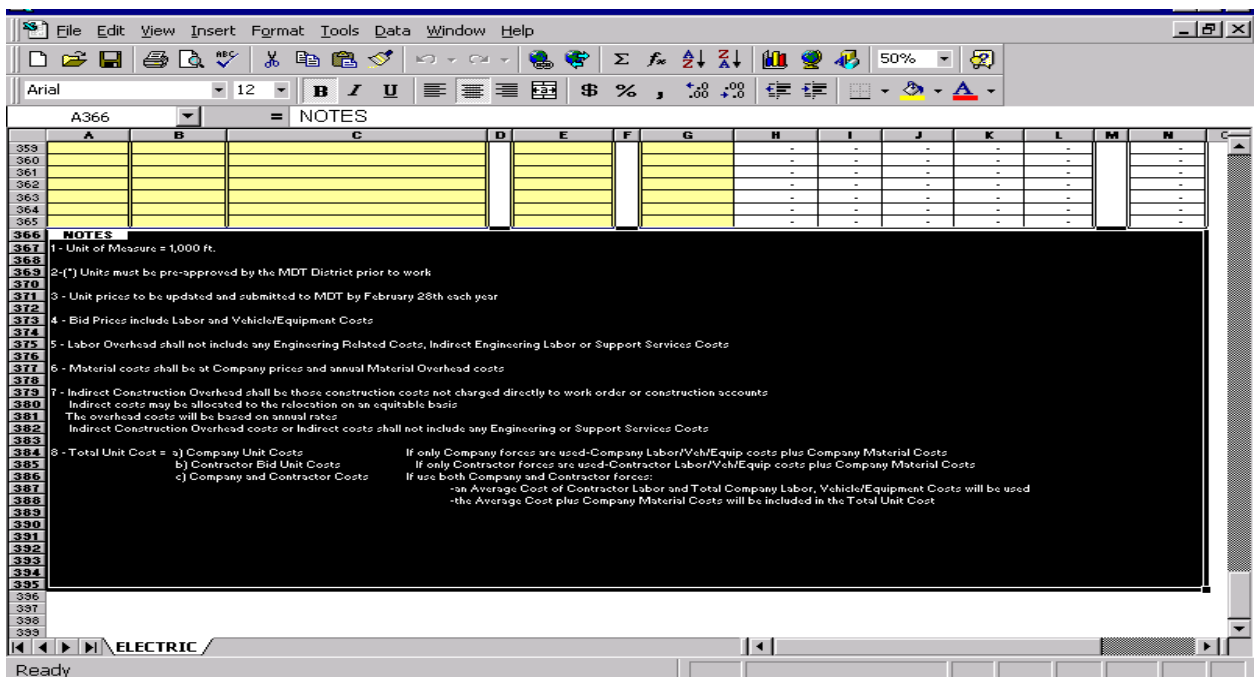




## OPENING AN EXCEL FILE

Figure 44-4B

4. Using the mouse or the F8 key, highlight the area at the bottom of the form to be deleted. If the spreadsheet is protected, unprotect the spreadsheet using the Tools, Protection, and Unprotect. The password is "dottom." The user should see the screen shown in Figure 44-4C.



## DELETING THE INSTRUCTIONS

Figure 44-4C

5. Press the delete key on the keyboard.
6. After deleting the instructions, save the file using the File, Save option. Select Replace Existing File.

Once the instructions have been deleted from the file and the file has been properly saved, the user may proceed to the next step. The file must now be saved as a comma-delimited or CSV file in a separate directory to be read and downloaded into the Oracle Database System.

### 44-3.2.3 Saving the File as Comma-Delimited File

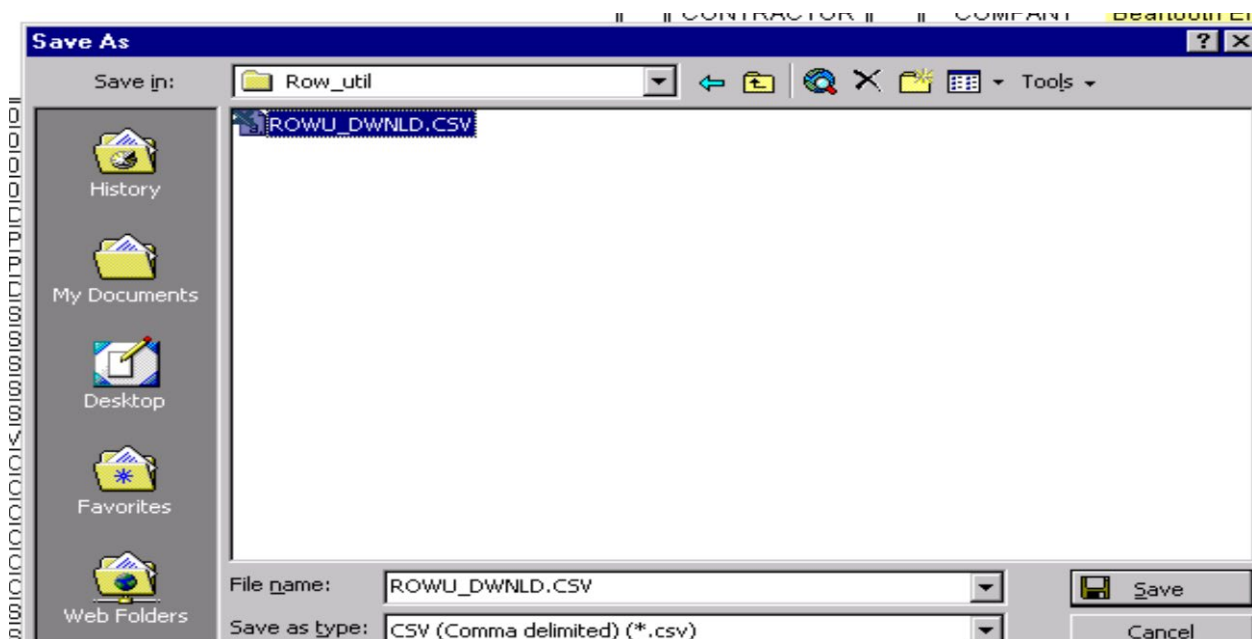
For the Unit Cost Database System to read the unit cost submission, the file must be saved in a comma-delimited format in the folder used for loading data. The file must not contain any extraneous information (e.g., hidden formulas or instructions).

To save the file in comma-delimited format, the Engineering Contract Specialist completes the following steps:

1. Verify that the steps for transferring the utility company's Excel file from the utility company's disk and the deletion of the submission instructions from the utility company file, as described above, have been completed.
2. Select the File, Save As option from the Excel Menu.
3. Change the folder to T:\ROW\_UTIL using the Up One Level Button and select ROW\_UTIL.
4. Select the Save As type from the Save As dialog box, to designate the type of file to be saved.
5. Move the cursor down to the CSV (Comma delimited) (\*.csv) option in type.
6. The file ROWU\_DWNLD.CSV is located in this directory. Use the mouse and highlight this file.

7. Select the Save button from the Save As dialog box. The user should see the screen shown in Figure 44-4D.
8. Select Yes when prompted to replace the Existing File.
9. Select Yes when prompted to keep the workbook in the CSV format.
10. Close and Exit Microsoft Excel. If there are no changes to save, select No. The file will not load when Excel is open

The file has now been saved in the proper format in the proper directory to be downloaded into the Unit Cost Database.



## SAVE THE EXCEL FILE

Figure 44-4D

### 44-3.2.4 Download the File into the Oracle Database

Once the file has been saved in the T:\ROW\_UTIL folder as a comma-delimited file, the information can be downloaded into the Unit Cost Database. Only one file can be downloaded and processed at a time. The Engineering Contract Specialist must ensure that the utility company selected for downloading and the file saved as the ROWU\_DWNLD.CSV relate to the same utility company and that the proper utility type is indicated.

To download a unit cost file, the Engineering Contract Specialist performs the following steps:

1. Log on to the Oracle Database and select the ROW\_UTIL Menu Item #0. 0. Main Menu
2. Select Menu Option #6 – LOAD UTILITY COMPANY'S UNIT COSTS FORM. The user should see the screen shown in Figure 44-4E. 6. Right of Way Utilities System, Load Utility Company Unit Costs Form
3. Select the Year box for the year of the unit cost submission, as shown on the screen in Figure 44-4F.
4. Place the cursor on Company ID and select LIST or press F9 to get a listing of utility companies, as shown on the screen in Figure 44-4G.

## LOADING UTILITY COMPANY'S UNIT COST FORM

Figure 44-4E

Press the "DOWNLOAD" button to start executing the downloading procedure from the ROWU\_DWNLD.CSV file.  
 Press the "PROCESS" button to process the records that have been downloaded (Year, Company ID, and Utility are required).  
 Press the "DELETE" button to remove all unit cost data for the year, company, and utility.  
 Press the "DUPLICATE" button to duplicate unit cost data for the year, company, and utility from the previous year.



## INPUTTING YEAR

Figure 44-4F

Developer/2000 Forms for Windows 95 / NT - [Right-of-Way Utility Downloading Procedure]

Action Edit Block Field Record Query Window Help

<< >> < > INSERT DELETE QUERY EXEC COUNT PREV PRINT SAVE EXIT LIST KEYS ERROR TOOLBAR HELP

26-SEP-2001 MONTANA DEPARTMENT of TRANSPORTATION prod ROWU0054

Right-of-Way Utility Downloading Procedure Form

Year: 2001

Company ID:

Company:

Utility:

Non R.U.S. Unit	Unit Code	Unit Description

Labor	Overhead	Indirect	Equipment

Find %

Company Name

- BEARTOOTH ELECTRIC COOPERATIVE
- BIG FLAT ELECTRIC
- BLACKFOOT TELEPHONE COOP INC
- CENTRAL MONTANA COMMUNICATIONS
- CENTURY TEL
- CITIZENS TELECOM
- CLARK FORK TELECOMMUNICATIONS
- FERGUS ELECTRIC COOP INC
- FLATHEAD ELECTRIC COOP
- GLACIER ELECTRIC COOP
- GOLDENWEST ELECTRIC COOP INC

Find OK Cancel

Press the "DOWNLOAD" button to start executing the downloading procedure from the ROWU\_DWNLD.CSV file.  
 Press the "PROCESS" button to process the records that have been downloaded (Year, Company ID, and Utility are required).  
 Press the "DELETE" button to remove all unit cost data for the year, company, and utility.  
 Press the "DUPLICATE" button to duplicate unit cost data for the year, company, and utility from the previous year.

DOWNLOAD PROCESS DELETE DUPLICATE

DOWNLOAD RATES PROCESS RATES

## SELECTION OF UTILITY COMPANY

Figure 44-4G

5. Select the name of the utility company and click OK. Place the cursor on Utility Type to ensure that the utility type is correct. Select the DOWNLOAD button to download the information into the Database.
6. Choose Yes or No, when prompted, whether or not to overwrite any previously unprocessed records. Choosing Yes will permanently delete any records that were previously downloaded but not successfully processed. Choosing No will cancel the download process.
7. Press OK and wait for 2 OUTLOOK e-mail messages. When prompted, check the e-mail subjects. If the e-mail subjects indicate ROW-UTILITY DOWNLOAD

SUCCESSFUL, move on to processing the utility company information unit cost information, as described in Section 44-4.2.5.

8. If the e-mail subject is ROW-UTILITY DOWNLOAD NOTICE OF ERROR!!! CONTACT PROGRAMMER! the information was not downloaded properly. This usually results from failure to delete the instructions, or from some type of change to the unit cost submission form that was made by the utility company. Contact the MDT Information Systems Bureau or proceed to Step 9.
9. In order to determine the source of the error, open the bad file error results by opening T:\ROW\_UTIL\ROWU\_DWNLD.BAD. Correct the corresponding records in the Excel file, save the changes, save the files as a .csv file and attempt the downloading process again by returning to Step 1 of this Section.

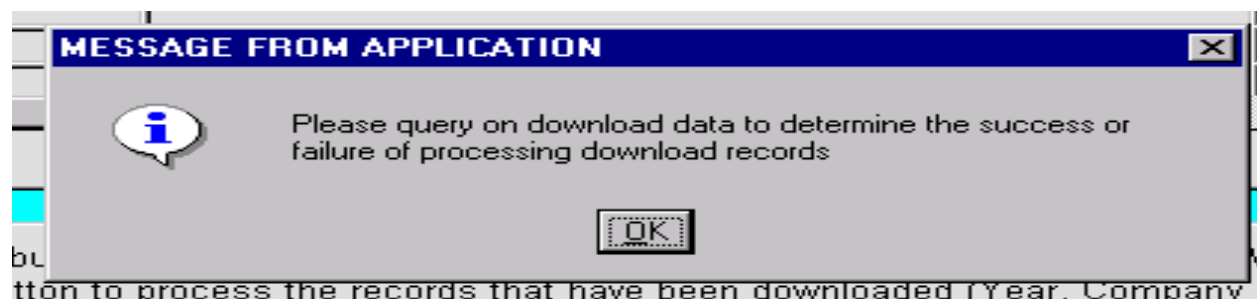
If it is not possible to get the file to load, the user should contact an Information System Bureau (ISB) programmer for assistance.

#### **44-3.2.5 Processing Company Unit Cost Information**

Once the data have been successfully downloaded, the information can be processed into the Unit Cost Database. This is the final step in loading a unit cost submission, other than verification of the data by a comparison to the company's hard copy unit costs provided with the disk.

The Engineering Contract Specialist completes the following steps in order to process utility company unit cost information:

1. Press the PROCESS button.
2. Choose Yes or No if the system asks the user whether to overwrite existing data for this year, company ID and Utility. Choosing Yes will permanently delete the existing data and load the new data. Choosing No will cancel the processing.
3. Select OK when the screen shown in Figure 44-4H appears to remind the user to check whether the processing was successful.



## SUCCESSFUL PROCESS INPUT

**Figure 44-4H**

4. Query the downloaded data and compare the results to the utility company's hard copy submission on a sample basis to ensure that the utility company's information was properly loaded into the system.
5. Exit.

It is now possible to review a utility company's unit costs, as described in Section 44-4.5.

### **44-3.3     Duplicating a Company's Prior Year Unit Cost**

At the request of the utility company, the prior year's submission may be used in future years. When the utility company selects this option on the Unit Cost Waiver (Form 873), the Engineering Contract Specialist must duplicate the company's prior year submission by using the following steps:

1. Select Option #5 from the ROW\_UTIL Oracle Menu.
2. Place the cursor on the Year and type in the year of the new submission to be created from the most recent year's previously loaded submission.
3. Place the cursor on Company ID and select LIST or press F9 to get a listing of utility companies. Highlight the utility company and press OK.
4. Place the cursor on utility type to ensure that the utility type is correct.
5. Select the DUPLICATE button and wait for notification of a successful duplication.
6. Select OK and view the data for the year and utility to verify proper duplication when the screen shown in Figure 44-4H appears.

### **44-3.4     Adding or Revising Units at Utility Company Request**

Periodically, as a utility company prepares an estimate for relocation, it may find that certain types of work are projected for which the company did not include unit costs in the original submission. Rather than requiring a utility company to resubmit the entire unit cost data file, MDT may allow the utility company to provide updated cost data for units that were not included with its original submission.

Once this supplemental data has been submitted to the Department, the submission must be revised in Microsoft Excel, saved as a .csv file, downloaded and processed. The Engineering Contract Specialist performs the following steps when revising previously submitted and loaded unit costs:

1. Start Microsoft Excel.
2. Retrieve the utility company's unit cost submission from the applicable directory using the File, Open command.
3. Select the directory in which the file is stored (e.g., T:\01); then, select the file to be corrected (Utility Name) by highlighting the file name. Disable the macros. The file to be revised is now open. Ensure that the proper utility company submission is opened in the proper year.
4. Input the additional units (e.g., labor hours and material costs) as illustrated in Figure 44-4I. The total unit cost will be calculated by the spreadsheet.
5. Save the changes to the file using the File, Save command.

File Edit View Insert Format Tools Data Window Help					
	A	B	C	D	E
1					
2					
3					
4	Non	UNIT	UNIT		
5	R.U.S.	NUMBER	DESCRIPTION		CONTRACTOR
6	Units				BID
7		A1	0' to 5' Angle, Single Primary Support		Labor/Equip
8		A1A	0' to 5' Angle, Single Primary Support		Unit Costs
9		A1-1	0' to 5' Angle, Single Primary Support		
10		A1-1A	0' to 5' Angle, Single Primary Support		
11		A2	Double Primary Supports		
12		A3	(5' to 30' Max. Angle)		
13		A4	30' to 60' Angle		
14		A5	60' to 90' Angle		
15		A5-1	Deadend (Single)		
16		A5-2	Single Phase Tap		
17		A6	Single Phase Tap		
18		A7	Vertical Deadend (Double)		
19		A7-1	Crossarm Construction - Deadend (Single)		
20		A8	Crossarm Construction - Deadend (Single)		
21		A8	Crossarm Construction - Deadend (Double)		
22		A9	Crossarm Const. - Double Line Arm		
23		A9-1	Crossarm Construction - Single Line Arm		
24		B1	0' to 5' Angle, Single Primary Support		
25		B1-A	0' to 5' Angle, Single Primary Support		
26		B1-1	0' to 5' Angle, Double Primary Support		
27		B1-1A	0' to 5' Angle, Double Primary Support		
28		B2	Crossarm Construction		
29			Double Primary Support		
30			5' to 30' Maximum Angle		
31		B3	Vertical Construction - 30' to 60' Angle		
32		B4-1	Vertical Construction - 60' to 90' Angle		
33		B5-1	Vertical Construction - Deadend (Single)		
34		B7	Crossarm Construction - Deadend (Single)		
35		B7-1	Crossarm Construction - Deadend (Single)		
36		B8	Crossarm Construction - Deadend (Double)		
37		B9	Crossarm Construction - Double Line Arm		
38		B9-1	Crossarm Construction - Single Line Arm		
39		B9-2	Crossarm Construction - Double Line Arm		
40		B9-3	Crossarm Construction - Single Line Arm		
41		C1	Single Primary Support at 0' to 5' Angle		
42		C1-A	Single Primary Support at 0' to 5' Angle		
43		C1-1	Double Primary Support at 0' to 5' Angle		
44		C1-1A	Double Primary Support at 0' to 5' Angle		
45		C1-2	0' to 2' Angle (Large Conductors)		
46		C1-3	Double Primary Support, 0' to 5' Angle		
47			(Large Conductors)		
48		C1-4	Crossarm Construction - 2' to 5' Angle		
49			(Large Conductors)		
50		C2	Crossarm Const. - Double Primary Support		
51			5' to 30' Max. Angle		
52		C2-1	Crossarm Const. Double Primary Support		
53			5' to 30' Max. Angle		
54		C2-2	Crossarm Const. Double Primary Support		

## UNIT INPUT MENU

#### **Figure 44-4I**

6. Follow the instructions in Section 44-4.2.3 and Section 44-4.2.4 to resave the file as comma-delimited and to download the file into Oracle. Choose YES when prompted to overwrite existing data for the subject utility.

Follow the procedures in Section 44-4.2.5 to process the unit cost file and Section 44-4.5 to see whether the corrected data was properly downloaded.

#### **44-3.5     Reviewing a Utility Company's Unit Costs**

Item #4 from the opening menu allows the user to review a utility company's unit costs and to print out the company's unit cost submission by year. This feature can be used by the Engineering Contract Specialist to review the reasonableness of a utility company's unit costs or to compare the company's unit costs to industry averages. The utility agent may use this feature to query a specific company and a specific unit cost.

In order to review a utility company's unit cost, the system user completes the following steps:

1. Using the mouse or the arrow keys, select Menu Option #4 from the main ROW\_UTIL Menu. This menu option results in the screen shown in Figure 44-4J, which gives the user the ability to query based on the company, the year or a specific type of work unit.
2. Place the cursor on Company ID. Select List or press F9 to see a listing of utility companies, as shown on the screen in Figure 44-4K. Use the mouse or arrow key and hit enter to select a specific company. If the user fails to indicate the year, the system will provide a listing of units that includes all years loaded for the specified utility company.
3. Place the cursor on the Year, and type in the year desired (e.g., 2002).
4. Using the mouse, select the EXEC button to execute your search for all units for a specific utility company in 2002.
5. Using the < > keys located at the top of the menu, toggle between individual units for the utility company selected.

Developer/2000 Forms Runtime for Windows 95 / NT

Action Edit Block Field Record Query Window Help

|<-- -->| << >> < > INSERT DELETE QUERY EXEC COUNT PREV PRINT SAVE EXIT LIST KEYS ERROR TOOLBAR HELP

ROWU0053

16-MAR-2000 MONTANA DEPARTMENT of TRANSPORTATION prod ROWU0053

### UTILITY COMPANIES UNIT COSTS

Company ID	Company Name		Year	UNIT AVERAGE	
Utility Type:				MEAN AVERAGE	
Non R.U.S. Unit	Unit Code	Unit Description		CONTRACTOR BID Labor/Equip Unit Costs	
----- COMPANY -----					Total Company Labor Veh/Equip
Construction Labor Hrs	Construction Labor Cost	Labor Overhead	Ind. Const. Overhead	Vehicle/ Equipment	AVERAGE Contractor Company Lab/Veh/Equip
----- MATERIAL -----					TOTAL UNIT COST
Material Cost	Material Overhead	Total Material Costs		Total Company Unit Cost	

Enter a query; press F8 to execute, Ctrl+q to cancel.  
Record: 1/1 Enter-Query List of Values

Start Developer/2000 Form... 9:45 AM

SELECTION OPENING SCREEN  
Figure 44-4J

Developer/2000 Forms for Windows 95 / NT - [ROWU0053]

Action Edit Block Field Record Query Window Help

|<-- -->| << >> < > INSERT DELETE QUERY EXEC COUNT PREV PRINT SAVE EXIT LIST KEYS ERROR TOOLBAR HELP

26-SEP-2001 MONTANA DEPARTMENT of TRANSPORTATION prod ROWU0053

### UTILITY COMPANIES UNIT COSTS

Company ID	Company Name		Year	UNIT AVERAGE	
Utility Type:				MEAN AVERAGE	
Non R.U.S. Unit	Unit Code	Unit Description			
----- COMPANY -----					
Construction Labor Hrs	Construction Labor Cost	Labor Overhead	Ind. Const. Overhead	Vehicle/ Equipment	
----- MATERIAL -----					
Material Cost	Material Overhead	Total Material Costs			

**Company Id**

Find %

Name

- BEARTOOTH ELECTRIC COOPERATIVE
- BIG FLAT ELECTRIC
- BLACKFOOT TELEPHONE COOP INC
- CENTRAL MONTANA COMMUNICATIONS
- CENTURY TEL
- CITIZENS TELECOM
- CLARK FORK TELECOMMUNICATIONS
- FERGUS ELECTRIC COOP INC
- FLATHEAD ELECTRIC COOP
- GLACIER ELECTRIC COOP
- GOLDENWEST ELECTRIC COOP INC

Find OK Cancel

Choices in list: 43  
Record: 1/1 Enter-Query List of Values

## SELECTION OF UTILITY COMPANY

Figure 44-4K

### 44-3.6 Printing the Utility Company's Unit Costs

Open the unit cost submission from the email the utility sent proceed to print from excel.  
Unit cost submission will need to be printed on legal size paper.

### 44-3.7 Reviewing Costs by Type of Unit

Unit Cost Database users may review a specific company's unit costs, as well as query the Database by type of unit. Users also may produce a report referencing a specific unit with each individual company's cost for that specific unit. For example, if it appears that a particular company's unit price seems excessively high, a report may be generated indicating what each company has submitted for that specific unit.

In order to review the costs submitted by all utility companies for a specific unit, system users complete the following steps:

1. Using the mouse or arrow keys, select Option #4 from the Main Utility Menu. Notice that the screen, shown in Figure 44-4O, is already in query mode. The user indicates what the query is.
2. Place the cursor on the Year and input the year for the query. If this is left blank, it will query the costs for all years in the Unit Cost Database.
3. Place the cursor on Utility Type and type "UT" for telephone, "UE" for electrical or "UG" for gas.

The screenshot shows a software interface titled "Developer/2000 Forms Runtime for Windows 95 / NT". The main window displays the "UTILITY COMPANIES UNIT COSTS" form. At the top, there is a menu bar with options: Action, Edit, Block, Field, Record, Query, Window, Help. Below the menu bar is a toolbar with buttons: I<-- -->I, <<, >>, <, >, INSERT, DELETE, QUERY, EXEC, COUNT, PREV, PRINT, SAVE, EXIT, LIST, KEYS, ERROR, TOOLBAR, HELP. The form itself has a title bar "ROWU0053" and a header section with "16-MAR-2000", "MONTANA DEPARTMENT OF TRANSPORTATION", "prod", and "ROWU0053". The main section is titled "UTILITY COMPANIES UNIT COSTS". It contains several input fields and tables. The first table has columns: Company ID, Company Name, Year, and UNIT AVERAGE. The second table has columns: Utility Type, MEAN AVERAGE. The third table has columns: Non R.U.S. Unit, Unit Code, Unit Description, and CONTRACTOR BID Labor/Equip Unit Costs. The fourth table has columns: COMPANY, Total Company Labor Veh/Equip, and AVERAGE Contractor Company Lab/Veh/Equ. The fifth table has columns: MATERIAL, Total Material Costs, and TOTAL UNIT COST. The bottom of the form has a status bar with the text: "Enter a query: press F8 to execute, Ctrl+q to cancel. Record: 1/1 Enter-Query List of Values". The Windows taskbar at the bottom shows the Start button, the "Developer/2000 Form..." window, and the system clock showing 9:45 AM.

## OPENING MENU

**Figure 44-4O**

4. Place the cursor on the Unit Code and select List or press F9 for a complete listing. Users also may type in the specific unit code (e.g., A1). Using the mouse, press the EXEC button to execute the query. Using the A1 code example, a complete listing of all A1 unit prices submitted will be shown.
5. Using the < > keys on the Menu Bar, toggle between the prices for all unit costs in the designated category that were submitted for the year selected.

After viewing the utilities and their submitted prices, users may print a detailed report by following the procedures in Section 44-4.8.

### 44-3.8 Printing the Individual Unit – Unit Cost Report

After reviewing the individual unit prices, users may want to print the detailed report. The following steps should be followed to preview and print the individual unit report:

1. Select the PRINT button from the menu bar located at the top of the form (RWU-0053).
2. Select the Run Report button shown in the screen in Figure 44-4P. Select the Run Report button again.
3. Select the Print button, and press OK to print the report.

Developer/2000 Forms Runtime for Windows 95 / NT

Action Edit Block Field Record Query Window Help

16-MAR-00 MONTANA DEPARTMENT OF TRANSPORTATION PARM\_FRM

Run Report Exit List Show Error Help

Application Form Name ROWU0053

Report Name M:\ROW\_UTIL\PROD\EXE\ROWR0052

Report Comments ROW UTILITY COMPANY UNIT COSTS

Block Name ROWU\_COMPANY\_UNIT\_COSTS

Destination Type PREVIEW

Printer Paper Size HPLLGL240

Report Title

Check Report Name. If the desired report name is displayed, click on the 'Run Report' button.

## PRINT SCREEN

**Figure 44-4P**



### **44-3.9     Using the Unit Cost Estimate and Final Bill Form**

The Unit Cost Database System automates certain steps within the unit cost process described in Sections 42-3.2 and 42-3.3. One of the steps automated in the Database is the verification of an estimate based on the Plan-in-Hand estimate that is submitted by a utility company. Verification requires checking the estimated number of units, the individual unit prices submitted and the total estimate. The Unit Cost Database System replaces the traditional manual checks with an automated form and report that compares prices from the utility company's project estimate to the company's annual unit cost submission.

This feature allows the user to create an estimate to verify unit prices and total project costs, save the estimate, delete the estimate, load actual units used when the project is completed and create the final bill. The procedures for creating and using these files and reports are detailed in Sections 44-4.9.1 through 44-4.9.4.

#### **44-3.9.1     Retrieving an Existing Project**

To retrieve an existing project, the system user should complete the following steps:

1. Using the mouse or arrow keys, select Option #6 – Estimate and Final Bill Selection Form. This brings up the screen shown in Figure 44-4Q. At this point, an existing unit cost project estimate may be retrieved for updates or to enter the final values.
2. Select the Query Function, then place the cursor on the Project Name line and press F9 or select List. This provides a listing of projects that have been saved. Select the project to be retrieved. Using the mouse, press the EXEC button or press F8.

At this stage, you may either print a hard copy by selecting the Print option or input the final units and print the report.

#### **44-3.9.2     Deleting an Existing Project**

To delete an existing project, the system user completes the following steps:

1. Select Option #6 – Estimate and Final Bill Selection Form by using the mouse or arrow keys.
2. Select Query and List. This provides a list of estimates that have been saved. Highlight the estimate to be retrieved and select OK.

Developer/2000 Forms for Windows 95 / NT - [ROWU0055]

Action Edit Block Field Record Query Window Help

26-SEP-2001 MONTANA DEPARTMENT of TRANSPORTATION prod ROWU0055

### ESTIMATE AND FINAL BILL SELECTION

Project Name

Company ID  Company Name

Estimate Year  Utility Code  Description

Work Year  Yearly Utility Engineering Percentage: Estimate  Final

Existing Pole/Footage: Retirement Percentage: Estimate  Final

Private  Public  Salvage Credit: Estimate  Final

Unit Code	Non RUS	Unit Description	Inc.Hot Ret	Hot Work	Est. Units	Est. Cost	Estimate Unit Cost	Final Units	Final Cost	Final Unit Cost
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
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<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<							

- [illegible]

## SELECTION OF UTILITY COMPANY

Figure 44-4R

5. Select the company using the mouse or arrow keys, then select OK. See Figure 44-4R.
6. Move the cursor to Estimate Year by using the mouse or TAB key. Input the estimate year; this field is required.
7. Using the TAB key, select the Utility Code for the type of utility: UE for electrical, UG for gas, UT for telephone.
8. Using the TAB key, indicate the year that the estimate was calculated.
9. If the utility company the user selects is not found on the list, this indicates that the utility company did not provide unit cost data or the specific company's data could not be loaded into the system.
10. Once the user indicates the project name, utility company to be used, estimate year and utility code, the user may want to save the file using the SAVE button located on the menu bar. If the message "unable to insert record" appears, the user has omitted one of the required fields indicated above. Complete the fields and then re-save.
11. In order to input the estimate, the user may query the unit codes, or simply type in the unit to be added. In order to use the query function, place the cursor on the first "Unit Code" line and select LIST or press F9. This will present a listing of all units provided by the Subject Company, as shown in Figure 44-4S.
12. Using the arrow keys or the mouse, select the unit desired, then press OK. This will place the unit code and unit description on the line.

The screenshot shows a window titled "Unit Code" with a search bar at the top. Below the search bar is a table with the following columns: Unit Code, Non RUS Code, Unit Description, Est. Unit Cost, and Final Unit Cost. The table contains several entries, including (SUFFIX)(OT), (SUFFIX)T, 30-3, 35-4, BA3, BD12A, BD13A, BD14A, BD2, BD2A, and BD3. The bottom of the window has buttons for Find, OK, and Cancel.

Unit Code	Non RUS Code	Unit Description	Est. Unit Cost	Final Unit Cost
(SUFFIX)(OT)		(OT) Open Trench	10.62	
(SUFFIX)T		Trenching Suffix (2-4 Ft.) (Linear Ft.)	4.25	
30-3		Pole 30 Ft. Class 3	271.08	
35-4		Pole 35 Ft. Class 4	271.08	
BA3		Stub Pole-Buried Plant (8' Round)	114.85	
BD12A		Housing Buried Plant Pole MNT	158.97	
BD13A		Housing Buried Plant Pole MNT	165.57	
BD14A		Housing Buried Plant Pole MNT	183.15	
BD2		Housing Buried Plant Stake MNT	133.69	
BD2A		Housing Buried Plant Pole MNT	133.69	
BD3		Housing Buried Plant Stake MNT	139.19	

## UNIT CODES

13. The user also may type in a Unit Code (e.g., A1). Users should note the fields for “Include Retirement” and “Hot Work.” “Include Retirement” is defaulted to “Y.” Users only change this to “N” when this unit is not to be included in the cost of retirement. An example of when the default would be changed is a fire truck. “Hot Work” is defaulted to “N.” It is changed to “Y” when the units include hot work. The program will add 70% to the units that have been changed to “Y” for hot work.
14. Place the cursor on the “Est. Units” line and type in the estimated number of units as shown in Figure 44-4T. Then push the TAB key. The individual price and the extended price will be completed based on the user’s input.
15. Continue to input all of the units needed based on the information provided by the utility company. The estimate should mirror the estimate received from the utility company.
16. In the event the utility company has provided a unit price that is not included on the original submission, run the Unit Cost Price Report for that unit to determine the reasonableness of the unit estimated cost provided by the utility company. If the unit price provided by the utility company is comparable to other utility costs for that unit, it may be accepted as stated. In this case, the user inputs “NOL” for the Unit Code and manually inputs the Unit Description and the Unit Cost.

## ESTIMATE UNIT SCREEN

17. If the utility company has not provided a specific cost for a unit, the utility company may resubmit its annual unit costs with a price for the questioned unit, or provide the unit

cost to the Engineering Officer. The Engineering Contract Specialist adds the new unit cost to the utility company's previous submission by following the procedures in Section 44-4.4.

18. At this point, the user should see the screen shown in Figure 44-4U.
19. Once the input for the Unit Cost Estimate is complete, save the work by selecting the SAVE button.
20. If desired, print the completed estimate by selecting the PRINT button from the Menu Bar located on the top of the form.
21. To preview/print the report, select the Run Report option. Then select the PRINT button from the report preview.

#### 44-3.9.4 Preparing the Final Bill Verification Report

Once the Unit Cost Database System user has created and saved a project, the user may retrieve that project and input the actual units used from the manually created Unit Cost Estimate and Final Bill prepared by the utility agent. This will include any additional units that were pre-approved prior to use in the relocation work.

Estimate Year	2000	Utility Code	UE	Description	UTILITY TYPE (ELECTRICAL)				
Work Year		Yearly Utility Engineering Percentage:	Estimate	10.000	Final				
Existing Pole/Footage:		Retirement Percentage:	Estimate	10.000	Final				
Private		Public	350	Salvage Credit:	Estimate		Final		

Unit Code	Non RUS	Unit Description	Inc.Hot	Ret	Est. Units	Est. Cost	Estimate Unit Cost	Final Units	Final Cost	Final Unit Cost
NOL		Deadend (Single)	Y	Y	1	316.64	316.64			
VE5-2	2H2B	Single Downquys (Light)	Y	N	1	398.41	398.41			
NOL	6D1	Riser (Termination) 1 Phase	Y	Y	1	1179.24	1,179.24			
UM3-14	6G1	1 Ph Sectionalizing Enclos	Y	N	1	1111.16	1,111.16			
UG7	7K1	Pad Mount Transformer (Co	Y	N	1	816.90	816.90			
MDT975		#2 15 KV XLP 175 Mil	Y	N	.25	2791.87	697.97			
MDT1175		2 Use TPX	Y	N	.1	3448.40	344.84			
MDT1360		*Trenching (Per Ln. Ft.)	Y	N	350	2.16	756.00			
Total Unit Cost							5,621.16			0.00
Total Retirement Cost							5,621.16			0.00
Retirement % Cost							562.12			0.00
Units plus Retirement % Less Salvage Credit Total							6,183.27			0.00

Enter value for : Project Name  
Record: 1/1      List of Values

#### SAMPLE UNIT COSTS

Figure 44-4U

The system user completes the following steps in order to produce the final bill verification report:

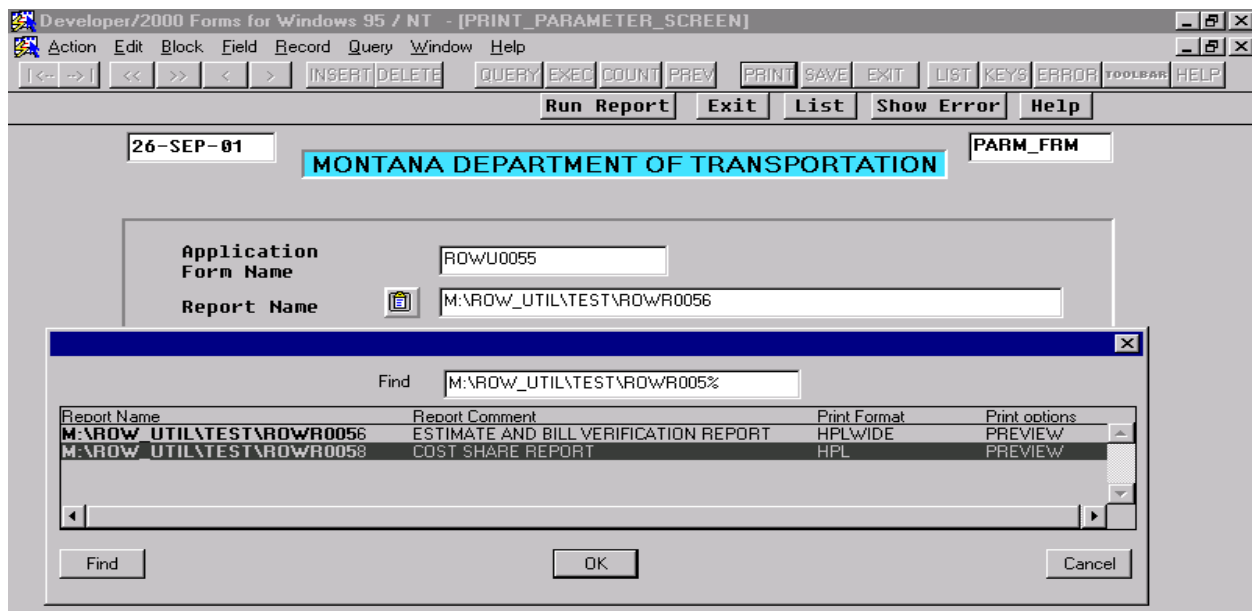
- [illegible]

### Figure 44-4V

- 36 | Page

displayed as shown in Figure 44-4W. Select the Estimate and Final Bill Verification Report and press Run Report.

9. Once the preview report feature produces the report, select the PRINT feature to print a hard copy.
10. After producing an Estimate and Final Bill Verification Report, repeat the process for the Cost Share Report. Press the clipboard icon to the left of the report name. When the list appears showing both reports, select the Cost Share Report. Press OK and press Run Report.



## PRINT SCREEN

Figure 44-4W

### 44-3.10 Using the ROW Utility Averages Report

The Unit Cost Database System includes 2 different averages reports, both with exactly the same options. The ROW Utility Averages Report is a simple average of individual unit costs and the components that make up the unit costs. The ROW Utility Mean Average Report calculates the average after dropping the high and low unit cost. This results in a more accurate average and mitigates the effects of certain utility companies whose costs are significantly higher. It also eliminates averages with less than 3 submitted unit costs.

In order to run the ROW Utility Averages Report, the system user completes the following steps:



1. Select Option #7 from the Main Menu. After selecting Option #7, a screen will appear as shown in Figure 44-4X.

**ROWR0050: Runtime Parameter Form**

File Edit Help

Previous Next Run Report Cancel

**Report Parameters**

Enter values for the parameters

Destination: Preview

Printer Name:

Copies: 1

Use This Paper:

Orientation: Landscape

Year: 1999

Utility Name: UTILITY TYPE (TELEPHONE)

## AVERAGE REPORT SELECTION

**Figure 44-4X**

2. Place the cursor on the Year: and indicate the year for which you want to generate a report.
3. Indicate the utility type by using the pull-down menu. Select either telephone, electric or gas.
4. Press Run Report to start the process. The report will begin to process and typically takes several minutes to produce. Once the report is complete, the user can preview the report, which will look like the screen shown in Figure 44-4Y.
5. Select the PRINT button from the top Menu Bar to print the entire Average Report.

Follow the same steps to produce the ROW Utility Mean Averages Report.

File Edit Help

PrevNextFirstLastPage:1

PrintMailCloseNew

16-MAR-00

MONTANA DEPARTMENT OF TRANSPORTATION

Page 1 of 28

ROW UTILITY AVERAGES REPORT

Year: 1999

Utility Name: UTILITY TYPE (TELEPHONE)

Unit Code	Unit Description	CONTRACTOR BID Labor/Equip Unit Costs	Labor Hours	Construction Labor Rate	Labor Overhead	Ind. Const. Overhead	Vehicle/ Equipment	Total Company Labor Veh/Equip
10M	Cable Suspension Messenger 10m		4.40	369.26	123.19	75.52	75.59	703.56
25-5	Pole 25 Ft. Class 5	210.50	1.00	52.15	30.62	11.43	12.24	106.43
25-6	Pole 25 Ft. Class 6	220.00	2.25	140.92	75.20	6.41	26.02	242.60
25-7	Pole 25 Ft. Class 7	220.00	2.44	153.26	80.37	51.77	33.21	329.20
30-2	Pole 30 Ft. Class 2	216.00	1.00	52.15	30.62	11.43	12.24	106.43
30-4	Pole 30 Ft. Class 4	216.00	1.00	52.15	30.62	11.43	12.24	106.43
30-5	Pole 30 Ft. Class 5	223.00	.67	59.54	26.22	5.23	12.04	104.23
30-6	Pole 30 Ft. Class 6	216.00	2.25	140.92	75.20	6.41	26.02	242.60
30-7	Pole 30 Ft. Class 7	216.00	2.25	140.92	75.20	6.41	26.02	242.60
35-2	Pole 35 Ft. Class 2	240.00	1.50	72.23	45.93	17.14	12.36	159.65
35-3	Pole 35 Ft. Class 3	240.00	1.50	72.23	45.93	17.14	12.36	159.65
35-4	Pole 35 Ft. Class 4	240.00	.23	62.23	31.93	7.73	14.08	121.97
35-5	Pole 35 Ft. Class 5	249.50	1.50	72.23	45.93	17.14	12.36	159.65
35-6	Pole 35 Ft. Class 6	240.00	2.57	159.78	94.19	53.19	35.34	242.50
40-2	Pole 40 Ft. Class 2	260.00	1.50	72.23	45.93	17.14	12.36	159.65
40-3	Pole 40 Ft. Class 3	274.00	1.50	72.23	45.93	17.14	12.36	159.65
40-4	Pole 40 Ft. Class 4	274.00	1.50	72.23	45.93	17.14	12.36	159.65
40-5	Pole 40 Ft. Class 5	260.00	2.27	179.77	105.99	60.17	39.72	225.64
40-6	Pole 40 Ft. Class 6	260.00	2.00	104.30	61.22	22.25	24.42	212.27
45-2	Pole 45 Ft. Class 2	350.00	2.00	104.30	61.22	22.25	24.42	212.27
45-3	Pole 45 Ft. Class 3	332.00	2.00	104.30	61.22	22.25	24.42	212.27
45-4	Pole 45 Ft. Class 4	332.00	2.00	104.30	61.22	22.25	24.42	212.27
45-5	Pole 45 Ft. Class 5	350.00	2.00	104.30	61.22	22.25	24.42	212.27
45-6	Pole 45 Ft. Class 6	350.00	2.00	104.30	61.22	22.25	24.42	212.27

## SAMPLE AVERAGE REPORT

Figure 44-4Y

### 44-3.11 Using the Utility Company Unit Cost Report

The Utility Company Unit Cost Report is a detailed listing of the information that has been downloaded into the system by utility company name. It is identical in format to the Excel spreadsheet that is sent to utility companies that participate in the unit cost submission process. This report may be used to review individual unit costs submitted by a utility company or to verify the accuracy of the data loaded into the system. To produce a Utility Company Unit Cost Report, the system user completes the following steps:

1. Select Menu Option #8 from the Main Menu. The Report Parameter Screen will be displayed.
2. Indicate the year by placing the cursor in the Year box and typing in a year.
3. Indicate the utility company name by using the pull-down menus and highlighting the company's name.
4. Choose the type of utility by using the pull-down menu and highlighting the utility type desired. This produces the screen shown in Figure 44-4Z.

**ROWR0051: Runtime Parameter Form**

File Edit Help

Previous Next Run Report Cancel

**Report Parameters**

Enter values for the parameters

Destination: Preview

Printer Name:

Copies: 1

Use This Paper:

Orientation: Landscape

Year: 1999

Company Name: BEARTOOTH ELECTRIC COOPERAT

Utility Name: UTILITY TYPE (ELECTRICAL)

**UTILITY COMPANY COST REPORT SELECTION**

**Figure 44-4Z**

5. Select the Run Report. If the user receives an error message, the user most likely failed to indicate the proper type of utility.
6. Press the PRINT button to print the report from the report preview menu.
7. DEFINITIONS

Following are definitions of terms that are frequently used in administering the Department's utility relocations:

1. Oracle. A relational data base system.
2. NON-RUS. Rural Utility Standards - developed by a Utility Company for their specific use.
3. Plan-in-Hand. An on-site meeting used by MDT to bring representatives of the Utilities Section, the relevant MDT District, and utility companies together to discuss project and relocation needs.
4. RUS. Rural Utility Standards (R.E.A. Specifications).
5. Staking Sheets. Utility Plans developed by a Utility Company for engineering and placement of facilities.
6. Unit Code. Same as RUS.
7. Unit Cost Database System. Oracle based system to store utility company yearly unit cost submissions and provide a historical record of unit costs.



#### 44-4 REFERENCES

1. ***Code of Federal Regulations***, 23 **CFR** Part 645, *Utilities*.
2. ***Code of Federal Regulations***, 48 **CFR** Part 31, *Contract cost principles and procedures*.
3. ***Montana Code Annotated***, Title 60, Chapter 4, Part 4, *Relocation of Utilities*.
4. ***Montana House Bill 320***, enacted in final form in Chapter 324 of the ***Montana Laws of 1997***, amending 60-4-401 through 60-4-403 of the ***Montana Code Annotated***.
5. ***State of Montana Legislative Audit Division -- Performance Audit Report***, 1995. Relocating Utilities on Montana's Highway Rights-of Ways.
6. ***RUS Guidelines***, United States Department of Agriculture – Rural Electrification Administration. Specifications and Drawings.