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# USERS GUIDE FOR REMOVAL COST MANAGEMENT SOFTWARE

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# **USER'S GUIDE FOR REMOVAL COST MANAGEMENT SOFTWARE**

**Technical Assistance Team  
TDD No. 138410-09  
EPA Contract No. 68-01-6669**

**June 1985**

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## PREFACE

The implementation of computer technology at CERCLA removal actions has great potential. Word processing, data communications, database management, and other computer tools are becoming available to assist field personnel in the performance of on-scene cost management.

This manual describes a system that is hoped to begin a long list of field computer applications. The system includes all of the basic computer tools (i.e., word processing, data communications, and database management) and outlines the application of these tools to cost estimating and cost tracking at CERCLA removal projects. Computer skills are not required to successfully operate this computer system.

The overall benefits of using this automated cost management system will be increased personnel efficiency, cost savings, and better use of the resources available on a removal project. An immediate advantage of this system will be its usefulness for on-scene cost management and other on-scene responsibilities. It can assist on-scene personnel with the preparation of cost management documents (e.g., 1900-55 and related forms), and the calculation of cost projections. The availability of word processing and electronic mail will greatly reduce the time and effort necessary to produce and disseminate site information (POLREPS, etc.). Data communication programs will allow for direct access to remote databases and information services.

Another advantage of the computerized cost management and documentation system is that project data can be recorded on electronic media and thereby accessed by other computer systems and programs for database construction, automated data processing, and electronic data transmission. These capabilities, in turn, will provide data processing opportunities such as automated cost documentation, regional and national statistics development, and cost estimation. All of these large-scale manipulations can be performed by utilizing the data recorded during a removal project.

The Environmental Response Team (ERT) of EPA will provide information and support for the system on a nationwide basis. For information or assistance concerning this computer system, contact:

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## CHAPTER 1

### INTRODUCTION TO COMPUTER USAGE FOR REMOVAL COST MANAGEMENT

Welcome to the on-scene removal cost management system. You have been furnished with this User's Guide to help you accomplish with a computer many of the tedious and time-consuming tasks associated with producing cost management forms and reports at a CERCLA removal. This guide is an automated version of the revised EPA Removal Cost Management Manual, dated January 1985.

Computer software programs are now available to you that are tailored to the field needs of a CERCLA removal. Different computer programs can help you estimate cost ceilings, prepare 1900-55 forms, calculate and print the Daily Cost Summary and Incident Obligation Log, write and electronically send POLREPs and other removal memoranda, and access remote computer data bases.

The customized software programs have been specially designed to be "user-friendly," and do not require any prior knowledge of computer operation. At the same time, the system is sophisticated enough for any computer skill level.

In addition to specialized computer programs, you are provided with powerful software packages for data manipulation, word processing, and data communications. With these, you can use your field computer in almost limitless ways to make your on-scene decisions better informed and more efficient. You can design your own programs beyond the applications described in this User's Guide. Also, as new software on groundwater and air dispersion modeling, removal action case studies, and other applications are developed, they will become available to you in the field, where the most critical removal response decisions are made.

This User's Guide provides you with enough information to set up your computer in the field and use the software system to prepare daily removal cost management forms and reports. The chapter following this introduction discusses:

**Computer Equipment Operation** An overview of what equipment, software disks, and manuals you need on-hand to use the system. How to operate the printer, and equipment and disk maintenance.

The next three chapters describe how to operate the computer programs tailored specially to the on-scene removal cost management program. The cost management software programs were designed to be operated with no knowledge of the commercial software. These chapters discuss:



**Cost-Management Software -- Cost Projection** How to operate the cost projection software to develop removal cost ceiling estimates for your removal requests. How to update your ceiling estimate on-scene to identify any need for a ceiling increase.

**Cost-Management Software -- Reporting Forms** How to run the programs to calculate and print daily EPA Form 1900-55, the Daily Cost Summary, the Incident Obligation Log, POLREPs, and Work Reports.

**Data Communications Software** How to transmit data and text over telephone lines. How to access large national data bases and E-Mail through your computer.

The final chapter briefly describes the commercial software packages that have been used to develop the customized cost management system.

Exhibit 1-1 summarizes the tasks that you can perform with the on-scene removal cost management programs and other software, and directs you to the proper section in this User's Guide for computer instructions.

This User's Guide will be most useful to you if you can go through it with the computer and software at hand to try out the programs. The programs that you will actually be using on-scene, however, are very "user-friendly" and will prompt you for specific site information that you will know. If you should make an error (by typing in the wrong letter for example), the computer will ask you the question over again. With a little practice, you will find that the on-scene computer will become a valuable piece of response equipment.

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**NOTE:** Throughout this User's Guide, the prompts and questions that the computer provides are written in CAPITAL LETTERS and your responses on the keyboard are in bold print. For example:

computer prompt

your response

COMMAND ?

LIST

## EXHIBIT 1-1

### Removal Action Tasks and Computer Instructions

<u>Removal Action Task</u>	<u>Instructions</u>
1. Projecting costs for an Action Memo	Section 3.2
2. Projecting costs during a removal action	Section 3.3
3. Preparing EPA Form 1900-55	Section 4.1
4. Preparing Daily Cost Summary and Incident Obligation Log	Section 4.2
5. Preparing Work Reports	Section 4.3.1
6. Preparing POLREPs	Section 4.3.2
7. Accessing Remote Data Bases	
-- OHM/TADS	Section 5.3
-- Hazardline	Section 5.4
8. Sending Documents via E-Mail	Section 5.5
9. Using Commercial Software	
-- MS-DOS	Section 6.1
-- data base management (dBASE)	Section 6.2
-- word processing (Wordstar)	Section 6.3
-- data communications (Crosstalk)	Section 6.4

## **CHAPTER 2**

### **COMPUTER EQUIPMENT OPERATION**

This chapter is designed to provide you, the computer user, with sufficient information on basic computer equipment and the operating system of an IBM compatible computer. It will enable you to assemble, start up, maintain, and understand the basic functions of your field computer system. Once the computer is up and running, you can load the Superfund-tailored software programs that will make your cost management chores less tedious and time-consuming.

Computer equipment operation information is divided here into six areas of discussion:

1. **Equipment Checklist and Description** provides you with short descriptions of each piece of computer hardware and software that you will need to operate the field computer cost management system.

2. **System Assembly** describes where and how to set up the computer console and printer.

3. **System Start-up** takes you through the simple steps to get the equipment turned on and off and the initial software working.

4. **Printing** provides general instructions on how to set up the printer and ensure that the software programs print your forms and reports with ease.

5. **Equipment and Disk Maintenance** provides precautions, tips on cleaning equipment, and a labeling system for your data files.

#### **2.1 EQUIPMENT CHECKLIST AND DESCRIPTION**

The following checklist describes each piece of computer equipment (hardware and software) that you should have and its function. Each time you set up a command post, use the checklist to ensure that you have the necessary equipment (see Exhibit 2-1).

**Exhibit 2-1**  
**Computer System Checklist**

<u>Hardware</u>	<u>Manuals</u>
Computer Console	Operations Manual
Disk drives	
Video screen	
Keyboard	
Power cord	
Printer	Reference Manual
Printer cable	
Printer power cord	
Printer paper	
Replacement ribbons or ink cartridges	
Modem	User's Manual
Phone cord	
Telephone line adapters	
If external Modem:	
Power cord	
Connecting cable	
Optional Equipment:	
Power line conditioner (surge suppressor, etc.)	
Non-interruptive power supply	

Exhibit 2-1  
Computer System Checklist  
(Continued)

Software

Manuals

Customized Software

Cost Management System

This User's Guide

Cost Projection  
1900-55  
Daily Cost Summary and Incident  
Obligation Log  
Data Archive  
Data Communications Access  
Data and Document Files

Disks for program and data back-up

Commercial Software

MS-DOS  
(MS-DOS is a trademark of  
Microsoft Corporation)

MS-DOS User's Guide  
MS-DOS Pocket  
Reference Guide

dBASE  
(dBASE is a trademark of Aston-Tate)

dBASE Manual  
dBASE Pocket Guide

Wordstar Professional  
(Wordstar and Wordstar Professional  
are trademarks of Micro Pro International  
Corporation)

Wordstar Manual

Crosstalk XVI  
(Crosstalk and Crosstalk XVI are  
trademarks of Microstuf, Inc.)

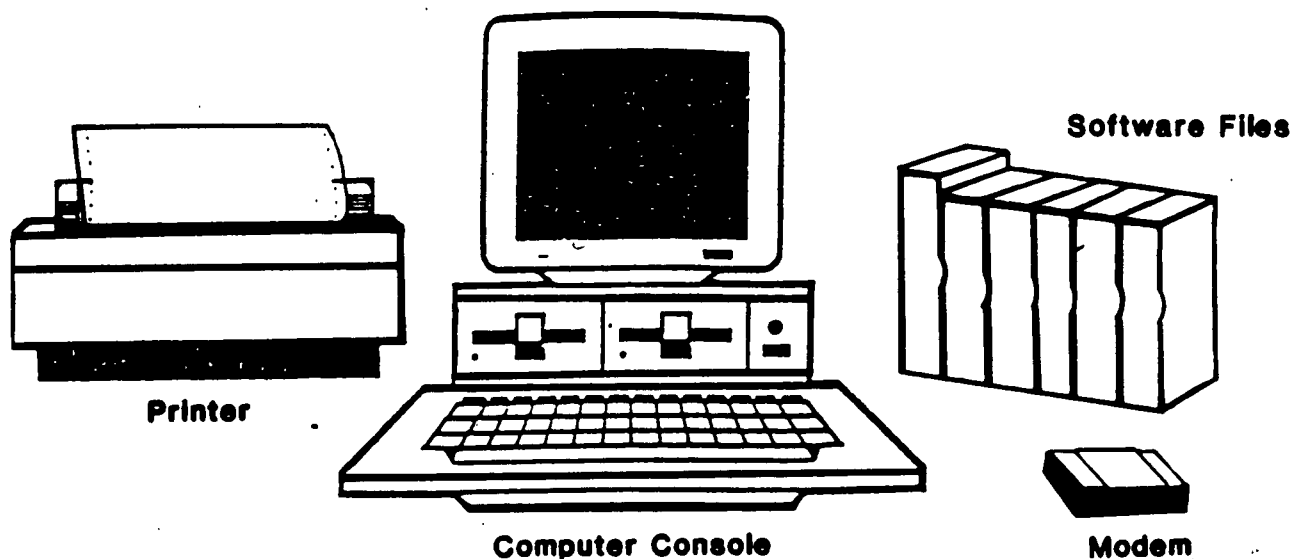
Crosstalk XVI Manual

"Hardware" refers to the machinery and wires that actually make up the computer system. Its counterpart, "software", refers to the programs which are stored on a magnetic storage device. In the case of this system, the magnetic storage device is a disk, sometimes called a "floppy diskette". Exhibit 2-2 shows the major components of the field computer system. Each input or output mechanism operates through the computing mechanism in the console.

The Operation Manuals that are supplied by the manufacturers explain the hardware, assembly, start-up, operation, and maintenance in greater detail than they are presented in this User's Guide. You are urged to familiarize yourself with each manual.

### **Exhibit 2-2**

#### **Schematic of Computer Equipment System**



### 2.1.1 Hardware Checklist and Description

**Computer Console** The computer console is the largest part of your equipment. It houses the central processing unit (CPU), the disk drives and the video screen in a self-contained unit for protection and portability. The keyboard, printer and modem may be incorporated in the console or attached to the computer console by cables.

**Floppy Diskettes or Disks** These are the magnetic recording medium that store the programs and data used by the computer. Section 2.5.2 presents instructions on proper disk care and maintenance.

**Disk Drives** The disk drives are built into the console to hold and spin the disks, like record albums. The disk heads move across the disks to read data or program instructions from the disk and transmit it to the computer. They also record new data onto the disk that you enter from the keyboard or other input mechanism. The slot on the left is disk drive A; the slot on the right is disk drive B. Users with a hard disk system should refer to Appendix B for a description of hard disk operation.

**Video Screen** The video screen tells you how you and the computer system are interacting. The software programmed into the computer asks you questions that appear on the screen to communicate what kind of input the computer needs from you. As you type commands, data, or other input on the keyboard, what you type appears on the screen.

**Keyboard** The keyboard is attached to the console by a cable. It looks and functions much like a typewriter keyboard, with special keys and functions described further in Section 2.3.

**Power Cord** The power cord plugs into the back of the console and into a standard electrical outlet to power the system (110-120V AC).

**Printer** The printer is attached to the computer console by a cable. It gives you the means to print, on paper, your files and reports. For example, after you have entered POLREP or Work Report data, you can use the printer to print out "hard copies" of these reports. The hard copies can be used, with appropriate signatures, to meet paperwork requirements.

**Printer Cable** The printer cable is used to connect the printer to the computer.

**Printer Power Cord** The power cord connects the printer to an electrical outlet.

**Printer Paper** The printer will print on any standard 8-1/2" by 11" single-sheet paper, or on fanfold, computer-type paper. Fanfold paper is recommended for printing the cost management programs because they

produce multiple-page printouts of forms. It is easier to let the printer feed in the pages than to wait around to feed the printer while the program is computing. For on-site needs, a supply of about 300 fanfold pages per week should be sufficient.

**Replacement Ribbons or Ink Cartridges** You should have a spare ribbon or ink cartridge package on hand to resupply your printer.

### **2.1.2 Software Checklist and Description**

Your Cost Management System uses two types of software--commercial software packages, and customized programs that are specifically designed for removal action cost management. A description of each category is given below.

#### **Commercial Software Packages**

**MS-DOS** MS-DOS software is your operating system of basic instructions to the computer. The framework that this system provides allows the computer to use all the other software systems and data files. The MS-DOS operating system is described in Section 6.1 of this User's Guide. You should also be sure that you have the MS-DOS User's Guide and MS-DOS Pocket Reference Guide on hand.

**dBASE** This software package allows you to create your own data base files and programs in the same language that was used to develop the field cost management system programs. The dBASE package is described in Section 6.2 of this User's Guide. For further applications, be sure that you also have the dBASE User's Manual.

**Wordstar** This software package provides you with word processing capabilities. You should have the Wordstar Manual and Wordstar program disk. The Wordstar program is described in Section 6.3 of this User's Guide.

**Crosstalk** This software package allows your computer to communicate with other computers. You should also have the Crosstalk XVI Manual to supplement the description of ways to use the program provided in Chapter 5 and Section 6.4 of this User's Guide.

#### **Cost Management Software**

**Cost Projection** This program is custom-made for Superfund removal actions to help calculate the cost ceiling for a proposed or ongoing removal action. The instructions for using this program are provided in this User's Guide, Chapter 3.

**1900-55** This custom-made program provides a streamlined system to generate the cost management calculations and to print the 1900-55 forms. The instructions for using this program are provided in Chapter 4.



**Daily Cost Summary and Incident Obligation Log** These custom-made programs calculate and print the Daily Cost Summary and the Incident Obligation Log. The instructions for using these programs are in Section 4.2.

**Data Disk** The data disk holds all of the data that you enter for use by the programs mentioned above. The data disk should be backed up (i.e., copied) daily to save your valuable data and time. You will be provided with two data disks--one to use on a daily basis, and one to use as a "back-up." See Sections 2.5.3 and 4.1.2.

**Archive Disk** The site archive disk is a mechanism to save all the cost management data generated for the duration of the removal action. The data disk and its back-up only save your previous day's information. The databases stored on the archive disk contain all of the data for the entire project.

**Document Storage Disk** This disk is blank except for the pre-set POLREP and Daily Work Report formats. You will use this disk with the commercial Wordstar program disk to retrieve initial report formats and to store any documents you create. You can then send electronically the documents on this disk using the data communications access programs.

**Data Communications Access Disk** This disk contains specially written programs which allow the computer to automatically access OHM/TADS, Hazardline and E-Mail. The instructions for using these programs are presented in Chapter 5.

You should always have two complete copies of the cost management software (16 disks). This will ensure that if a disk is damaged or lost, you will have a duplicate on hand to replace the damaged or lost disk. Make a copy of the duplicate before you use it so that you will always have two complete sets of disks. See Section 2.5.3 on Disk Back-Up.

## 2.2 SYSTEM ASSEMBLY

When you have taken inventory to assure that you have all the items on the checklists, you are ready to begin assembling the computer system.

The first step is to set the console and printer on a flat and level surface in the command post. Consider the proximity of power and phone connections when setting up the computer.

Next assemble the console and the printer according to the instructions in the equipment manuals.

Load the printer with paper much the same as you would a typewriter. Fanfold paper, which is recommended over single sheet paper, must be loaded on the tractor feed pins.

## 2.3 SYSTEM START-UP

With this User's Guide and the accompanying console and printer manuals handy for the first couple of uses, proceed to start up the system as explained in the following paragraphs. Note that the User's Guide assumes the use of a dual disk drive computer system. Hard disk system users should refer to Appendix B for a description of hard disk operation.

**Switch it On** After assembling the console, turn on the system. The system will self-test and activate the internal operating system to prepare to read from an operating system (MS-DOS).

**"Boot" the System** Insert your MS-DOS disk into drive A after the red disk drive light goes out and press the Return key to "boot" or initialize the system (See Section 6.1 for explanation of the MS-DOS operating system). The screen will ask for a date and time. Enter the date according to the format displayed (e.g., month/day/year), press the Return key, and enter the time and press the return key. The time entry may be bypassed by just pressing the Return key. The screen will then display the MS-DOS drive A prompt:

A: or A>

**Select a Disk** Remove the MS-DOS disk, and choose the proper program and data disks according to the program (e.g., cost projection, 1900-55) you want to use. Recall that Exhibit 1-1 directs you to the proper section in this User's Guide for the task that you wish to perform. Please read the appropriate section before using the programs for the first time.

**Insert the Disk** Insert the appropriate program disk in drive A; open the disk drive latch; hold the disk by the label with the label facing left, and slide it into the slot. Then, close the latch. Do the same with the corresponding data disk in drive B. (Users with a hard disk system see Appendix R.)

**Special Features of the Video Screen** The computer, through visual displays on the screen, uses techniques like prompts, cursors, and programmed questions to ask what you want and tell you how to proceed. Your commands or replies to the computer are displayed on the screen as you type from the keyboard. Two important features of the video screen are the prompt and the cursor:

**Prompt** is a symbol that appears on the screen to signal that the computer is waiting for input. It also indicates which software system is in control. For example, MS-DOS uses a colon ":" or a greater-than sign ">" preceded by a disk drive identifier. When an A: is on the screen it means that the MS-DOS is in control and is directed to drive A. Section 6.1 will discuss the MS-DOS operating system further.

**Cursor** is the blinking symbol that marks your position on the screen; that is, the position at which the next key you strike will be displayed.

**Special Keys and Functions** Here is a list of commonly used special keys and their functions:

**Return or Enter** key is used to tell the computer you are finished making an entry. Hit the Return key after you have typed a command, a line of text, or a response to a system question. This key may be labeled Return, Enter, or ↵ on your keyboard.

**Caps Lock** key locks only the letters into upper case; the numbers and special characters are not affected. For example, to type a "\$" you must press the shift key and the "\$" key.

**Backspace** key allows you to back up the cursor to a previous space on the current line or onto a previous line of input to make changes.

**Shut-Down** When you have finished with a program, you will be returned to the MS-DOS prompt of A:. All the cost management programs will prompt you to enter Q to quit the program when the program is finished. To leave the Crosstalk program, you enter QUIT. When you enter these commands the system returns you to the MS-DOS prompt, A:. The red lights on the disk drives will go out, signalling that nothing is being read or written onto the disks. Then you can remove the disks without harming your programs or data. Never remove the disks, turn off the computer, or unplug the computer while the program is in operation or the red disk drive light is on. If you would like to use another software package, select the required disks and place them in the drives (remember, Exhibit 1-1 directs you to the proper section in the User's Guide for the task that you wish to perform). Otherwise, turn off the printer and the computer.

**REMINDER:** Throughout this User's Guide, the prompts and questions that the computer provides are written in CAPITAL LETTERS and your responses on the keyboard are in bold print. For example:

<u>computer prompt</u>	<u>your response</u>
COMMAND ?	LIST

## 2.4 PRINTING

Most of the print commands that you will need for on-scene cost management and other removal program reports are provided in the software packages available to you. You need to take a few steps, however, to set up your system to print out your reports or data tables. You will usually use "fanfold paper", the continuous computer paper with holes in the margins, to advance the paper through the pin wheel.

The printer must be connected to both the computer and an electrical outlet. Connect the printer to an outlet with the printer power cord. Connect the printer to the computer with the printer cable.

**Power Switch/On-line Switch** Turn on the power switch. A light will come on indicating that the printer is receiving power. The printer will then be in either an on-line or off-line mode with the computer. An on-line switch toggles the printer on- and off-line and an on-line indicator light comes on when the on-line mode is set. The printer must be on-line to receive and print data from the computer; it must be off-line when you want to use the line feed and form feed functions.

Each time the printer is turned on-line, a "top-of-form" marker is set and the printer will measure page lengths from that point. This requires the user to adjust the paper with the perforation (top of the form) just above the print head before bringing the printer on-line. To avoid damage to the printer, the power must be off before you advance the paper to "top-of-form" manually.

**Line Feed (LF) and Form Feed (FF) Buttons** With the printer set to the off-line mode, one touch of this button advances the paper one line. Hold the button down to advance many lines quickly or use the Form Feed (FF) button. The Form Feed button advances the paper one page. For printer trouble, consult the printer manual.

## 2.5 EQUIPMENT AND DISK MAINTENANCE

Field conditions you encounter in the CERCLA removal program require attention to maintenance of all sensitive equipment that you use during removal operations. The computer and components should be treated with care. This section contains basic maintenance tips and precautions to ensure that your computer equipment and disks continue to be useful tools to you in the field.

You should also ensure the security of the equipment and disks. The computer equipment's portability and value can make theft a real concern. Also, the disks may contain enforcement-sensitive information in the form of site costs, POLREPs or action memoranda, and should be secured.

### 2.5.1 Equipment Maintenance

While today's computer systems are becoming increasingly rugged, you should still treat your computer system with care. Keep paper clips and other small objects away from the printer. Also, keep your coffee and soft drinks away from the computer system.

To clean the exterior, unplug the components and wipe them with a damp cloth (mild dish detergent and water can be used to dampen the cloth). Never use harsh cleaners on the components. Periodically, vacuum the "paper dust" out of the printer.

### 2.5.2 Disk Maintenance

The disks are more susceptible to improper handling than any other piece of equipment. This concern is important to recognize because the disks contain all of the cost management programs and all of your data.

The oblong opening in the disk sheath is the access port through which the disk heads read and write data. **Be particularly careful not to touch the disk surface that is exposed through the access port--you may damage or destroy your data.**

#### Cautions When Using Disks

- Do not touch the exposed surface of the disk.
- Do not allow the disks to be bent or scratched. Part or all of your data and programs may be destroyed.
- Disks should either be in the computer or in their protective paper cover. Do not leave disks lying around unprotected. The data you save will be your own.
- Keep the disk away from heat, dust and moisture.
- The disks are magnetic storage devices, do not place them near magnetic fields (e.g., a two-way radio, your computer's video screen).
- Do not insert or remove a disk from a disk drive while the disk heads are in contact with the disk -- the red light next to the drive is on when the disk heads are in contact with the disk.
- Always remove disks from the disk drives before turning the computer off.

## Labeling Disks

Always label and date your data disks. It helps to develop a labeling system to distinguish program disks from data disks and sub-types within those categories. All customized software program disks come labeled and color-coded. If possible, write out your data disk labels before you apply them to the plastic case. If you do write on the label after it has been applied to the case, use a felt-tip pen and not a ball-point or pencil.

Exhibit 2-3 describes the color-coded labeling system used for your customized cost management computer disks. In addition, each disk has a "disk volume" name which is magnetically encoded onto the disk. Appendix E describes the disk volume labeling system.

### Exhibit 2-3

#### Disk Labeling System

Cost Projection Program Disk	-- Blue Label
1900-55 Program Disk	-- Yellow Label
Daily Cost Summary and Incident Obligation Log Program Disk	-- Orange Label
Data Disks for Cost Projection, 1900-55, and Daily Cost Summary (one working disk and one back-up disk)	-- Red Labels
Archive Disk	-- Green Label
Document Storage Disk	-- Black Label
Data Communications Access Disk	-- Tan Label

#### 2.5.3 Disk Back-Up

Disks should be copied frequently to prevent the total loss of your data. If you are using the computer on a daily basis, you should make it a part of your routine to "back up" or copy important disks. This will ensure that you always have a working copy of all programs and files. If your working disk malfunctions (although rare, this does happen), you will always have a back-up.

Having a recent back-up of these files could save you a lot of time and work in re-entering data or awaiting replacement disks should your working disk malfunction. Keep extra disks on hand to use as back-ups.

To back up a disk, place the working disk in drive A and the back-up disk in drive B. At the A:, type:

**Copy A:\*. \* B:**

This will copy all the files from the disk in drive A to the disk in drive B (see Section 6.1.3 for a more detailed explanation of the copy command). Always date and label the back-up disks. You may also wish to copy your data files periodically into files in the regional office using your data communications capability.

An automatic back-up program has been included in the cost management software to prompt you to make daily back-ups of your 1900-55 and Daily Cost Summary data files. This routine will ensure that one day's worth of data will be saved to provide for quick recovery from the loss of a data disk. All of your other disks must be backed up using the copy A:\*. \* B: command. See Section 4.1.2 on the back-up routine for 1900-55 data and Section 4.2.2 for Daily Cost Summary data back-up.

## CHAPTER 3

### COST MANAGEMENT SOFTWARE -- COST PROJECTION

This section provides instructions on how to run the removal cost management software for projecting the costs of removal actions. The software is designed to assist in both the prefunding cost estimate used to support the Action Memorandum and the ongoing cost projection used to anticipate ceiling increase requests. To account for differences in handling charges, and personnel and equipment rate calculations, four different cost projection software packages have been developed, one for each of the four ERCS zones.

The cost projection software contains rates for Emergency Response Cleanup Services (ERCS) contract personnel and equipment. The computer will ask you to input by specified categories the estimated ERCS personnel time, equipment, and expendable materials. You will also be asked to input other cleanup contractor-related costs such as subcontractor costs and waste transportation and disposal costs. The programs have a provision that allows you to enter a contingency allowance, which should be at least 15 percent, to cover unforeseen contractor expenses that may arise during a removal. In addition, you will be asked to input the estimated costs of EPA and TAT personnel, and additional major costs associated with the removal action.

With this information, the computer will calculate the cost for each category or item that you specified and will provide a listing of the individual cost components as well as total cost for the removal action. The program has been designed to subtotal the major costs of the removal action and add 15 percent to this subtotal to cover other miscellaneous costs associated with a removal action, such as support staff and management costs.

#### 3.1 OVERVIEW OF COST PROJECTION PROGRAMS

Two cost projection programs have been developed. They are designed to produce both prefunding and ongoing cost projections from your estimation of the personnel, equipment, and other resources required to complete the removal action. The prefunding projection program is used before a removal action is initiated and is designed to give an estimate of a fund ceiling. The ongoing projection program is used to project the "cost to completion" of a removal action. For ongoing cost projections, the cost to complete the site work is estimated and added to the actual cumulative cost to date of the removal action. This total estimated cost is compared with the cost ceiling of the removal to indicate whether more funds will be necessary to complete the removal.



## **Steps to Take Before Entering Data into the Computer**

Before you sit down at the computer to generate a cost projection, you need to have a clear idea in your own mind of the activities that you will be undertaking in the removal response. The computer will prompt you and will perform the calculations, but you need to do the basic thinking yourself. Take the following steps so you will have ready the information the computer needs. This procedure parallels the method outlined in the Removal Cost Management Manual, but has been adapted for use with the computer software.

Step 1: Develop the scope of work. The scope of work is based on the response objectives of the removal action. The scope of work includes determining which specific tasks are needed to meet the response objectives.

Step 2: Develop a time frame for the project.

Step 3: Determine the ERCS equipment, personnel and expendable materials requirements for each task or phase of the removal action.

Step 4: Determine the total number of each ERCS personnel and equipment category required on-site and the amount of time each will be needed. Determine total amount of expendable materials. The data input to the computer should reflect the total requirement for each personnel, equipment, or expendable material category. It is important to estimate this information as accurately as possible.

Step 5: Determine ERCS subcontractor costs.

Step 6: Estimate the costs of waste transportation and disposal, and the ERCS contingency percentage.

Step 7: Estimate direct EPA and TAT personnel costs.

Step 8: Estimate other major costs associated with the removal action.

With this information, you can now input your data to the computer.

## **Overview of Prefunding Cost Projection Program**

For the prefunding projection program you must enter your base information on the major components and costs of a removal. This information is stored in files that are used by the computer to estimate costs. The information can be edited or printed at any time.

If you have more than one option for a removal response, you can produce additional prefunding projections for the site. After developing your initial prefunding files, simply edit the files and enter new figures for those cost categories that change. Each time that you print a projection, the computer will automatically calculate the estimated cost of the projection. The computer will also add 15 percent to the total cost to account for miscellaneous costs.

### **Overview of Ongoing Cost Projection Program**

The ongoing projection program functions in a similar manner, except that this program is used after a removal action has already started. In this case, you enter the resources that you estimate will be required to complete the removal. The computer uses the cost projection software to calculate the cost to completion, adds this total to the cumulative daily total from the Incident Obligation Log, and compares the result with the site's fund ceiling. If the fund ceiling is less than the total cost to completion, you will need to make a request for additional funding shortly!

The following sections describe, in greater detail, how to use the prefunding and ongoing cost projection programs.

**REMINDER:** In this User's Guide, the prompts and questions that the computer provides are in CAPITAL LETTERS and the responses that you give to the computer are in **bold type**.

## **3.2 PREFUNDING COST PROJECTIONS**

This section explains each of the screens that you will encounter as you use the prefunding cost projection programs. See Exhibit 4-1 for an example of what a completed prefunding cost projection report looks like. To start, make sure the computer and printer are correctly hooked up, the printer is loaded with paper, and the print head is aligned at the top of the page. Then, place the MS-DOS disk in drive A, and turn the computer on. (Hard disk users see Appendix B for start-up instructions.) When the A: prompt appears and the disk drive lights have gone out, remove the MS-DOS disk. Place the cost projection disk (blue label) in drive A and the data disk (red label) in drive B. Note that you will need the dBase 2.4 Command files on the disk in drive A in order to run the cost projection programs. At the prompt, type:

**A: COSTPROJ**

Press the Return button to send the command to the computer and the first screen in the cost projection program will appear.

Screen 1. The first screen in the program is a "Welcome Banner." This screen asks you to turn on the Caps Lock key to make all of your entries in capitals so the program runs correctly. The Caps Lock key will only affect the writing of letters. Numbers and special characters are toggled on and off by using the Shift keys, and are not affected by the Caps Lock key. Press Return to continue.

```
* * * * *
*****
```

WELCOME TO THE COST PROJECTION PROGRAMS

```
*****
* * * * *
```

PLEASE :

- MAKE SURE YOUR DATA DISK IS IN DRIVE B:
- PRESS THE CAPS LOCK KEY SO ALL YOUR ENTRIES WILL BE CAPITAL LETTERS
- DON'T FORGET TO PRESS 'RETURN' AFTER EACH ENTRY
- PRESS 'RETURN' TO CONTINUE : :

**Screen 2** The next screen asks which type of cost projection you want to complete:

COST PROJECTION  
.....

THIS PROGRAM IS DESIGNED TO CALCULATE TWO  
TYPES OF COST PROJECTION  
PLEASE SELECT THE TYPE OF COST PROJECTION BY NUMBER:

1. PREFUNDING COST PROJECTION
2. ONGOING COST PROJECTION

:1:

Enter 1 for a prefunding projection, and press Return.

**Screen 3** The third screen is the main menu for the cost projection software. This screen lists all the different components of a cost projection and allows you to choose which of the cost projection files to update. The updating procedures for each component of the cost projection are the same. When you choose a file to update, the program will ask if you want to:

- Add entries to the file: the program will prompt you for information.
- Edit or view individual entries in the file: the program will list the entries and allow you to change or delete each entry.
- Delete all the entries from the file: the program will delete all entries at once.

When you have finished updating the file, you will be returned to the main menu. In this way, the files can be altered as many times as you want to reflect the resources that you anticipate will be required to complete the removal.

The main menu also includes an option to delete all the entries in all the cost projection files (Option 1), to print the cost projection (Option 13) or to quit without printing (Option 14). You will always be returned to the main menu after completing any option and you can quit, using Option 14, at any time.

```

PREFUNDING PROJECTION      :          MAIN MENU          : ABC DRUM
.....

1.  DELETE ALL FILES  (NEW SITE)
2.  UPDATE SITE DATA
3.  UPDATE ERCS PERSONNEL FILE
4.  UPDATE ERCS EQUIPMENT FILE
5.  UPDATE ERCS EXPENDABLE MATERIALS FILE
6.  UPDATE ERCS SUBCONTRACTORS FILE
7.  UPDATE ERCS WASTE TRANSPORT FILE
8.  UPDATE ERCS WASTE DISPOSAL FILE
9.  UPDATE ERCS CONTINGENCY ALLOWANCE
10. UPDATE EPA PERSONNEL FILE
11. UPDATE TAT PERSONNEL FILE
12. UPDATE ADDITIONAL COSTS FILE
13. PRINT THE PROJECTION
14. QUIT

YOUR CHOICE      : 1 :
  
```

As a large part of the editing routines for each cost projection file are similar, only selected screens will be displayed in the following paragraphs, which discuss the main menu options in more detail.

#### Option 1: Delete All Files

Use Option 1 if you are preparing a new projection (i.e., the first projection for this site).

```

PREFUNDING PROJECTION      :          DELETING FILES          : OLD PROJECTION
.....

ALL DATA USED IN PREPARING PREVIOUS PROJECTIONS TO BE DELETED ?
(Y/N) : Y:

ARE YOU SURE ? (Y/N) : Y:
(PRESSING Y AT THIS POINT WILL DELETE ALL THE DATA
USED IN PREVIOUS COST PROJECTIONS, BUT WILL NOT
ERASE DATA USED IN CALCULATING THE 1900-55 FORMS,
DAILY COST SUMMARY, OR INCIDENT OBLIGATION LOG)
  
```

If you answer Y to both questions, the computer will clear all the data used in previous projections from the cost projection files. This process may take a few seconds--a good opportunity to get a cup of coffee! Entering N for either of these questions will return you to the main menu, and leave the original data in the cost projection files intact.

### Option 2: Site Data

The site name and location must be entered before the projection can be printed. This is done from Option 2 of the main menu.

PREFUNDING PROJECTION	:	SITE DATA	:	ABC DRUM
.....				
INSTRUCTIONS:				
* TYPE IN CHANGES IF REQUIRED, OR				
* HIT "RETURN" TO KEEP THE INFORMATION SHOWN				
.....				
SITE NAME	:	ABC DRUM	:	
CITY AND STATE	:	NEWARK, NJ	:	
RETURN TO MAIN MENU (R), OR				
REENTER SITE DATA (E) :R:				

If you have just completed Option 1 of the main menu, the old site name and location will have been erased, and you will need to enter new site information. Make sure the information is correct and enter R to return to the main menu.

### Option 3: ERCS Personnel

This screen lists the choices for updating the entries in the personnel file. After you complete each choice, the program will return to this screen. You can return to the main menu by entering R at the prompt.

PREFUNDING PROJECTION :                      UPDATING                      :                      ERCS PERSONNEL

.....

INSTRUCTIONS :

- \* ENTER THE REQUIRED NUMBER
  - \* ENTER "R" TO RETURN TO THE COST PROJECTION MENU
- .....

1. ADD ENTRIES TO THE ERCS PERSONNEL FILE
2. EDIT AND VIEW ENTRIES IN THE ERCS PERSONNEL FILE
3. ERASE ALL CURRENT ERCS PERSONNEL ENTRIES

YOUR CHOICE :1:

If you select 1 from this screen, you will be presented with a list of all the ERCS job categories. Enter the appropriate 3-digit job code for the category you wish to add in the space provided and hit Return.

In the highlighted fields that appear, enter the requested information: number of personnel of that job code, number of days on-site per employee, number of hours per day, and per diem and daily expenses. As this is a cost projection, you are not required to enter the name of each employee, just the number of employees that you expect to use in each labor category. Enter the number of days that you expect these employees to be required on site, and the number of hours per day that you expect them to work. If the hours per day are greater than 8.0, the computer will automatically calculate overtime costs. If applicable, enter the approximate per diem amount, including meals, hotel, and other applicable daily expenses, for each employee category. Personnel in the same job category with either different hours per day on-site or different per diem rates must be added to the cost projection list separately. For example, if two hazardous waste clean-up technicians have different anticipated average hours per day, you should have individual entries for each technician. Do not forget to hit Return after each entry.

```

PREFUNDING PROJECTION      :      ADDING      :      ERCS PERSONNEL
.....
INSTRUCTIONS:

*   ENTER THE 3 DIGIT JOB CODE AND ANSWER THE QUESTIONS WHICH FOLLOW
*   WHEN YOU ARE DONE AND WANT TO CONTINUE, ENTER "C" FOR THE JOB CODE
.....

001  RESPONSE MGR           002  CHEMICAL ENG. L2           003  ORGANIC CHEM. L2
004  IND.HYG.SAFE.ENG.L2    005  HYDROGEOLOGIST L2        006  FOREMAN HW L3
007  FOREMAN HW L2         008  CLEAN-UP TECH HW L2      009  CLEAN-UP TECH HW L1
010  LABORER L1           011  EQUIP.OPERATOR L2        012  EQUIP.OPERATOR L1
013  TRUCK DRIVER L1       014  LAB. TECHNICIAN L2        015  LAB. TECHNICIAN L1
016  WELDER L2            017  ELECTRICIAN L2          018  MECHANIC L2
019  CARPENTER L2         020  EXPLOSIVES SPEC.L3       021  SECURITY GUARD L1
022  FIELD CLERK-TYPIST

:.....:
JOB CODE                               :011:
NUMBER OF EMPLOYEES IN THIS CODE      : 2:
NUMBER OF DAYS PER EMPLOYEE           : 20:
NUMBER OF HOURS PER DAY PER EMPLOYEE  :10.00:
PER DIEM PER EMPLOYEE                 : 75.00:

```

The screen will keep repeating to allow you to enter all your ERCS personnel. The program will automatically calculate the total cost for each employee category. These calculations are based on the hourly and per diem figures that you enter and on the pay scale from the ERCS contract, already stored in a file on the program disk. When you have finished, enter:

JOB CODE: C

The program will continue to the next screen, which will allow you to enter information on non-listed ERCS job categories if necessary. When you have finished, indicate so at the screen prompt, and the program will return to the ERCS personnel menu shown on page 3-8.

If you want to edit or alter entries that are already in the ERCS personnel file, enter 2 from the ERCS personnel menu. This will display all the data you have entered on the screen and allow you to make changes to, or delete, each individual entry.



PREFUNDING PROJECTION :			EDITING AND VIEWING			ERCS PERSONNEL	
Edit Code	Rec #	Job Name	Number of Employees	Days on Site	Hours per Day	Per Diem	Estimated Cost
001	1	RESPONSE MANAGER	1	30	10.00	75.00	18720.00
006	2	FOREMAN L3	1	30	10.00	75.00	13680.00
008	3	CLEANUP TECH L2 HWR	1	30	10.00	75.00	10230.00
009	4	CLEANUP TECH L1 HWR	3	20	10.00	75.00	18720.00
011	5	EQUIP. OPERATOR L2	2	20	10.00	75.00	16360.00
022	6	FIELD CLERK-TYPIST	1	30	8.00	75.00	6810.00
021	7	SECURITY GUARD L1	3	30	8.00	0.00	6840.00
017	8	ELECTRICIAN L2	1	3	8.00	0.00	756.00
010	9	LABORERS L1	2	10	10.00	0.00	3900.00

\* INSTRUCTIONS - ENTER CODE:

\* "E" - EDIT ABOVE RECORDS      \* "V" - VIEW MORE RECORDS  
\* "R" - RETURN TO PERSONNEL MENU

YOUR CHOICE: :E:

Follow the instructions at the bottom of the screen to edit the individual entries (E), view more entries (V), or return to the ERCS personnel editing menu (R). The program only lists ten entries on the screen at one time -- additional entries will be displayed on the screen when you enter V. To edit or delete an individual entry, enter E and you will be prompted for the Record Number of the entry you want to edit.

PREFUNDING PROJECTION :			EDITING AND VIEWING			ERCS PERSONNEL	
Edit Code	Rec #	Job Name	Number of Employees	Days on Site	Hours per Day	Per Diem	Estimated Cost
001	1	RESPONSE MANAGER	1	30	10.00	75.00	18720.00
006	2	FOREMAN L3	1	30	10.00	75.00	13680.00
008	3	CLEANUP TECH L2 HWR	1	30	10.00	75.00	10230.00
009	4	CLEANUP TECH L1 HWR	3	20	10.00	75.00	18720.00
011	5	EQUIP. OPERATOR L2	2	20	10.00	75.00	16360.00
022	6	FIELD CLERK-TYPIST	1	30	8.00	75.00	6810.00
021	7	SECURITY GUARD L1	3	30	8.00	0.00	6840.00
017	8	ELECTRICIAN L2	1	3	8.00	0.00	756.00
010	9	LABORERS L1	2	10	10.00	0.00	3900.00

\* INSTRUCTIONS - EDITING ENTRIES

\* ENTER RECORD NUMBER TO EDIT OR  
PRESS "RETURN" TO START FROM TOP: 6:

The individual entry Record Numbers are shown in the second column of the list on the screen. When you have chosen an entry to edit, the screen will prompt you for further instructions:

PREFUNDING PROJECTION :			EDITING AND VIEWING			ERCS PERSONNEL	
Edit Code	Rec #	Job Name	Number of Employees	Days on Site	Hours per Day	Per Diem	Estimated Cost
001	1	RESPONSE MANAGER	1	30	10.00	75.00	18720.00
006	2	FOREMAN L3	1	30	10.00	75.00	13680.00
008	3	CLEANUP TECH L2 HWR	1	30	10.00	75.00	10230.00
009	4	CLEANUP TECH L1 HWR	3	20	10.00	75.00	18720.00
011	5	EQUIP. OPERATOR L2	2	20	10.00	75.00	16360.00
EE:	6	FIELD CLERK-TYPIST	1	30	8.00	75.00	6810.00
021	7	SECURITY GUARD L1	3	30	8.00	0.00	6840.00
017	8	ELECTRICIAN L2	1	3	8.00	0.00	756.00
010	9	LABORERS L1	2	10	10.00	0.00	3300.00

.....

\* INSTRUCTIONS - EDITING ENTRIES - ENTER CODE:

\* "EE" - EDIT                      \* "RR" - RETURN TO MENU

\* "DD" - DELETE                  \* "RETURN" - SKIP

- If you want to change the entry, enter EE and the data fields will light up. Type your changes over what is already written, press Return to enter the data, and the program will save your changes.
- If you want to delete an entry from the field, enter DD when prompted for the edit code, and, after confirmation, the entry will be deleted from the file.
- If you want to return to the personnel editing menu, enter RR when prompted for the edit code.
- If you want to skip an entry, leaving it unchanged, press the Return key.

When you have finished editing the entries in the ERCS personnel file, an entry of R at the instruction prompt will return you to the ERCS personnel menu, shown on page 3-8. You can return to the cost projection main menu by entering another R at the ERCS personnel menu.

#### Option 4: ERCS Equipment

The ERCS equipment menu is set up in the same way as the ERCS personnel menu, with options to add equipment to the file, edit or delete individual entries in the file, and delete all entries in the file.

Enter 1 from the ERCS equipment editing menu to add equipment to the file. There are four pages of equipment screens that list ERCS equipment. You can "flip" to any of these four pages by typing P1, P2, P3, or P4 in the highlighted area and pressing the Return key.

PREFUNDING PROJECTION :		ADDING :		ERCS EQUIPMENT	
:Code Equipment		Code Equipment		PAGE 1 :	
001	BACKHOE CAT 225	002	BACKHOE CASE 580		
003	F-END LOADER CRAWLR	004	F-END CRAWLR 4 1/2Y		
005	F-END LOADER, WHEEL	006	F-END LDR/W BACKHOE		
007	FORKLIFT 2 TON	008	CRANE 6 TON SLF-PRP		
009	GRPPLR DRH HYDRL360	010	TRCK DMP HWY 5-10FX		(0.25/MI)
011	TRCK DMP HWY10-20FX	012	TRCK DMP 5-10 DTCHD		(0.25/MI)
013	TRCK DMP 10-20DTCHD	014	TRUCK PU		(0.15/MI)
015	TRUCK FWD	016	TRUCK STAKE BED 2 T		(0.25/MI)
017	TRUCK STAKE BED 1 T	018	TRUCK TANKER 5000 G		(0.80/MI)
019	MAINTENANCE VEHICLE	020	PASSENGER VAN		(0.15/MI)
021	PASSENGER SEDAN	022	TRAILR DECONTM 40FT		
023	TRAILR OFFICE 8X30	024	TRAILR EQUIPMT-STOR		
025	TRLR TKR GALVIN5000	026	TRLR TKR GLASS-5000		

SELECT EQUIPMENT BY NUMBER (USE 3 DIGITS). GO TO SCREEN PAGES 1 THRU 4 BY SELECTING P1 THRU P4, RESPECTIVELY. TO CONTINUE, SELECT C. :001: -

The screen will repeat to allow you to enter all of your ERCS equipment. When you have finished entering all the equipment that you need from the ERCS list, enter C for the equipment code.

The next screen will allow you to add any ERCS-provided equipment not shown on the equipment list, if necessary. Enter the requested information in the highlighted areas.

When you have finished entering your ERCS and non-ERCS equipment, the computer will prompt you for information on the number of regular working days, mobilization/demob days, decontamination days and standby days you anticipate for each piece of equipment in your equipment file.



PREFUNDING PROJECTION	ADDING	ERCS EXPENDABLES
.....		
PLEASE ENTER THE FOLLOWING INFORMATION:		
EXPENDABLE MATERIAL USED	: VISQUEEN	:
USE	: MISC.	:
APPROXIMATE UNIT COST	: 45.00	:
NAME OF UNIT (e.g. BARRELS, LBS)	: ROLLS	:
NUMBER OF UNITS	: 5	:
MORE EXPENDABLES ? (Y/N) : Y:		

After you enter the information for one type of expendable materials, the screen will ask you whether you have more expendable materials. Entering Y will repeat the questions for the next type of expendable materials, while a response of N will send you back to the ERCS expendables menu.

Individual entries in the expendables file can be edited or deleted by following the same step-by-step instructions as for the personnel and equipment file editing.

#### Option 6: ERCS Subcontractors

The format of the ERCS subcontractors menu, which is reached by entering 6 from the main menu, is the same as that shown on page 3-8. If you need to add subcontractors, enter 1 from the subcontractors menu, and the screen will prompt you for the name of the subcontractor, the operation they will perform, and the charges. Enter the information in the highlighted spaces provided.

PREFUNDING PROJECTION : ADDING : ERCS SUBCONTRACTORS  
.....

PLEASE ENTER THE FOLLOWING INFORMATION:

NAME OF THE SUBCONTRACTOR : QUALITY WELLS :  
OPERATION : WELL DRILLING :  
APPROXIMATE JOB COST : 3225.00:

MORE SUBCONTRACTORS ? (Y/N) : Y:

When the screen asks if you have more subcontractors, a response of Y will repeat the sequence. A response of N will have the computer return to the ERCS subcontractors menu.

Again, the procedures for editing and deleting entries in the subcontractors file are the same as those for the other cost projection components.

#### Option 7: ERCS Waste Transport

If you need to add ERCS waste transport information to the cost projection, enter the information in response to the prompts. The program asks for: general waste type (e.g., solvents, sludge), amount of waste transported per load and units (e.g., 5,000 gallons, 80 drums), mode of transport (e.g., tanker, flatbed truck), cost per loaded mile, miles to disposal site, and number of loads to be transported. The program will automatically calculate the total waste transport cost.

PREFUNDING PROJECTION : ADDING : ERCS TRANSPORT  
.....

PLEASE ENTER THE FOLLOWING INFORMATION:

GENERAL WASTE TYPE	: BULKED LIQ. :
AMOUNT OF WASTE PER LOAD, AND UNITS	: 5000 GAL :
MODE OF TRANSPORT	: TRUCK :
COST PER LOADED MILE	: 6.30:
MILES TO DISPOSAL SITE	: 500:
NUMBER OF LOADS	: 5:

MORE TRANSPORT REQUIRED ?(Y/N) :Y:

Entries in the file can be edited or deleted using the same procedure as previously described.

#### Option 8: ERCS Waste Disposal

Again, if you need to add waste disposal costs, enter the information at the prompts.

PREFUNDING PROJECTION : ADDING : ERCS DISPOSAL  
.....

PLEASE ENTER THE FOLLOWING INFORMATION:

GENERAL WASTE TYPE	: SLUDGE :
NAME OF DISPOSAL SITE	: ACME WASTE:
CITY AND STATE	: COLUMBUS, OH :
COST OF DISPOSAL PER UNIT	: 100.00:
NAME OF UNIT (eg DRUMS, LBS)	: DRUMS :
NUMBER OF UNITS	: 30:

MORE DISPOSAL SITES ?(Y/N) :Y:

If you have more than one waste type to be disposed of, or if you are using more than one disposal company, enter Y when asked:

MORE DISPOSAL SITES (Y/N)?

to repeat the data entry screen. Editing and deleting procedures are the same as those described for the other cost projection files.

### Option 9: Contingency Allowance

To allow for unforeseen contractor expenses that may arise during a removal (i.e., discovery of additional hazardous materials and delays resulting from poor weather conditions or equipment failure), a contingency allowance of at least 15 percent should be added to the ERCS contractor cost estimate. The computer will prompt for your contingency allowance, which must be determined on a site-by-site basis, depending on the particular conditions at each site.

PREFUNDING PROJECTION                      UPDATING                      : ERCS CONTINGENCY  
.....  
  
YOUR CURRENT ERCS CONTINGENCY ALLOWANCE IS     0%  
ENTER THE NEW CONTINGENCY ALLOWANCE                : 15:

The computer will automatically apply the contingency percentage to the total ERCS cost before printing. The contingency amount is listed as a line item on the summary page of the cost projection (see Exhibit 3-1).

### Option 10: EPA Personnel

Your EPA employee file should contain a list of each EPA employee who will be working on site. To add EPA employees to the file, enter 1 from the EPA employees updating menu, and you will be prompted for more information. See Appendix C for a table of federal hourly rates by GS level. The program will automatically calculate overtime pay for more than 8 hours per day using the standard federal rate.



PREFUNDING PROJECTION : ADDING : EPA PERSONNEL  
.....

PLEASE ENTER THE FOLLOWING INFORMATION FOR EACH EPA EMPLOYEE:

TITLE	:OSC	:
REGULAR HOURLY RATE	:21.02:	
HOURS PER DAY	:10.00:	
PER DIEM AND EXPENSES	: 75.00:	
NUMBER OF DAYS ON SITE	: 30:	
MORE EPA PERSONNEL ? (Y/N)	:N:	

Individual entries are edited and deleted by following the same instructions as for the other cost projection files.

#### Option 11: TAT Personnel

If there will be TAT members on-site, enter 1 from the TAT personnel menu and enter data in the highlighted area after the prompts for each TAT member on-site. The program will automatically calculate the costs for each TAT member using an average TAT hourly rate of \$65.00 per hour. This rate includes regular and overtime pay, per diem, overhead and other expenses.

PREFUNDING PROJECTION : ADDING : TAT PERSONNEL  
.....

PLEASE ENTER THE FOLLOWING INFORMATION FOR EACH TAT EMPLOYEE:

HOURS PER DAY	:10.00:	
NUMBER OF DAYS ON SITE	: 20:	
MORE TAT PERSONNEL (Y/N) ?	:N:	

The TAT personnel file can also be edited or deleted by following the same procedures as for the other cost projection elements.

#### Option 12: Additional Costs

This is the "blanket" section to cover any other significant costs that might occur on site. For example, state and local government employees working on the site and being paid from the Fund through state contracts or letter contracts should be entered in the "additional costs" screen. Also enter here EPA costs not incurred daily, and TAT special project costs. Enter the name of the item and its total estimated cost by selecting 1 from the additional costs updating menu.

PREFUNDING PROJECTION	:	ADDING	:	ADDITIONAL COSTS
.....				
PLEASE ENTER THE FOLLOWING INFORMATION:				
ITEM	:	UTILITIES	:	
ESTIMATED COST	:	400.00	:	
MORE ADDITIONAL COSTS ? (Y/N)				
:Y:				

Again, you can edit or delete entries by following the instructions described previously.

#### Option 13: Printing the Projection

When you have finished editing all your cost projection files, Option 13 of the main menu will allow you to print the projection. Exhibit 3-1 is an example of a prefunding cost projection printout. There is no limit to the number of projections you can print (other than your time and patience!), in fact, you may wish to use the prefunding programs to cost out other removal action alternatives. You may also wish to edit your cost projection files and print another prefunding projection if you suspect that factors such as weather or labor availability or other variables might significantly change the length of time on-site affecting the removal costs and the ceiling that you should request.

The programs will calculate all totals and will add the correct ERCS handling charge for the zone to the totals for the expendable materials, subcontractors, waste transport and disposal. The programs will also add 15 percent to the final estimate to cover miscellaneous costs, such as indirect support staff and EPA headquarters costs. Due to dBASE 2.4 rounding limitations, minor discrepancies (of 1 or 2 cents) may occur in the cost calculations.

The computer will pause before printing the cost projection report to ask you to make sure that the printer is hooked up to the computer correctly, and that it is loaded with paper (see Section 2.4 for printer instructions). Enter the date and the type of paper you are using, and make sure that printing will start at the top of the page.

```
REFUNDING PROJECTION      PRINTING      : ABC DRUM
.....
```

```
ENTER DATE      :04/01/85:
```

```
ARE YOU USING SINGLE SHEET (S)
```

```
OR CONTINUOUS (C) SHEET PAPER :C:
```

```
PLEASE ENSURE THAT THE PRINTER IS HOOKED UP AND LOADED WITH PAPER
```

```
MAKE SURE THAT PRINTING WILL START AT THE TOP OF THE PAGE
```

```
PRESS "RETURN" TO CONTINUE AND PRINT : :
```

After printing, the screen will read:

```
PRESS "R" TO RETURN TO THE MAIN MENU
```

Follow the instructions to return to the main menu.

#### Option 14: Quit

You can quit at any time by entering 14 from the main menu. The computer will save all of your data on the data disk in drive B before returning to the control of the operating system, MS-DOS. When the

A: . . .

appears on the screen AND THE RED DISK DRIVE LIGHTS HAVE GONE OUT, remove the disks and turn off the computer and printer.

Don't forget to make a back-up of your cost projection data files on a daily basis as described in Section 2.5.3.

EXHIBIT 3-1

Prefunding Cost Projection Report

04/01/85      PREFUNDING COST PROJECTION FOR      ABC DRUM      NEWARK, NJ  
=====

PAGE 1

SUMMARY OF COSTS  
=====

ERCS PERSONNEL	96016.00
ERCS EQUIPMENT	43024.67
ERCS EXPENDABLE MATERIALS	1574.64
ERCS SUBCONTRACTORS	6129.00
ERCS WASTE TRANSPORT	24985.80
ERCS WASTE DISPOSAL	45198.00
	-----
SUBTOTAL OF ERCS COSTS	222928.11
15 % ERCS CONTINGENCY ALLOWANCE	33439.22
EPA PERSONNEL	8640.60
TAT PERSONNEL	13000.00
ADDITIONAL COSTS	3900.00
	-----
SUBTOTAL OF ALL PROJECTED COSTS	281907.93
15% OTHER COSTS	42286.19
	-----
TOTAL PROJECTED COST OF CLEANUP	\$ 324194.12
	=====

# EXHIBIT 3-1

## Prefunding Cost Projection Report (Continued)

04/01/85      PREFUNDING COST PROJECTION FOR      ABC DRUM      NEWARK, NJ

PAGE 2

### ERCS COSTS - PERSONNEL

JOB CATEGORY	NUMBER OF EMPLOYEES	DAYS ON SITE	HOURS PER DAY	PER DIEM	ESTIMATED COST
RESPONSE MANAGER	1	30	10.00	75.00	18720.00
FOREMAN L3	1	30	10.00	75.00	13680.00
CLEANUP TECH L2 HWR	1	30	10.00	75.00	10230.00
CLEANUP TECH L1 HWR	3	20	10.00	75.00	18720.00
EQUIP. OPERATOR L2	2	20	10.00	75.00	16360.00
FIELD CLERK-TYPIST	1	30	8.00	75.00	6810.00
SECURITY GUARD L1	3	30	8.00	0.00	6840.00
ELECTRICIAN L2	1	3	8.00	0.00	756.00
LABORERS L1	2	10	10.00	0.00	3900.00
TOTAL ESTIMATED COST OF ERCS PERSONNEL					\$ 36016.00

## EXHIBIT 3-1

**Prefunding Cost Projection Report  
(Continued)**

04/01/85      PREFUNDING COST PROJECTION FOR      ABC DRUM      NEWARK, NJ  
=====

PAGE    3

ERCS COSTS - EQUIPMENT

EQUIPMENT NAME	ESTIMATED DAYS				MILES	ESTIMATED COST
	REG.	MOB.	DECON	STBY.		
BACKHOE CAT 225	10	1	1	0	0.0	4588.00
F-END LOADER, WHEEL	15	1	1	0	0.0	3986.25
F-END LDR/W BACKHOE	15	1	1	0	0.0	2657.25
GRFPLR DRM HYDRL360	3	1	0	1	0.0	502.50
TRCK DMP HWY 5-10FX	20	0	0	0	15.0	1981.25
TRCK DMP HWY 5-10FX	20	1	0	1	150.0	2143.50
TRUCK PU	10	1	1	1	30.0	622.50
TRUCK TANKER 5000 G	10	1	1	1	150.0	3415.50
PASSENGER SEDAN	20	1	0	1	175.0	803.75
TRAILR DECONTM 40FT	25	1	1	0	0.0	3090.00
TRAILER OFFICE 8X30	30	1	1	0	0.0	1235.50
TRAILR EQUIPMT-STOR	30	1	1	0	0.0	545.50
PUMP TRASH 3"	20	1	1	0	0.0	1442.00
STEAM JENNY	8	1	0	0	0.0	826.57
AIR COMPRESSOR	20	2	0	0	0.0	1205.10
PERSNL PROT EQPT-B	25	0	0	0	0.0	3862.50
PERSNL PROT EQPT-B	20	0	0	0	0.0	3090.00
PERSNL PROT EQPT-B	20	0	0	0	0.0	3090.00
PERSNL PROT EQPT-C	20	0	0	0	0.0	1340.00
PERSNL PROT EQPT-C	20	0	0	0	0.0	1340.00
PERSNL PROT EQPT-C	25	0	0	0	0.0	1675.00
PERSNL PROT EQPT-C	25	0	0	0	0.0	1675.00
PERSNL PROT EQPT-C	25	0	0	0	0.0	1675.00
EMERG RESPNS VAN	25	0	0	0	200.0	2232.00
TOTAL ESTIMATED COST OF ERCS EQUIPMENT						\$ 49024.67

# EXHIBIT 3-1

## Prefunding Cost Projection Report (Continued)

04/01/85      PREFUNDING COST PROJECTION FOR      ABC DRUM      NEWARK, NJ  
=====

PAGE 4

### ERCS COSTS - EXPENDABLE MATERIALS

EXPENDABLE NAME	USE	UNIT COST	NUMBER OF UNITS	ESTIMATED COST
-----	-----	-----	-----	-----
VISQUEEN	MISC.	45.00	5 ROLLS	225.00
LIME	NEUTRALIZING	0.20	2000 LBS	400.00
SORBENT PADS	CLEAN UP	75.80	10 BALES	758.00
CARBON	TREATMENT	0.15	500 LBS	75.00
SUBTOTAL ESTIMATED COST OF ERCS EXPENDABLES				\$ 1458.00
TOTAL, WITH 8% ERCS HANDLING CHARGE				\$ 1574.64

### ERCS COSTS - SUBCONTRACTORS

SUBCONTRACTOR NAME	SUBCONTRACTOR OPERATION	ESTIMATED COST
-----	-----	-----
QUALITY WELLS	WELL DRILLING	3225.00
MARK HUDSON	SURVEYING	450.00
GREENSCAPE	LANDSCAPING	2000.00
SUBTOTAL ESTIMATED COST OF ERCS SUBCONTRACTORS		\$ 5675.00
TOTAL, WITH 8% ERCS HANDLING CHARGE		\$ 6129.00

# EXHIBIT 3-1

## Prefunding Cost Projection Report (Continued)

04/01/85      PREFUNDING COST PROJECTION FOR    ABC DRUM      NEWARK, NJ  
=====

PAGE 5

### ERCS COSTS - WASTE TRANSPORT

TYPE OF WASTE	AMOUNT OF WASTE	MODE OF TRANSPORT	COST PER MILE	MILES	LOADS	ESTIMATED COST
BULKED LIQ.	5000 GALS	TRUCK	6.30	500	5	15750.00
SLUDGE	30 DRUMS	TRUCK	6.50	100	3	1950.00
CONT. SOIL	200 CU. YDS.	TRUCK	6.50	100	4	2600.00
SOLIDS	65 DRUMS	TRUCK	6.30	100	3	1890.00
CRSHD DRUMS	4 TONS	TRUCK	6.30	30	5	945.00
SUBTOTAL ESTIMATED COST OF WASTE TRANSPORT						\$ 23135.00
TOTAL, WITH 8% ERCS HANDLING CHARGE						\$ 24985.80

### ERCS COSTS - WASTE DISPOSAL

TYPE OF WASTE	DISPOSAL	SITE	COST PER UNIT	UNITS	ESTIMATED COST
SLUDGE	ACME WASTE	COLUMBUS, OH	100.00	30 DRUMS	3000.00
CONT. SOIL	AD WASTE	BURLINGTON, VT	20.00	800 CU. YDS.	16000.00
SOLIDS	HMZ WASTE	ALBANY, NY	30.00	195 DRUMS	5850.00
BULKED LIQ	ARC INCIN.	WARREN, MI	0.40	25000 GALS	10000.00
CRSH. DRUMS	LANDFILL	FORTON, NJ	50.00	20 TONS	1000.00
SUBTOTAL ESTIMATED COST OF OFFSITE DISPOSAL					\$ 41850.00
TOTAL, WITH 8% ERCS HANDLING CHARGE					\$ 45198.00



# EXHIBIT 3-1

## Prefunding Cost Projection Report (Continued)

04/01/85      PREFUNDING COST PROJECTION FOR      ABC DRUM      NEWARK, NJ

PAGE 6

### EPA PERSONNEL

GOVERNMENT AGENCY	TITLE	HOURLY RATE	HOURS PER DAY	PER DIEM	DAYS ON SITE	ESTIMATED COST
EPA	OSC	21.02	10.00	75.00	30	8640.60
TOTAL ESTIMATED COST OF EPA PERSONNEL						\$ 8640.60

### TAT PERSONNEL

HOURLY MULTIPLIER	HOURS PER DAY	DAYS ON SITE	ESTIMATED COST
65.00	10.00	20	13000.00
TOTAL ESTIMATED COST OF TAT MEMBERS			\$ 13000.00

04/01/85      PREFUNDING COST PROJECTION FOR      ABC DRUM      NEWARK, NJ

PAGE 7

### ADDITIONAL COSTS

ITEM	ESTIMATED COST
UTILITIES	400.00
LAB ANALYSIS	3500.00
TOTAL ESTIMATED ADDITIONAL COSTS	\$ 3900.00

### 3.3 ONGOING COST PROJECTIONS

This section explains the ongoing projection program, which is used to project the cost to completion of a removal project. The ongoing cost projection program can only be used after a removal has begun and 1900-55 and Daily Cost Summary programs for that site have been run and stored on the data disk.

As with the prefunding cost projection option, you start by loading the cost projection disk (blue label) into drive A and the data disk (red label) into drive B. Hard disk users see Appendix B. At the prompt, type:

A: COSTPROJ

press the Return key to send the command to the computer, and the "Welcome Banner" of the cost projection program will appear. Make sure the Caps Lock key is on and press Return to continue.

The second screen asks which type of cost projection you want to perform. Enter 2 for an ongoing projection and hit Return.

The ongoing program is based on the same editing principles as those used for the prefunding program. Each of your projection files (ERCS personnel, ERCS equipment, etc.) should be altered to reflect the resources that will be required to complete the removal action. To make your editing job a little easier, the next screen will allow you to select which files you want to edit. If you want to edit the files from your most recent cost projection, enter P. However, if your most recent 1900-55 and Daily Cost Summary files contain the most representative lists of resources that will be required to complete the removal, select S at this screen. The program will then

ONGOING PROJECTION : FILE CHOICE : ABC DRUM

WHICH FILES WOULD YOU LIKE TO USE FOR THIS PROJECTION :

YOUR LATEST PROJECTION FILES (P) OR

YOUR LATEST SF1900-55 AND IOL FILES (S) ? :S:

THE COMPUTER IS NOW COPYING FILES THAT YOU CAN USE FOR THE ONGOING  
PROJECTION. THIS PROCESS TAKES SOME TIME, SO PLEASE BE PATIENT,  
AND WAIT FOR THE 'COPYING COMPLETE' MESSAGE.

automatically copy your most recent 1900-55 ERCS personnel, equipment, expendable materials, and subcontractors files and allow you to use these as a basis for editing. In addition, your most recent Daily Cost Summary files for federal employee, TAT member, and "additional" costs will be copied. The waste transport and disposal files are the only two components of the cost projection that have no equivalents in the 1900-55 and Daily Cost Summary process. The initial entries in these two files will be the estimates from your most recent cost projection for the site. The information in your 1900-55 and Daily Cost Summary files will remain intact, and will not be affected by this copying process, or by subsequent editing for the ongoing projection.

When the program has completed this copying process, the screen will say:

\*\*\* COPYING COMPLETE \*\*\*

PRESS "RETURN" TO CONTINUE WITH THE ONGOING PROJECTION

The next screen will be the now-familiar main menu screen shown on page 3-6, except that the title says "ONGOING PROJECTION: MAIN MENU," not "PREFUNDING PROJECTION: MAIN MENU."

Make sure that you edit each file to reflect the resources that will be required to complete the removal action.

The ongoing cost projection report may be printed by entering 13 at the editing menu. The program will automatically calculate the "cost to completion" for each different cost component. At the beginning of the ongoing cost projection form will be a status report containing the total estimated cost to completion of the removal (plus 15 percent to cover miscellaneous costs), the cumulative daily cost from your most recent Daily Cost Summary, and the fund ceiling. The last line of the status report will alert you if your projected costs to complete the removal are greater than the removal ceiling for the project. See Exhibit 3-2 for an Ongoing Cost Projection Report for the ABC Drum Site example.

# EXHIBIT 3-2

## Ongoing Cost Projection Report

### Summary Page - Sufficient Funds

05/31/85      ONGOING COST PROJECTION FOR      ABC DRUM      NEWARK, NJ  
=====

PAGE 1

#### SUMMARY OF COSTS =====

#### ESTIMATED COSTS TO COMPLETION :

ERCS PERSONNEL	5400.00
ERCS EQUIPMENT	11231.50
ERCS EXPENDABLE MATERIALS	899.64
ERCS SUBCONTRACTORS	0.00
ERCS WASTE TRANSPORT	6955.20
ERCS WASTE DISPOSAL	6318.00
	-----
SUBTOTAL OF ERCS COSTS	30804.34
5 % ERCS CONTINGENCY ALLOWANCE	1540.22
EPA PERSONNEL	1391.70
TAT PERSONNEL	0.00
ADDITIONAL COSTS	0.00
	-----
SUBTOTAL OF ALL PROJECTED COSTS	33736.26
15% OTHER COSTS	5060.44
	-----
SUBTOTAL OF COST TO COMPLETION	38796.70
COST OF REMOVAL TO DATE (FROM DAILY COST SUMMARY)	300485.00
	-----
TOTAL ESTIMATED COSTS FOR REMOVAL COMPLETION	\$ 339281.70
(COST OF REMOVAL TO DATE + COST TO COMPLETION)	=====
	-----
PROJECT CEILING	\$ 365000.00

\* \* \* \* \*

FUNDING IS SUFFICIENT TO COVER REMAINING COSTS --

TOTAL COSTS FOR REMOVAL COMPLETION REPRESENT

93 % OF THE PROJECT CEILING

# EXHIBIT 3-2

## Ongoing Cost Projection Report

### Summary Page - Insufficient Funds

05/31/85      ONGOING COST PROJECTION FOR      ABC DRUM      NEWARK, NJ  
=====

PAGE 1

#### SUMMARY OF COSTS =====

#### ESTIMATED COSTS TO COMPLETION :

ERCS PERSONNEL	11250.00
ERCS EQUIPMENT	19858.75
ERCS EXPENDABLE MATERIALS	899.64
ERCS SUBCONTRACTORS	0.00
ERCS WASTE TRANSPORT	6955.20
ERCS WASTE DISPOSAL	16038.00
	-----
SUBTOTAL OF ERCS COSTS	55001.59
10 % ERCS CONTINGENCY ALLOWANCE	5500.16
EPA PERSONNEL	1391.70
TAT PERSONNEL	0.00
ADDITIONAL COSTS	0.00
	-----
SUBTOTAL OF ALL PROJECTED COSTS	61893.45
15% OTHER COSTS	9284.02
	-----
SUBTOTAL OF COST TO COMPLETION	71177.47
COST OF REMOVAL TO DATE (FROM DAILY COST	300485.00
	-----
TOTAL ESTIMATED COSTS FOR REMOVAL COMPLETION	\$ 371662.47
(COST OF REMOVAL TO DATE + COST TO COMPLETION)	=====
	-----
PROJECT CEILING	\$ 365000.00

\*\*\*\*\*  
\* FUNDING IS INSUFFICIENT TO COVER REMAINING COSTS \*  
\*\*\*\*\*

## CHAPTER 4

### COST MANAGEMENT SOFTWARE -- REPORTING FORMS

This section provides instructions on how to run the removal cost management software for preparing cost and site activity forms. The software is designed to simplify preparation of the forms and shorten the time required to fill out the forms. To account for differences in handling charges and personnel and equipment rate calculations between zones, four different cost management software packages have been developed.

Each of the following forms will be discussed in detail in this chapter:

- EPA Form 1900-55 (1900-55)
- Daily Cost Summary (DCS) and Incident Obligation Log (IOL)
- Work Report
- Pollution Report (POLREP)

For cost forms -- the 1900-55, the Daily Cost Summary and the Incident Obligation Log -- you will need to know and enter daily hours on site for equipment and personnel, cost of expendable materials, and other variable daily costs. The computer will perform the necessary calculations and print the forms for you. The 1900-55 software contains the negotiated rates for ERCS personnel and equipment and will automatically "roll-over" equipment rates and calculate personnel overtime. The software also includes prompts for equipment mileage, decontamination, mobilization and demobilization calculations. The Daily Cost Summary software conveniently channels the total cost from the 1900-55 form into the Daily Cost Summary to be added along with EPA, TAT, Coast Guard, and other charges for a daily accounting of the current site cost. The Incident Obligation Log builds on the information in the Daily Cost Summary to provide both daily costs and total costs to date for each cost category. Examples of the screens that will appear when you operate the cost forms software are presented throughout the discussion.

For site activity forms -- the POLREP and Work Report -- you will use your computer and a word processing software package. These forms are mostly text. You will complete these forms on the computer screen in much the same way as you fill them out now on paper. By using the computer, however, you will be able to make corrections easily and update the form from day to day if you wish. You will also be able to send electronically these forms using the EPA E-Mail System, as explained in Chapter 5.

You may feel uncomfortable preparing the computerized forms the first time, because it will be very different from the practice of filling out each form by hand. In a very short time, however, you can realize the shortcuts and timesaving advantages of computerizing these forms, and using the computer will become second nature to you.

**REMINDER:** In this User's Guide, the prompts and questions that the computer provides are in CAPITAL LETTERS and the responses that you give to the computer are in **bold type**.

#### **4.1 CONTRACTOR'S COST REPORT (EPA Form 1900-55)**

The following discussion will guide you through preparation of the 1900-55 form. However, referring to this User's Guide is not essential while you work on the computer. The menus in the computer system provide ample explanation alone. To prepare the 1900-55 forms, the program leads you through a series of menus. By providing information when prompted by different menus, you will be building the 1900-55, even though you will not see the form until it is printed.

##### **4.1.1 Preparing the 1900-55 Form**

To begin the 1900-55 program, make sure the computer and printer are correctly hooked up. Then place the MS-DOS disk in drive A, and turn the computer on. (Hard disk users see Appendix B for start-up instructions.) When the A: prompt appears and the disk drive lights have gone out, remove the MS-DOS disk. Place the 1900-55 program disk (yellow label) in drive A and the data disk (red label) in drive B. Of course, if the computer has been "booted," and the A: prompt is already on the screen, it will not be necessary to use the MS-DOS disk. Just place the 1900-55 program disk in drive A and the data disk in drive B. Note that you will need the dBASE 2.4 command files on the disk in drive A in order to run the 1900-55 programs.

At the MS-DOS prompt, type:

**A: COSTFORM**

**Screen 1: Welcome Banner** Press the Return key to send the command to the computer and a "Welcome Banner" will appear.

```

*****
WELCOME TO THE COST CONTROL PROGRAM
*****

```

PLEASE:

- MAKE SURE YOUR DATA DISK IS IN DRIVE B:
- PRESS THE CAPS LOCK KEY SO YOUR ENTRIES WILL BE CAPITAL LETTERS
- DON'T FORGET TO PRESS 'RETURN' AFTER EACH ENTRY
- PRESS 'RETURN' TO CONTINUE : :

Turn the Caps Lock key on and press Return to continue with the program.

Screen 2: Main Menu The next screen that appears is the 1900-55 main menu. The main menu lists the different options that you will perform to create the 1900-55.

```

1900-55 FORM      :      MAIN MENU      : ABC DRUM
.....
1. DELETE ALL FILES (NEW SITE)
2. UPDATE SITE AND CONTRACT DATA
3. UPDATE ERCS PERSONNEL FILE
YOUR CHOICE      4. UPDATE ERCS EQUIPMENT FILES
: 1:             5. UPDATE ERCS EXPENDABLE MATERIALS FILE
                6. UPDATE ERCS SUBCONTRACTOR FILE
                7. UPDATE COMMENTS AND ADJUSTMENTS TO THE 1900-55 TOTALS
                8. CALCULATE AND PRINT 1900-55 COST FORM
                9. QUIT

```



The 1900-55 forms are prepared on a daily basis by updating files for each of the four major ERCS components--personnel, equipment, expendable materials and subcontractors. The procedures used to update each file are the same. Select the number of the file to be updated, and you will then be able to add entries to the file, edit entries in the file, or delete entries from the file. After the completion of each option you will be returned to the main menu. You may update each file as many times as you want. At the end of the updating process, each file should contain a list of the ERCS resources that were used on site that day. After you have selected the option to print (Option 8), the computer will calculate the daily cost for each item in the files, and print the 1900-55 form.

The 1900-55 main menu also includes options to erase the data from all the files (Option 1), update site and contract data (Option 2), write comments or adjustments to the 1900-55 (Option 7), and quit (Option 9). Each option in the 1900-55 main menu will be discussed in turn in the following sections.

#### Option 1: Delete All Files

This option is used to clear the files of all entries from a previous removal site so that you can begin a new project (see screen on next page). A response of Y to both questions will ensure that all files are cleared. If you enter N for either question, you will be returned to the main menu.

```
1900-55 FORM      :      DELETING FILES      :      OLD SITE
.....
IS THIS A NEW SITE (Y/N) ? :Y:
ARE YOU SURE (Y/N) ? (PRESSING Y AT THIS POINT WILL
ERASE THE FILES FROM THE PREVIOUS SITE ) :Y:
```

### Option 2: Site and Contract Data

Option 2 from the 1900-55 main menu prompts you for general site and contract information, which must be entered before the 1900-55 forms can be printed.

1900-55 FORM	ADDING OR EDITING	SITE DATA
.....		
1. PROJECT TYPE      REMOVAL		2. SITE NAME :ABC DRUM :
3. CITY AND STATE :NEWARK, NJ	:	4. SITE #    :12-34-56:
-----		
5. APPROPRIATION # :999999999999:		6. DELIVERY ORDER # :1234-13-411:
7. DOCUMENT CONTROL # :36279	:	8. OBJECT CLASS :ABCD :
-----		
9. CONTRACTOR :WASTEBUSTERS	:	10. CONTRACT #    :68-02-1234:
11. CONTRACT D.O. CEILING : 125000:		12. PROJECT CEILING : 365000:
-----		
13. PROJECT CEILING APPROVAL DATE :04/01/85:		
-----		
ENTER "C" TO CONTINUE OR "E" TO RE-ENTER DATA :C:		

The site and contract information will be stored in a file on your data disk. Some of the information, such as site name and project ceiling amount, will automatically appear in the appropriate place on the 1900-55 when you print the form. Other information is collected for recordkeeping purposes only. If you receive a project ceiling increase, enter the new ceiling amount under item 12 on the previous screen. The computer will automatically record the new ceiling amount in your 1900-55, Daily Cost Summary and Incident Obligation Log files.

### Option 3: ERCS Personnel

Option 3 from the 1900-55 main menu allows you to update your ERCS personnel file. The ERCS personnel menu gives you the choice of adding entries to the file, editing, or deleting entries. Zone 1 users also have the option to enter the total number of surcharge hours for personnel using levels A and B protective gear. The example screen shown is from the Zone 1 software.

1900-55 FORM	:	UPDATING	:	ERCS PERSONNEL
.....				
INSTRUCTIONS :				
* ENTER THE REQUIRED NUMBER				
* ENTER "R" TO RETURN TO THE 1900-55 MAIN MENU				
.....				
1. ADD ENTRIES TO THE PERSONNEL FILE				
2. EDIT AND VIEW ENTRIES IN THE PERSONNEL FILE				
3. ERASE ALL CURRENT PERSONNEL ENTRIES				
4. ENTER LEVELS A AND B SURCHARGE HOURS				
YOUR CHOICE :1:				

If this is the first day of a new removal action, you will need to add personnel to the file. Subsequently, these entries may be updated at any time by selecting options 1, 2 or 3 from the ERCS personnel menu.

To add personnel, enter 1 and the computer will prompt you to enter whether the workday falls on a weekday (WD) or weekend (WE). Zone 1 users must enter WD, SAT or S/H for the workday. The screen below is from Zone 1 software.

1900-55 FORM	:	ADDING	:	ERCS PERSONNEL
.....				
ENTER DAY OF THE WEEK:				
* "WD" - WEEKDAY				
* "SAT" - SATURDAY				
* "S/H" - SUNDAY OR HOLIDAY				
YOUR CHOICE :WD :				

The next screen will list the standard ERCS job titles and corresponding 3-digit ERCS job codes. At the bottom of the screen, you are prompted for job code, personnel name, hours for the day and per

diem. Overtime (more than eight hours per day) and weekend charges will be calculated for you, based on the regular and overtime hourly pay rates for each zone that are stored in the computer.<sup>1</sup>

1900-55 FORM	ADDING	ERCS PERSONNEL
.....		
INSTRUCTIONS:		
* ENTER THE 3 DIGIT JOB CODE AND ANSWER THE QUESTIONS WHICH FOLLOW		
* ENTER "OT" FOR HOURS IF EXTRA OVERTIME HOURS ARE REQUIRED ON WEEKDAYS		
* WHEN YOU ARE DONE AND WANT TO CONTINUE, ENTER "C" FOR THE JOB CODE		
.....		
001 RESPONSE MGR	002 CHEMICAL ENG. L2	003 ORGANIC CHEM. L2
004 IND.HYG.SAFE.ENG.L2	005 HYDROGEOLOGIST L2	006 FOREMAN HW L3
007 FOREMAN HW L2	008 CLEAN-UP TECH HW L2	009 CLEAN-UP TECH HW L1
010 LABORER L1	011 EQUIP.OPERATOR L2	012 EQUIP.OPERATOR L1
013 TRUCK DRIVER L1	014 LAB. TECHNICIAN L2	015 LAB. TECHNICIAN L1
016 WELDER L2	017 ELECTRICIAN L2	018 MECHANIC L2
019 CARPENTER L2	020 EXPLOSIVES SPEC.L3	021 SECURITY GUARD L1
022 FIELD CLERK-TYPIST		
:.....:		
ENTER JOB CODE		:001:
ENTER EMPLOYEE NAME		:DAVE BROWN :
ENTER HOURS FOR TODAY		:10.00:
ENTER PER DIEM (IF APPLICABLE)		: 75.00:
WEEKDAY(WD),OR SATURDAY(SAT),OR SUN/HOL(S/H)		WD

Occasionally, one employee may work more than eight hours in two different job categories. For example, if the same ERCS employee worked as a clean-up technician for four hours and then as a laborer for another six hours in the same day, this person should be entitled to two hours of overtime, to be paid at the overtime rate for a laborer. Normally, the computer will only calculate overtime charges if the hours for each job category are more than eight. To ensure that the correct overtime charges are calculated, enter OT for the hours.

<sup>1</sup> For users in Zone 1 who enter an explosives technician (job code 020), the program will ask whether or not the explosives technician has used explosives, and will apply the explosives surcharge accordingly.

1900-55 FORM

ADDING

EPCS PERSONNEL

## INSTRUCTIONS:

- \* ENTER THE 3 DIGIT JOB CODE AND ANSWER THE QUESTIONS WHICH FOLLOW
- \* ENTER "OT" FOR HOURS IF EXTRA OVERTIME HOURS ARE REQUIRED ON WEEKDAYS
- \* WHEN YOU ARE DONE AND WANT TO CONTINUE, ENTER "C" FOR THE JOB CODE

001 RESPONSE MGR	002 CHEMICAL ENG. L2	003 ORGANIC CHEM. L2
004 IND.HYG.SAFE.ENG.L2	005 HYDROGEOLOGIST L2	006 FOREMAN HW L3
007 FOREMAN HW L2	008 CLEAN-UP TECH HW L2	009 CLEAN-UP TECH HW L1
010 LABORER L1	011 EQUIP.OPERATOR L2	012 EQUIP.OPERATOR L1
013 TRUCK DRIVER L1	014 LAB. TECHNICIAN L2	015 LAB. TECHNICIAN L1
016 WELDER L2	017 ELECTRICIAN L2	018 MECHANIC L2
019 CARPENTER L2	020 EXPLOSIVES SPEC.L3	021 SECURITY GUARD L1
022 FIELD CLERK-TYPIST		

ENTER JOB CODE  
 ENTER EMPLOYEE NAME  
 ENTER HOURS FOR TODAY  
 ENTER PER DIEM (IF APPLICABLE)  
 WEEKDAY(WD),OR SATURDAY(SAT),OR SUN/HOL(S/H)

:010:  
 :GREG COTTLE  
 :OT :  
 : 00.00:  
 WD

The next screen will prompt you for the number of regular and overtime hours for the employee in that category. Additional overtime hours can only be added in this way on a weekday, as the computer will automatically designate all weekend hours as overtime hours.

1900-55 FORM

ADDING

EXTRA OVERTIME HOURS

010  
 LABORERS L1  
 GREG COTTLE

ENTER REGULAR HOURS FOR THE PERSON IN THIS JOB CATEGORY : 4.00:

ENTER OVERTIME HOURS FOR THE PERSON IN THIS JOB CATEGORY : 2.00:

The "adding personnel" screen will keep repeating to allow you to add all your entries to the file. When you have finished, enter:

JOB CODE: C

The screen will then ask if you have any non-negotiated ERCS job categories to add to the personnel list. A response of N will return the program to the ERCS personnel menu shown on page 4-6. A response of Y will direct the program to prompt for the necessary information.

1900-55 FORM

ADDING

ERCS PERSONNEL

DO YOU HAVE OTHER JOB CATEGORIES NOT ON THE ERCS PERSONNEL LIST ? (Y/N) :Y:

PLEASE ENTER DATA:

JOB CODE ASSIGNED	999	
JOB NAME	:GEOLOGIST	:
EMPLOYEE NAME	:HERB GODMAN	:
REGULAR HOURLY RATE	:45.00:	
OVERTIME HOURLY RATE	:65.00:	
SUN/HOL HOURLY RATE	:70.00:	
TOTAL DAILY HOURS	:10.00:	
PER DIEM (IF APPLICABLE)	: 0.00:	
WEEKDAY(WD), SATURDAY(SAT), SUN/HOL(S/H)	WD	

Enter a descriptive job name and the employee name, hours, pay rates and per diem. Non-negotiated job categories are automatically assigned a job code of "999". Respond N when you have entered all of your non-negotiated job categories, and the program will return to the ERCS personnel menu shown on page 4-6.

In order to view your personnel entries, or edit and delete individual entries, enter 2 from the ERCS personnel menu. The program will prompt you to enter whether the workday falls on a weekday or a weekend and will then list your entries on the screen and prompt you for further instructions.

1900-55 FORM			EDITING AND VIEWING		ERCS PERSONNEL		
Edit Code	Rec #	Job Name	Employee Name	Regular Hours	Overtime Hours	Per Diem	Day
001	1	RESPONSE MANAGER	DAVE BROWN	8.00	2.00	75.00	WD
006	2	FOREMAN L3	JOHN HUBBARD	8.00	2.00	75.00	WD
008	3	CLEANUP TECH L2 HWR	JIM WINTER	8.00	2.00	75.00	WD
008	4	CLEANUP TECH L2 HWR	TIM RICHARDSON	8.00	2.00	75.00	WD
009	5	CLEANUP TECH L1 HWR	GREG COTTLE	4.00	0.00	75.00	WD
010	6	LABORERS L1	GREG COTTLE	4.00	2.00	0.00	WD
021	7	SECURITY GUARD L1	SAM BEEM	8.00	0.00	0.00	WD
009	8	CLEANUP TECH L1 HWR	MARK JONES	8.00	2.00	75.00	WD
013	9	TRUCK DRIVER L1	NICK THOMPSON	8.00	2.00	75.00	WD
017	10	ELECTRICIAN L2	DAN AKKER	8.00	2.00	75.00	WD

.....

\* INSTRUCTIONS - ENTER CODE:

\* "E" - EDIT ABOVE RECORDS      \* "V" - VIEW MORE RECORDS

\* "R" - RETURN TO PERSONNEL MENU

YOUR CHOICE: :E:

An entry of E will allow you to edit the entries shown, V will place more entries on the screen (space permits only ten entries to be shown at one time), and R will return you to the ERCS personnel menu.

If you enter E, you will be prompted for the record number of the entry you want to edit. The record numbers (called Rec # on the screen to save space) are in the second column on the screen. When you have selected the entry you want to edit, you will be prompted for further instructions:

1900-55 FORM			EDITING AND VIEWING		ERCS PERSONNEL		
Edit Code	Rec #	Job Name	Employee Name	Regular Hours	Overtime Hours	Per Diem	Day
001	1	RESPONSE MANAGER	DAVE BROWN	8.00	2.00	75.00	WD
006	2	FOREMAN L3	JOHN HUBBARD	8.00	2.00	75.00	WD
008	3	CLEANUP TECH L2 HWR	JIM WINTER	8.00	2.00	75.00	WD
008	4	CLEANUP TECH L2 HWR	TIM RICHARDSON	8.00	2.00	75.00	WD
009	5	CLEANUP TECH L1 HWR	GREG COTTLE	4.00	0.00	75.00	WD
010	6	LABORERS L1	GREG COTTLE	4.00	2.00	0.00	WD
021	7	SECURITY GUARD L1	SAM BEEM	8.00	0.00	0.00	WD
009	8	CLEANUP TECH L1 HWR	MARK JONES	8.00	2.00	75.00	WD
013	9	TRUCK DRIVER L1	NICK THOMPSON	8.00	2.00	75.00	WD
017	10	ELECTRICIAN L2	DAN AKKER	8.00	2.00	75.00	WD

.....

\* INSTRUCTIONS - EDITING ENTRIES

\* ENTER RECORD NUMBER TO EDIT OR  
PRESS "RETURN" TO START FROM TOP: 7:

- If you want to edit the entry, type EE, press Return and the data entry fields will light up. Type your changes over what is already written and press Return to move on to the next field.
- If you want to delete the entry, type DD and press Return. After confirmation, the program will flag the entry for deletion when the editing routine has been completed.
- If you want to skip down to the next entry, press Return.
- If you want to return to the menu, enter RR and press Return.

1900-55 FORM			EDITING AND VIEWING		ERCS PERSONNEL		
Edit Code	Rec #	Job Name	Employee Name	Regular Hours	Overtime Hours	Per Diem	Day
001	1	RESPONSE MANAGER	DAVE BROWN	8.00	2.00	75.00	WD
006	2	FOREMAN L3	JOHN HUBBARD	8.00	2.00	75.00	WD
008	3	CLEANUP TECH L2 HWR	JIM WINTER	8.00	2.00	75.00	WD
008	4	CLEANUP TECH L2 HWR	TIM RICHARDSON	8.00	2.00	75.00	WD
009	5	CLEANUP TECH L1 HWR	GREG COTTLE	4.00	0.00	75.00	WD
010	6	LABORERS L1	GREG COTTLE	4.00	2.00	0.00	WD
EE:	7	SECURITY GUARD L1	SAM BEEM	8.00	0.00	0.00	WD
009	8	CLEANUP TECH L1 HWR	MARK JONES	8.00	2.00	75.00	WD
013	9	TRUCK DRIVER L1	NICK THOMPSON	8.00	2.00	75.00	WD
017	10	ELECTRICIAN L2	DAN AKKER	8.00	2.00	75.00	WD

\* INSTRUCTIONS - EDITING ENTRIES - ENTER CODE:

\* "EE" - EDIT                      \* "RR" - RETURN TO MENU  
 \* "DD" - DELETE                  \* "RETURN" - SKIP

Pay rates for non-negotiated job categories can be edited by following the instructions for editing the entry. After the non-negotiated entry has been edited, the pay rates will appear at the bottom of the screen, and you will be prompted to alter the rates.





#### Option 4: ERCS Equipment

The procedures used for updating the ERCS equipment file are essentially similar to those used for updating the ERCS personnel file. However, because the updating procedures for ERCS equipment must also include provisions to calculate mileage, standby, mobilization, demobilization and decontamination charges, the steps you must go through to update the file are more lengthy and involved.<sup>1</sup> The equipment charge calculations are also complicated by the fact that equipment charges may be calculated on an hourly, daily, weekly or monthly basis.

Fortunately, the cost management software will automatically charge an equipment item at the proper rate depending on the length of time the item has been on the job. For instance, if a piece of equipment has been in use for five days, and the total cost to date for the item equals the weekly rate, the computer will bill that item at the weekly rate. The computer will also charge the correct rates for equipment items on standby status or undergoing decontamination.

A detailed explanation of the algorithm used to calculate equipment charges is included in the cost management software documentation which will be distributed separately.

The ERCS equipment menu is displayed after you enter 4 from the 1900-55 main menu.

1900-55 FORM : UPDATING : ERCS EQUIPMENT

.....  
INSTRUCTIONS :

- \* ENTER THE REQUIRED NUMBER
  - \* ENTER "R" TO RETURN TO THE 1900-55 MAIN MENU
- .....

1. ADD ENTRIES TO THE EQUIPMENT FILE
2. VIEW AND EDIT ENTRIES IN THE EQUIPMENT FILE
3. VIEW AND EDIT THE EQUIPMENT DELETION/DECON LIST
4. VIEW AND EDIT THE EQUIPMENT MOBILIZATION LIST
5. VIEW AND EDIT THE EQUIPMENT DEMOBILIZATION LIST

YOUR CHOICE :1:

<sup>1</sup> ERCS Zone 4 does not have provisions for mileage or equipment decontamination charges.

The choices listed in the ERCS equipment menu will be described in the following sections.

### Adding ERCS Equipment

Before adding equipment to the file, you will be asked to enter the date that the equipment item was first used at the site. Enter the date of the 1900-55 form you are preparing. The start date of an equipment item is included for reference purposes only. The methodology used to calculate the charge for an item does NOT use the start date, and programs will NOT calculate equipment charges retroactively if you enter an earlier date.

The next screen is one of four that list the negotiated ERCS equipment items. You can flip to any of the equipment pages by typing P1, P2, P3 or P4 at the highlighted area on the screen. Equipment is added to the equipment list by entering the 3-digit code that corresponds to each equipment item. You can enter any equipment code from any page of the equipment list. For example, code 001, a Backhoe Cat 225, could be entered from the highlighted area on screen pages P1, P2, P3, or P4.

1900-55 FORM		ADDING		ERCS EQUIPMENT	
Code	Equipment	Code	Equipment	PAGE 1 :	
001	BACKHOE CAT 225	002	BACKHOE CASE 580		
003	F-END LOADER CRAWLR	004	F-END CRAWLR 4 1/2Y		
005	F-END LOADER, WHEEL	006	F-END LDR/W BACKHOE		
007	FORKLIFT 2 TON	008	CRANE 6 TON SLF-PRP		
009	GRPPLR DRM HYDRL360	010	TRCK DMP HWY 5-10FX	(0.25/MI)	
011	TRCK DMP HWY10-20FX	(0.35/MI)	012	TRCK DMP 5-10 DTCHD	(0.25/MI)
013	TRCK DMP 10-20DTCHD	(0.35/MI)	014	TRUCK PU	(0.15/MI)
015	TRUCK FWD	(0.20/MI)	016	TRUCK STAKE BED 2 T	(0.25/MI)
017	TRUCK STAKE BED 1 T	(0.20/MI)	018	TRUCK TANKER 5000 G	(0.80/MI)
019	MAINTENANCE VEHICLE	(0.20/MI)	020	PASSENGER VAN	(0.15/MI)
021	PASSENGER SEDAN	(0.15/MI)	022	TRAILR DECONTM 40FT	
023	TRAILER OFFICE 8X30		024	TRAILR EQUIPMT-STOR	
025	TRLR TKR GALVIN5000		026	TRLR TKR GLASS-5000	

SELECT EQUIPMENT BY CODE (USE 3 DIGITS). GO TO SCREEN PAGES 1 THRU 4  
BY SELECTING P1 THRU P4, RESPECTIVELY. TO CONTINUE, SELECT C. :001:

After typing in the equipment code, you will be asked how many items of that piece of equipment you want to add to the list. This will save you the trouble of making separate entries for ten pieces of the same equipment item.

If you change your mind and decide you don't want to add a particular item, enter zero to this question. The program will remind you if the equipment is subject to a mobilization charge, and will place the item on a separate mobilization list. The mobilization list is edited by selecting Option 5 from the ERCS equipment menu.

The screen will repeat to allow you to add all your ERCS equipment to the list. When you have finished, enter C for the equipment code, and the program will ask:

DO YOU HAVE OTHER EQUIPMENT NOT ON THE ERCS PRICE LIST ? (Y/N)

Answering Y to this question will make the following screen appear:

1900-55 FORM

ADDING

ERCS EQUIPMENT

FOR EQUIPMENT THAT IS USED ON THE PROJECT AND IS NOT IDENTIFIED ON THE EQUIPMENT SCREENS, PLEASE ENTER THE FOLLOWING INFORMATION :

ITEM :BOB CAT

EQUIPMENT CODE ASSIGNED = "999"

SELECT RATE: 1) HOURLY 2) DAILY 3) WEEKLY 4) MONTHLY

YOUR CHOICE :2:

ENTER DAILY RATE: 345.00:

Enter the name of the equipment item, the rate of item and, if applicable, a mileage surcharge. Please note that unlike equipment items on the ERCS price list, non-negotiated equipment items are billed at a single rate and do not automatically switch over to a discount rate based on the length of time they have been used. However, the equipment editing routine allows the user to change the billing rate for non-negotiated equipment items over the course of a project.

Respond N when you have finished entering all non-negotiated ERCS equipment.

The next screen will ask if you want to enter hours and mileage, if applicable, for the equipment items you have just added to the file. Hours can be added either at this point, or when editing your equipment list (from choice 2 of the ERCS equipment menu). A response of Y to this question will direct the program to list each of your equipment items in turn, and prompt you for regular and standby hours, and mileage, if applicable.

1900-55 FORM

ENTERING HOURS

: ERCS EQUIPMENT

## INSTRUCTIONS:

- \* ENTER REGULAR AND STANDBY HOURS FOR THIS ITEM
- \* ENTER MILEAGE WHEN PROMPTED

001 BACKHOE CAT 225

REGULAR HOURS WORKED

4.00:

HOURS ON STANDBY

2.00:

IS STANDBY ON-SITE OR OFF-SITE (ON/OFF)

: ON :

At the end of the file, you will be returned to the ERCS equipment menu shown on page 4-13.

Editing ERCS Equipment

The procedures for editing the ERCS equipment entries are the same as those for editing the ERCS personnel entries that are described on pages 4-9 to 4-12. Your ERCS equipment file will be sorted so that the entries are in ascending order by equipment code before they are written on the screen.

1900-55 FORM

EDITING

: ERCS EQUIPMENT

Code	Rec #	Equipment Item	Start Date	Reg. Hrs.	Stby. Hrs.	Stby. Stat.	No. Miles	Dele. Flag
001	1	BACKHOE CAT 225	04/10	4.0	2.0	ON		
002	2	BACKHOE CASE 580	04/10	8.0	0.0			
023	3	TRAILER OFFICE 8X30	04/10	8.0	0.0			
049	4	GENERATOR 10 KW	04/10	8.0	0.0			
081	5	PERSNL PROT EQPT-B	04/10	8.0	0.0			
081	6	PERSNL PROT EQPT-B	04/10	4.0	4.0	ON		
082	7	PERSNL PROT EQPT-C	04/10	4.0	4.0	ON		
082	8	PERSNL PROT EQPT-C	04/10	4.0	4.0	ON		
082	9	PERSNL PROT EQPT-C	04/10	4.0	4.0	ON		
082	10	PERSNL PROT EQPT-C	04/10	4.0	4.0	ON		

\* INSTRUCTIONS - ENTER CODE:

\* "E" - EDIT ABOVE RECORDS

\* "V" - VIEW MORE RECORDS

\* "R", - RETURN TO EQUIPMENT MENU

YOUR CHOICE: :E:

Follow the instructions to edit the entries (E), view more entries (V), or return to the ERCS equipment menu (R). If you choose to edit the entries, the program will ask you for the record number of the entry you want to edit, and then prompt you for further instructions. Non-negotiated ERCS equipment rates can be edited in the same way as non-negotiated ERCS personnel rates (i.e., follow the instructions to edit the non-negotiated item and the program will place the current rate on the screen for you to edit as necessary).

If you delete an equipment item the computer will prompt you to enter whether the item is subject to on-site, off-site, or no decontamination charge, and the number of hours taken to decontaminate the equipment item. Equipment items that have been selected for deletion will have a "D" appear in the deletion flag column.

1900-55 FORM			EDITING			ERCS EQUIPMENT		
Code	Rec #	Equipment Item	Start Date	Reg. Hrs.	Stby. Hrs.	Stby. Stat.	No. Miles	Dele. Flag
001	1	BACKHOE CAT 225	04/10	4.0	2.0	ON		
002	2	BACKHOE CASE 580	04/10	8.0	0.0			
023	3	TRAILER OFFICE 8X30	04/10	8.0	0.0			
***	4	GENERATOR 10 KW	04/10	8.0	0.0			D
081	5	PERSNL PROT EQPT-B	04/10	8.0	0.0			
081	6	PERSNL PROT EQPT-B	04/10	4.0	4.0	ON		
082	7	PERSNL PROT EQPT-C	04/10	4.0	4.0	ON		
082	8	PERSNL PROT EQPT-C	04/10	4.0	4.0	ON		
082	9	PERSNL PROT EQPT-C	04/10	4.0	4.0	ON		
082	10	PERSNL PROT EQPT-C	04/10	4.0	4.0	ON		

.....

GENERATOR 10 KW - ENTER DECON HOURS

ENTER DECON STATUS : ON-SITE DECON - "ON"  
OFF-SITE DECON - "OFF"  
NO DECON - "NO"

YOUR CHOICE :ON :

Equipment items that have been deleted from the ERCS equipment file are placed on a decontamination list that can be edited by selecting Option 3 from the ERCS equipment menu. The computer automatically calculates the decontamination charge for each equipment item. The decontamination charges, if any, are written as a line item on the ERCS equipment 1900-55 form.<sup>1</sup>

Equipment that is leaving the removal action may also be subject to a demobilization charge. If you delete a piece of equipment that has a negotiated demobilization rate, the program will note this fact, add the item to the demobilization list, and remind you to enter demobilization information from choice 5 of the ERCS equipment menu.

<sup>1</sup> On the 1900-55 form, decon hours are denoted "DC" and standby hours are "SB".

### Editing Deletion/Decontamination<sup>1</sup> List

Choice 3 from the ERCS equipment menu will list all the equipment items you have deleted from the ERCS equipment file today. Follow the instructions to edit decontamination information, or restore equipment items to the regular ERCS equipment file if you have deleted an item by mistake.

1900-55 FORM		EDITING DELETION/DECON LIST				ERCS EQUIPMENT	
Code	Rec #	Equipment Item	Start Date	Reg. Hrs.	Decon Hrs.	Decon Stat.	Dele. Flag
:EE:	1	GENERATOR 10 KW	04/11	0.0	5.0	ON	D

.....

\* INSTRUCTIONS - EDITING ENTRIES - ENTER CODE:

\* "EE" - EDIT                      \* "RR" - RETURN TO MENU  
\* "TT" -RESTORE                  \* "RETURN" - SKIP

Deleted items will only appear on the current day's 1900-55 if regular work or standby hours have been recorded for that item, or if there is a decontamination charge associated with the item. Items marked for deletion are erased from the active equipment file only after a final 1900-55 form has been printed for that day. You can still restore an item if only a draft 1900-55 form has been printed. Also, deleting an item from the equipment list does not erase it from the mobilization and demobilization lists. These charges can still be entered even if the item is not on the active equipment list.

### Editing Mobilization List

If equipment that you have added to the ERCS file is subject to a mobilization charge, the item is automatically added to a mobilization list and you can enter mobilization information for that equipment. Entering 4 from the ERCS equipment menu will list the items that are subject to a mobilization charge, and prompt you to enter the mobilization date, the number of days and hours mobilization spanned, and the miles, if applicable. You will also be asked if the mobilization information you have added is "final" or still "pending."

<sup>1</sup> As noted earlier, ERCS Zone 4 does not have a separate decontamination charge provision.

Mobilization charges that you designate "final" will be printed out on a separate page on the current day's 1900-55. After printing a final 1900-55, items with a final mobilization charge will automatically be erased from the mobilization list.

1900-55		VIEW AND EDIT MOBILIZATION LIST				ERCS EQUIPMENT	
Code	Rec #	Equipment Item	Mob Date	No. Days	Total Hrs.	Mileage	Entry Status
001	1	BACKHOE CAT 225		0	0.0	0.0	PENDING
002	2	BACKHOE CASE 580		0	0.0	0.0	PENDING
023	3	TRAILER OFFICE 8X30		0	0.0	0.0	PENDING

.....

\* INSTRUCTIONS - ENTER CODE:

\* "E" - EDIT ABOVE RECORDS      \* "V" - VIEW MORE RECORDS  
 \* "R" - RETURN TO EQUIPMENT MENU      \* "A" - ADD TRACTOR/TRAILER HOURS

YOUR CHOICE: :E:

ERCS Zone 1 has negotiated rates for "over the road" tractors and lowboy trailers used for mobilization and demobilization. Thus, for Zone 1 you can enter the required information on the tractor/trailers used for mobilization and the computer will automatically calculate the charge. The other three zones do not have this provision and the mobilization charge for tractor/trailers can be entered under subcontractor cost or using the adjustment provision (Options 6 and 7 respectively, from the main menu).

1900-55		EDITING MOBILIZATION LIST		ERCS EQUIPMENT	
.....					
PLEASE ENTER THE FOLLOWING INFORMATION REGARDING MOBILIZATION FOR THIS EQUIPMENT ITEM					
.....					
ITEM		'OTR' TRACTOR			
MOBILIZATION START DATE: 04/11/85		DAY 1			
ENTER NUMBER OF MOBILIZATION HOURS		: 4.0:			
ENTER NUMBER OF TRANSPORT MILES		: 103.0:			



The current software does not add non-negotiated equipment items to the mobilization or demobilization lists. If there are mobilization or demobilization charges associated with these items, these charges can be entered under subcontractor cost or by using the adjustment provision.

#### Editing Demobilization List

Choice 5 from the ERCS equipment menu will list the equipment items that you have deleted from the regular ERCS equipment list, and that are also subject to a demobilization charge. The demobilization list is edited in exactly the same way as the mobilization list. Equipment items with a final demobilization charge will be erased from the demobilization file after the final 1900-55 has been printed for that day.

When you are satisfied that the entries in the regular equipment file and the deletion, mobilization and demobilization files contain the correct information, enter R to return to the 1900-55 main menu.

#### **Option 5: ERCS Expendable Materials**

The ERCS expendables menu allows you to update the ERCS expendables file by adding, editing or deleting entries from the file.

```
1900-55 FORM      :      UPDATING      :      ERCS EXPENDABLES
.....

INSTRUCTIONS :

* ENTER THE REQUIRED NUMBER

* ENTER "R" TO RETURN TO THE 1900-55 MAIN MENU

.....

1. ADD ENTRIES TO THE EXPENDABLE MATERIALS FILE
2. EDIT AND VIEW ENTRIES IN THE EXPENDABLE MATERIALS FILE
3. ERASE ALL CURRENT EXPENDABLE MATERIALS ENTRIES

YOUR CHOICE : 1:
```

The updating process is the same as that used for the ERCS personnel file. To add expendables, enter 1 and you will be prompted for the expendable, its use, the unit cost or cost per item, the type of unit, and the quantity. If the expendable is on the ERCS price list, take the name of the expendable and its cost from the contract. You will also be asked if a handling charge should be included in the cost of the expendable. The computer will calculate the total cost of the item, including the handling charge, if applicable. The cost will be written on the screen. The example below is from Zone 1.

At the bottom of the screen, you are asked if you have more expendables to add to the list. If you respond Y, the screen will repeat. If you respond N, you will return to the ERCS equipment menu.

1900-55 FORM	ADDING	ERCS EXPENDABLES
.....		
PLEASE ENTER THE FOLLOWING INFORMATION:		
EXPENDABLE MATERIAL USED	:	SURVEY TAPE :
USE	:	MARKING :
APPROXIMATE UNIT COST	:	5.00:
NAME OF UNIT (eg LBS, BARRELS)	:	ROLL :
NUMBER OF UNITS	:	1:
* THERE IS AN 8% ERCS HANDLING CHARGE ON SOME EXPENDABLES COSTS. DO YOU WANT THIS HANDLING CHARGE INCLUDED FOR THIS ITEM ? (Y/N)		
	:	Y:
COST (INCLUDING 8% HANDLING)		5.40
MORE EXPENDABLES ? (Y/N) :Y:		

If you need to edit your ERCS expendable file, enter 2 and the entries in the file will be listed on the screen. The procedures for editing or deleting individual entries are the same as those for editing or deleting ERCS personnel entries which are described on pages 4-9 to 4-12.

Enter 3 from the ERCS expendables menu to delete all the entries in the file.

### Option 6: ERCS Subcontractors

The procedures for updating the ERCS subcontractors file are the same as those for updating the expendables file. To add subcontractors, enter 1 from the ERCS subcontractors menu. Enter the information that is required at the prompts. If you have received a final bill from a subcontractor, respond F to the "final charge or awaiting bill" question. However, if you are only entering an estimate of a subcontractor charge, respond A.

```
1900-55 FORM      :      ADDING      : ERCS SUBCONTRACTORS
.....

PLEASE ENTER THE FOLLOWING INFORMATION:

NAME OF SUBCONTRACTOR      : DRILLCO      :
OPERATION      : WELL DRILLING      :
FINAL COST (F) OR AWAITING BILL (A) ?      : F:
COST      : 850.00:

* THERE IS AN 8% ERCS HANDLING CHARGE ON SOME
SUBCONTRACTOR COSTS. DO YOU WANT THIS HANDLING
CHARGE INCLUDED FOR THIS ITEM ? (Y/N)      : Y:
COST (INCLUDING 8% HANDLING)      918.00

MORE SUBCONTRACTORS ? (Y/N) : Y:
```

The computer will automatically calculate the handling charge if you indicate that you want the handling charge to be included in the total cost of the item. The final cost will be printed on the screen. A response of Y to the question "more subcontractors?" will repeat the screen. N will direct the program to return to the ERCS subcontractors menu. The procedures for editing and deleting entries in your ERCS subcontractors file are exactly the same as those for the ERCS expendables file.

### Option 7: Comments and Adjustments

This option is intended to be a "catch-all" section where you can include any comments concerning this or previous 1900-55s. This section can also be used to document and adjust for any previous errors in the 1900-55 totals which may have been caused by omissions, or under- or over-estimates. For example, if a subcontractor-estimated charge was recorded as \$4,000 on a previous 1900-55, and the final charge received today was actually \$3,750, the difference of \$250 would need to be subtracted from the 1900-55 totals.

The procedures for updating the comments and adjustments file are the same as those for updating the ERCS expendables file.

1900-55 FORM	:	UPDATING	:	COMMENTS AND ADJUSTMENTS
.....				
INSTRUCTIONS :				
* ENTER THE REQUIRED NUMBER				
* ENTER "R" TO RETURN TO THE 1900-55 MAIN MENU				
.....				
1. ADD ENTRIES TO THE 1900-55 COMMENTS AND ADJUSTMENTS FILE				
2. EDIT AND VIEW COMMENTS AND ADJUSTMENTS				
3. ERASE ALL CURRENT COMMENTS AND ADJUSTMENTS				
YOUR CHOICE :1:				

Select 1 from the comments and adjustments menu to add entries to the file. If you are adding a comment, leave the "+" or "-" field and the amount field blank.

1900-55 FORM	:	ADDING	:	COMMENTS AND ADJUSTMENTS
.....				
THIS SECTION SHOULD ONLY BE USED IF YOU HAVE TO MAKE AN ADJUSTMENT TO PREVIOUS FINAL 1900-55 TOTALS, OR IF YOU WANT TO INSERT A COMMENT. THE ENTRIES TO THIS SECTION WILL BE PRINTED ON A SEPARATE ADJUSTMENTS PAGE. THE ADJUSTMENTS TOTAL WILL BE INCORPORATED INTO THE 1900-55 TOTALS FOR TODAY.				
ENTER THE FOLLOWING INFORMATION :				
COMMENT	:	ADJUSTMENT TO ACE SUBCONTRACTORS BILL FROM 04/10/85 :		
AMOUNT OF ADJUSTMENT	:	250.00:		
TO BE ADDED TO (+) OR SUBTRACTED FROM (-) 1900-55 TOTALS :-:				
MORE ADJUSTMENTS ? (Y/N) :N:				

The file can be edited or deleted by using the editing procedures previously described. You should note that, unlike the other ERCS files, all the entries in the comments and adjustments file are automatically deleted by the computer after you have printed a final 1900-55.

#### Option 8: Calculate and Print 1900-55 Cost Form

To print a final or draft version of the 1900-55, select 8 from the main menu. The following screen will appear to prompt you for printing instructions.

```
1900-55 FORM      : PRINTING      : ABC DRUM
.....
ENTER DATE      :04/12/85:
ARE YOU USING SINGLE SHEET (S)
OR CONTINUOUS (C) SHEET PAPER ? :C:
IS THIS A DRAFT VERSION OF THE 1900-55 (D)
OR THE FINAL (F) ? :F:
HOW MANY COPIES OF THE 1900-55 FORMS DO YOU WANT ?
(ENTER EITHER 1,2,3, OR 4) :1:

MAKE SURE THE PRINTER IS CONNECTED AND LOADED WITH PAPER,
PRESS "RETURN" TO CONTINUE AND PRINT : :
```

You are asked to supply the correct date for the 1900-55 form. ENTER THE DATE ON WHICH THE WORK WAS PERFORMED. The same date will be needed when you subsequently prepare the Daily Cost Summary form. The Daily Cost Summary program will search for the 1900-55 cost information listed under this date. The total cost from the 1900-55 will appear as a line item on the Daily Cost Summary.

You must also indicate whether you want to prepare a draft or final 1900-55. ALWAYS PREPARE A DRAFT 1900-55 FIRST. The OSC can review this draft and make any needed changes. YOU CAN PRINT AS MANY DRAFT FORMS AS YOU LIKE, BUT YOU CAN PRINT ONLY ONE FINAL VERSION. It is necessary to have strict procedures to distinguish between draft and final copies of your 1900-55, because only final data are stored into an archival file. Once you indicate that your data are final, the data are archived as a record of the activities that occurred on-site for that particular day

and cannot be changed. Entering D for DRAFT will print a draft copy of the report. Your 1900-55 will be printed without the OSC signature block and with a "DRAFT" heading at the top of each page. When printing has been completed, you will be returned to the 1900-55 main menu for editing.

Entering F for FINAL will print a final copy of the report. The OSC signature block will appear on the last page, and the draft headings will be removed. When a final 1900-55 is printed, you will be asked to save the data in an archival file. The procedure for storing your final data is described in Section 4.1.2.

The program will remind you to make sure that the printer is ready. The on-line light should be lit, the paper supply adequate, and the print head of the printer positioned at the top of the page. Remember, the printer will stop if it runs out of paper. (If the paper runs out, the program and the printer will stop while you reload the paper. Press the on-line button on the printer to resume printing.) When everything is ready, press Return to commence printing of the form.

The program will now perform all the necessary calculations and will print the categories of the 1900-55: Personnel, Equipment, Expendables and Subcontractors, each on a different page. If you have entered mobilization or demobilization charges, or if you have entries in your comments and adjustments file, these files will also be printed on separate pages. The daily cost and the cost-to-date will be summed for each category. A final print-out of the 1900-55 form is shown in Exhibit 4-1. Due to dBASE 2.4 rounding limitations, minor discrepancies (of 1 or 2 cents) may occur in the cost calculations.

NOTE: The most recent final 1900-55 form is stored on the data disk under the name "FORM1955.TXT". This file can be electronically transmitted to other locations using the data communications programs described in Chapter 5.

# EXHIBIT 4-1

## Final 1900-55: Personnel Report

HAZARDOUS SUBSTANCE RESPONSE FUND CONTRACTOR COST REPORT PAGE 1							
US ENVIRONMENTAL PROTECTION AGENCY SITE NAME: ABC DRUM				CONTRACTOR: WASTEBUSTERS		CONTRACT # 68-02-1234	
CONTRACTOR PERSONNEL REPORT EPA STANDARD FORM 1900-55				DELIVERY ORDER # 1234-13-411		DATE 04/12/85	
1. EMPLOYEES ASSIGNED	2. WORK CLASSIFICATION	3. HOURLY LABOR RATES		4. TOTAL HOURS		5. TRAVEL & PER DIEM	6. TOTAL PERSONNL COST
		REG	OT	REG	OT		
DAVE BROWN	001: RESPONSE MANAGER	52.50	64.50	8.00	2.00	75.00	624.00
JOHN HUBBARD	006: FOREMAN L3	36.00	46.50	8.00	2.00	75.00	456.00
JIM WINTER	008: CLEANUP	25.00	33.00	8.00	2.00	75.00	341.00
	TECH L2 HWR						
TIM RICHARDSON	008: CLEANUP	25.00	33.00	8.00	2.00	75.00	341.00
	TECH L2 HWR						
GREG COTTLE	009: CLEANUP	22.00	30.50	4.00	0.00	75.00	163.00
	TECH L1 HWR						
GREG COTTLE	010: LABORERS L1	18.00	25.50	4.00	2.00	0.00	123.00
SAM BEEM	021: SECURITY	9.50	12.50	8.00	0.00	0.00	76.00
	GUARD L1						
MARK JONES	009: CLEANUP	22.00	30.50	8.00	2.00	75.00	312.00
	TECH L1 HWR						
NICK THOMPSON	013: TRUCK DRIVER L1	20.00	28.50	8.00	2.00	75.00	292.00
DAN AKKER	017: ELECTRICIAN L2	31.50	42.00	8.00	2.00	75.00	411.00
CHARLES PRINCE	021: SECURITY	9.50	12.50	8.00	0.00	0.00	76.00
	GUARD L1						
JERRY WINSTON	021: SECURITY	9.50	12.50	8.00	0.00	75.00	151.00
	GUARD L1						
HAL ANTHONY	022: FIELD	19.00	27.50	8.00	2.00	75.00	282.00
	CLERK-TYPIST						
HERB GODMAN	999: GEOLOGIST	45.00	65.00	8.00	2.00	0.00	490.00
Total level A and B surcharge :		3 hours at \$5.50/hour is					16.50
7. TOTAL PERSONNEL COST TO DATE: \$ 11567.50				8. TOTAL PERSONNEL COST FOR TODAY: \$ 4154.50			

# EXHIBIT 4-1

## Final 1900-55: Equipment Report

HAZARDOUS SUBSTANCE RESPONSE FUND CONTRACTOR COST REPORT								PAGE 2
US ENVIRONMENTAL PROTECTION AGENCY SITE NAME: ABC DRUM				CONTRACTOR: WASTEBUSTERS		CONTRACT # 68-02-1234		
CONTRACTOR EQUIPMENT REPORT EPA STANDARD FORM 1900-55				DELIVERY ORDER # 1234-13-411		DATE 04/12/85		
9. EQUIPMENT ITEM	10. START DATE	11. TOTAL HOURS REG STBY		12. WORK- STATUS	13. TOT DAY	14. RTE	15. COSTS TODAY'S TOTAL TO DATE	
001: BACKHOE CAT 225 DECON CHARGE	04/10	4.00	0.00	REG	3	HR	280.00 1060.50	
009: GRPPLR DRM HYDRL360	04/12	5.00	0.00	DC-ON			94.50 94.50	
014: TRUCK PU	04/11	8.00	0.00	REG	1	HR	112.50 112.50	
MILEAGE CHARGE		10.0	MILES		2	DL	62.00 124.00	
021: PASSENGER SEDAN	04/11	4.00	3.00	SB-ON	2	HR	1.50 3.00	
MILEAGE CHARGE		30.0	MILES				37.45 93.95	
023: TRAILER OFFICE 8X30	04/10	8.00	0.00	REG	3	DL	4.50 9.00	
024: TRAILR EQUIPMT-STOR	04/11	8.00	0.00	REG	2	DL	77.00 231.00	
049: GENERATOR 10 KW	04/11	0.00	0.00	REG	2	DL	41.00 82.00	
DECON CHARGE		5.00		DC-ON			0.00 119.62	
081: PERSNL PROT EQPT-B	04/10	8.00	0.00	REG	3	DL	37.12 37.12	
081: PERSNL PROT EQPT-B	04/10	8.00	0.00	REG	3	DL	154.50 463.50	
082: PERSNL PROT EQPT-C	04/10	8.00	0.00	REG	3	DL	154.50 450.30	
082: PERSNL PROT EQPT-C	04/10	8.00	0.00	REG	3	DL	67.00 201.00	
082: PERSNL PROT EQPT-C	04/10	8.00	0.00	REG	3	DL	67.00 201.00	
082: PERSNL PROT EQPT-C	04/10	8.00	0.00	REG	3	DL	67.00 201.00	
082: PERSNL PROT EQPT-C	04/10	8.00	0.00	REG	3	DL	67.00 201.00	
082: PERSNL PROT EQPT-C	04/12	8.00	0.00	REG	1	DL	67.00 67.00	
999: BOB CAT	04/10	4.00	4.00	SB-ON	3	DL	67.00 750.36	
16. TOTAL EQUIPMENT COST TO DATE: \$ 5461.98				17. TOTAL EQUIPMENT COST FOR TODAY: \$ 1641.69				



## EXHIBIT 4-1

## Final 1900-55: Equipment Mobilization Report

HAZARDOUS SUBSTANCE RESPONSE FUND CONTRACTOR COST REPORT PAGE 3				
US ENVIRONMENTAL PROTECTION AGENCY SITE NAME: ABC DRUM		CONTRACTOR: WASTEBUSTERS		CONTRACT # 68-02-1234
EQUIPMENT MOBILIZATION LIST EPA STANDARD FORM 1900-55		DELIVERY ORDER # 1234-13-411		DATE 04/12/85
9M. EQUIPMENT ITEM	10M. MOB DATE	11M. DAYS	12M. TOTAL HOURS	13M. COST
GRPPLR DRM HYDRL360	04/12/85	1	4.0	31.50
TRAILR EQUIPMT-STOR	04/11/85	1	4.0	41.00
'OTR' TRACTOR	04/11/85	1	4.0	160.00
MILEAGE CHARGE 103.0 MILES				92.70
The following totals, 16M. and 17M. below, have been revised to include mobilization charges listed on this page.				
14M. TOTAL MOBILIZATION COST TO DATE: \$ 837.30		15M. TOTAL MOBILIZATION COST FOR TODAY: \$ 325.20		
16M. TOTAL EQUIPMENT COST TO DATE: \$ 5787.18		17M. TOTAL EQUIPMENT COST FOR TODAY: \$ 1966.89		

# EXHIBIT 4-1

## Final 1900-55: Equipment Demobilization Report

HAZARDOUS SUBSTANCE RESPONSE FUND CONTRACTOR COST REPORT PAGE 4				
US ENVIRONMENTAL PROTECTION AGENCY SITE NAME: ABC DRUM		CONTRACTOR: WASTEBUSTERS		CONTRACT # 68-02-1234
EQUIPMENT DEMOBILIZATION LIST EPA STANDARD FORM 1900-55		DELIVERY ORDER # 1234-13-411		DATE 04/12/85
9D. EQUIPMENT ITEM	10D. DEMOB DATE	11D. DAYS	12D. TOTAL HOURS	13D. COST
BACKHOE CAT 225	04/12/85	1	4.0	98.00
<p>The following totals, 16D. and 17D. below, have been revised to include demobilization charges listed on this page.</p>				
14D. TOTAL DEMOBILIZATION COST TO DATE: \$ 119.70		15D. TOTAL DEMOBILIZATION COST FOR TODAY: \$ 98.00		
16D. TOTAL EQUIPMENT COST TO DATE: \$ 5885.18		17D. TOTAL EQUIPMENT COST FOR TODAY: \$ 2064.89		

# EXHIBIT 4-1

## Final 1900-55: Expendable Materials Report

HAZARDOUS SUBSTANCE RESPONSE FUND CONTRACTOR COST REPORT PAGE 5					
US ENVIRONMENTAL PROTECTION AGENCY SITE NAME: ABC DRUM			CONTRACTOR: WASTEBUSTERS		CONTRACT # 68-02-1234
CONTRACTOR EXPENDABLE MATERIALS EPA STANDARD FORM 1900-55			DELIVERY ORDER # 1234-13-411		DATE 04/12/85
18. MATERIAL	19. USE	20. UNITS	21. QUANTITY	22. UNIT COST	23. COST
SURVEY TAPE	MARKING	ROLL	1	5.00	5.00
					* 0.40
VISQUEEN	MISC.	ROLLS	2	45.00	90.00
					* 7.20
LEATHER GLOVES	SAFETY	PAIR	10	2.00	20.00
					* 1.60
BANK GRAVEL	STAGING AREA	CU. YARDS	46	5.50	253.00
					* 20.24
SAND	STAGING AREA	CU. YARDS	15	7.00	105.00
					* 8.40
GRADE STAKES 4'	MARKING	BUNDLE	1	25.00	25.00
					* 2.00
* 8% handling charge					
24. TOTAL EXPENDABLES COST TO DATE: \$ 959.24			25. TOTAL EXPENDABLES COST FOR TODAY: \$ 537.84		

# EXHIBIT 4-1

## Final 1900-55: Subcontractors Report

HAZARDOUS SUBSTANCE RESPONSE FUND CONTRACTOR COST REPORT PAGE 6			
US ENVIRONMENTAL PROTECTION AGENCY SITE NAME: ABC DRUM		CONTRACTOR: WASTEBUSTERS	CONTRACT # 68-02-1234
SUBCONTRACTOR REPORT EPA STANDARD FORM 1900-55		DELIVERY ORDER # 1234-13-411	DATE 04/12/85
26. SUBCONTRACTOR	27. OPERATION	28. STATUS	29. COST
DRILLCO	WELL DRILLING	FINAL BILL	850.00
ABC SURVEY	SURVEYING	* Awaiting Bill	68.00
		* Awaiting Bill	500.00
		* Awaiting Bill	40.00
* 8% handling charge			
30. TOTAL SUBCONTRACTOR COST TO DATE: \$ 4548.60		31. TOTAL SUBCONTRACTOR COST FOR TODAY: \$ 1458.00	

# EXHIBIT 4-1

## Final 1900-55: Comments and Adjustments Report

HAZARDOUS SUBSTANCE RESPONSE FUND CONTRACTOR COST REPORT				PAGE 7
US ENVIRONMENTAL PROTECTION AGENCY SITE NAME: ABC DRUM		CONTRACTOR: WASTEBUSTERS		CONTRACT # 68-02-1234
COMMENTS AND ADJUSTMENTS EPA STANDARD FORM 1900-55		DELIVERY ORDER # 1234-13-411	DATE 04/12/85	
34. COMMENT		35. AMOUNT	36. ADD OR SUBTRACT FROM TOTAL	
ADJUSTMENT TO ACE SUBCONTRACTORS BILL DATED 4/10/85		250.00	-	
37. TOTAL ADJUSTMENTS TO DATE: \$ -250.00		38. TOTAL ADJUSTMENTS COST FOR TODAY: \$ -250.00		
39. TOTAL ERCS COSTS TO DATE: \$ 22710.52		40. TOTAL ERCS COSTS FOR TODAY: \$ 7965.23		
SIGNATURE OF OSC REPRESENTATIVE		DATE	SIGNATURE OF CONTRACTOR'S AUTHORIZED REPRESENTATIVE	
			DATE	

## Option 9: Quit

You can quit at any time by entering 9 from the 1900-55 main menu. The computer will save your data on the data disk in drive B, and will automatically exit the 1900-55 programs. When the MS-DOS "A:" appears on the screen, and the disk drive lights have gone out, remove the disks from the drives. Don't forget to turn off the computer and the printer.

### 4.1.2 Back-Ups and Archive Files

The data you have painstakingly entered will be saved in two ways after you print the FINAL 1900-55 and Daily Cost Summary for the day. First, the screen will prompt you to make a back-up of the current day's data, then the screen will prompt you to archive the data to the Archival File.

The following screen will appear:

1900-55 FORM	:	BACK-UP AND ARCHIVE	:	ABC DRUM
.....				
TO SAVE THE DATA FROM THE FINAL FORMS YOU HAVE JUST PRINTED AND SAVE TODAY'S DATA TO THE ARCHIVAL FILES, DO THE FOLLOWING:				
- TYPE SAVEDATA AND PRESS "RETURN"				
- YOU WILL BE INSTRUCTED TO REPLACE THIS DISK WITH THE BACKUP DISK. ***DO NOT REMOVE THE DATA DISK**				
- WAIT UNTIL THE RED DISK DRIVE LIGHTS GO OUT TO DO SO				
- WITH THE BACKUP DISK IN PLACE, STRIKE ANY KEY				
- WHEN THE COPYING IS COMPLETE YOU WILL BE INSTRUCTED TO REPLACE THE BACKUP DISK WITH THE ARCHIVE DISK				
- AFTER THE RED LIGHTS GO OUT, CHANGE DISKS, TYPE ARCHIVE AND PRESS "RETURN"				

Follow the instructions on the screen to complete the back-up and archival routines.

Your 1900-55 or Daily Cost Summary, from the current day only, will be copied onto the back-up disk. This back-up procedure saves only one day's worth of data. It is used daily to keep your back-up disk as current as possible. If tomorrow you lose or damage the data disk, the

back-up you make today can be used. You will of course have to re-enter any new data that you lost, but the back-up will save you from having to enter all of the equipment and personnel over again. If you do have to rely on a back-up disk, be sure to make a reserve copy of the back-up before you use it (see Section 2.5.3 on general disk back-up procedures). Remember to label all disks.

After the back-up routine is complete, the screen will prompt you to copy the data into the Archival File. The Archival File is intended to save a complete record of the site data for future reports and analyses.

You will not be able to begin entering data for a new day, after a final 1900-55 has been printed, until you have completed the back-up and archive routine.

When the computer has finished archiving your data, a new screen will appear to inform you that the computer is ready to perform another procedure.

#### **4.1.3 Checklist for Preparing 1900-55 Forms**

The more familiar you become with the computer software, the less time it will take you to prepare the 1900-55 forms each day. The procedure for developing the 1900-55 form is based on the daily updating of files so that the information in those files accurately reflect the ERCS resources used at the removal site that day.

As a review, let's go through a quick checklist of the steps you should go through to produce the 1900-55 forms each day:

1. Turn the computer and printer on, and "boot-up" the system with the MS-DOS disk.
2. At the A:, place the 1900-55 program disk in drive A and the data disk in drive B.
3. Type **COSTFORM** to start the program.
4. Enter any ceiling increase by selecting 2 from the main menu.
5. Update the ERCS personnel file by selecting 3 from the main menu. Add and delete entries so that the personnel list accurately reflects the personnel on site. Check the personnel list by entering 2 from the ERCS personnel menu. Make sure all hours and per diems are correct. Zone 1 users be sure to check the hours for personnel in level A and B protective gear.

6. Update the ERCS equipment list (using Option 4 from the main menu) in the same way. Don't forget that mobilization and demobilization charges that have been finalized will automatically be deleted from the files after printing a final 1900-55.

7. Select Options 5 and 6 to update the ERCS expendables and subcontractors files.

8. Use Option 7 from the main menu to add any comments and adjustments to the 1900-55 totals. The contents of this file are automatically deleted by the computer after a final 1900-55 is printed.

9. Print a draft 1900-55. REMEMBER THAT YOU SHOULD PRINT A CORRECT DRAFT 1900-55 BEFORE YOU PRINT A FINAL VERSION. Select Option 8 to print a draft form. Then, if you need to make corrections in any file, select the appropriate activity from the main menu. After you edit and look over your changes, PRINT ANOTHER DRAFT. You can print as many drafts as you like, but you can only print the final version once!

10. Print the final 1900-55. After you have a correct draft copy, print a final version. The contractor's representative must sign the final form before the OSC signs it. At this time you will be instructed to back-up the data and save the final data in an archive file.

11. Leaving the 1900-55. You can end a session at any time by selecting 9 from the 1900-55 main menu. You can continue to work on your files until you print a FINAL copy of the report. So, if you need to take a break, or want to finish the form the next morning, exit to MS-DOS by entering 8. Wait for the A: prompt and for the disk drive red lights to go out before you remove your disks. When you want to re-enter the system, type COSTFORM at the A: prompt as before. When the 1900-55 main menu appears, continue where you left off. REMEMBER TO USE THE DATE ON WHICH THE WORK WAS PERFORMED.

#### **4.2 DAILY COST SUMMARY AND INCIDENT OBLIGATION LOG**

The Daily Cost Summary contains a listing of the cost components of a removal action. Each day's cost obligations such as ERCS costs, EPA costs and TAT costs appear as line items on the Daily Cost Summary. The form also records the project ceiling and provides a running total of the balance of funds remaining after each cost obligation is subtracted from the ceiling.



A Daily Cost Summary should be prepared for each day of a removal action. A Daily Cost Summary can only be prepared after a final 1900-55 for the same date has been printed as the total cost from the 1900-55 must appear as a line item on the Daily Cost Summary. A sample Daily Cost Summary is shown in Exhibit 4-2.

The Incident Obligation Log (IOL) is used to chart cumulative costs. It provides daily tracking of all costs that are counted towards the project ceiling. The computer automatically prepares the IOL from data in the final Daily Cost Summary forms, which are stored on your data disk in drive B. The correct preparation of the IOL is therefore dependent on your completion of a final Daily Cost Summary for each day of the removal. The Daily Cost Summary forms must also be completed in consecutive order (i.e., the DCS for April 10 cannot be completed before the one for April 7). Exhibit 4-3 shows a sample IOL for the ABC Drum Site. This daily accounting of all costs, in addition to the ERCS negotiated costs, should be comprehensive and, therefore, should improve the tracking of expenses against the ceiling.

**EXHIBIT 4-2**  
**Daily Cost Summary**

DAILY COST SUMMARY		
DATE: 04/12/85		
SITE NAME: ABC DRUM	PROJECT CEILING 365000	BALANCE 343447.13
DESCRIPTION OF OBLIGATION	AMOUNT	NEW BALANCE
1900-55 ERCS COST FOR 04/12/85	7965.23	335481.90
EPA PERSONNEL COST	473.17	335008.73
COAST GUARD COST	400.00	334608.73
TAT PERSONNEL COST	520.00	334088.73
ADDITIONAL ITEMS: LAB ANALYSIS	5000.00	329088.73
SUBTOTAL MAJOR COST	14358.40	
15% OTHER COSTS	2153.76	
TOTAL COST TO DATE	16512.16	326934.97
PERCENT FUNDS REMAINING		90 %

# EXHIBIT 4-3

## Incident Obligation Log

INCIDENT OBLIGATION LOG							
Site Name : ABC DRUM				Project Ceiling : 04/10/85 365000			
Date/ TTD	ERCS	EPA Costs	USCG Costs	TAT Costs	Add'l Costs	Total + 15%	Balance
04/10/85	6748.92	473.17	350.00	1300.00	400.00	10662.90	
TTD	6748.92	473.17	350.00	1300.00	400.00	10662.90	354337.10
04/11/85	7396.37	473.17	350.00	650.00	0.00	10889.97	
TTD	14745.29	946.34	700.00	1950.00	400.00	21552.87	343447.13
04/12/85	7965.23	473.17	400.00	520.00	5000.00	16512.16	
TTD	22710.52	1419.51	1100.00	2470.00	5400.00	38065.03	326934.97

#### 4.2.1 Preparing the Daily Cost Summary and Incident Obligation Log (IOL)

To enter data for the Daily Cost Summary, place the Daily Cost Summary disk in drive A and the data disk in drive B. Note that you will need dBASE 2.4 command files on the Daily Cost Summary disk to run the programs. Hard disk system users should refer to Appendix B for start-up instructions. At the MS-DOS prompt, type:

A: COSTSUM

Press Return from the Welcome Banner and the Daily Cost Summary main menu will be written on the screen.

DAILY COST SUMMARY	:	MAIN MENU	:	ABC DRUM
.....				
1. UPDATE EPA PERSONNEL FILE				
2. UPDATE COAST GUARD FILE				
3. UPDATE TAT PERSONNEL FILE				
4. UPDATE ADDITIONAL COSTS FILE				
5. PRINT DAILY COST SUMMARY				
6. VIEW OR PRINT THE CUMULATIVE COSTS FOR THIS SITE (INCIDENT OBLIGATION LOG)				
7. QUIT				
YOUR CHOICE :1:				

The procedures for completing a Daily Cost Summary form are similar to those for completing a 1900-55 form. The Daily Cost Summary programs depend on you to keep the files up-to-date. The updating process includes adding, editing and deleting entries from the files, and, as with the 1900-55 software, you can update the contents of each file by entering the appropriate number from the main menu. The paragraphs that follow include a general discussion of each of the options in the Daily Cost Summary main menu, and also present examples of screens you will encounter when you choose a particular activity.

##### Option 1: EPA Personnel

To update the EPA personnel file, select 1 from the Daily Cost Summary menu. The next screen will be the EPA personnel menu.

DAILY COST SUMMARY :                      UPDATING                      : EPA PERSONNEL

INSTRUCTIONS :

- \* ENTER THE REQUIRED NUMBER
- \* ENTER "R" TO RETURN TO THE DAILY COST SUMMARY MENU

1. ADD ENTRIES TO THE EPA PERSONNEL FILE
2. EDIT OR VIEW ENTRIES IN THE EPA PERSONNEL FILE
3. ERASE ALL CURRENT EPA PERSONNEL ENTRIES

YOUR CHOICE : 1:

Enter 1 to add personnel to the list and the screen will prompt you for further information. Enter the individual's title, the employee name, the regular hourly rate, the number of hours on site for the day, the standard day length and any daily expenses such as per diem or travel.

DAILY COST SUMMARY :                      ADDING                      : EPA PERSONNEL

PLEASE ENTER THE FOLLOWING INFORMATION:

TITLE	: JR. OSC	:
EMPLOYEE NAME	: LARRY CURTIS	:
REGULAR HOURLY RATE	: 10.45:	
STANDARD DAY (8, 9, OR 10 HOURS):	8:	
NUMBER OF HOURS ON SITE	: 10.00:	
PER DIEM AND EXPENSES	: 75.00:	

MORE EPA PERSONNEL ? (Y/N)                      : Y:

The regular hourly rate is based on the employee's General Services (GS) level and step. A chart showing the hourly rates for federal government employees is in Appendix C. The overtime pay will be calculated automatically for work in excess of eight hours (or nine or ten hours, if the employee is working on a "flex-time" schedule), using the standard federal overtime rate of one-and-a-half times the basic hourly rate (not exceeding \$22.43 per hour).

Enter each EPA employee who spent time on the site that day. When you have finished, enter N at the last prompt and you will return to the EPA personnel menu.

The procedures for editing and deleting file entries are the same as those previously described for the 1900-55 files.

#### Option 2: US Coast Guard

The program requires you to enter the US Coast Guard costs as a lump sum. Select 2 from the Daily Cost Summary main menu and the following screen will appear.

DAILY COST SUMMARY :	DAILY TOTAL	:	USCG COSTS
.....			
YOUR CURRENT USCG TOTAL FOR TODAY IS			350.00
ENTER THE NEW USCG TOTAL FOR TODAY		:	400.00:

Enter the USCG total for the day and hit Return to go back to the Daily Cost Summary main menu.

### Option 3: TAT Personnel

To update the TAT personnel file, select 3 from the Daily Cost Summary main menu. You can update the TAT file in the same way as the EPA personnel file. To add TAT personnel to the file, enter 1 from the TAT personnel menu and the screen will prompt you for information which you should enter for each TAT member.

DAILY COST SUMMARY :	ADDING	:	TAT PERSONNEL
.....			
PLEASE ENTER THE FOLLOWING INFORMATION:			
EMPLOYEE NAME	:	GILLIAN JONES	:
HOURS ON SITE	:	8.00:	
MORE TAT PERSONNEL ? (Y/N) :N:			

TAT pay will be calculated using a multiplier of \$65.00 per hour that incorporates an average hourly wage, overhead rate, per diem and expenses for the TAT contract. Entries in the TAT file can be edited or deleted in the same way as the EPA personnel file.

### Option 4: Additional Costs

The additional costs file should be used as the "catch-all" file to include all other major costs such as Fund-financed state costs, non-ERCS subcontractor costs, analytical costs and TAT special projects. The updating process is the same as for the EPA personnel file. To add entries to the additional costs file, select 1 from the additional costs menu and the following screen will prompt you for the necessary information.

ITEM	: LAB ANALYSIS
ESTIMATED COST	: 5000.00:
MORE ADDITIONAL COSTS ? (Y/N)	: N:

### Option 5: Print Daily Cost Summary

The first screen in the printing procedure asks you to confirm the project ceiling for the site.

Year	Percentage
2009	71%
2010	72%
2011	73%
2012	74%
2013	75%
2014	84%

WOULD YOU LIKE TO ENTER A NEW CEILING AMOUNT (A)  
OR CONTINUE AND PRINT (C) ? :C:



If you want to record a new project ceiling, respond A and you will be prompted to enter the new ceiling amount. The computer will automatically record this new account in your Daily Cost Summary files and your 1900-55 files. If, as is more usual, you have previously entered a new project ceiling amount from Option 2 of the 1900-55 main menu, the new amount will appear at the top of the screen shown on page 4-42, and it will not be necessary to record the new ceiling amount again.

Next you will be asked to supply the correct date for the Daily Cost Summary form. ENTER THE DATE OF WORK THAT CORRESPONDS TO THE 1900-55 FOR THAT DATE. The program automatically searches your 1900-55 files to get the cost data for the date. The total cost from the 1900-55 will appear as a line item on the Daily Cost Summary. If no 1900-55 has been completed for the date that you entered, an error message will appear on the screen, and you will be returned to the Daily Cost Summary main menu.

DAILY COST SUMMARY :

PRINTING

: ABC DRUM

ENTER DATE : 04/12/85:

IS THIS A DRAFT VERSION OF THE DAILY COST SUMMARY (D)

OR THE FINAL (F) ? :F:

HOW MANY COPIES OF THE DAILY COST SUMMARY DO YOU WANT ?

(ENTER EITHER 1,2,3, OR 4) :1:

MAKE SURE THE PRINTER IS CONNECTED AND LOADED WITH PAPER,

PRESS "RETURN" TO PRINT : :

You will be asked if you want to prepare a draft or a final Daily Cost Summary. ALWAYS PREPARE A DRAFT DAILY COST SUMMARY FIRST. Entering D for DRAFT will print a draft copy of the report and return you to the Daily Cost Summary main menu for editing. A FINAL DAILY COST SUMMARY CAN ONLY BE PRINTED ONCE. After you indicate that your Daily Cost Summary data are final, the data cannot be changed and must be archived as a record of on-site activities for that date. If you print a final Daily Cost Summary, the computer will also automatically print out an updated IOL which includes the cumulative cost data from the final Daily

Cost Summary you have just printed. The printer will print the number of forms you request. After the final Daily Cost Summary and updated IOL have been printed, you will be instructed to save the data in an archival file. The procedure for storing your final data is described in Section 4.1.2.

The program will remind you to make sure that the printer is ready (the on-line button should be lit) and has an adequate supply of paper. Press Return to commence printing of the form.

A final Daily Cost Summary print-out is shown in Exhibit 4-2. The "Project Ceiling" box will incorporate any ceiling increase you have entered. The "Balance" box reflects the fund balance carried over from the previous date. Each cost is shown as a line item. The final column shows the new balance remaining after the subtraction of each major cost. The final line shows the percent of funds remaining at the end of the day. Due to dBASE 2.4 rounding limitations, minor discrepancies (of 1 or 2 cents) may occur in the cost calculations.

A final IOL print-out is shown in Exhibit 5-3. This form lists the daily costs and cumulative costs (total to date or TDD) of each cost component for each day on which you have prepared a final Daily Cost Summary. The form also lists the initial project ceiling, and any future increased project ceilings, along with the date on which the ceiling is recorded in the system. If you have printed a draft Daily Cost Summary, the updated IOL will not print and you will be returned to the Daily Cost Summary main menu to continue editing.

#### **Option 6: View or Print Incident Obligation Log (IOL)**

As previously explained, the IOL builds on the information in the Daily Cost Summary files to track the cumulative costs of a removal. You can either view the IOL on the screen or print the IOL at any time by selecting Option 6 from the Daily Cost Summary main menu. Remember that the IOL only includes cost information for dates on which a final Daily Cost Summary has been printed. The screen will prompt you for the information necessary to view the IOL on the screen, or to print the IOL.

```

IOL          :      PRINTING OR VIEWING ON SCREEN      : ABC.DRUM
.....

```

```

**  THE IOL ONLY CONTAINS DATA THAT HAVE BEEN RECORDED ON A
    FINAL DAILY COST SUMMARY
    -----

```

```

WOULD YOU LIKE A PRINTOUT (P) OF THE COSTS
OR TO VIEW THE COSTS ON THE SCREEN (S) ?      :P:

```

```

HOW MANY COPIES OF THE IOL DO YOU WANT ?
(ENTER EITHER 1,2,3,OR 4)                      :1:

```

```

MAKE SURE THE PRINTER IS ON AND HAS PAPER,
PRESS "RETURN" TO CONTINUE AND PRINT           : :

```

Exhibit 4-3 shows a sample IOL.

NOTE: The most recent IOL that has been prepared is stored on the data disk under the name IOL.TXT. The file can be electronically transmitted to other locations using the programs described in Chapter 5.

#### Option 7: Quit

You can quit at any time by selecting 7 from the Daily Cost Summary main menu. The computer will save your data and will exit from the Daily Cost Summary software. The MS-DOS prompt "A:" will appear on the screen and you can remove your disks WHEN THE DISK DRIVE RED LIGHTS HAVE GONE OUT. Don't forget to turn off the computer and the printer.

#### 4.2.2 Back-Ups and Archive Files

The back-up and archive routines for the final Daily Cost Summary are the same as those for the 1900-55 form that are described in Section 4.1.2.

### 4.3 REMOVAL ACTION REPORTS

#### 4.3.1 Instructions for Preparing a Work Report

**Loading Wordstar** After the operating system MS-DOS has been loaded into the computer, load the Wordstar program disk into drive A and the Wordstar storage disk into drive B. Type:

```
A: WS
```

The computer will load Wordstar.

**Changing the Logged Disk Drive** After Wordstar has been loaded, the opening menu will appear on the screen. Type L and Wordstar will ask you for the new logged disk drive as shown below:

THE LOGGED DISK DRIVE IS NOW A:

NEW LOGGED DISK DRIVE (letter, colon, RETURN)? B:

This will make drive B: (which contains the format programs) the logged disk drive.

**Copying the Work Report Form** The Work Report is stored under the name WRPMMDDY.TXT. The "WRP" tells you it is a Work Report form; the "MM" stands for month of the year; the "DD" stands for the day of the month and "Y" stands for the year. You will want to copy this format to a document name which includes the current date of the Work Report. For example, the Work Report for April 24, 1985 would be named "WRP04245.TXT. You can do this by typing O and the following sequence of computer prompts (and your responses) will occur:

NAME OF FILE TO COPY FROM ? WRPMMDDY.TXT

NAME OF FILE TO COPY TO ? WRP04245.TXT

This will copy the model Work Report format to a file document with the present date. The model report for a Work Report is presented in Exhibit 4-4.

**Writing the Report** In order to write the Work Report, you must first enter into the "edit mode." You do this by typing D and entering the name of the document you wish to edit, as shown below.

NAME OF FILE TO EDIT ? WRP04245.TXT

You will now be in the edit mode with the main edit menu at the top of the screen, and the model report appearing below that. The menu describes the functions of the various control keys which enable you to edit the document. The document can now be used and you can fill in the appropriate information. You can move the cursor around the screen using the cursor control keys (arrow keys).

At the top of the model report appears a ".P01". This is called a dot command and is used by Wordstar when the document is printed (refer to the Wordstar user's manual for more information on dot commands). Do not delete this command while editing your document, as doing so will lead to improper formatting of your printed document.

As you become familiar with Wordstar, the model reports can be modified to fit the particular needs of the situation. For instance, you could add more space for one of the sections in an individual report. Until you feel comfortable using Wordstar, however, it is recommended that you do not try to alter the model report formats. If you need more room in a block on your Work Report, you can enter the information on the continuation sheet, the second page of your document. You can reach the continuation sheet by scrolling the document down using the page down (Pg Dn) key or the down arrow key (↓).

**Storing Your Report** After all of the information has been entered you will want to store your newly created report and exit from the edit mode. Type K to bring up the "block menu." Then type D to save your document and return to the Wordstar opening menu.

**Printing Your Report** When you are back in the opening menu you can print your document by pressing P and following the instructions which appear.

#### **4.3.2 Preparing a POLREP**

A POLREP is prepared in the same fashion as a Work Report. The model POLREP is called POLMDDY.TXT. Copy this format to a file which uses the date of the POLREP (e.g., POL04245.TXT) to be written. Type D and use this name as the file to be edited as shown below:

NAME OF FILE TO EDIT ? POL04245.TXT

The model report for a POLREP is presented in Exhibit 4-5. Like the Work Report, the POLREP has a continuation sheet for additional information that does not fit in the blocks designed in the model POLREP.

#### **4.3.3 Back-Up Copies of the Model Reports**

There are back-up copies of the model Work Report and POLREP formats stored on your Wordstar data disk. The names of the backup formats are WRPMMDDY.BAK and POLMDDY.BAK. If for some reason you alter or erase the model Work Report or POLREP formats, you can use these back-up copies. Be sure to make a new copy of the model format with the .TXT extension so you will continue to have two copies of the model format.

**EXHIBIT 4-4**

**Model Report Form for Work Report**

<b>WORK REPORT</b>	
<b>WORK SITE</b>	<b>WORK PERIOD</b> FROM    /    /                      TO    /    /
<b>CONTRACTOR</b> <b>CONTRACTOR REP</b>	<b>OSC</b>
<b>WORK PLANNED / AUTHORIZED</b>	<b>WORK COMPLETED</b>
<b>EQUIPMENT PLANNED / AUTHORIZED</b>	<b>EQUIPMENT USED</b>
<b>COMMENTS</b>	
<b>CONTRACTOR SIGNATURE</b>	<b>OSC SIGNATURE</b>
<b>DATE</b>	<b>DATE</b>

**EXHIBIT 4-5**

**Model Report Form for POLREP**

**POLREP**

**DATE**

**POLREP NUMBER**

**NAME OF REMOVAL ACTION**

**OSC AND REGION**

**SITUATION**

**ACTIONS TAKEN**

**FUTURE PLANS**

**COST TO DATE**

**OTHER INFORMATION**

## CHAPTER 5

### DATA COMMUNICATIONS -- CROSSTALK

A major feature of your cost management software system is its data communications ability. The commercial software used for data communications is called Crosstalk. A brief overview and description of Crosstalk is presented in Section 6.4.

If your modem has an autodial feature, you can take advantage of special programs that have been written using Crosstalk's programming capability. These user friendly programs will allow you to access remote data bases such as OHM/TADS and Hazardline and to send documents to the Regional and Headquarters offices through the EPA Electronic Mail Service (E-Mail). The Crosstalk programs will have the computer dial the phone number of the host system and log on, giving your account number and password at the appropriate times. After the computer is logged on to the host system (i.e., OHM/TADS, Hazardline or E-Mail), you must use the correct commands for the host computer to retrieve or send information. The following sections provide instructions on using the customized Crosstalk access programs. If you do not have an autodial modem, you will need to input the necessary Crosstalk and log on commands manually from the keyboard.

#### 5.1 CONNECTING THE MODEM TO COMPUTER AND TELEPHONE LINE

Before the computer can be used for data communications, it must be connected to a telephone line via a modem. One line of the modem is connected to the serial port of the computer and the other line to the telephone connection jack. As modems vary somewhat in their design and operation, refer to the instructions which came with your modem for specific connection procedures. When the modem is connected properly, you are ready to use Crosstalk.

#### 5.2 LOADING CROSSTALK

Load the MS-DOS disk into drive A. Then remove it and load the data communication access disk<sup>1</sup> (tan label) into drive A and type:

**A: XTALK**

---

<sup>1</sup> The data communications access disk must have the files XTALK.EXE, XTALK.HLP and XTHELP.DIR on it before using.



After a few seconds, the screen will clear, and the Crosstalk sign-on message will appear. The sign-on message will remain on the screen for about five seconds.

The access menu will appear after the sign-on message. At this menu, you can choose to use the specialized Crosstalk programs to access OHM/TADS, Hazardline, or E-Mail, or to exit the specialized program and go into the standard Crosstalk features.

CROSSTALK

Access to OHM/TADS, HazardLine and E-Mail

\*\*\*\*\*

Please input the system you wish to access and answer the questions that follow. The computer will then call the computer system and issue the necessary login commands. When the prompt for the other computer system appears on the screen you can begin your session.

Before continuing please make sure that the modem is hooked up correctly.

Do you wish to access:

A) OHM/TADS  
B) HazardLine  
C) E-Mail  
D) Exit to CrossTalk status screen

ENTER A, B ,C OR D . \_

### 5.3 ACCESSING OHM/TADS

First, we will go through the steps to access OHM/TADS. Type A at the Access menu and press the Return key. The screen will appear:

# **OHM/TADS ACCESS PROGRAM**

\*\*\*\*\*

This program accesses the OHM/TADS database. The computer will call the system and issue the necessary login commands. OHM/TADS can be accessed directly or via Telenet.

Please input when asked your :

- 1) CIS Account number,
- 2) Password,
- 3) Local Telenet phone number  
(if not using direct access phone number)

What is your CIS Account number ?\_

Type your Region's 7-digit account number for OHM/TADS and press the Return key. Then the screen will ask:

WHAT IS YOUR PASSWORD?

Type your 6-character password and press Return. The screen will ask you to verify that the account number and password are entered correctly. Answer Y or N without pressing the Return key. When you are satisfied that your account number and password are correct, press Return. The screen will prompt:

DO YOU WISH TO A) DIAL DIRECT OR B) ACCESS VIA TELENET?

Pressing A will have the computer dial Alexandria, Virginia, directly for OHM/TADS. Pressing B will result in the prompt:

ENTER THE TELENET PHONE NUMBER:

See Appendix D for a list of Telenet numbers to use to reduce your long distance telecommunications costs. You can enter the phone number with or without dashes.

After you have entered the Telenet number and pressed Return, the program will proceed to log you on to OHM/TADS. The process will be visible on your upper screen. When the terminal screen prompts you with:

OPTION?

you are in the OHM/TADS system and ready to go. See OHM/TADS manuals in your Region for commands within the OHM/TADS system. To exit OHM/TADS, enter:

OPTION? LOGOFF

and when you are out of the OHM/TADS, press the Home key to return to the status screen.

#### 5.4 ACCESSING HAZARDLINE

The Hazardline protocol is similar to the OHM/TADS prompts. At the program choice screen, press B to access Hazardline on your computer. The following screen will appear:

**HAZARDLINE ACCESS PROGRAM**

\*\*\*\*\*

This program accesses the HazardLine database. The computer will call HazardLine and issue the necessary login commands.

Please input when asked your :

- 1) Account number
- 2) Password
- 3) Local Telenet phone number

What is your Account number ?\_

Enter your 5-digit account number. (Presently, EPA Regions do not have access to Hazardline, but the TAT offices do have accounts with the Hazardline system. Use your TAT office's account number and password until EPA gains access to the system.) The program will then prompt you for the 4-character password and the Telenet number nearest you.

When you have entered the information, the computer will dial the number to access Hazardline and log on. The Hazardline prompt, after you have logged on, is:

ENTER NAME, KEYWORD, SYMPTOM, STLA, NAMELIST, HELP OR QUIT

The system is fairly self-explanatory, but you can contact your TAT office for the Hazardline manual. Entering QUIT will allow you to log off Hazardline. Then you can press Home to return to the Crosstalk status screen.

## 5.5 ACCESSING E-MAIL

The EPA Electronic Mail Service (E-Mail) is a computer-based message system that allows users to check an "electronic mailbox" for communications. Using Crosstalk you will be able to send documents such as POLREPs and 1900-55 forms to the Regional and Headquarters offices. For more information on E-Mail features and capabilities, check with your Regional E-Mail Coordinator and refer to the E-Mail user's manual.

**Sending a Message** To send a message or document, press C at the program choice screen. The following screen will appear:

**E-MAIL ACCESS PROGRAM**

\*\*\*\*\*

This program accesses the EPA Electronic Mail Service (E-Mail). The computer will call E-Mail and issue the necessary login commands.

Please input when asked your :

- 1) E-Mail Account Number
- 2) Password
- 3) Local Telenet number

What is your E-Mail Account number ?\_

Each Region's Environmental Services Division has a 7-character E-Mail account number. At the next prompt, enter your password and local Telenet number (see Appendix D for Telenet numbers).

Your computer will then call the E-Mail computer and issue the necessary log-on commands. You will see these displayed on the screen as the program progresses. At the E-Mail system prompt, type:

SEND, READ, OR SCAN: SEND

The E-Mail computer will prompt:

TO:

Enter the E-Mail account number of the recipient office for your message or document (e.g., EPA5400 for the OERR electronic mailbox). The computer will then prompt:

SUBJECT:

Enter a one-line subject heading (e.g., "Test Site, POLREP #21"). The computer will then prompt:

TEXT:

At this point, you have two options. If you have a short message, you can type it in from your keyboard. When you have finished the message, press the Return key to start a new line and enter:

**.SEND**

E-Mail will send your message to the electronic mailbox you indicated in your "To" line. It can be retrieved by that office at their leisure.

If you wish to send a document stored on a disk, say, a POLREP prepared through your Wordstar package, the procedure is a little more involved. First, you need to switch into the Crosstalk program by pressing the ESCape key. Crosstalk will respond with a command line highlighted at the bottom of the screen (see the Section 6.4 discussion on the command line and special key settings). Then, be sure you have the data disk with the document you want to send in disk drive B; type in the send command, the B disk drive specification, and the file name of the document you wish to send. For example:

**COMMAND? SE B:POL10214.TXT**

would send your POLREP of October 21, 1984. (See the Wordstar file naming system recommended in Section 4.3.) You need to type only the first two letters of the Crosstalk SEnd command. When you press Return after typing in the command and file name, Crosstalk will display the contents of the document. After the document has been completely displayed, type the E-Mail command on the bottom line:

**.SEND**

and press Return. E-Mail will send the document to the electronic mailbox you specified in the "To" line.

After you send a message or document, E-Mail will prompt you to send another message by prompting:

TO:

Repeat the process if you have another message to send. If you wish to log off the E-Mail computer, enter the following sequence:

TO: [Return]

SEND, READ OR SCAN: [Return]

> OFF [Return]

**NOTE:** 1900-55 and IOL forms can be sent through E-Mail in a similar fashion. The 1900-55 data disk (red label) contains a copy of the latest final 1900-55 and IOL that have been prepared. These files are named "FORM1955.TXT" and "IOL.TXT", respectively.

**Reading a Message** You can also use the E-Mail capability on-site to scan the mail in your account number's electronic mailbox and to read particular messages. You must first scan the contents of the mailbox to find out the list number of the message you wish to read. At the E-Mail prompt, enter:

SEND, READ OR SCAN: SCAN

The screen will display the sender, subject, and date sent for all the mail in the electronic mailbox. Each piece of mail will be numbered.

If you wish to read a piece of mail on your terminal screen, enter at the prompt:

READ OR SCAN: READ 2

The second listed message will be displayed on your screen. When the message is longer than one screen, the bottom line will say:

- MORE -

To read the next page, press the Return key. You cannot scroll back to a previous page on the screen in E-Mail.

To print an E-mail message, first make sure the printer is hooked up and turned on before entering the E-Mail READ command. Use the ESCape key to enter one Crosstalk command and enter F6 to print. When the E-Mail program prompts:

READ OR SCAN: [Return]

SEND, READ OR SCAN: READ 2 HARDCOPY NOMORE

This E-Mail command allows the entire text of the second listed E-Mail message to feed into the buffer memory of the printer and you will avoid

having the

- MORE -

messages appear every 23rd line on your printout.

After you have read or printed the message, E-Mail will prompt you to delete or to save the message in your mailbox:

DISPOSITION:

Enter DELETE to erase the message from the account's mailbox, or press the Return key to keep the messages for others to scan and read. You can continue to read your messages, or you can log off by:

READ OR SCAN: QUIT

> OFF

NOTE: Occasionally, when there is a high level of noise on the telephone lines, the special Crosstalk programs which automatically access the remote computer system fail to work properly. If this happens, you can exit the program by first pressing the ESCape key and then typing "QUIT." This will return you to MS-DOS and you can start over. If the automated access procedure fails to work after several attempts you may want to try accessing the remote computer manually by inputting the commands from the keyboard.

## CHAPTER 6

### COMMERCIAL SOFTWARE PACKAGES

This chapter explains the different commercially available software packages that are included in the field cost management system. (You also have software specifically designed for the needs of on-scene removal cost management, discussed in Chapters 3, 4 and 5.) The commercial software packages suggested for your system are:

- MS-DOS;
- dBASE;
- Wordstar; and
- Crosstalk

The sections that follow introduce the various software packages and discuss how you can use these software packages in the cost management system. Instructions on using Crosstalk to access other computer systems and on operating in the other data bases are also provided in this section. For more detailed explanations of the many features available to you through these four software packages, refer to the manufacturer's software manual for each package.

#### 6.1 OPERATING SYSTEM -- MS-DOS

When the computer is first switched on, it can do very little because it does not have any programs loaded into its memory. Only some basic instructions are "hard-wired" into its memory to prepare the computer for receiving further instructions. Until the software instructions are loaded into its memory, the computer cannot do much.

The first set of instructions that you load into the computer is the operating system. The operating system is the basic set of instructions that allow the computer to perform very fundamental operations. A brief explanation of operating systems is presented in Section 6.1.1.

Once you have the operating system in the computer's active memory, you can use the software programs to create or manipulate files. A file is a collection of information stored on a computer disk and treated as a unit. For ~~example~~, a file can hold a business letter, an accounting spread sheet, a data base, or an entire computer program. Section 6.1.2 introduces files, file types and file names. You need to know something about files to understand how to use the operating system.

The operating system you will use is MS-DOS, or Microsoft Disk Operating System. MS-DOS is made by Microsoft Corporation, and it comes with a manual that fully describes how to use it.



### 6.1.1 How the Operating System Works

An operating system allows the computer to perform the following three functions:

**Manage input and output (I/O)** from devices attached to the computer. Input is information that the computer receives from the keyboard, from a disk, or from another computer through a telephone hook-up (a modem). Output is information that the system sends to an output device such as a printer. In this capacity, the operating system acts like a traffic cop directing the flow of information inside the computer. The operating system allows the computer to respond to information and then to perform various tasks with that information. The operating system also allows information in the computer to appear on the console screen, or to be sent to a printer or some other output device.

**Manage files** in which the information is stored. Files are stored on disks, and the operating system provides a way to read (get information) or write (send information) to and from a disk. With the operating system, files can be copied or erased, and information about files, such as their name, type, and size, can be provided.

**Load and execute** other programs into the computer's memory. These programs include the more sophisticated (high-level) applications programs such as the software packages dBASE, Wordstar, etc.

A good analogy to illustrate the relationship of the operating system to other software packages is to envision the floor plan of a house. The house has a hallway and several locked rooms off the hallway. The operating system corresponds to the hallway and each software application to a locked room. In order to reach the rooms, it is necessary to go through the hallway and unlock the door. Each time that you wish to enter another room (i.e., go from one software package to another, say from dBASE to Wordstar), you must first leave the room that you are in and go into the hallway.

Similarly, to access a high-level program it is necessary to go by the way of the operating system. The "door" to the program is "unlocked" by loading the program disk and telling the operating system (using the keyboard) which program you wish to use. Then the operating system will load that program into the memory from the disk. At that point, you are in the environment of that software package and the program can be used. After finishing with a program, you can leave it, go back to the operating system, and ask the operating system to load another program into memory.

### 6.1.2 Files and File Specifications

Information stored on the disks is organized as files. There are basically two classes of files: program files and data files. Program files contain a series of instructions that tell the computer what to do. Data files contain information that has been organized into a specified form that the computer program can use. The information can be either numeric or textual.

Every file has a unique specification. A file specification has the following form:

A:FILENAME.TYP

Where:    A:           is the disk drive specifier, either A or B (C for hard disks);  
          FILENAME    is the file's name, up to eight characters;  
          TYP          is the file type, up to three characters. This designation is optional.

The disk drive specifier refers to the disk drive that contains the file or is to receive the file. Its specification is optional. If it is not specified, the default drive is assumed (see Section 6.1.3 for an explanation of the default drive in MS-DOS).

The file name is a one to eight character name that you assign to the file. The characters can be either upper or lower case. The file name should provide a description of what the file contains. For example, a program file which graphs data might be called DATAPLOT, or a form letter to tell residents the lab results of a second round of well samples might be called RESULTS2.

Certain characters such as ",", "+", and "=" cannot be used in the file name. Refer to your MS-DOS user's manual for a complete list of legal and illegal file name characters.

The file type is a three character specification that follows the file name. File type is commonly used to indicate the "class" or "family" of the file. For example in dBASE, all PRoGram files are automatically given the file type ".PRG". If a file type is specified, it must be separated with a "." from the file name. Some software packages, like dBASE, will specify the file type for you, and others will let you develop your own file type specification system. See the manufacturer's manuals or individual software packages for further explanations of the file type.

The following are examples of valid MS-DOS file specifications:

```
A:MYPROGRM.PRG
B:TEST.DBF
PRACTICE.1
MEMO.TXT
LETTER
```

The different software packages used in the cost management system create files of various types. Refer to the appropriate manufacturer's software manual for more information on file types created by a particular applications program.

### 6.1.3 MS-DOS Loading and Commands

#### MS-DOS Loading

To load MS-DOS, put the MS-DOS system disk into disk drive A. When the system has been loaded, the computer will ask for the present date and time. Enter this information, and the computer will respond with:

A:

The A: is the "prompt" used by the operating system. It means "I'm ready for instructions." The A refers to disk drive A. Disk drive A is the "default" drive selected when you first load the operating system onto the computer. Default drive means that information will be taken from the disk in this drive automatically when you ask the computer to perform an operation involving a disk drive (e.g., retrieving files). To access a disk drive besides the default drive, you must specify the disk drive in the file specification. For example, when you enter IMAFILE, the computer reads it as A:IMAFILE and looks for the file, IMAFILE, in disk drive A. It will not look for IMAFILE in disk drive B unless you enter B:IMAFILE.

To change the default drive, type B: right after the A: prompt. The computer will respond so that the sequence on the screen will look like:

```
A: B:
B:
```

Now drive B is the default disk drive. You may want to try this when practicing with MS-DOS.

**REMEMBER:** to run the Cost Management Software, the default drive must be set to drive A and the program disk must be loaded in drive A.

After the prompt appears the computer can either be loaded with one of the program applications software systems, such as dBASE, or the computer can be given one of the operating system commands described below.

### **MS-DOS Commands**

MS-DOS commands are given to the computer while in the operating system. They can be thought of as commands to perform "housekeeping" operations. The most commonly used commands are DIRectory, FORMAT, COPY and ERASE. A brief description of these commands is given below. More information on these and other MS-DOS commands can be found in the MS-DOS manual.

DIRectory command is used to list all the files stored on a disk. The computer will list all the files on that disk, give their size in bytes (a unit of 16 binary storage units) and show how much free storage space is available on the disk. To list the contents of the default drive, type:

**DIR**

To list the contents of another drive, type:

**DIR B:**

where B is the alternate disk drive.

If the directory scrolls past you too quickly for you to read what you want, enter:

**DIR/P**

and the computer will pause after each screen.

An entry of:

**DIR/W**

will list all the files width-wise across the screen.

**FORMAT:** Before a new disk can be used by the computer to store files, it ~~must~~ be formatted to make it compatible with the MS-DOS. This step is accomplished using the FORMAT command. The syntax for this command is:

**FORMAT B:**

where B is the drive which contains the disk to be formatted.

**NOTE:** Formatting a disk which already contains data files will erase those files. Therefore, for our applications, formatting should only be performed on new disks.

**COPY** command is used to make a duplicate copy of a file. A file can be copied on the same disk or copied to another disk. You use this command to back-up your disks daily to insure against losing important files (see Sections 2.5.3 and 4.1.2). The syntax for the **COPY** command is:

**COPY filespec1 filespec2**

Where: filespec1 is the file specification or full name of the file to be copied (e.g., A:FILENAME.TYP).

filespec2 is the file specification or full name of the new file created (e.g., B:FILENAME.TYP).

Examples:

Copy file named MYPROG1.BAS to another file on the same disk:

**COPY MYPROG1.BAS MYPROG2.BAS**

Copy file named COSTCALC.1 to another file on a different disk:

**COPY A:COSTCALC.1 B:COSTCALC.2**

Copy file named COSTALC.1 to another file (with different name) on a different disk.

**COPY A:COSTCALC.1 B:DOLLAR.SUM**

Copy file named TEST.DAT to another disk with same name:

**COPY A:TEST.DAT B:**

The symbol \* can be used as a "wild card" indicator with the **COPY** command. When used, \* copies all files on the disk.

Examples:

Copy all files on drive A to drive B:

**COPY A:\*. \* B:**

Copy all data base type files (.DBF) on drive A to drive B.

**COPY A:\*.DBF B:**

Be aware that copying a file to another file of the same name will replace the file copied to with the file copied from. The file from remains unchanged.

ERASE command is used to erase a file from a disk. Once deleted, a file is permanently gone from the disk. The syntax for the ERASE command is:

**ERASE filespec**

Examples:

Erase file named ADDSUM from default drive:

**ERASE ADDSUM**

Erase file named SPECTRA.DAT from drive B:

**ERASE B:SPECTRA.DAT**

The wild card symbol (\*) can also be used with the ERASE command. Thus the command:

**ERASE B:\*. \***

would erase all files on the disk in disk drive B. THE WILD CARD SYMBOL SHOULD BE USED WITH EXTREME CAUTION WHEN ERASING FILES FROM A DISK.

## 6.2 dBASE

dBASE is a database management system. A database management system is a group of programs that connect the user with one or more collections of information. The collection of information, or pool, is called a database. In addition to being able to create and manage database files, dBASE has an advanced programming language. This programming capability allows the creation of sophisticated programs for inputting data, storing data, performing calculations with the data, and outputting the data in convenient tabular form.

Most of the programs that comprise the on-scene removal cost management system, described in Chapters 3 and 4, are written in dBASE. These programs allow the various cost management functions, such as cost projection, completion of the 1900-55 form, and preparation of the Daily Cost Summary, to be performed using the computer. THE PROGRAMS ARE DESIGNED SO THAT YOU DO NOT NEED TO KNOW dBASE TO USE THE SYSTEM. The computer will display a menu listing the options available and ask you to choose which task you want to perform. The computer will then prompt you to enter the necessary information for that particular application. When you are finished with a particular program or application, you are returned to a menu where another option can then be selected.

You can also use dBASE to create your own database files and programs. To use dBASE, load a disk which contains the dBASE program into disk drive A (after you have set up the computer with the MS-DOS operating system, see Section 6.1). When the computer responds with:

A:

type in: A: DBASE

dBASE will then be loaded into the computer's memory. The computer will respond with the dBASE banner, and then prompt you for commands with a ".".

If you are interested in learning more about dBASE, refer to the dBASE Manual and go through the dBASE tutorial program. To use the tutorial, which accompanies the dBASE software, place the dBASE tutorial "start-up" disk in drive A. Place a second disk containing the dBASE lesson number that you wish to review in drive B. Type:

A: DBASE LESSONS

This command will load the tutorial program and get you started.

### 6.3 WORDSTAR

Wordstar is a menu-driven word-processing system with a wide range of functions and commands. You will use its series of menus, appearing on the top of the video screen, to create and edit documents and files which appear on the bottom half of the screen. The Wordstar menu displays commands and control characters to edit your document and for accessing other menus. In addition to simple word processing, your Wordstar disk has special options that you can access to obtain preset formats for POLREPS and Work Reports.

You will need two disks to use Wordstar--the Wordstar program disk and a file storage disk that will hold all the files you create. To use Wordstar, follow these steps:

1. Load the MS-DOS operating system in drive A (see Section 6.1).
2. Remove the MS-DOS disk from drive A.
3. Place the Wordstar program disk in drive A.
4. Place the Wordstar data storage disk in drive B.
5. At the MS-DOS prompt, respond:

A: WS

With the command WS, Wordstar will be loaded into the computer's memory, and Wordstar's opening menu will be displayed. Below the opening menu, Wordstar displays the directory (the names of all the files on the diskette of the logged disk drive). The opening menu looks like this:

```

not editing
< < < O P E N I N G M E N U > > >
---Preliminary Commands--- : --File Commands-- : -System Commands-
L Change logged disk drive : P PRINT a file : R Run a program
F File directory now ON : E RENAME a file : X EXIT to system
H Set help level : O COPY a file :
---Commands to open a file--- : Y DELETE a file : -WordStar Options-
D Open a document file : M Run MailMerge
N Open a non-document file : S Run SpellStar

directory of disk A:
WS.COM WSHSGS.OVR WSOVLY1.OVR

```

The opening menu displays the various options available. To select an option, press the corresponding key. Learning a few basic commands and control characters will allow you to use Wordstar adequately. Control characters (denoted with a preceding "^") are entered by pressing the CONTROL KEY as you press a specific character (e.g., ^C). Once you become familiar with Wordstar you may want to explore its capabilities to maximize the benefits of word processing.

Refer to your Wordstar user's guide for detailed explanations on the various options and menus. The special formats developed to assist you in preparing standard removal response documents are discussed in Section 4.3 of this User's Guide.

## 6.4 CROSSTALK

Crosstalk is a data communications program. It allows your computer to communicate with other computers. Crosstalk allows the computer to access large data base systems such as OHM/TADS and Hazardline. Also, Crosstalk will allow you to send electronically reports such as POLREPs and action memoranda to Regional and Headquarters offices. Chapter 5 of this User's Guide provides instructions on using these features, which are custom-designed so that an extensive knowledge of Crosstalk is not needed to use these programs. This section presents some basic features of Crosstalk you may use to operate the package for functions beyond those three removal-tailored communications activities. Refer to the Crosstalk XVI Manual for more detail on the basic features and other applications of the program.

**Loading Crosstalk** To use Crosstalk, first load MS-DOS into the computer. Then load the Crosstalk disk into drive A and type:



## A: XTALK

After a few seconds, the screen will clear, and the Crosstalk sign-on message will appear. The sign-on message will remain on the screen for about five seconds.

**Exiting Standard Removal Programs** The first screen to appear after the sign-on message is called the Access Menu. The Access Menu gives you the choice to use specialized Crosstalk programs to access OHM/TADS, Hazardline, or E-Mail, or to exit the specialized program and go into the standard Crosstalk features.

### CROSSTALK

#### Access to OHM/TADS, HazardLine and E-Mail

\*\*\*\*\*

Please input the system you wish to access and answer the questions that follow. The computer will then call the computer system and issue the necessary login commands. When the prompt for the other computer system appears on the screen you can begin your session.

Before continuing please make sure that the modem is hooked up correctly—

Do you wish to access:

- A) OHM/TADS
- B) HazardLine
- C) E-Mail
- D) Exit to CrossTalk status screen

ENTER A, B, C OR D . \_

Press D and the Return key to enter the regular Crosstalk package.

**Status Screen** When you exit the specialized program, the screen will clear and the "status screen" will appear. The status screen serves two major purposes. First, it is a display of all Crosstalk's major options and each option's current setting. (See the Crosstalk XVI Manual for a discussion of options and setting.) Second, it is a menu of commands. The first two letters of each command are highlighted. When entering commands to Crosstalk, you only need to enter the first two letters of the command. You may enter the entire command name if you wish, but it is not necessary.

CROSSTALK - XVI Status Screen										Off line	
Name CROSSTALK defaults (Hayes Smartmodem)					Loaded A:STD.XTK						
Number					Capture Off						
Communications parameters										Filter settings	
Speed	300	Parity	None	Duplex	Full	DEbug	Off	LFauto	Off		
Data	8	STop	1	EMulate	None	TABex	Off	BLankex	Off		
Port	1			MMode	Call	INfilter	On	OUTfilter	On		
Key settings					Send control settings						
Atten	Esc	Command ETX (^C)			CWait	None					
Switch	Home	BReak End			LWait	None					
Available command files											
1) NEWUSER		2) POPCOM		3) SET1200B		4) SETUP		5) STD			

**Command Line** The bottom line of the status screen is highlighted, and it is called the command line. You enter what you want the program to perform on this line. The command line also appears on the screen when the computer is connected to another computer system. When you are connected to another computer you will not see the status screen, but a display called the terminal screen.

**Terminal Screen** The terminal screen is the screen that Crosstalk uses to display the data from another computer system. You may switch back and forth between the terminal screen (the other computer) and the status screen (your computer) by pressing the Home key.

**Entering Commands** Any command may be entered when the "COMMAND?" prompt appears on the screen by entering the first two letters of the command name and pressing the Return key. For example, to SEND information in a file to another computer to which you are connected, you begin by typing:

**COMMAND? SE**

If the command requires additional information, Crosstalk will ask you by printing a question in the Command Line.

**Display Window** Not all of the status screen is used to display status information. The bottom ten lines are used as a display "window." This window is used to display specially-requested data that are not

normally on the status screen. For instance, if you enter the command HELP while the status screen is on, the screen will show the following:

CROSSTALK - XVI Status Screen

Off line

Name	CROSSTALK defaults (Hayes Smartmodem)	Loaded	A:STD.XTK
Number		Capture	Off

Communications parameters

Speed 300	PARity None	DUPlex Full
Data 8	STop 1	EMulate None
POrt 1		MOde Call

Filter settings

DEbug Off	LFauto Off
TABex Off	BLankex Off
INfilter On	OUTfilter On

Key settings

Atten Esc	COmmand ETX (^C)
Switch Home	BReak End

Send control settings

CWait None	
LWait None	

List of Crosstalk commands

Name	Number	GO	ACcept	ANswback	ATten	BReak
Switch	CWait	LWait	DEbug	DPrefix	DRive	DSuffix
EMulate	Filter	FKeys	INfilter	LFauto	LOad	MOde
POrt	PWord	QUIT	RQest	SAve	SCreen	SEnd
SNApshot	TIme	TURnand	XDos	BKsize	BYe	DNAMES
CApture	CDir	COmmand	CStatus	PArity	DAta	Dir
DO	DUPlex	ERase	HElp	LIst	NO	OUTfilter

More to come... press ENTER: \_

When there is more information to be displayed than will fit in a single window, the program will "scroll" the data in the window. The command line reads:

MORE TO COME...PRESS ENTER:

When you press the Return (Enter) key, Crosstalk will display the rest of the information.

The window is used by many commands, including the DIR, HELP and LIST commands.

**Special Key Settings** Crosstalk assigns a special meaning to several of the keys on the keyboard. These special keys are used in a number of ways. For example, the Home key switches you between the status and terminal screens. Another special key is the ESCape key. It allows you to overlay the Crosstalk command line on the terminal screen and enter one Crosstalk command (e.g., SEnd or PRinter). After you enter the command, the computer automatically switches back to the terminal screen display and the other computer's program, while it executes the Crosstalk command. Refer to the Crosstalk XVI Manual for a list of the special keys and what they do.

**HELP Command** The HELP command provides assistance on all of Crosstalk's commands. Entering:

COMMAND? HELP

with no option displays a list of all Crosstalk's commands. If you need help with a specific command, say, SEnd, type:

COMMAND? HELP SE

If Crosstalk asks you for something that you do not understand while you are in a command mode, you can get help for that command and question by typing a question mark:

ENTER SYSTEM NAME OR COMMENTS ?

The help for that command will be displayed.

**PRINTER Command** The PRINTER command tells Crosstalk to turn on or off the output to the printer. By typing:

COMMAND? PRINTER ON

you will cause Crosstalk to duplicate any terminal screen onto the printer. The command:

COMMAND? PR /

will toggle the printer back and forth from ON to OFF. The print command is also programmed on function key #6 (F6), to switch the printer on and off with a single keystroke.

When you are logged on to another computer via Crosstalk, you may wish to print out the screens of information you receive from the other computer system. To do this, first make sure that the printer is attached to the console, turned on, and loaded with sufficient paper. From the terminal screen displaying the information you wish to print, press the ESCape key. The highlighted command line will appear at the bottom of your screen. Enter:

COMMAND? F6

The screen will begin printing, and any subsequent screens displayed will also print, until you press the ESCape key again and enter F6 at the command line to turn off the printer.

**Crosstalk Data Communications Commands** If you wish to access OHM/TADS, Hazardline, or another data base through your field computer using standard Crosstalk commands, see Chapters 4 and 5 of the Crosstalk XVI Manual. For OHM/TADS and Hazardline, be sure that the SPeed setting in the status screen is set at "300" and the PArity setting is "None."

**Capturing Data** A very useful feature of the Crosstalk data communications package is called "Data Capture." This feature allows you to capture data from the data base computer and store it on your computer. This decreases the on-line time needed on the data base and provides for future reference. There are two ways to capture data and each has its own advantages and disadvantages. The two methods are called "Capture to disk" and "Capture to memory." Both are described in Chapter 9 of the Crosstalk XVI Manual.

**APPENDIX A**  
**GLOSSARY**

## GLOSSARY

**ABORT** - The process of terminating a program in an orderly fashion and returning control to an operator or operating system.

**ACOUSTIC COUPLER** - A device used for connecting a telephone handset to data communication equipment.

**ADDRESS** - Memory location that is usually designated by a number.

**ASCII** - AMERICAN STANDARD CODE FOR INFORMATION INTERCHANGE - defines machine language code for storage of characters.

**BACK-UP COPY** - A duplicate copy usually saved on a separate disk in case of loss of the original.

**BAUD** - A measure of transmission speed in bits per second.

**BINARY** - Commonly used in computers. The representation of data numbers in terms of powers of two, using the two digits 0 and 1. The values 0 and 1 can easily be represented in physical form in a variety of ways, such as the presence or absence of current, positive or negative voltage, or a white or black dot on the display screen.

**BOOT or BOOTSTRAP LOADER** - Copies a program into RAM and begins the execution of the program. Commonly used to start up the computer.

**BUFFER** - Used as an intermediary "holding area" for transferring information among devices operating at different speeds. There is a buffer between the computer and the printer.

**BUG** - An error in a program that causes it to work improperly.

**CPU - CENTRAL PROCESSING UNIT** - The part of the computer that actually carries out the program instructions.

**CROSSTALK** - A data communications software package which allows the transmission of data over telephone lines.

**CRT - CATHODE RAY TUBE** - A TV-like screen for displaying computer generated output.

**CURSOR** - A shaded, blinking or underline character which indicates where you are on the screen.

DAISY-WHEEL PRINTER - An impact printer that prints by striking a wheel containing raised characters against an inked ribbon.

DATA BASE - A collection of information organized in a form that can be processed by a computer system.

DATA FILE - A collection of information related to the same subject.

dBASE - A data management programable software package.

DEBUGGING - The process of finding and changing or "patching" the program where a problem has been found.

DEFAULT PARAMETERS - Values supplied by the computer system when no explicit values are provided by a program or a user.

DISK - A plastic disk coated with magnetic material used for storing data. Two common sizes of disks are 3-1/2" and 5-1/4" diameter. All disks are protected by an outer housing of plastic or cardboard.

DISK DRIVE - A device for reading and writing information from and to a rotating magnetic disk.

DOS - DISK OPERATING SYSTEM - A computer program which provides the ability to read and write data onto a disk.

DOT MATRIX PRINTER - A printer that forms characters as an array of dots instead of solid lines.

EDIT - To change or modify a program or file. Common editing operations are Delete, Insert, Change, Find, Move, and Copy.

ELECTRONIC SPREADSHEET - A program which simplifies tabular calculations by the use of a grid of cells. Each cell may contain a name, number or formula. Allows for quick calculations and recalculations. Multiplan and Lotus 1, 2, 3 are electronic spreadsheet software packages.

ERROR MESSAGE - A message that is displayed or printed to notify the operator that there is a problem in the program.

FATAL ERROR - An error that causes the applications program to stop and the operating system to take control of the computer system.

FLOWCHART - A symbolic representation of a program sequence.

FORMAT - To prepare a blank disk to receive information by dividing its surface into tracks or sectors. Also, format refers to the way in which input and output are arranged.



**HARD DISK** - A rigid disk that stores large amounts of information. This type of disk is usually permanently installed as part of a system.

**HARDWARE** - The components of a computer system that are mechanical or electronic.

**HAZARDLINE** - A commercial data base, run by Occupational Health Services, Inc., containing a physical, chemical, toxicological and commercial data base on hazardous chemicals.

**INITIALIZE** - To load MS-DOS programs into the computer's memory.

**I/O - INPUT/OUTPUT** - The transfer of information to and from a computer.

**LOAD** - The transferring of information from a peripheral device to the main memory.

**LOOP** - A group of instructions that may be executed more than once.

**MEMORY** - A storage area for binary data and programs. Memory can be internal and external.

**MENU** - A list of options from which a user can choose. Makes using a program easier if the options are presented as opposed to remembered.

**MODEM - MODULATOR-DEMODULATOR** - Converts electronic signals into sound for transmission over telephone lines.

**MS-DOS - MICROSOFT DISK OPERATING SYSTEM** - A disk operating system developed by Microsoft Corporation.

**OHM/TADS - OIL AND HAZARDOUS MATERIALS/TECHNICAL ASSISTANCE DATA SYSTEM** - An EPA data base containing physical, chemical, toxicological and commercial data on hazardous chemicals.

**OPERATING SYSTEM** - A program for controlling the execution of other programs.

**OUTPUT** - The information that is transferred to an external device.

**PACKAGE** - A program or set of programs for a specific application which is prepared at one time to be used repeatedly at other times and/or by other people.

**PERIPHERAL** - An external input/output device which connects to the computer, such as a disk drive, printer, modem, etc.

**PROGRAM** - A sequence of instructions which govern the operations of a computer. Also referred to as SOFTWARE.

PROMPT - Symbol used by a particular software package or program to let the user know it is awaiting instructions.

RAM - RANDOM ACCESS MEMORY - Memory in which the contents of individual locations can be referred to in random order. Also referred to as Read/Write Memory.

RECORD - A unit of information that is either written or stored. A number of related records makes up a file.

REVERSE VIDEO - The ability to reverse standard display on CRT terminals to highlight characters, words or lines.

SCROLL - Move the contents of the CRT screen up or down by one or more lines. Some word processing packages allow scrolling right or left.

SOFTWARE - See PROGRAM.

TRACTOR FEED - An attachment to a printer that allows the use of fan-fold continuous sheet paper.

UTILITIES - The software used for routine tasks. Utilities are designed to facilitate or aid the operation and use of the computer. Also referred to as Housekeeping.

WORD PROCESSOR - An application program for creating, editing, and printing text.

WORDSTAR - A word processing software package.

WRITE ENABLE NOTCH - The cutout in the upper right hand corner of the diskette cover that allows you to write information onto the disk. If the notch is covered, no information can be added or deleted from that disk (referred to as "write protecting" a disk).

WRITE PROTECT - The act of preventing information from being written onto or deleted from a storage disk.

**APPENDIX B**  
**USE OF A HARD DISK COMPUTER SYSTEM**

## USE OF HARD DISK COMPUTER SYSTEM

Throughout this User's Guide, the procedures described for operating the on-scene cost management software assume you are using a dual disk drive computer system. The use of a hard disk computer system with a single floppy disk drive requires some changes in procedure which are described below. (Note that the operating system refers to the hard disk as C: and the floppy disk as A: or B:.)

The computers you have received from ERT will have all of the commercial and customized software programs necessary to operate the cost management system already loaded on the hard disk, and ready for you to use. In addition, you have been provided with a set of disks consisting of the eight disks listed on page 2-12 of this User's Guide. You will need the data, data back-up, and archive disks from this set to run the cost management system on a daily basis. The remaining disks may be required to reload the customized software as described in a following section.

### Daily Use of the Hard Disk Computer System

When you turn the computer on, the following menu will automatically be displayed on the screen. The regular EPA menu has been revised to include the computerized cost management system. The menu requires you to use function keys (usually found on the left side of the keyboard) to select your choice.

```
09-05-1985      PROGRAM SELECTION MENU      08:40:44

F1  dBASE III
F2  LOTUS 1-2-3
F3  WORDSTAR
F4  CROSSTALK

F5  FIELD MICROCOMPUTER SYSTEM

F6  BACKUP/RESTORE ALL FILES
F7  TUTORIALS
F8  BASIC INTERPRETER
F9  MOVE/COPY FILE
F10 DISK OPERATING SYSTEM

SPECIFY SELECTION BY FUNCTION KEY
```

To use the computerized cost management system, select F5 from the above menu. Each time you enter the cost management system you will need to load the data from the floppy disk for the particular site of interest on to the hard disk. If you want to use the computer to work on several sites at once, you will need a data, data back-up, and archive disk FOR EACH SITE. Make sure you put the correct disk in the drive. The computer will ask you to insert the proper data disk into drive A. There will then be a short pause while the computer copies data from the floppy disk to a temporary working area on the hard disk. Copying data from the floppy disk to the hard disk increases significantly the speed and efficiency of the cost management software. Also, this procedure allows you to use the computer for many different sites without filling up the hard disk.

When the data files have been copied, the following menu will be displayed on the screen:

```

:  REMOVAL COST MANAGEMENT SELECTION MENU  :
.....
                                         1. COST PROJECTIONS
                                         2. 1900-55 FORM
YOUR CHOICE                           3. DAILY COST SUMMARY AND IOL
:1:                                   4. WORDPROCESSING
                                         5. DATA COMMUNICATIONS
                                         6. MAIN PROGRAM MENU

```

The selections shown on the screen comprise the computer cost management system. Choose which option of the cost management system you need to complete, and enter the required number. Each component of the system is described in the following chapters and sections of the User's Guide:

- |             |   |  |
|-------------|---|--|
| Chapter 3   | - | Cost Projections                               |
| Section 4.1 | - | 1900-55 Form                                   |
| Section 4.2 | - | Daily Cost Summary and Incident Obligation Log |
| Section 4.2 | - | Word processing of Removal Action Reports      |
| Chapter 5   | - | Data Communications                            |

You will always be returned to this menu after you have finished each section of the cost management system.

To leave the cost management system, enter 6. If you have completed a final 1900-55 and/or a final Daily Cost Summary, the computer will prompt you to place the archive disk for the site into drive A so that the cumulative data record for the site can be maintained. The archive procedure also prompts you to check that there is sufficient space on the archive disk to save the data generated from the most recent final form. If there is insufficient space you will be prompted to prepare a new disk and place this in the drive to receive the data. After the archive disk has been updated you will be prompted to place the site data disk in drive A. The updated data will then be transferred from the hard disk to your floppy disk. You will then be asked to insert the data backup disk for the site into drive A so that it can be updated as well.

You will then automatically exit from the cost management system and return to the main EPA system menu.

#### Reloading Software onto the Hard Disk

Mishaps can occur, and if for any reason the programs and data are erased from the hard disk, it will be necessary for you to reload the hard disk with the commercial and customized software necessary to run the system.

Follow the instructions below in order to properly reconfigure the hard disk.

1. Load the commercial software packages Wordstar, dBase III and Crosstalk XVI, and the EPA menu onto the hard disk. Instructions for these loading procedures are in the "Compaq Plus Transportable Computer User's Guide" which accompanies your computer.
2. An automatic copying program has been written to copy the customized cost management software to the hard disk. To use the automatic copying program:
  - a. Turn the computer on. The C: (hard disk drive) will appear.
  - b. Place the Cost Projection program disk (blue label) in the floppy disk drive, type:

C: A:

and press Return. This prepares the computer to receive instructions from the floppy disk drive (i.e., drive A).

- c. Type:

A: INSTALL

- d. The computer will copy all the cost projection programs from the floppy disk onto the hard disk. When copying is complete, you will be prompted to replace the Cost Projection program disk with the 1900-55 program disk (yellow label). The computer will then copy all the programs from this disk to the hard disk. The computer will continue to prompt you to place your remaining program disks into the disk drive, and will copy the programs from each floppy disk onto the hard disk.

When you have completed the steps described above, you should be ready to use the reconfigured hard disk as described in the previous section.

**APPENDIX C**  
**FEDERAL GOVERNMENT AND TAT PERSONNEL RATES**



## FEDERAL GOVERNMENT AND TAT PERSONNEL RATES

### 1. FEDERAL GOVERNMENT PERSONNEL RATES

#### a. Basic Hourly Rates

The basic hourly rates below have been calculated based on annual gross salaries as of January 1985. Future hourly rates can be calculated using the formula:

$$\text{\$ Hourly Rate} = \frac{\text{Annual Gross Salary}}{2,087}$$

Step:	1	2	3	4	5	6	7	8	9	10
GS-3	5.49	5.67	5.86	6.04	6.22	6.41	6.59	6.77	6.95	7.14
GS-5	6.90	7.13	7.36	7.59	7.82	8.05	8.28	8.51	8.74	8.97
GS-7	8.54	8.83	9.11	9.39	9.68	9.96	10.25	10.53	10.82	11.10
GS-9	10.45	10.80	11.14	11.49	11.84	12.19	12.54	12.89	13.23	13.59
GS-11	12.64	13.06	13.48	13.90	14.33	14.75	15.17	15.59	16.01	16.43
GS-12	15.15	15.66	16.16	16.67	17.17	17.68	18.18	18.69	19.19	19.70
GS-13	18.02	18.62	19.22	19.82	20.42	21.02	21.62	22.22	22.82	23.42
GS-14	21.29	22.00	22.71	23.42	24.13	24.84	25.55	26.26	26.97	27.68
GS-15	25.04	25.88	26.71	27.55	28.38	29.22	30.05	30.88	31.72	32.55

The above basic hourly rates are not fully loaded. They do not include fringe benefits (Federal health insurance, pension contributions, etc.) or overhead (indirect support and management costs). At a future date hourly rates will be loaded to include these factors. For now, the 15 percent cost factor (Step 7) will cover these other costs.

#### b. Overtime Hourly Rates

Overtime hours (e.g., hours in excess of a "standard day") are priced at one-and-a-half times the basic hourly rate. However, the overtime hourly rate shall not exceed \$22.43. This ceiling is adjusted as the Federal rate structure changes.

### 2. TAT PERSONNEL RATES

The on-site average rate for TAT personnel is \$65/hour as of October 1984. This is a fully loaded figure that includes per diem, travel, fringe benefits and overhead. This rate is used in calculating TAT rates (straight and overtime) on removal sites.

**APPENDIX D**  
**TELENET NUMBERS**

# TELENET NUMBERS

LAST UPDATE: 03/15/85

\* NEW TELENET CENTRAL OFFICE  
 # NEW 1200 BAUD ACCESS AVAILABLE  
 & NEW TELENET CENTRAL OFFICE ADDED CURRENT MONTH  
 \$ NEW 1200 BAUD ACCESS AVAILABLE ADDED CURRENT MONTH  
 % NEW LEAD NUMBER/NUMBER CHANGED

GTE/TELENET PROVIDES LOCAL NETWORK ACCESS IN THESE U.S. CITIES OF 50,000 POPULATION OR MORE. IN-WATS ACCESS IS AVAILABLE IN OTHER LOCATIONS. 1200 BPS ACCESS NUMBERS REQUIRE THE USE OF BELL 212- OR VADIC 3405- COMPATIBLE MODEMS, AS NOTED.  
 (B) = BELL 212, (V) = VADIC 3405, (B/V) = EITHER BELL 212 OR VADIC 340

< > INDICATES THE ACTUAL LOCATION OF TELENET FACILITIES. IN SOME CASES, LOCAL ACCESS MAY REQUIRE EXTENDED METRO TELEPHONE SERVICE- OR INVOLVE MESSAGE UNIT CHARGES.

## TELENET CUSTOMER SERVICE:

CONTINENTAL USA -- 800/336-0437  
 IN VIRGINIA -- 800/336-0437  
 OUTSIDE CONTINENTAL USA -- 703/442-2400

## TELEMAIL CUSTOMER SERVICE:

CONTINENTAL USA -- 800/368-3407  
 IN VIRGINIA -- 703/689-6056

	300 BPS	1200 BPS
AL 205 BESSEMER	328-2310 <BIRMINGHAM>	(B/V) 328-2310
AL 205 BIRMINGHAM	328-2310	(B/V) 328-2310
AL 205 FLORENCE	767-7960	(B/V) 767-7960
AL 205 HUNTSVILLE	539-2281	(B/V) 539-2281
AL 205 MOBILE	432-1680	(B/V) 432-1680
AL 205 MONTGOMERY	269-0090	(B/V) 269-0090
AL 205 SHEFFIELD	767-7960 <FLORENCE>	(B/V) 767-7960
AK 907 ANCHORAGE	276-0271	(B/V) 276-0271
AK 907 JUNEAU	586-9700	(B/V) 586-9700
AR 501 LITTLE ROCK	372-4616	(B/V) 372-4616
AZ 602 MESA	254-0244 <PHOENIX>	(B/V) 254-0244
AZ 602 PHOENIX	254-0244	(B/V) 254-0244
AZ 602 SCOTTSDALE	254-0244 <PHOENIX>	(B/V) 254-0244
AZ 602 TEMPE	254-0244 <PHOENIX>	(B/V) 254-0244
AZ 602 TUCSON	747-0107	(B/V) 747-0107
CA 213 ALHAMBRA	507-0909 <GLENDALE>	(B/V) 507-0909
CA 714 ANAHEIM	558-6061 <SANTA ANA>	(B/V) 558-7078
CA 805 BAKERSFIELD	327-8146	(B/V) 327-8146
CA 415 BURLINGAME	591-0726 <SAN CARLOS>	(B/V) 591-0726
CA 213 CANOGA PARK	306-2984 <MARINA DEL REY>	(B/V) 306-2984
CA 714 COLTON	824-9000	(B/V) 824-9000
CA 213 COMPTON	516-1007	(B/V) 516-1007
CA 415 CONCORD	827-3960	(B/V) 827-3960

CA 213 COVINA	330-1630	(B/V) 330-1630
CA 408 CUPERTINO	294-9119 <SAN JOSE>	(B/V) 294-9119
CA 619 ES CONDIDO	741-7756	(B/V) 741-7756
CA 213 EL MONTE	507-0909 <GLENDALE>	(B/V) 507-0909
CA 714 FULLERTON	558-6061 <SANTA ANA>	(B/V) 558-7078
CA 209 FRESNO	233-0961	(B/V) 233-0961
CA 714 GARDEN GROVE	898-9820	(B/V) 898-9820
CA 818 GLENDALE	507-0909	(B/V) 507-0909
CA 415 HAYWARD	881-1382	(B/V) 881-1382
CA 213 HOLLYWOOD	689-9040 <LOS ANGELES>	(B/V) 624-2251
CA 213 HOLLYWOOD	937-3580 <LOS ANGELES>	(B/V) 937-3580
CA 714 HUNTINGTON BEACH	558-6061 <SANTA ANA>	(B/V) 558-7078
CA 213 INGLEWOOD	689-9040 <LOS ANGELES>	(B/V) 624-2251
CA 213 INGLEWOOD	937-3580 <LOS ANGELES>	(B/V) 937-3580
CA 213 LOS ANGELES	689-9040	(B/V) 624-2251
CA 213 LOS ANGELES	937-3580	(B/V) 937-3580
CA 415 LOS ALTOS	856-9995 <PALO ALTO>	(B/V) 856-9995
CA 213 LONG BEACH	548-6141 <SAN PEDRO>	(B/V) 548-6141
CA 213 MARINA DEL REY	306-2984	(B/V) 306-2984
CA 209 MODESTO	576-2852	(B/V) 576-2852
CA 408 MONTEREY	375-2675	(B/V) 375-2675
CA 415 MOUNTAIN VIEW	856-9995 <PALO ALTO>	(B/V) 856-9995
CA 714 NEWPORT BEACH	558-6061 <SANTA ANA>	(B/V) 558-7078
CA 213 NORWALK	404-2237	(B/V) 404-2237
CA 415 OAKLAND	836-4911	(B/V) 836-4911
CA 805 OXNARD	656-6760 <VENTURA>	(B/V) 656-6760
CA 415 PALO ALTO	856-9995	(B/V) 856-9995
CA 213 PASADENA	507-0909 <GLENDALE>	(B/V) 507-0909
CA 415 REDWOOD CITY	591-0726 <SAN CARLOS>	(B/V) 591-0726
CA 714 RIVERSIDE	824-9000 <COLTON>	(B/V) 824-9000
CA 916 SACRAMENTO	448-6262	(B/V) 448-6262
CA 408 SALINAS	443-4940	(B/V) 443-4940
CA 714 SAN BERNADINO	824-9000 <COLTON>	(B/V) 824-9000
CA 415 SAN CARLOS	591-0726	(B/V) 591-0726
CA 619 SAN DIEGO	231-1922	(B/V) 233-0233
CA 415 SAN FRANCISCO	362-6200	(B/V) 956-5777
CA 408 SAN JOSE	294-9119	(B/V) 294-9119
CA 415 SAN MATEO	591-0726 <SAN CARLOS>	(B/V) 591-0726
CA 213 SAN PEDRO	548-6141	(B/V) 548-6141
CA 415 SAN RAFAEL	492-0752	(B/V) 492-0752
CA 714 SANTA ANA	558-6061	(B/V) 558-7078
CA 805 SANTA BARBARA	682-5361	(B/V) 682-5361
CA 408 SANTA CLARA	294-9119 <SAN JOSE>	(B/V) 294-9119
CA 408 SANTA CRUZ	425-8455	(B/V) 425-8455
CA 213 SANTA MONICA	306-2984 <MARINA DEL REY>	(B/V) 306-2984
CA 707 SANTA ROSA	578-9325	(B/V) 578-9325
CA 209 STOCKTON	473-2056	(B/V) 473-2056
CA 408 SUNNYVALE	294-9119 <SAN JOSE>	(B/V) 294-9119
CA 213 TORRANCE	548-6141 <SAN PEDRO>	(B/V) 548-6141
CA 818 WOODLAND HILLS	887-3160	(B/V) 887-3160
CA 415 WOODSIDE	856-9995 <PALO ALTO>	(B/V) 856-9995
CA 805 VENTURA	656-6760	(B/V) 656-6760
CO 303 AURORA	337-6000 <DENVER>	(B/V) 337-6060
CO 303 BOULDER	337-6000 <DENVER>	(B/V) 337-6060
CO 303 COLORADO SPRINGS	635-5361	(B/V) 635-5361
CO 303 DENVER	337-6000	(B/V) 337-6060
CO 303 LAKEWOOD	337-6000 <DENVER>	(B/V) 337-6060
CT 203 DANBURY	794-9075	(B/V) 794-9075

CT 203 BRIDGEPORT	335-5055	(B/V) 335-5055
CT 203 GREENWICH	348-0787 <STAMFORD>	(B/V) 348-0787
CT 203 HARTFORD	247-9479	(B/V) 247-9479
CT 203 MILFORD	624-5954 <NEW HAVEN>	(B/V) 624-5954
CT 203 NEW HAVEN	624-5954	(B/V) 624-5954
CT 203 STAMFORD	348-0787	(B/V) 348-0787
CT 203 WATERBURY	753-4512	(B/V) 753-4512
CT 203 WEST HARTFORD	247-9479 <HARTFORD>	(B/V) 247-9479
DC 202 WASHINGTON	429-7896	(B/V) 429-7800
DE 302 WILMINGTON	454-7710	(B/V) 454-7710
FL 305 BOCA RATON	368-8300	(B/V) 368-8300
FL 813 CLEARWATER	323-4026 <ST. PETE>	(B/V) 323-4026
FL 904 DAYTONA BEACH	252-9914	(B/V) 252-9914
FL 305 FT. LAUDERDALE	764-4505	(B/V) 764-4505
FL 813 FT. MEYERS	337-0308	(B/V) 337-0308
FL 904 GAINSVILLE	377-3005	(B/V) 377-3005
FL 904 JACKSONVILLE	353-1818	(B/V) 353-1818
FL 813 LAKE LAND	688-4366	(B/V) 688-4366
FL 305 MIAMI	372-0230	(B/V) 372-0230
FL 904 OCALA	351-3790	(B/V) 351-3790
FL 305 ORLANDO	422-4088	(B/V) 422-4088
FL 904 PENSACOLA	438-4562	(B/V) 438-4562
FL 305 POMPANO BEACH	941-5445	(B/V) 941-5445
FL 813 ST PETERSBURG	323-4026	(B/V) 323-4026
FL 813 SARASOTA	346-0216	(B/V) 346-0216
FL 904 TALLAHASSEE	681-1902	(B/V) 681-1902
FL 813 TAMPA	224-9920	(B/V) 224-9920
FL 305 W PALM BEACH	833-6691	(B/V) 833-6691
GA 404 ATHENS	549-4524	(B/V) 549-4524
GA 404 ATLANTA	577-8911	(B/V) 523-0834
GA 404 AUGUSTA	790-4119	(B/V) 790-4119
GA 404 COLUMBUS	571-0556	(B/V) 571-0556
GA 912 MACON	741-1011	(B/V) 741-1011
GA 912 SAVANNAH	236-2605	(B/V) 236-2605
HI 808 HONOLULU	524-8110	(B) 524-8221
IA 319 CEDAR RAPIDS	364-0911	(B/V) 364-0911
IA 402 COUNCIL BLUFFS	341-7733 <OMAHA, NE>	(B/V) 341-7733
IA 319 DAVENPORT	324-2445	(B/V) 324-2445
IA 515 DES MOINES	288-4403	(B/V) 288-4403
IA 319 IOWA CITY	351-1421	(B/V) 351-1421
ID 208 BOISE	343-0611	(B/V) 343-0611
ID 208 LEWISTON	743-0099	(B/V) 743-0099
IL 312 ARLINGTON HEIGHTS	938-0500 <CHICAGO>	(B/V) 938-0600
IL 312 AURORA	859-8483	(B/V) 859-8483
IL 309 BLOOMINGTON		(B/V) 829-1231
IL 217 CHAMPAIGN	384-6428 <URBANA>	(B/V) 384-6428
IL 312 CHICAGO	938-0500	(B/V) 938-0600
IL 312 CICERO	938-0500 <CHICAGO>	(B/V) 938-0600
IL 217 DECATUR	422-0835	(B/V) 422-0835
IL 314 EAST ST LOUIS	421-4990 <ST LOUIS, MO>	(B/V) 421-4990
IL 815 JOLIET	722-0703	(B/V) 722-0703
IL 312 OAK PARK	938-0500 <CHICAGO>	(B/V) 938-0600
IL 309 PEORIA	637-8570	(B/V) 637-8570
IL 815 ROCKFORD	965-0400	(B/V) 965-0400
IL 312 SKOKIE	938-0500 <CHICAGO>	(B/V) 938-0600
IL 217 SPRINGFIELD	753-1373	(B/V) 753-1373
IL 217 URBANA	384-6428	(B/V) 384-6428
IN 812 BLOOMINGTON	332-1344	(B/V) 332-1344

IN 812 EVANSVILLE	424-7693	(B/V) 424-7693
IN 219 FT. WAYNE	426-2268	(B/V) 426-2268
IN 219 GARY	882-8800	(B/V) 882-8800
IN 317 INDIANAPOLIS	635-9630	(B/V) 634-5708
IN 317 KOKOMO	455-2460	(B/V) 455-2460
IN 317 LAFAYETTE	742-1165	(B/V) 742-1165
IN 219 MISHAWKA	233-7104 <SOUTH BEND>	(B/V) 233-7104
IN 219 OSCEOLA	233-7104 <SOUTH BEND>	(B/V) 233-7104
IN 219 SOUTH BEND	233-7104	(B/V) 233-7104
IN 812 TERRE HAUTE	234-8429	(B/V) 234-8429
KS 816 KANSAS CITY	221-9900 <KANSAS CITY, MO>	(B/V) 221-9900
KS 913 TOPEKA	233-9880	(B/V) 233-9880
KS 316 WICHITA	262-5669	(B/V) 262-5669
KY 502 BOWLING GREEN	782-7941	(B/V) 782-7941
KY 502 FRANKFORT	875-4654	(B/V) 875-4654
KY 606 LEXINGTON	233-0312	(B/V) 233-0312
KY 502 LOUISVILLE	589-5580	(B/V) 589-5580
LA 504 BATON ROUGE	343-0753	(B/V) 343-0753
LA 318 LAFAYETTE	234-1095	(B/V) 234-1095
LA 318 LAKE CHARLES	436-0518	(B/V) 436-0518
LA 318 MONROE	387-6330	(B/V) 387-6330
LA 504 NEW ORLEANS	524-4094	(B/V) 524-4094
LA 318 SHREVEPORT	221-5833	(B/V) 221-5833
ME 207 AUGUSTA	622-3123	(B/V) 622-3123
ME 207 PORTLAND	761-4000	(B/V) 761-4000
MD 301 ANNAPOLIS	224-8550	(B/V) 224-8550
MD 301 BALTIMORE	962-5010	(B/V) 727-6060
MD 202 BETHESDA	429-7896 <WASH., D.C.>	(B/V) 429-7800
MD 301 DUNDALK	962-5010 <BALTIMORE>	(B/V) 727-6060
MD 202 ROCKVILLE	429-7896 <WASH., D.C.>	(B/V) 429-7800
MD 202 SILVER SPRING	429-7896 <WASH., D.C.>	(B/V) 429-7800
MD 301 TOWSON	962-5010 <BALTIMORE>	(B/V) 727-6060
MA 617 ARLINGTON	292-0600 <BOSTON>	(B/V) 292-0662
MA 617 BOSTON	292-0600	(B/V) 292-0662
MA 617 BROOKLINE	292-0600 <BOSTON>	(B/V) 292-0662
MA 617 CAMBRIDGE	292-0600 <BOSTON>	(B/V) 292-0662
MA 413 CHICOPEE	781-3811 <SPRINGFIELD>	(B/V) 781-3811
MA 413 HOLYOKE	781-3811 <SPRINGFIELD>	(B/V) 781-3811
MA 617 LEXINGTON	863-1550	(B/V) 863-1550
MA 617 LOWELL	937-5214	(B/V) 937-5214
MA 617 MEDFORD	292-0600 <BOSTON>	(B/V) 292-0662
MA 617 NEW BEDFORD	999-2915	(B/V) 999-2915
MA 617 NEWTON	292-0600 <BOSTON>	(B/V) 292-0662
MA 617 QUINCY	292-0600 <BOSTON>	(B/V) 292-0662
MA 617 SOMERVILLE	292-0600 <BOSTON>	(B/V) 292-0662
MA 413 SPRINGFIELD	781-3811	(B/V) 781-3811
MA 617 WALTHAM	292-0600 <BOSTON>	(B/V) 292-0662
MA 617 WOODS HOLE	540-7500	(B/V) 540-7500
MA 617 WORCESTER	755-4740	(B/V) 755-4740
MI 313 ANN ARBOR	996-5995	(B/V) 996-5995
MI 616 BATTLE CREEK	968-0929	(B/V) 968-0929
MI 313 DETROIT	964-5538	(B/V) 964-2988
MI 313 FLINT	235-8517	(B/V) 235-8517
MI 616 GRAND RAPIDS	774-0966	(B/V) 774-0966
MI 616 KALAMAZOO	345-3088	(B/V) 345-3088
MI 517 JACKSON	782-8111	(B/V) 782-8111
MI 517 LANSING	484-0062	(B/V) 484-0062
MI 517 SAGINAW	790-5166	(B/V) 790-5166

MI 313 SOUTHFIELD	827-4710	(B/V) 827-4710
MI 313 WARREN	575-9152	(B/V) 575-9152
MN 218 DULUTH	722-1719	(B/V) 722-1719
MN 612 MINNEAPOLIS	341-2459	(B/V) 341-2459
MN 612 ST. PAUL	341-2459 <MINNEAPOLIS>	(B/V) 341-2459
MO 314 FLORISSANT	421-4990 <ST. LOUIS>	(B/V) 421-4990
MO 314 JEFFERSON CITY	634-5178	(B/V) 634-5178
MO 816 KANSAS CITY	221-9900	(B/V) 221-9900
MO 816 ST. JOSEPH	279-4797	(B/V) 279-4797
MO 314 ST. LOUIS	421-4990	(B/V) 421-4990
MO 417 SPRINGFIELD	864-4814	(B/V) 864-4814
MS 601 JACKSON	969-0036	(B/V) 969-0036
MT 406 BILLINGS	245-7649	(B/V) 245-7649
MT 406 HELENA	443-0000	(B/V) 443-0000
MT 406 MISSOULA	721-5900	(B/V) 721-5900
NE 402 LINCOLN	475-4964	(B/V) 475-4964
NE 402 OMAHA	341-7733	(B/V) 341-7733
NH 603 CONCORD	224-1024	(B/V) 224-1024
NH 603 MANCHESTER	668-1420	(B/V) 668-1420
NH 603 NASHUA	889-8618	(B/V) 889-8618
NH 603 PORTSMOUTH	431-2302	(B/V) 431-2302
NV 702 LAS VEGAS	737-6861	(B/V) 737-6861
NV 702 RENO	827-6900	(B/V) 827-6900
NJ 609 ATLANTIC CITY	348-0561	(B/V) 348-0561
NJ 201 BAYONNE	623-6818 <NEWARK>	(B/V) 623-0469
NJ 201 JERSEY CITY	623-6818 <NEWARK>	(B/V) 623-0469
NJ 609 MARLTON	596-1500	(B/V) 596-1500
NJ 201 MORRISTOWN	455-0275	(B/V) 455-0275
NJ 201 NEWARK	623-6818	(B/V) 623-0469
NJ 201 PASSAIC	778-5600	(B/V) 778-5600
NJ 201 PATERSON	684-7560	(B/V) 684-7560
NJ 609 PRINCETON	799-5587	(B/V) 799-5587
NJ 609 TRENTON	989-8847	(B/V) 989-8847
NJ 201 UNION CITY	623-6818 <NEWARK>	(B/V) 623-0469
NM 505 ALBUQUERQUE	243-4479	(B/V) 243-4479
NY 518 ALBANY	465-8444	(B/V) 465-8444
NY 607 BINGHAMTON	772-6642	(B/V) 772-6642
NY 716 BUFFALO	847-1440	(B/V) 847-1440
NY 516 DEER PARK	667-5566	(B/V) 667-5566
NY 516 HEMPSTEAD	292-0320	(B/V) 292-3800
NY 212 NEW YORK	741-8100	(B/V) 741-8100
NY 212 NEW YORK	741-4950	(B/V) 741-4950
NY 212 NEW YORK	620-6666	
NY 914 Poughkeepsie	473-2240	(B/V) 473-2240
NY 716 ROCHESTER	454-3430	(B/V) 454-1020
NY 518 SCHENECTADY	465-8444 <ALBANY>	(B/V) 465-8444
NY 315 SYRACUSE	472-5583	(B/V) 472-5583
NY 518 TROY	465-8444 <ALBANY>	(B/V) 465-8444
NY 315 UTICA/ROME	797-0920	(B/V) 797-0920
NY 914 WHITE PLAINS	328-9199	(B/V) 328-9199
NC 704 ASHEVILLE	252-9134	(B/V) 252-9134
NC 704 CHARLOTTE	332-3131	(B/V) 332-3131
NC 919 DAVIDSON	549-8139 <RESEARCH TRI. PARK>	(B/V) 549-8139
NC 919 DURHAM	549-8139 <RESEARCH TRI. PARK>	(B/V) 549-8139
NC 919 FAYETTEVILLE	323-4501	(B/V) 323-4501
NC 919 GREENSBORO	273-2851	(B/V) 273-2851
NC 919 HIGH POINT	899-2253	(B/V) 899-2253
NC 919 RALEIGH	549-8139 <RESEARCH TRI. PARK>	(B/V) 549-8139

NC 919 RESEARCH TRI. PARK	549-8139	(B/V) 549-8139
NC 919 WINSTON-SALEM	725-2126	(B/V) 725-2126
ND 701 MANDAN	663-2256	(B/V) 663-2256
OH 216 AKRON	678-5115 <KENT>	(B/V) 678-5115
OH 216 CANTON	452-0903	(B/V) 452-0903
OH 513 CINCINNATI	579-0390	(B/V) 579-0390
OH 216 CLEVELAND	575-1658	(B/V) 575-1658
OH 614 COLUMBUS	463-9340	(B/V) 463-9340
OH 513 DAYTON	461-5254	(B/V) 461-5254
OH 216 ELYRIA	323-5059	(B/V) 323-5059
OH 216 EUCLID	575-1658 <CLEVELAND>	(B/V) 575-1658
OH 216 KENT	678-5115	(B/V) 678-5115
OH 216 PARMA	575-1658 <CLEVELAND>	(B/V) 575-1658
OH 513 SPRINGFIELD	324-1520	(B/V) 324-1520
OH 419 TOLEDO	255-7881	(B/V) 255-7881
OH 216 YOUNGSTOWN	743-1296	(B/V) 743-1296
OK 405 BETHANY	232-4546 <OKLAHOMA CITY>	(B/V) 232-4546
OK 405 NORMAN	232-4546 <OKLAHOMA CITY>	(B/V) 232-4546
OK 405 OKLAHOMA CITY	232-4546	(B/V) 232-4546
OK 405 STILLWATER	624-1112	(B/V) 624-1112
OK 918 TULSA	584-3247	(B/V) 584-3247
OR 503 CORVALLIS	754-9273	(B/V) 754-9273
OR 503 EUGENE	683-1460	(B/V) 683-1460
OR 503 MEDFORD	779-6343	(B/V) 779-6343
OR 503 PORTLAND	295-3028	(B/V) 295-3028
OR 503 SALEM	378-7712	(B/V) 378-7712
PA 215 ALLENTOWN	435-3330	(B/V) 435-3330
PA 814 ERIE	899-2241	(B/V) 899-2241
PA 717 HARRISBURG	236-6882	(B/V) 236-6882
PA 814 JOHNSTOWN	535-7576	(B/V) 535-7576
PA 215 KING OF PRUSSIA	337-4300	(B/V) 337-4300
PA 717 LANCASTER	393-2154	(B/V) 393-2154
PA 412 PENN HILLS	288-9950 <PITTSBURGH>	(B/V) 288-9974
PA 215 PHILADELPHIA	574-0620	(B/V) 574-9462
PA 412 PITTSBURGH	288-9950	(B/V) 288-9974
PA 215 READING	372-7116	(B/V) 372-7116
PA 717 SCRANTON	961-5321	(B/V) 961-5321
PA 215 UPPER DARBY	574-0620 <PHILADELPHIA>	(B/V) 574-9462
PA 717 YORK	846-6550	(B/V) 846-6550
RI 401 PROVIDENCE	751-7912	(B/V) 751-7912
RI 401 WARWICK	751-7912 <PROVIDENCE>	(B/V) 751-7912
SC 803 CHARLESTON	722-4303	(B/V) 722-4303
SC 803 COLUMBIA	254-0695	(B/V) 254-0695
SC 803 GREENVILLE	233-3486	(B/V) 233-3486
SC 803 SPARTANBURG	585-1637	(B/V) 585-1637
SD 605 PIERRE	224-0481	(B/V) 224-0481
SD 605 SIOUX FALLS	336-8593	(B/V) 336-8593
TN 615 BRISTOL	968-1130	(B/V) 968-1130
TN 615 CHATTANOOGA	756-1161	(B/V) 756-1161
TN 615 KNOXVILLE	523-5500	(B/V) 523-5500
TN 901 MEMPHIS	521-0215	(B/V) 521-0215
TN 615 NASHVILLE	244-3702	(B/V) 244-3702
TX 915 ABILENE	676-9151	(B/V) 676-9151
TX 806 AMARILLO	372-6934	(B/V) 372-6934
TX 512 AUSTIN	928-1130	(B/V) 928-1130
TX 409 BRYAN	779-0219	(B/V) 779-0219
TX 512 CORPUS CHRISTI	884-9030	(B/V) 884-9030
TX 214 DALLAS	748-0127	(B/V) 748-6371

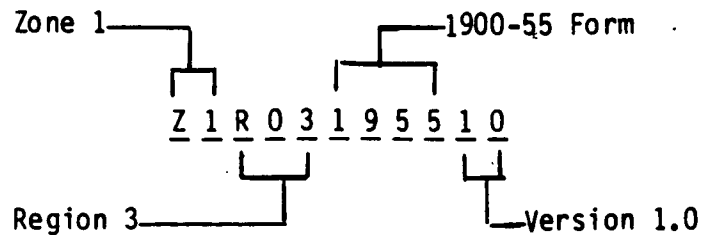


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TX 409 GALVESTON	762-4382	(B/V) 762-4382
TX 713 HOUSTON	227-1018	(B/V) 227-1018
TX 512 LACKLAND	225-8004 <SAN ANTONIO>	(B/V) 225-8004
TX 214 LONGVIEW	236-3196	(B/V) 236-3196
TX 806 LUBBOCK	747-4121	(B/V) 747-4121
TX 915 MIDLAND	561-9811 <TERMINAL>	(B/V) 561-9811
TX 409 NEDERLAND	722-3720	(B/V) 722-3720
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TX 915 SAN ANGELO	944-7621	(B/V) 944-7621
TX 512 SAN ANTONIO	225-8004	(B/V) 225-8004
TX 915 TERMINAL	561-9811	(B/V) 561-9811
TX 214 TYLER	592-3927	(B/V) 592-3927
TX 817 WACO	752-9743	(B/V) 752-9743
UT 801 OGDEN	627-1630	(B/V) 627-1630
UT 801 SALT LAKE CITY	359-0149	(B/V) 359-0149
VA 202 ALEXANDRIA	429-7896 <WASHINGTON, D.C.>	(B/V) 429-7800
VA 202 ANANDALE	429-7896 <WASHINGTON, D.C.>	(B/V) 429-7800
VA 804 CHARLOTTESVILLE	971-1505	(B/V) 971-1505
VA 804 CHESAPEAKE	625-1186 <NORFOLK>	(B/V) 625-1186
VA 202 FAIRFAX	429-7896 <WASHINGTON, D.C.>	(B/V) 429-7800
VA 202 FALLS CHURCH	429-7896 <WASHINGTON, D.C.>	(B/V) 429-7800
VA 703 HERNDON	435-1800	(B/V) 435-1800
VA 804 NEWPORT NEWS	596-6600	(B/V) 596-6600
VA 804 NORFOLK	625-1186	(B/V) 625-1186
VA 804 PORTSMOUTH	625-1186 <NORFOLK>	(B/V) 625-1186
VA 804 RICHMOND	788-9902	(B/V) 788-9902
VA 703 ROANOKE	344-2036	(B/V) 344-2036
VA 202 SPRINGFIELD	429-7896 <WASHINGTON, D.C.>	(B/V) 429-7800
VA 202 VIENNA	429-7896 <WASHINGTON, D.C.>	(B/V) 429-7800
VA 804 VIRGINIA BEACH	625-1186 <NORFOLK>	(B/V) 625-1186
VT 802 BURLINGTON	864-0808	(B/V) 864-0808
VT 802 MONTPELIER	229-4966	(B/V) 229-4966
WA 206 AUBURN	939-9982	(B/V) 939-9982
WA 206 BELLEVUE	447-9012 <SEATTLE>	(B/V) 625-9612
WA 206 BELLINGHAM	733-2720	(B/V) 733-2720
WA 206 LONGVIEW	577-5835	(B/V) 577-5835
WA 206 OLYMPIA	754-0460	(B/V) 754-0460
WA 206 SEATTLE	447-9012	(B/V) 625-9612
WA 509 SPOKANE	455-4071	(B/V) 455-4071
WA 206 TACOMA	627-1791	(B/V) 627-1791
WA 509 WENATCHEE	663-6227	(B/V) 663-6227
WI 715 EAU CLAIRE	832-1211	(B/V) 832-1211
WI 414 GREEN BAY	432-2815	(B/V) 432-2815
WI 608 MADISON	257-5010	(B/V) 257-5010
WI 414 MILWAUKEE	271-3914	(B/V) 271-3914
WI 414 NEENAH	722-7636	(B/V) 722-7636
WI 414 RACINE	552-7217	(B/V) 552-7217
WV 304 CHARLESTON	345-6471	(B/V) 345-6471
WV 304 HUNTINGTON	523-2802	(B/V) 523-2802
WV 304 MORRISANTOWN	292-0104	(B/V) 292-0104
WY 307 CASPER	265-5167	(B/V) 265-5167
WY 307 CHEYENNE	638-4421	(B/V) 638-4421
IN-WATS 800	424-9494	

**APPENDIX E**  
**DISK VOLUME LABELING SYSTEM**

## DISK VOLUME LABELING SYSTEM

This appendix explains the nomenclature system used to identify the disk volumes. The disk volume name is magnetically encoded on the disk and appears on the screen when the DIRectory command is issued from MS-DOS. The volume name is 11 characters long. An example disk volume name is shown below to illustrate the name format:



The four character software descriptors are as follows:

- 1955 - 1900-55 Form disk
- CPRJ - Cost Projection disk
- IOLD - Daily Cost Summary and Incident Obligation Log disk
- DATA - Cost Data disk
- ARCH - Archive disk
- DCAC - Data Communication Access disk
- DMST - Document Storage disk

**APPENDIX F**  
**OPERATING HINTS AND TROUBLESHOOTING**

## OPERATING HINTS AND TROUBLESHOOTING

The following is a list of problems that may occur as you are using the computer system. The likely solutions to these problems are also presented. These problems can occur with both hard disk and floppy disk computers.

**PROBLEM:** Disc drive lights are not on.

**SOLUTION:** Check all power cords and switches.

**PROBLEM:** The data information has been sent to the printer but nothing is printing.

**SOLUTION:** Check that the computer and printer cords are securely in place and connected to the correct ports. Check to make sure the printer is turned on, is on-line, and has sufficient paper.

**PROBLEM:** Paper runs out before forms have finished printing. Printer pauses.

**SOLUTION:** Load the printer with more paper, make sure printer is on-line, and set the top of page.

**PROBLEM:** The screen keeps displaying an error message, even though you know you are making the correct entry.

**SOLUTION:** Check to see that you are entering capital letters. If your entries are not in capitals, press the Caps Lock key once. Also, make sure you are not confusing the number 0 (zero) with the letter O, a common mistake as both occur close together on the keyboard.

**PROBLEM:** dBASE prompt (.) appears on the screen with a blinking cursor.

**SOLUTION:** Type "QUIT" to exit from dBASE. You will return to the main menu. Restart the cost management system.

**PROBLEM:** Blinking cursor appears on the screen with no reverse video field to allow you to enter data.

**SOLUTION:** This could mean one of two things: (1) the computer is either calculating or preparing to print, in which case, wait; (2) you have used the Backspace key to reverse into an area of the screen where the computer has already accepted data (this occurs primarily in the editing programs). The remedy in this case is to keep pressing the Return key until a reverse video area with a blinking cursor inside it appears on the screen.

**PROBLEM:** The words "NUMERIC OVERFLOW" appear on the screen.

**SOLUTION:** The multiplication of two large numbers has resulted in a number that is too large to be recorded in the files, and asterisks will be stored in the files instead. Try the procedure again with smaller numbers. Every effort has been made to ensure that the data fields are large enough to hold numbers that would be generated on a normal site. However, if you find that the numeric overflow error occurs even under normal conditions, please leave a message to this effect in the E-Mail box (ERT) listed on page ii of this User's Guide.

If these solutions fail to rectify the problem, or if you have additional problems or recommendations, please leave a message to that effect in the E-Mail box (ERT) that has been set up specifically to receive messages concerning the computerized cost management system.