

# 1. INTRODUCTION

The Navy Cost of Manpower Estimating Tool (COMET) was developed to enable defense contractors and Navy cost analysts to accurately and consistently estimate personnel-related costs associated with the acquisition process. The program allows users to view the direct and variable indirect costs associated with an individual and also, to view the final variable costs for specific skill groups. Users can view all-Navy costs as well as occupation-specific costs. With this capability, system developers and project officers are able to assess the economic impact on life cycle costs of hardware/manpower tradeoff alternatives.

The COMET program is a Windows95 program. The data files are quite robust, and considerable experimentation is possible with no danger of corrupting the underlying cost data. From the user's point of view, COMET is divided into three functional parts: (1) individual billet data, (2) final cost file creation/modification, and (3) life cycle cost modeling. Individual billet data may be viewed down to the level of specific variable costs by selecting a rating or designator. Individual average costs per pay grade may be viewed as well. Final cost file creation/modification allows the user to create a final cost estimate using assumptions other than the COMET defaults. These files are then available as cost "building blocks" and are used by analysts in creating a variety of costing scenarios.

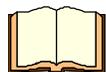
There are three operative modules in the COMET Civilian program that execute the following tasks:

1. Input new structured cost and final cost default datasets from input files.
2. Create user datasets from default and customized cost parameters, and enable or disable premium pays.
3. Define manpower requirements for a project and run final costs over a variable-length period, then view, print, or export results.

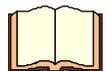
## 1.1 COMET PROGRAM DOCUMENTATION

There are separate cost estimation modules for the Navy's Active Duty, Reserve, and Civilian components. Since each component has both an *Operations Manual* and a *User's Manual*, the entire COMET Program documentation set encompasses six manuals, as shown below:

### Active Component:

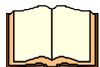


*Active Component Operations Manual*

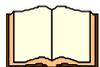


*Active Component User's Manual*

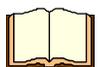


**Reserve Component:**

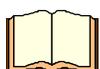
*Reserve Component Operations Manual*



*Reserve Component User's Manual*

**Civilian (Government employees) Component:**

*Civilian Component Operations Manual*



*Civilian Component User's Manual* (this document)

## 1.2 PURPOSE OF THIS MANUAL

It is recommended that users read the *Civilian Component Operations Manual* before reading this document. The *Operations Manual* describes data flows, algorithms, and processes used in calculating costs for COMET, and will enable users to better understand how the model works, under what circumstances the model is used, and the methodology and data sources used.

In contrast, this manual is more of a typical user's manual that provides applicable information and instruction on how to run the model, including a tutorial that teaches how and where to enter data, identify elements critical to the model, and produce output.

Please contact SAG Corporation (703-538-4500) for further information, if necessary.

## 1.3 SYSTEM REQUIREMENTS

The following minimum system requirements are necessary to run the COMET program:

- IBM compatible with 486 CPU or higher
- At least 8mg RAM installed
- Color EGA, VGA, or SVGA monitor
- At least 10MB of hard disk space available
- Windows95

## 1.4 INSTALLATION

1. Go to Start Menu, Settings option
2. Click on Control Panel
3. Click on the "Add/Remove Programs" icon
4. Load disk number one and click the "Install" button. Windows95 will automatically locate the setup and prompt you with more instructions

5. At the end of the installation, a “Setup Complete” dialog box will inform you that the installation is complete and give you the option to reboot the computer. At this time, reboot the computer. The program will not work correctly unless the computer is rebooted.
6. To start program, go to the Start Menu and point to “Programs.” The Program menu will appear. A separate folder has been created for COMET programs. Point to the COMET folder. This folder contains the short cuts for all COMET models installed on the computer.
7. Click “COMET\_CIVILIAN\_COMPONENT” to start the program.
8. To uninstall application, use the “Add/Remove Programs” option

## **2. OVERVIEW OF MENU OPTIONS**

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The COMET Civilian Component main menu is the starting point to view, edit, run, and print general schedule or wage board cost data by location. Each of these functions is described below.

To begin COMET-C, double click on the appropriate icon. The main menu provides the following options

- File
- Data
- Edit
- LCC
- Help

As is common in Windows95 programs, each option can be accessed by either clicking with the mouse on the key word or holding down the <Alt> key and the underlined letter (F, D, E, L or H).

### **2.1 FILE**

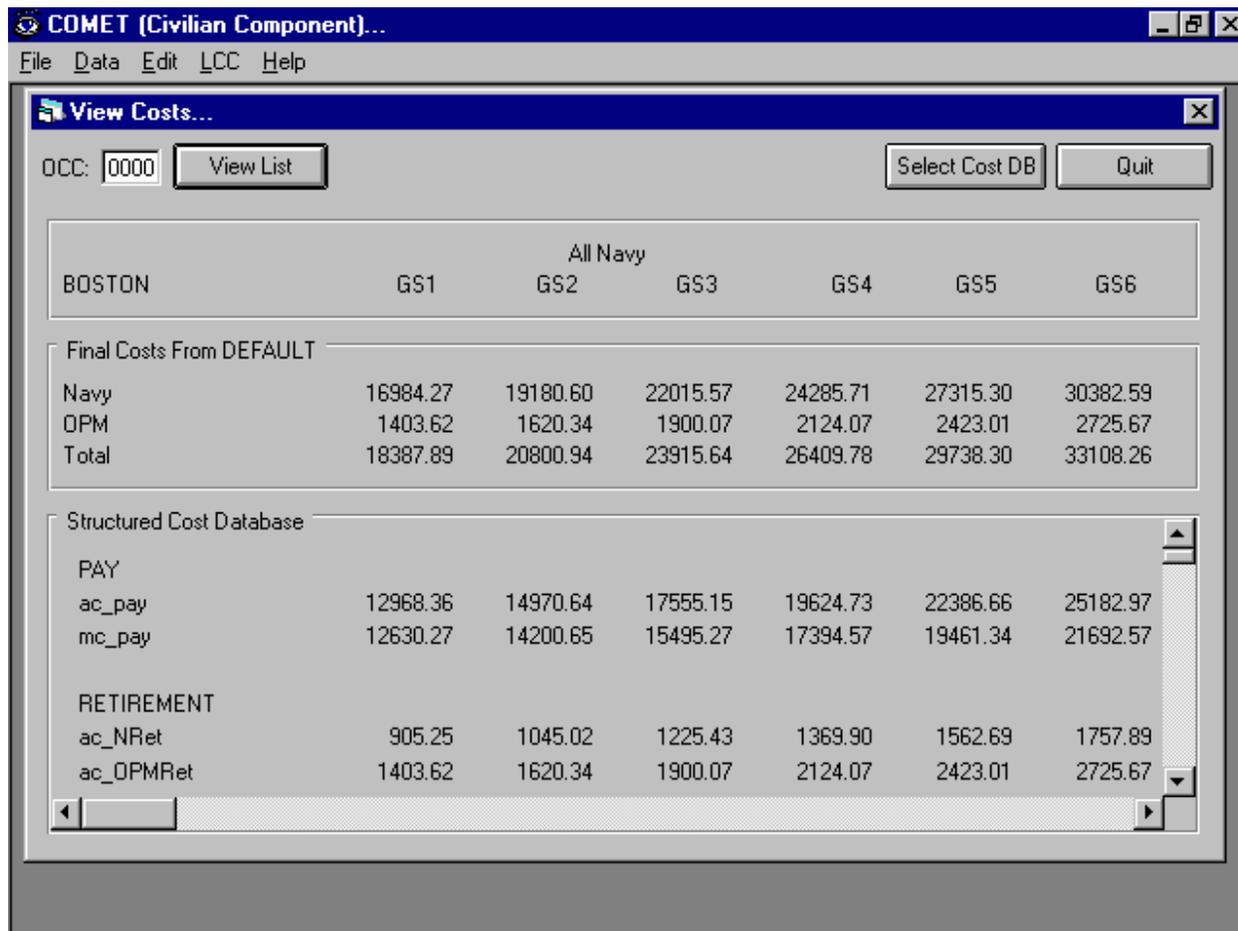
This menu option provides the user the option to print or export various standard reports. In addition, there are two additional options that allow the user to view either General Schedule (GS) or Wage Board (WB) costs.



COMET-C File Menu

### 2.1.1 View GS Costs

After selecting the “View GS Costs” option, the user will see a box with all of the available GS cost files listed. Highlight the cost file of interest and press <Enter>. Then the “Select a GS Region” box will appear. Highlight the appropriate region and press <Enter>. Then the view costs screen will appear. The occupation input field and button options appear at the top of the screen. Enter an occupation and the costs associated with that occupation and region in that cost file will be displayed.

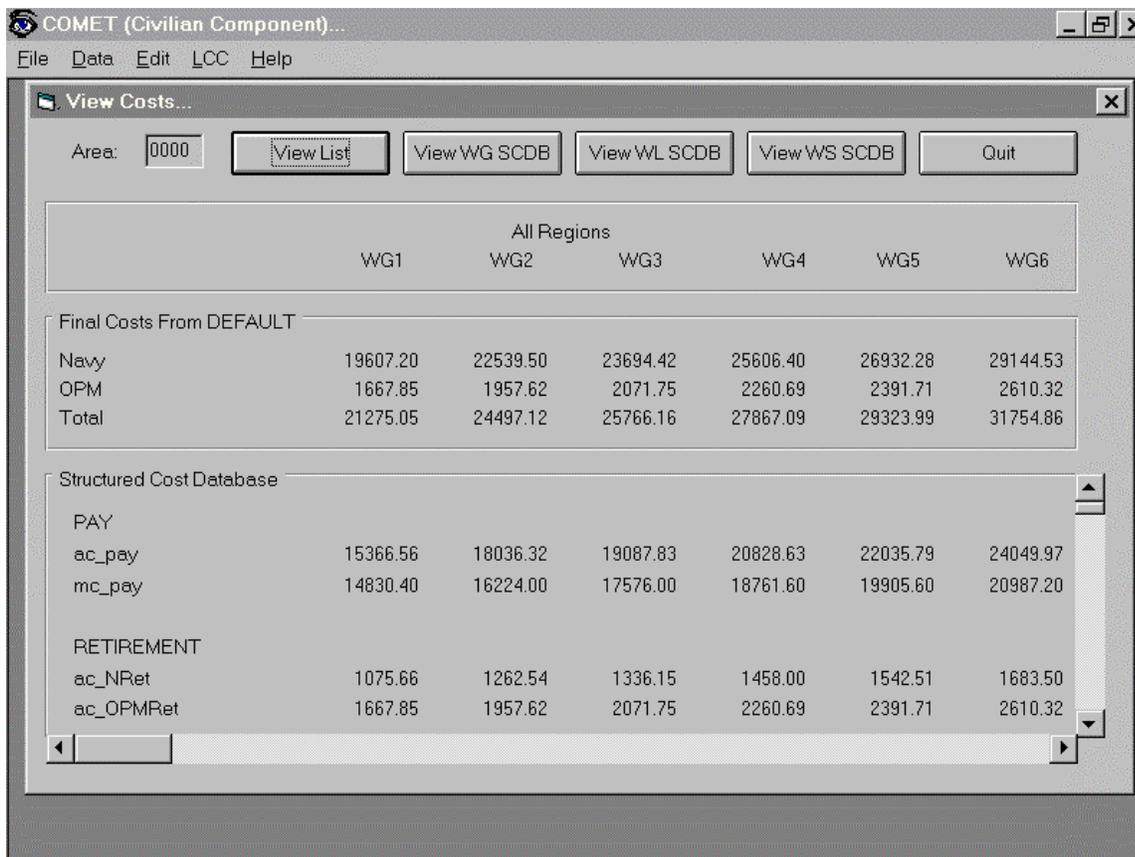


View GS Database

When viewing the GS costs screen, the title of the occupation selected is located above the GS column headers, the locality pay area is located to the left of these headers, and the final cast database selected is located directly below the area. The subtotals and totals for the major cost appropriations are listed on the top half of the screen. When the costs first appear, the detail associated with the direct costs are listed on the bottom half. Use the scroll bars on the right side and bottom of screen to scroll through the costs. The user may change the cost file he or she is viewing by pressing the “Select Cost DB” button.

### 2.1.2 VIEW WB COSTS

This menu option is similar to the one described above. One of the big differences is that no occupation is selected. Instead, costs vary solely on the basis of location. In addition, the user can view WG, WL and WS costs by pressing the appropriate button.



View WB Costs

The wage area name is located above the grade column headers, and the final cost database selected is below and to the left.

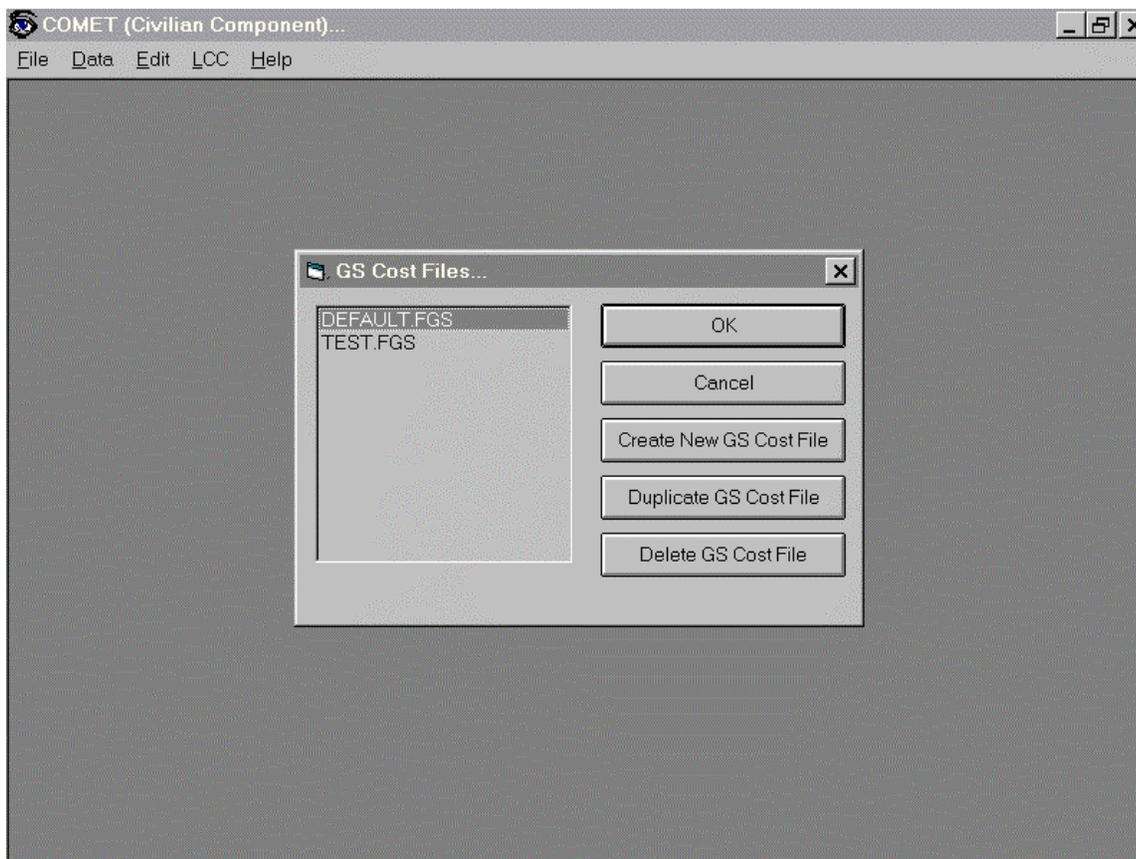
## 2.2 EDIT COSTS

The cost file parameters for both the current general schedule final cost file and the current wage board final cost file can be changed to create customized datasets for various run scenarios.

### 2.2.1 Select Cost DB to Edit

The user must select or create a cost database before editing any of the cost parameters. Upon initial installation, the only file in the list will be the DEFAULT final file. The user may not edit

this file. The “Select GS CostDB to Edit” and the “Select WB CostDB to Edit” options work identically, so only the GS option will be discussed here.



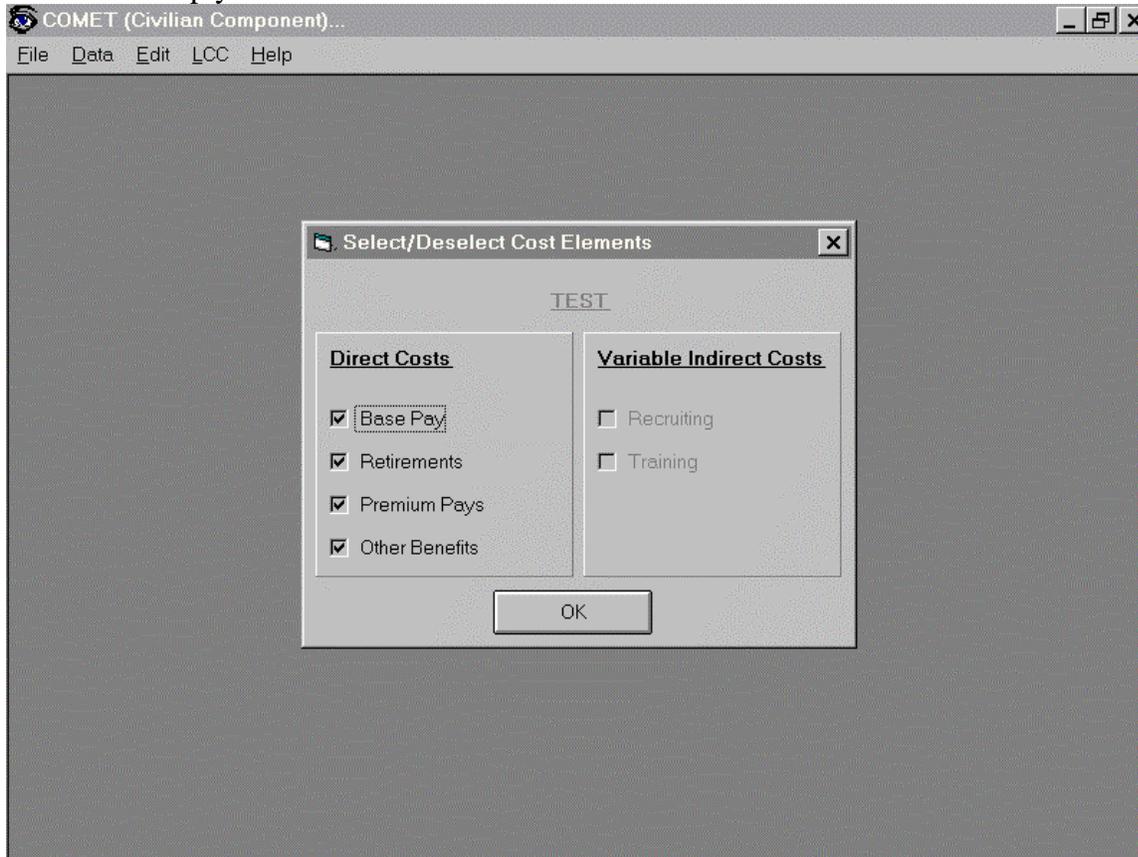
Select GS Cost DB Screen

To create a new final file, type in a name for the file (without an extension) when prompted and press <Enter>. This new file will then be added to the list of choices. Before editing, this new file will be a replica of the DEFAULT.FGS file. To create a copy of an existing costDB (not the default), highlight the filename of the costDB to be copied and press the “Duplicate GS Cost File” button. Once again, the user will need to enter a file name. All costDB’s with the exception of the default can be deleted by highlighting its name and pressing the “Delete GS Cost File” button. To select the costDB to be edited, highlight the file name and press “OK”.

### 2.2.2 Edit GS Costs

In the Final Cost Editor, the user may change some of the underlying assumptions associated with a final cost file. Some of the choices are merely toggles to force the final file to take different weights or variables into account when calculating, while others are more elaborate.

The first step in creating a user-specific final cost file is to select the major cost elements to be included. Simply use the mouse to click on the included costs.



*Select/Deselect Cost Elements*

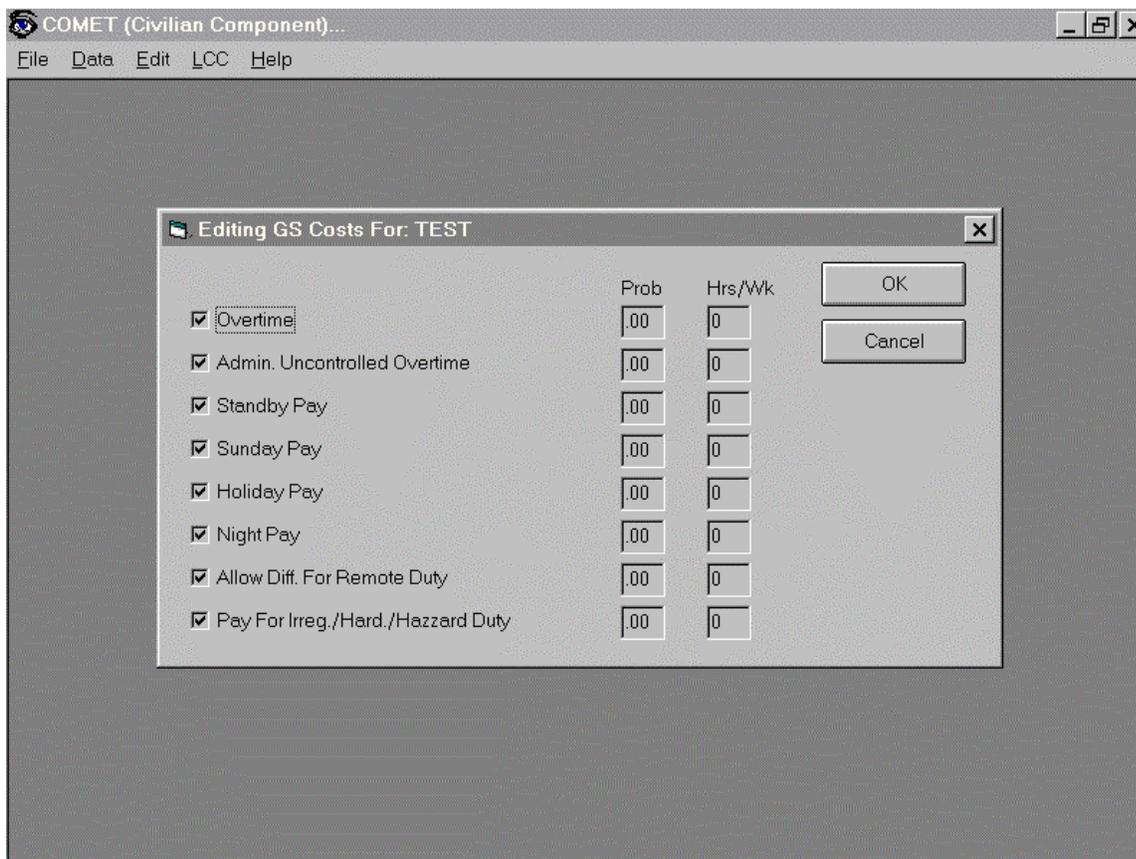
### 2.2.2.1 Specify Direct Costs - GS

The next step is to specify the direct cost options. The following cost elements are available for additional editing:

- Marginal/Average costs
- CSRS/FERS mix
- Retirements
- Premium Pays
- Other Benefits

Either marginal or average costs can be selected. The CSRS/FERS mix may be changed; the CSRS percentage plus the FERS percentage will be forced to 100%. The user may deselect either the OPM portion or the Navy portion of retirement costs. Also, each of the other benefits (FEGLI, FEGHI and Miscellaneous pay) may be deselected.

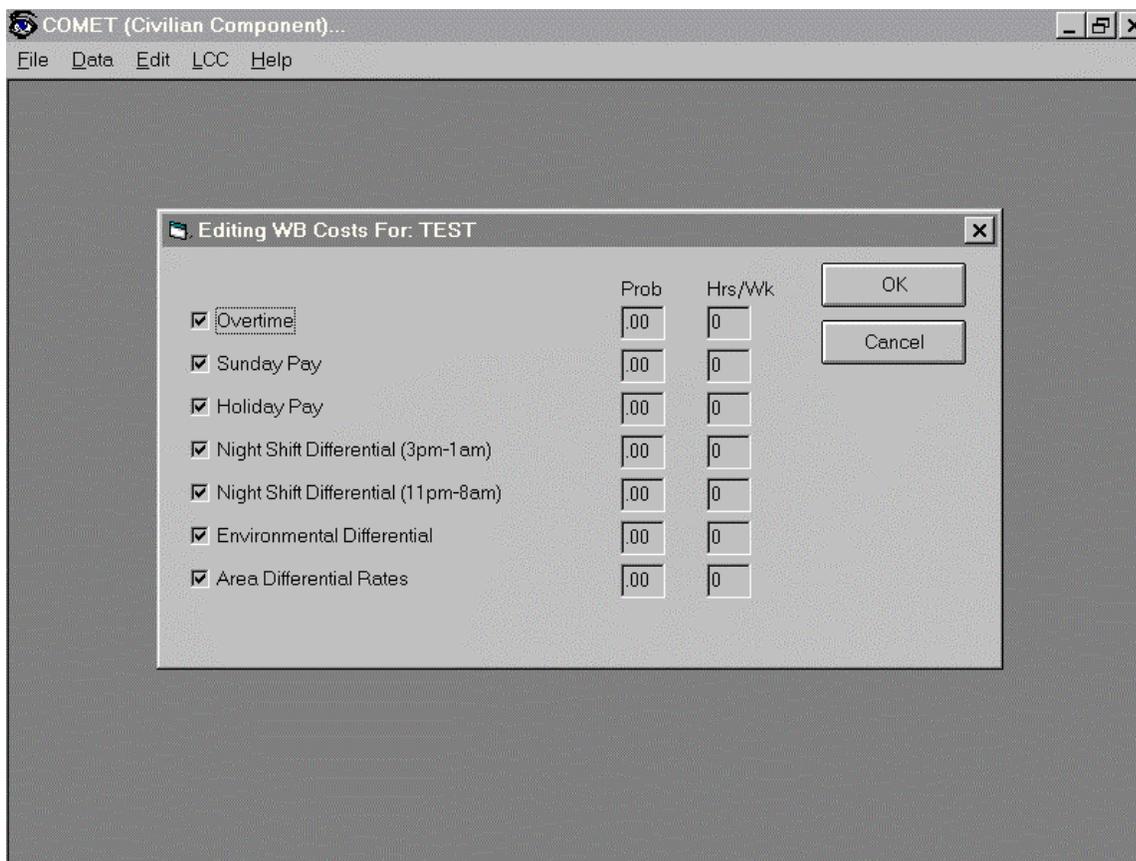
The “Edit Premium Pays” option allows the user to select the types of premium pays to be included in the cost file, and to set a percentage of people receiving the pay and the number of hours per week worked for that pay. “Prob” is the percentage of people receiving a specific premium pay. “Hrs/Wk” is the average number of premium pay hours worked per week for that specific pay.



*Edit Premium Pays*

## 2.3 EDIT WB COSTS

The “Edit WB Costs” option is almost identical to the “Edit GS Costs” option. The only difference is the options available under Premium Pays. That screen is shown below.



## 2.4 LCC

The Life Cycle Cost Module (LCCM) computes the total undiscounted and discounted costs projected over a variable-length horizon. Each project file contains unit requirements, manpower requirements, and final GS and WB cost data. The steps required to build and run a project file are described in this section.

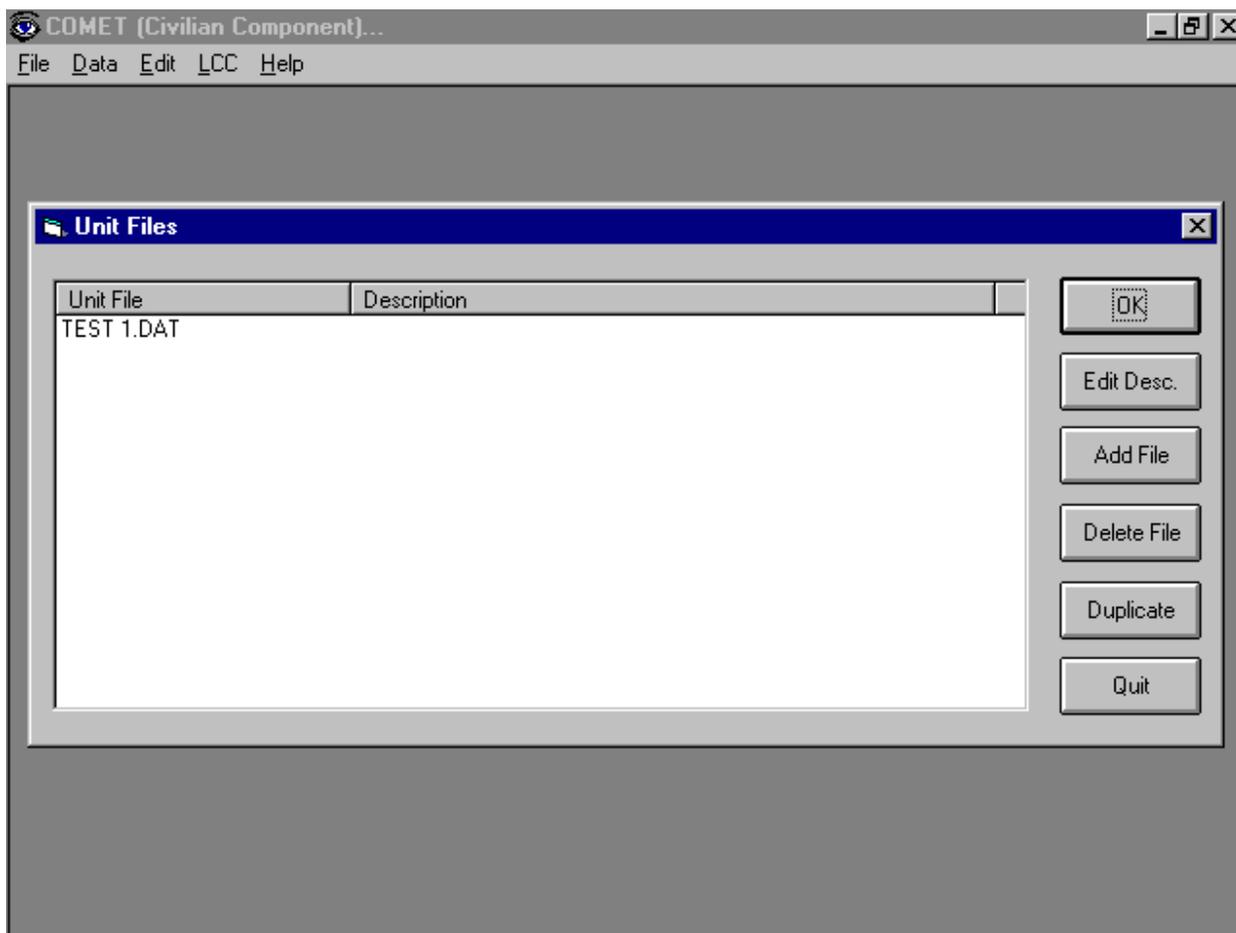
The following menu options are available under the LCC menu option:

- Build Units
- Build System Platform
- Run LCC
- Delta Analysis

### 2.4.1.1 Build Unit

The unit files contain GS occupations and WB regions selected by the user. The user enters the grade counts for each occupation and region. Only one region can be selected per unit file. This region is mapped into a locality to calculate the GS locality pay. There must be at least one unit file defined for the system to operate correctly.

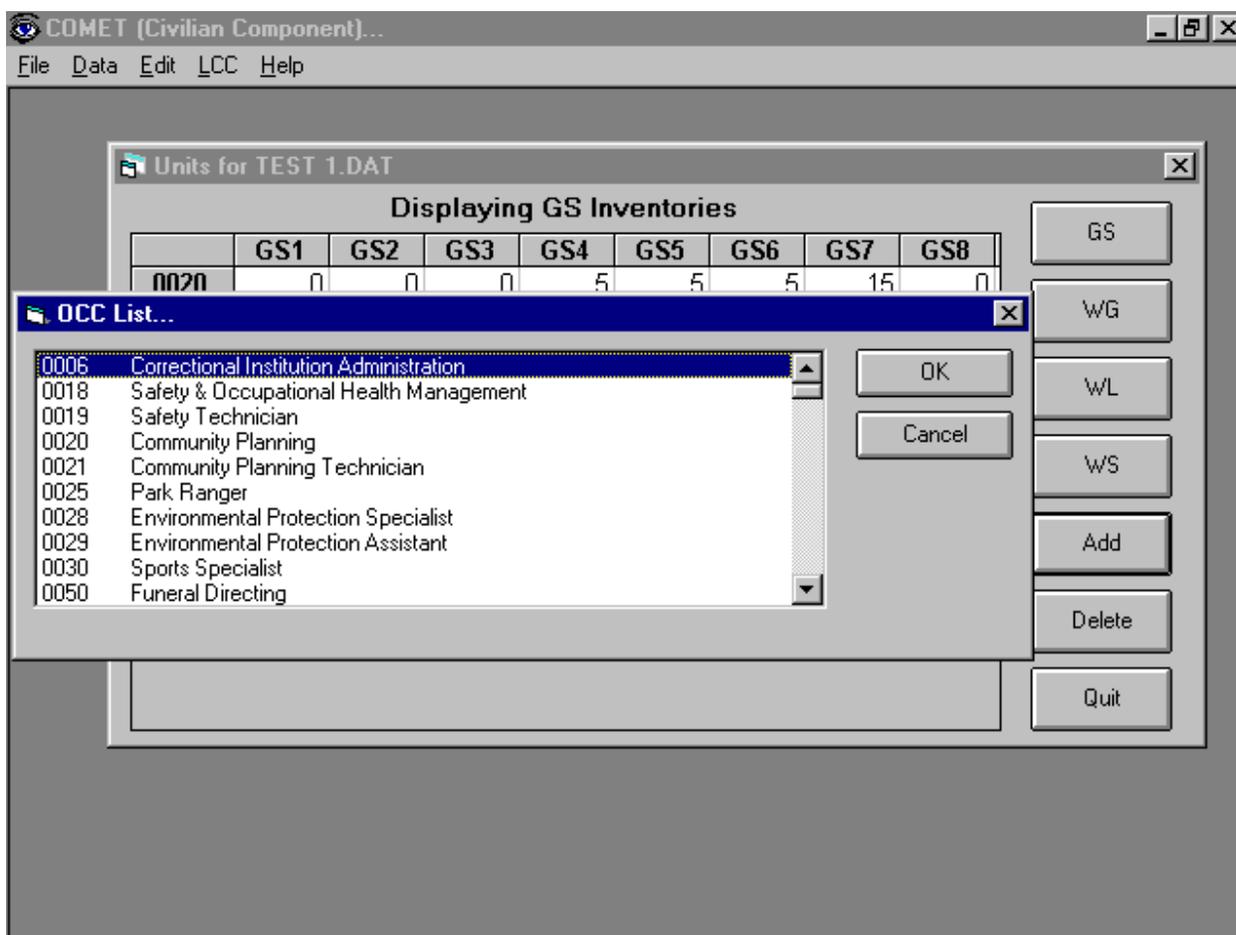
The first screen that appears when selecting the “Unit Files” option is used to create and select the units.



Unit Files

To create a new unit file, select “Add File,” type in a name for the new file (without an extension) when prompted, and press <Enter>. This new file will then be added to the list of choices. Before any editing, this new unit will be empty. After selecting a unit file to edit, the screen will change to display the Unit File Editor where one may add or delete inventories. To create a copy of an existing unit file, highlight the filename of the unit to be copied and press the “Duplicate” button. Any unit can be deleted by highlighting its name and pressing the “Delete Enlisted Cost File” button. To select the unit to be edited, highlight its file name and press “OK.”

The Unit File Editor allows the user to add and delete GS and WB inventories.



Unit File Editor

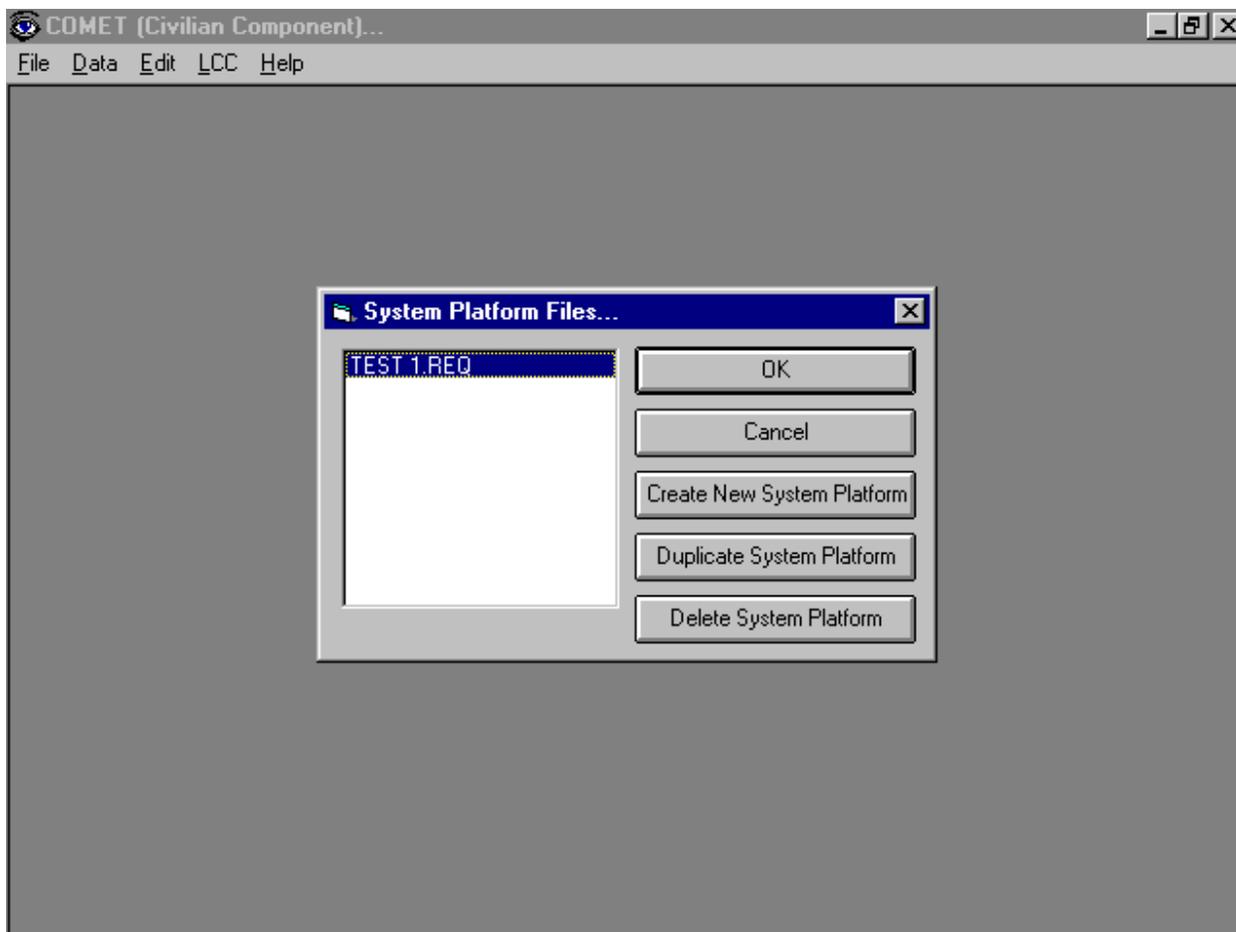
Select a WB to edit by pressing the WG, WL or WS button. The GS screen will display the unit inventories by occupation and grade. The WB screens will display the unit inventories by location and grade. To add an additional skill, press the “Add” button. A list box containing all the available skills will be displayed. Select the desired skill by highlighting it and pressing “OK.” The skill will be added to the list displayed on the Unit File Editor screen. Edit the inventories by

clicking in the grade/skill box and entering a new number. To change the WB area, first delete the existing area. When finished, click the “quit” button.

### 2.4.1.2 Build System Platform

The system platform file contains unit files defined by the user from the “Build Units” option. The user may edit the unit file multiplier that is used to multiply the inventory counts by that number. A unit file may exist in one or more years for up to 99 years. The following section describes the steps required to build the system platform.

The first screen that appears when selecting the “Unit Files” option is used to create and select the system platforms.

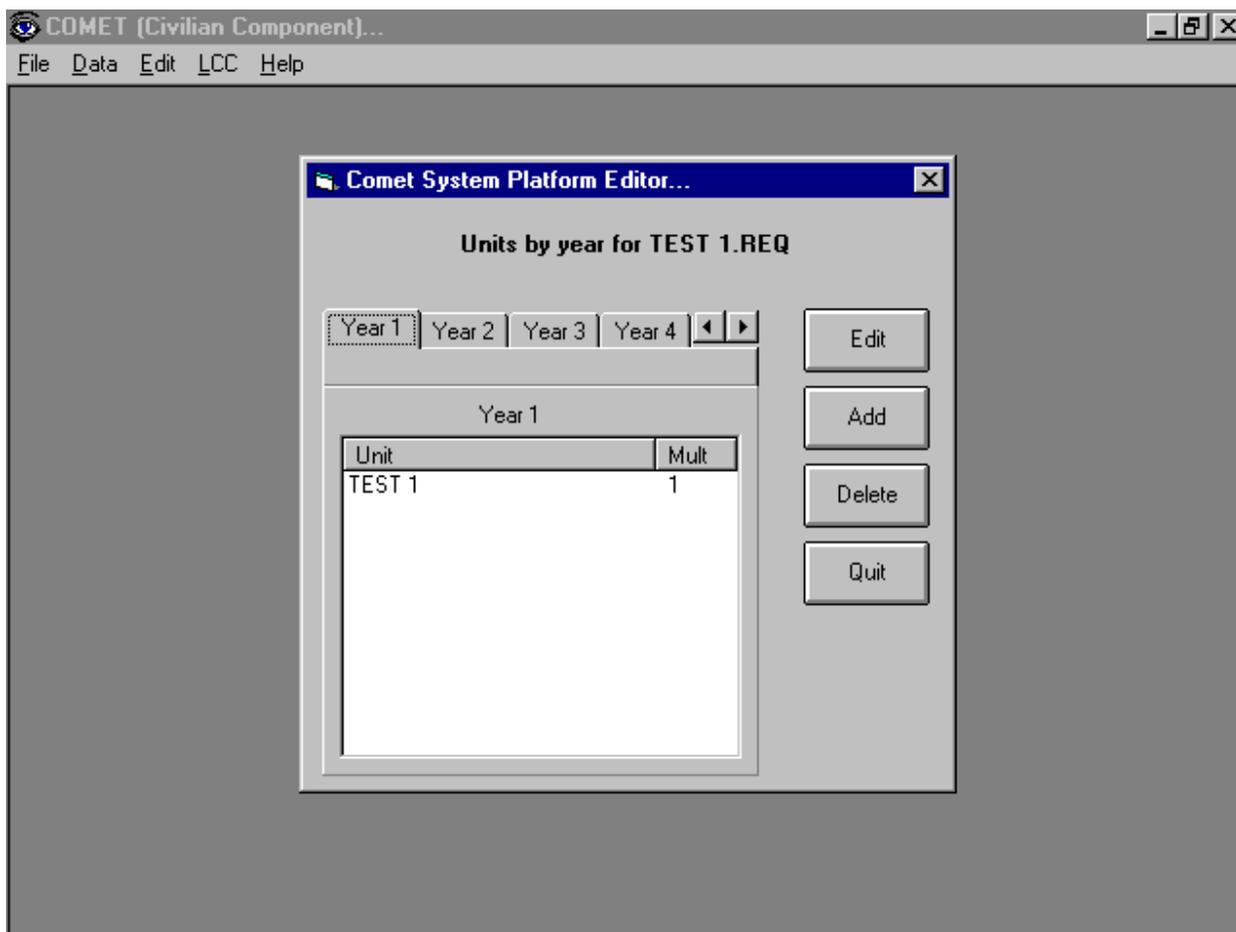


*System Platform*

To create a new system platform file, select “Create New File,” type in a name for the new file (without an extension) when prompted, and press <Enter>. This new file will then be added to the list of choices. Before any editing, this new system will be empty. After selecting a system file to edit, the screen will change to display the System Platform Editor where one may add or

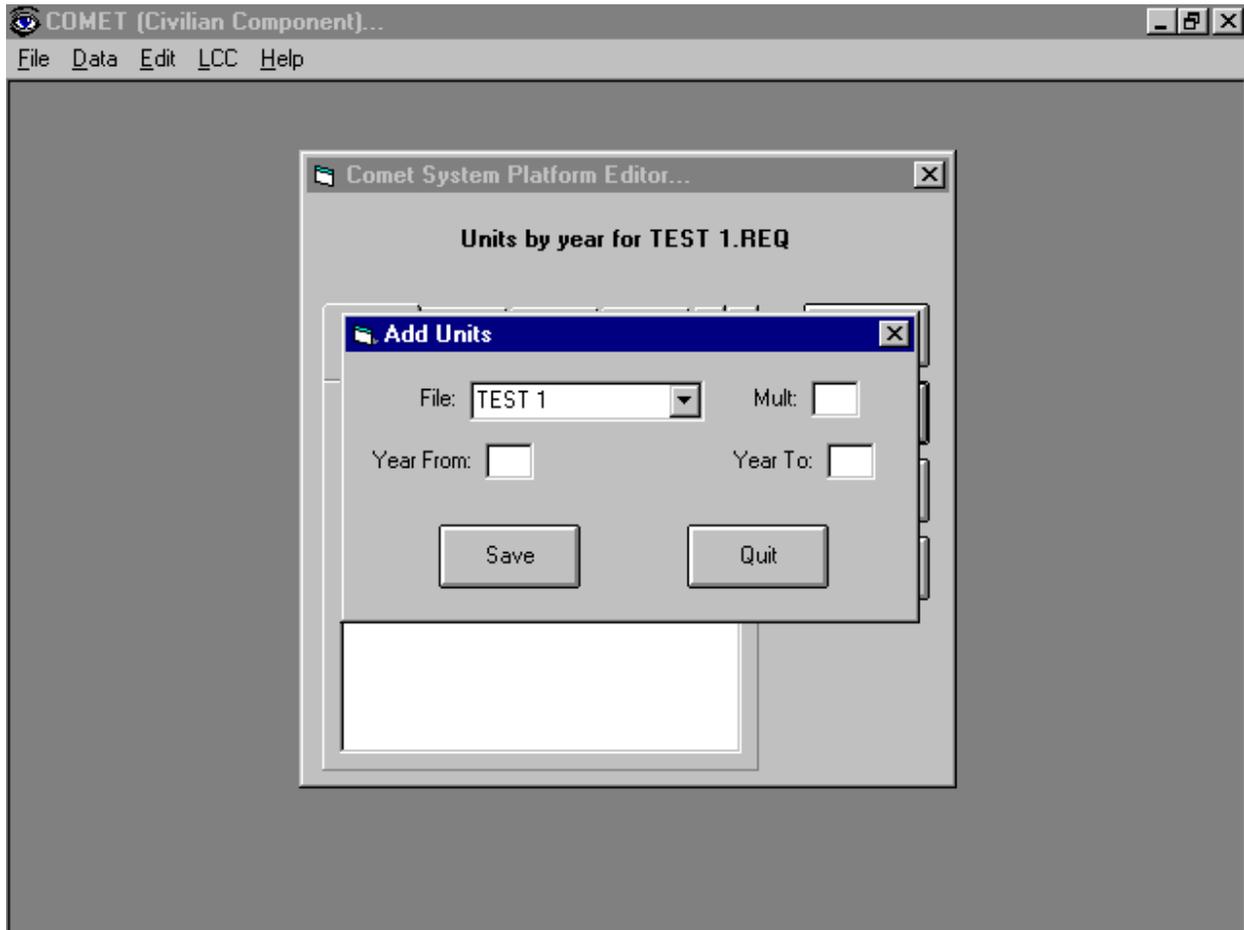
delete units and multipliers. To create a copy of an existing system file, highlight the filename of the system to be copied and press the “Duplicate” button. Any system can be deleted by highlighting its name and pressing the “Delete File” button. To select the system to be edited, highlight its file name and press “OK.”

After a system is selected, the system platform editor will be displayed. This screen is used to add and delete units from the system as well as edit the multipliers associated with each unit.



*System Platform Editor*

Select the year of analysis to edit by clicking on the appropriate tab. Use the arrow keys to the right of the year tabs to move beyond Year 5. Use the “Add” button to add units to a year and the “Delete” button to delete units. To change a unit’s multiplier, highlight the unit and press the “Edit” button. The “Add” button will bring up the add units box. The user will select the unit to be added, input the number of units per year in the multiplier box, and enter the starting and ending years.



*Add Units*

**Run LCC**

This option allows the user to set the parameters for each Life Cycle Project. To begin, the user must either select or create a project by pressing the “Project Files” button.

COMET (Civilian Component)...

File Data Edit LCC Help

**Run LCC ...**

Inflation	Year 1	Year 2	Year 3	Year 4	Year 5+
GS	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %
WB	0.00 %	0.00 %	0.00 %	0.00 %	0.00 %

Duration Of Analysis: 0 Yrs

Discount Rate: 0.00 %

Project Files <None Selected>

System Requirements <None Selected>

GS Cost File DEFAULT.FGS

WB Cot File DEFAULT.FWB

Save

Run

View

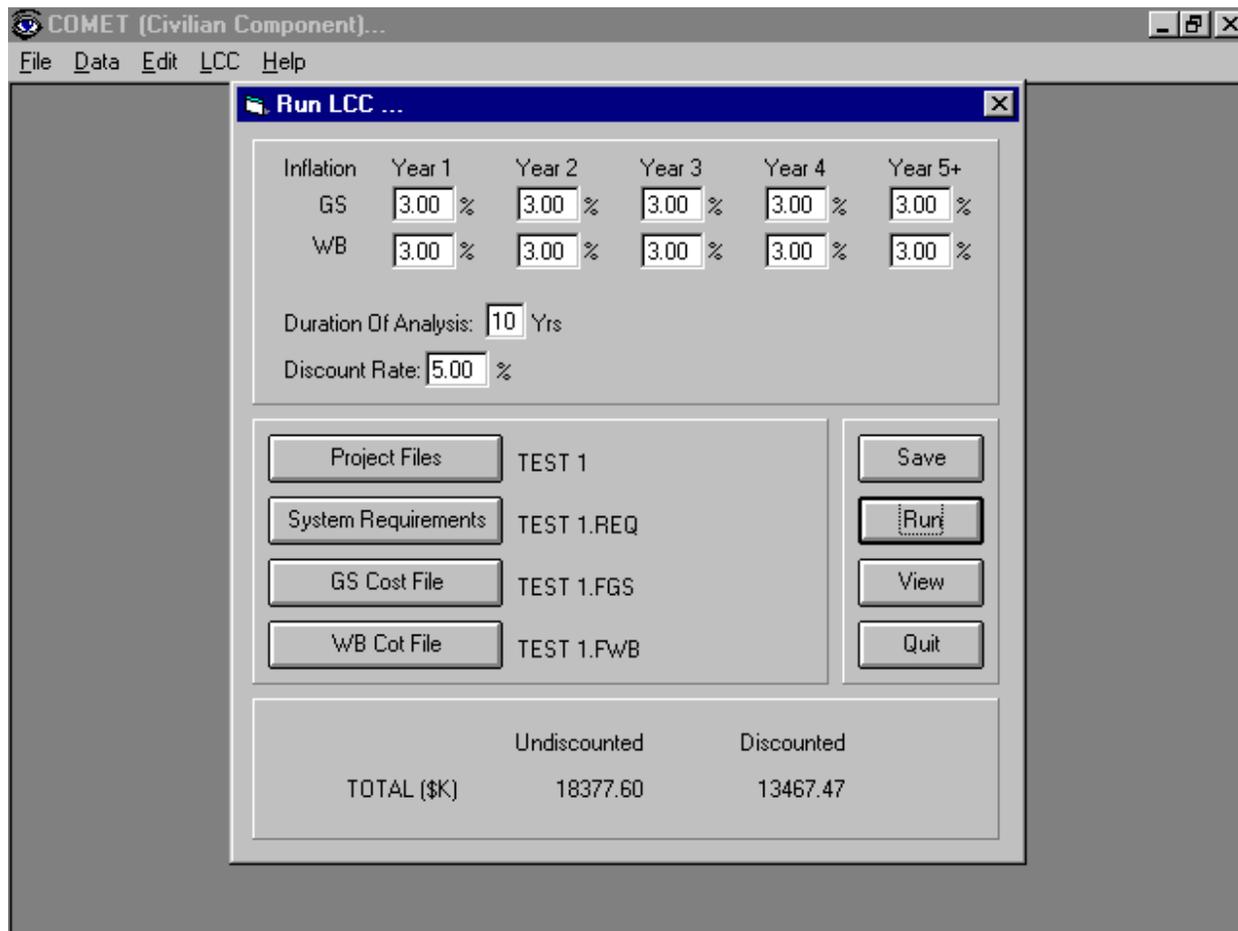
Quit

	Undiscounted	Discounted
TOTAL (\$K)	0.0	0.0

LCC Parameters

To create a new project, select “Create New Project,” type in a name for the new file (without an extension) when prompted, and press *<Enter>*. This project will then be added to the list of choices. To create a copy of an existing project file, highlight the filename of the project to be copied and press the “Duplicate” button. Any project can be deleted by highlighting its name and pressing the “Delete File” button. To select the project to be edited, highlight its file name and press “OK.”

After a project has been selected, the user must select the system platform, GS cost database and WB cost database to be associated with this project. Once these are selected, they will be saved under the project heading so that the same selections appear each time the project is chosen. These parameters can be changed for any project. Just make different selections and re-save the project. In addition, the user must set the inflation and discount rates and the duration of analysis for the project. Save changes to the project by pressing the “Save” button. Once everything is selected, press the “Run” button to calculate the Life Cycle Costs. The total costs will be displayed on the bottom portion of the screen.



*Final Cost Totals*

To view detailed output, press the “View” button. The detailed costs will be displayed by year, occupation/location and unit file. It will also display the LCC parameters set for this project. The user may print the output or export to a comma-separated file.

The screenshot shows a window titled "Output For TEST 1" with a "File" menu open. The menu options are "Save As", "Print", and "Close Output Window". The main area of the window displays a table of financial data. The data is organized into sections for Year 1 and Year 2, with sub-sections for Wage Board and General Schedule. The table lists various inventory items and their corresponding values, along with totals for each year.

Year 1	
Wage Board:	
0004 Inventory: 46	387,969.71
Totals for year 1	
Undiscounted:	1,043,078.09
Discounted:	1,043,078.09
Year 2	
Total	
Unit file: TEST 1	
General Schedule:	
0020 Inventory: 30	674,761.64
Wage Board:	
0004 Inventory: 46	399,608.79
Totals for year 2	
Undiscounted:	1,074,370.44

View Output

## **3. COMET CIVILIAN NAVY LIFE CYCLE COST MODULE PROGRAM**

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The Life Cycle Cost Module (LCCM) computes the total undiscounted and discounted costs projected over a variable-length horizon. Each project file contains unit requirements, manpower requirements, and final GS and WB cost data. The steps required to build and run a project file are described below.

The following menu options are displayed on the “COMET-C LCC” Menu:

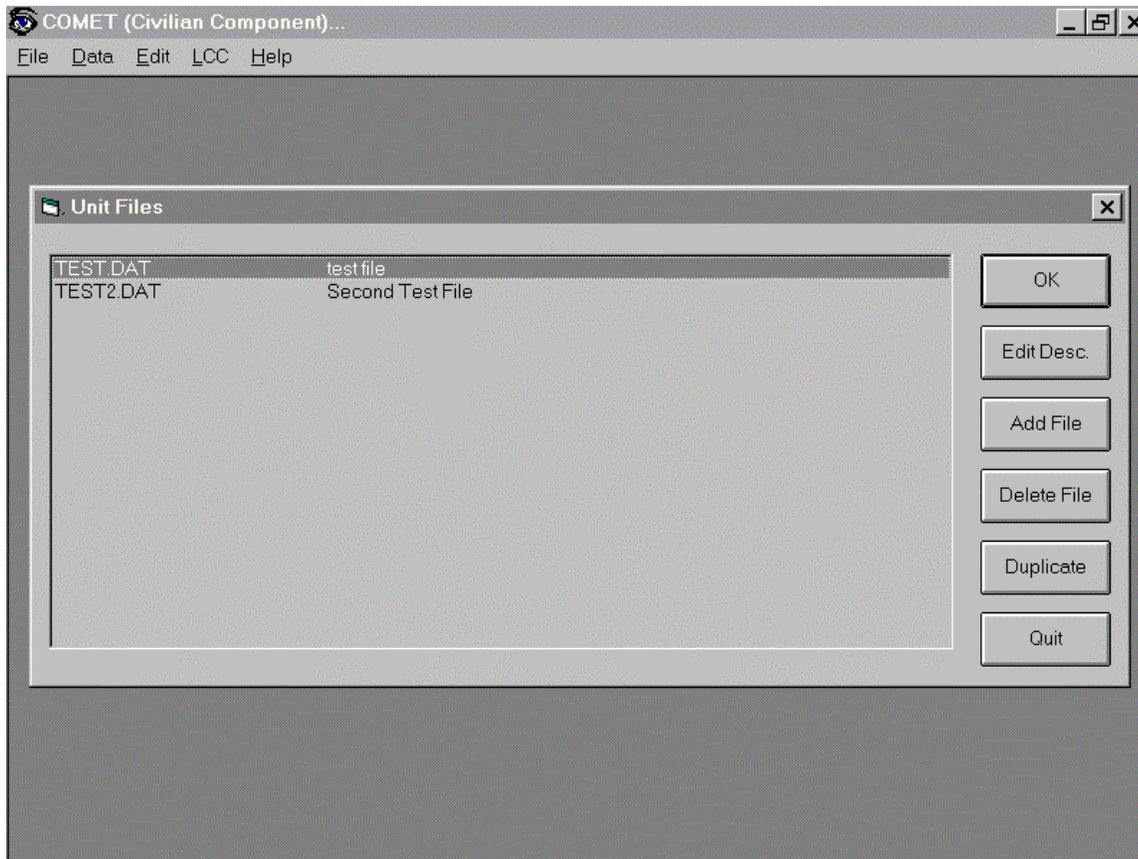
- Build Units
- Build System Platform
- Run LCC
- Delta Analysis

### **3.1 BUILD UNITS**

The unit requirement file contains occupations and locations selected by the user. The user enters a location for each unit and counts by grade for each occupation. There must be at least one unit file defined for the system to operate correctly.

#### **3.1.1 Main Screen**

The “COMET-C Unit Files” screen appears with a list of all unit files and with a set of options to the right:

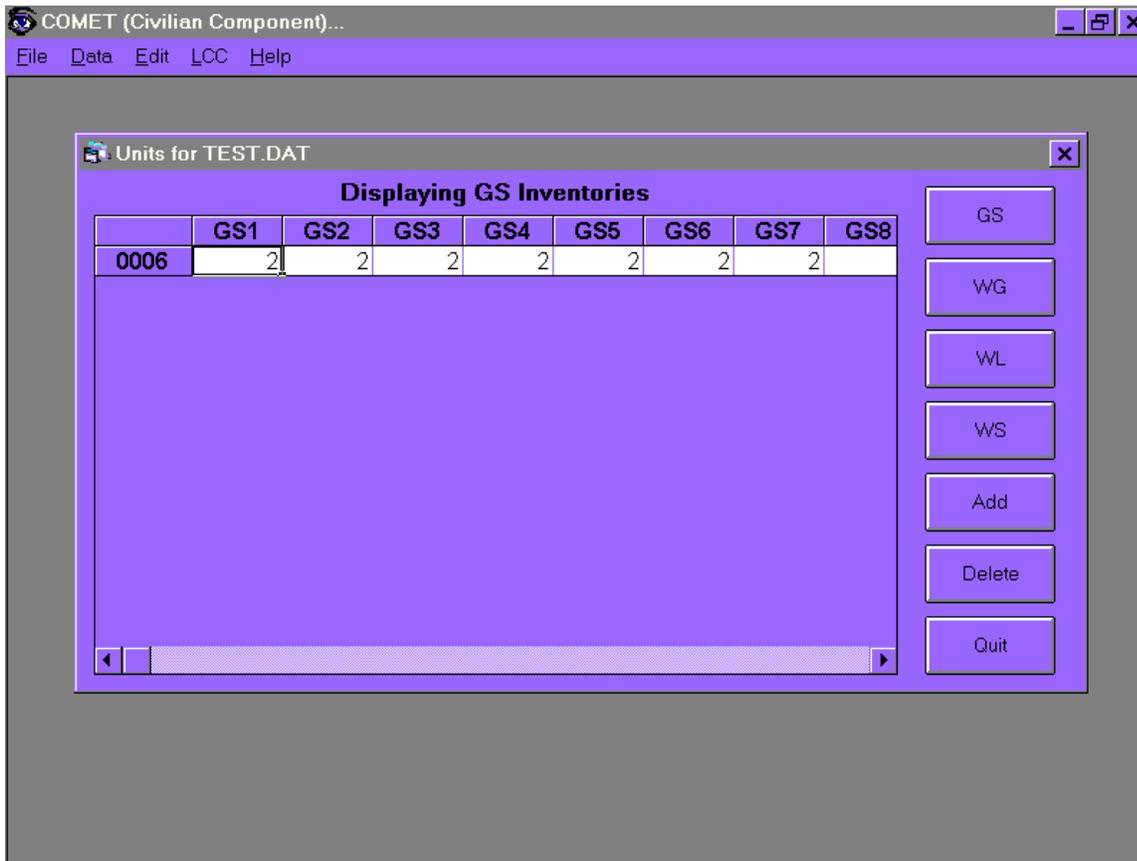


*BCF Civilian - Unit Requirement Files Screen*

Begin by creating a new unit by pressing the “Add File” button. The user will be asked to enter a unit name and description. This description can be changed later by highlighting the selected unit and pressing the “Edit Desc.” button. Copy an existing unit by highlighting it and pressing the “Duplicate” button. Any unit may be deleted by highlighting it and pressing the “Delete File” button. To edit a unit, select it and press the “OK” button.

### **3.1.2 File Editor**

The unit file editor allows the user to add inventories to the unit selected.



COMET Civilian - Unit Requirement File Editor

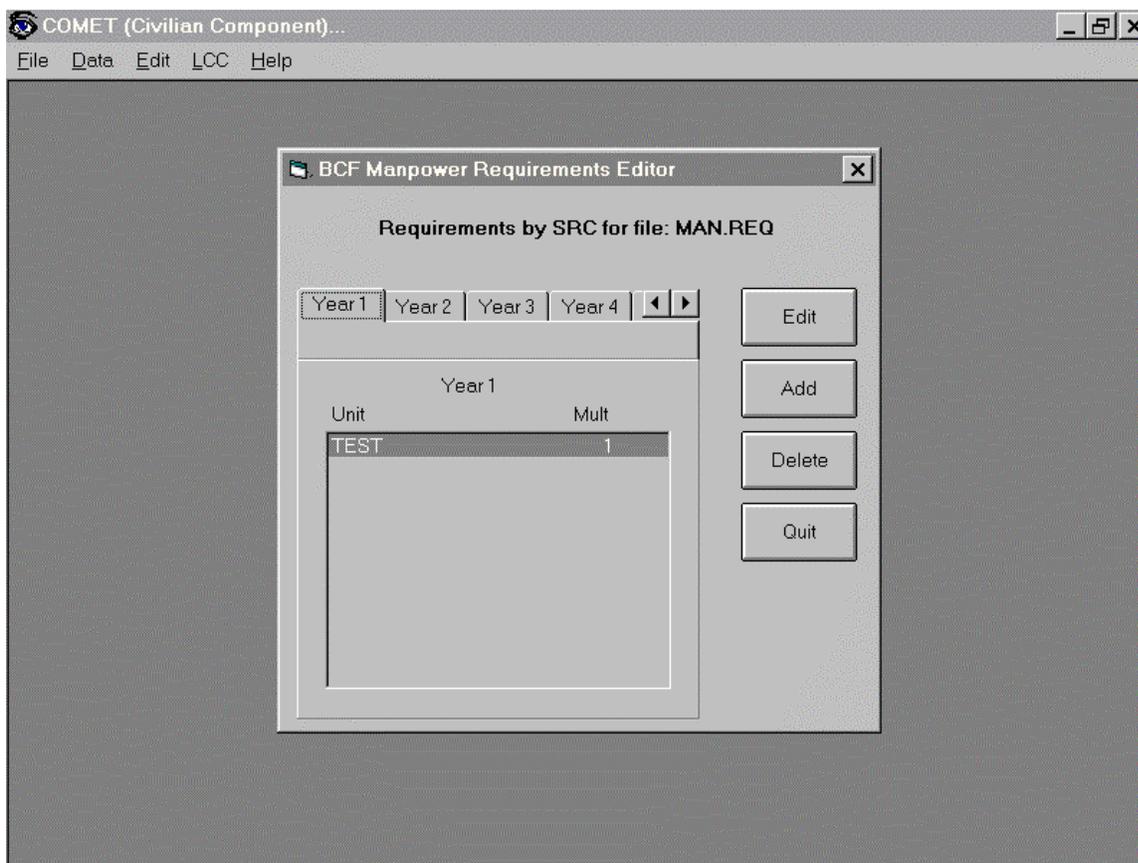
Press "Add" to add occupations and press <Enter> to edit the inventories associated with each occupation and grade. For WG/WL/WS, the user will input a location instead of occupations. Only one location may be selected per unit requirement file. The WG/WL/WS location chosen will be mapped into the GS locality pay system.

### 3.2 BUILD SYSTEM PLATFORM

The system platform file contains unit files defined by the user from the “Build Units” option. The user may edit the unit file multiplier which is used to multiply the counts by that number. A unit file may exist in one or more years for up to ninety-nine years. The section below describes the steps required to build the manpower requirements file.

#### 3.2.1 Main Screen

The main screen allows the user to add units and years, edit the multipliers, and delete units. Use the arrow buttons at the top of the box to move from year to year.



COMET Civilian - Manpower Requirement Files Screen

### 3.2.2 Add

The add unit file dialog box appears after pressing the “Add” button. The user enters the unit file multiplier and the year range for the unit file insertion:

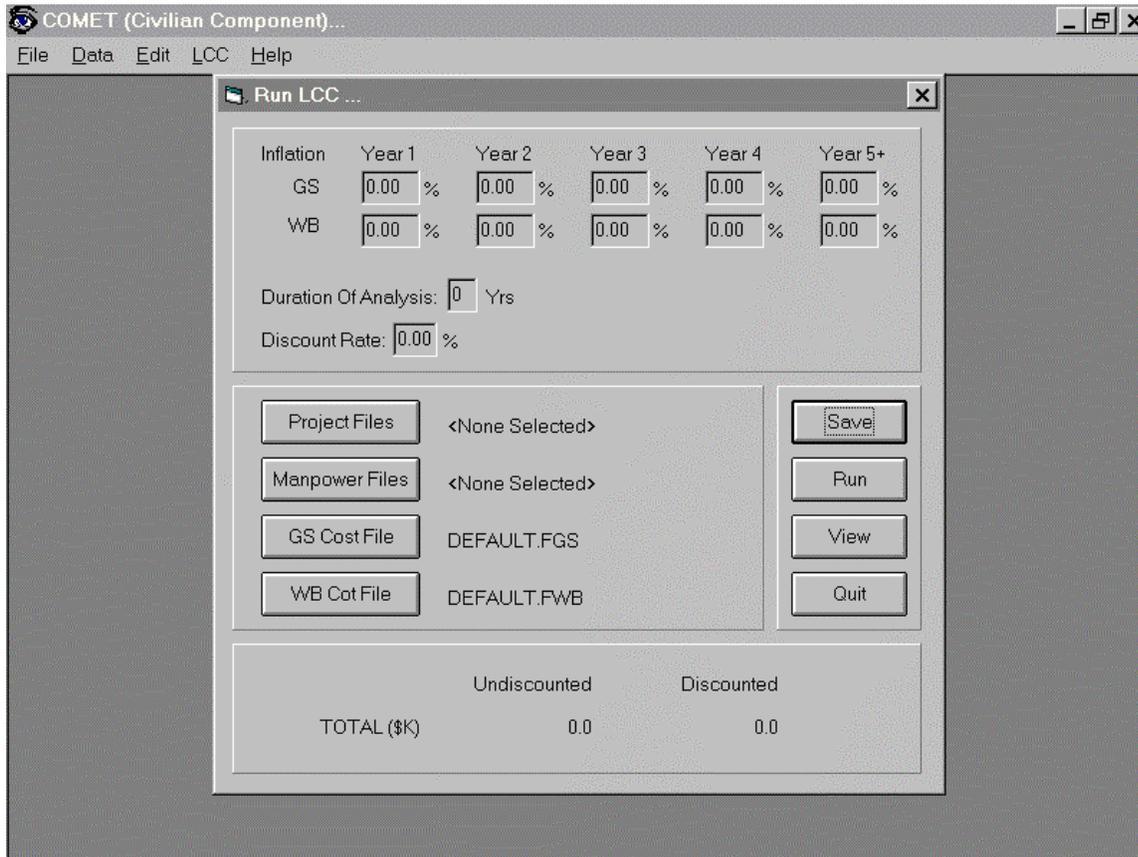
BCF Civilian - Insert/Update Unit File Dialog Box

## 3.3 RUN LCC

The LCCM allows the user to create, edit, and run a project file. The project file contains the manpower requirement file name, final GS cost file name, final WB cost file name, inflation rates, the discount rate, and the duration of analysis. The user may change any of these project file parameters as described below.

### 3.3.1 Main Screen

The “COMET Civilian Life Cycle Cost Module” screen appears as follows:



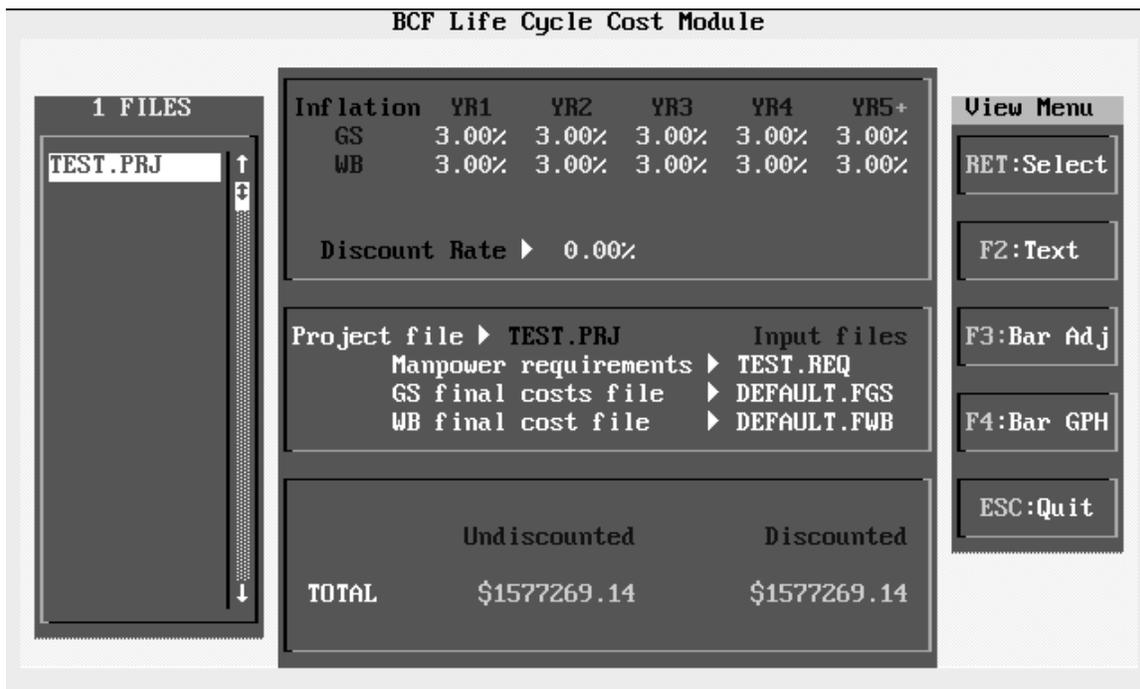
COMET Civilian - Life Cycle Cost Module Screen

Select a project by pressing the “Project Files” button.

The inflation rates, discount rate and duration of analysis can be altered by clicking in the appropriate box and entering the correct number. Note that the inflation and discount rates are in percentage terms. So a 7 in either of these areas is equivalent to 7.00%. The inflation rate entered for year 5 will be in affect for all the following years. The files can be changed by pressing the appropriate button and selecting a different file.

### 3.3.2 View Menu Options

<Enter>	Select the highlighted project file.
<F2>	View the run project text file.
<F3>	Set the bar graph parameters.
<F4>	View the bar graph for yearly costs.
<Esc>	Return to the previous menu.



BCF Civilian - View Menu Options

The user can view detailed text output or a bar graph. While viewing the bar graph, the user can switch between the discounted and undiscounted values by pressing <F3>.

### 3.3.3 Print Options

The print project text file dialog box is activated by selecting <F6> while viewing the project text file. The user enters the year range and number of copies to print:

<F4>	Select the type of printer.
<F6>	Print the project text file.
<Esc>	Return to the previous menu.

### **3.4 DELTA ANALYSIS**

The Delta Analysis compares a base project to an alternative project.